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ANTIENT

METAPHYSICS.

VOLUME SIXTH.

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CHAP. II.

ANTIENT METAPHYSICS.

BOOK I.

Of the Being of God.

CHAP. I.

The ſubject of this volume, Theological;—to contain a demonſtration of the Being and Attributes of God.—Dr Clarke's demonſtration entirely Metaphyſical:—The Author's demonſtration to be drawn from the works of God.—The exiſtence of every thing to be proved only by its operations:—In this way we know our own exiſtence.—Des Cartes argument, drawn from the operation of his mind, not identical.—Our ſenſations the ſource of all our knowledge in this life.—By conſciouſneſs we are diſtinguiſhed from the brute.—Without the exiſtence of the material world, we could have no knowledge.—Abſurdity of the ſcepticiſm of Biſhop Berkeley and Mr David Hume.

THIS laſt volume of my Metaphyſics, probably the laſt volume of any kind that I ſhall publiſh, will be entirely Theological; which I think is a proper concluſion of Metaphyſics: For Theology

gy is the ſummit of Metaphyſics, of all philoſophy, and, indeed, of all human knowledge: And I hope the reader will conſider the three immediate preceeding volumes, which contain the Hiſtory of Man, the nobleſt work of God on this earth, as not an improper introduction to the demonſtration I am now to give of the being and attributes of God; for I hold the hiſtory and philoſophy of man to be inſeparably connected with Theology.

In this I ſhall follow a method different from what has hitherto been followed. Not that I mean to derogate from the weight of the arguments uſed by other writers to prove the exiſtence of a Deity; far leſs do I intend to refute them. But the principles of my philoſophy, that is of the antient philoſophy, lead me to inveſtigate the ſubject in a different manner, and to uſe proofs of a different kind; beginning with the *being* of a God, which, in the natural order of things, ought to be conſidered before his *attributes*.

The arguments which Dr Clarke uſes, to prove the being of a God, are chiefly of the metaphyſical kind. Whether they be all ſolid and concluſive, or whether the Doctor, not being learned in antient philoſophy, could be a good metaphyſician, I ſhall not here inquire. But I am of opinion, that neither the being of a God, nor his attributes, can be otherwiſe proved than by his works: And this our Scripture tells us; for St. Paul, in the epiſtle to the Romans *, ſays, 'That the 'inviſible things of God, from the creation of the world, are clear-'ly ſeen, being underſtood by the things that are made.' Nor, indeed, can we know the exiſtence of any thing, not even our own exiſtence, otherwiſe than by our actions and operations, and by what we do and what we ſuffer; for it is by reflection and the conſciouſneſs of the operations of our minds and bodies, that we know our own exiſtence, and that we have both mind and body. Des Cartes,

* Chap. 1. v. 20.

Cartes, therefore, has argued very well, when he has ſaid, '*I think*; '*therefore I am*:' Which by ſome is thought an identical propoſition; but it is truly an argument, by which he proves his own exiſtence as an intellectual creature.

All our knowledge, in this ſtate of our exiſtence, proceeds from our ſenſations, that is from the actions of bodies upon our organs of ſenſe; the perceptions of which by the mind are its firſt operations in this life. The next operation of our minds is the conſciouſneſs of theſe perceptions; and from theſe two ſources is derived all our knowledge in this life, even the knowledge, as I have ſaid, of our own exiſtence. By this faculty of conſciouſneſs we are diſtinguiſhed eſſentially from the Brute. For the brute has perceptions of ſenſe as well as we: He alſo retains thoſe perceptions in his Phantaſia, as I have ſhown elſewhere *; and they ſerve all the purpoſes of his animal life. But as he cannot reaſon, he cannot draw from them the concluſion which we can draw, viz. that we exiſt: So that the brute does not know that he has either body or mind, or that he exiſts. This ſecond ſource, therefore, of our knowledge, makes an eſſential difference betwixt us and the brutes, and may be ſaid to conſtitute intellect, and to diſtinguiſh it from all the faculties of our animal nature: For it is the foundation not only of the knowledge of our own exiſtence, but of all arts and ſciences, and, in one word, of all our knowledge of every kind; as it is from our knowing by conſciouſneſs that we have perceptions of ſenſe, that we form ideas; and from our ideas it is well known that all arts and ſciences are derived †.

From this account that I have given of the origin of our knowledge in this life, it is evident, that without the material world, and

* Page 176 of the preceeding vol.

† See what I have ſaid of ideas in the ſame vol. book 3. chap. 1.

the operations of the bodies in it upon our ſenſes, we could have had no knowledge at all, not even of our own exiſtence. What, therefore, muſt we think of ſuch philoſophers, as Biſhop Berkeley and Mr David Hume? The former denied that the material world had any real exiſtence; and maintained that all the appearances in it, which affect ſo much both our minds and bodies, are mere illuſions or phantaſms. The Biſhop, I am perſuaded, maintained this ſtrange hypotheſis with the view of ſtriking at the root of materialiſm: But he ſhould have conſidered, that at the ſame time he ſtruck at the root of all human knowledge, even the knowledge of our own exiſtence. But our Scotch philoſopher, Mr Hume, has gone ſtill farther than the Biſhop, and has maintained that we have no evidence of the exiſtence of Mind any more than of Body, not even of our own minds; though he acknowledges that we have perceptions, and ſays, that we are a bundle of perceptions, but have no mind from which they proceed *. This is carrying ſcepticiſm farther ſtill than Biſhop Berkeley has done, and farther, I believe, than ever it was carried before.

But the reader, I am perſuaded, will think that it would be improper to ſpend more time in ſhewing the abſurdity of theſe dreams, (theſe *aegri ſomnia*, as they may be called), proceeding all from the neglect of the antient philoſophy, and from the vain endeavour to ſubſtitute ſomething better in its place. I will therefore proceed in the great work I have undertaken of proving the Being and Attributes of God from his works; which I ſuppoſe to have a real exiſtence; for otherwiſe I think there could be no proof of his Being and Attributes.

CHAP.

* See what I have ſaid, of Mr Hume's Philoſophy on this ſubject, in vol 1. of this work, p. 418, and 419.

CHAP. II.

The exiſtence of the Intellectual, Animal, Vegetable, and Elemental minds, proved by their operations.—Motion, *the ſole agent in the material world;—neceſſary to treat of it at ſome length.—Reference to Vol. I. of this work, for the Author's obſervations on Ariſtotle's definition of Motion.—Inquiry into the cauſe of motion.—Three cauſes only:*—1ſt, *Body moving itſelf*,—2d, *Other bodies moving it*,—3d, *mind moving it.—The firſt, according to Sir Iſaac Newton, produced by a* vis inſita. *—Sir Iſaac's doctrine of motion, defective in aſſigning a cauſe for its continuation, but not for its beginning.—Materialiſm, and a tendency to atheiſm, the conſequence of Sir Iſaac's* vis inſita.—*Sir Iſaac's ignorance of Antient Philoſophy, the cauſe of his error—His philoſophy the ſame with that of Epicurus;—only not ſo complete, as Epicurus accounted both for the beginning and continuation of motion.—Reaſons for theſe ſtrictures in Sir Iſaac's philoſophy.—He compounded the motions of the Celeſtial Bodies, of projection and gravitation.—Projection, only produced by the operation of body upon body.—Gravitation, according to his doctrine, produced by other bodies.—He had no idea of motion by mind, which can move bodies in any direction;—was ignorant of Ariſtotle's maxim, That nature does nothing unneceſſary.—Materialiſm and the imputation of atheiſm unavoidable, according to his ſyſtem of the motions of the Heavenly Bodies.—Of Derham's ſyſtem of the Heavens:—All the motions there, according to him, to be aſcribed to the immediate operation of Divinity:—Reaſons for rejecting this hypotheſis.—The Celeſtial Bodies moved by minds intellectual.—Compariſon of the motions of the Celeſtial Bodies with motions on earth produced by projection and gravitation.—Proof both* a priori *and* a poſteriori,

that

that Sir Iſaac's doctrine has no foundation in nature :—1ſt, *From the nature of motion* ; 2dly, *From fact and obſervation.—Sir Iſaac did not aſcribe his own motions to mind, but to ethers and ſubtile fluids.—The exiſtence of theſe not proved.—That our bodies are moved by our minds, eſtabliſhed by conſciouſneſs* :—*By analogy, we aſcribe the motions of other animals to minds alſo, and even the motion of the vegetable, and of unorganiſed bodies.—Abſurdity of Sir Iſaac's doctrine of the cauſe of motion.—The phaenomenon of Attraction, and particularly of Elective Attraction and of the Loadſtone, only to be accounted for from mind.—Obſervations on this antient doctrine, of mind being the original cauſe of all motion.—It is agreeable to Scripture.—Attraction and coheſion aſcribed to mind by the Antients.—The motions by impulſe, how to be aſcribed to mind.—Sir Iſaac admits, in this caſe, that the motion is carried on by the* vis inſita, *and not by the impulſe, which has ceaſed* :—*But he erred in holding this* vis *as belonging to body.—Agreement betwixt the Author's philoſophy and that of Timaeus the Locrian.—Of the univerſal influence of Motion in the operations of nature and in thoſe of our minds.—Though all motion be produced by minds, yet many of theſe minds not intelligent, but only directed by intelligence.—The elemental mind, which is incorporated, gives a better idea of ſuch ſubſtances to vulgar apprehenſion, than the higher orders of mind.—Pythagoras firſt taught us to know the* τα οντως οντα*—The firſt philoſophers of Greece materialiſts.—Anaxagoras the firſt who employed mind.—A mind moves each particular body.—All minds derived from God, the firſt cauſe of all.*

IN this material world, we know that not only Bodies exiſt, but Minds animating theſe bodies. That our own minds exiſt, we know, as I have ſaid, by the moſt certain of all knowledge, conſciouſneſs: That the minds of other men exiſt, and that they are of the

the ſame kind with our minds, we know by their actions and operations. In the ſame manner we know that the minds of other animals exiſt, though of a kind very different from ours. We know alſo that even bodies that we call inanimate, are moved by mind, but by a mind ſtill inferior to the animal mind, ſuch as the vegetable and elemental minds; for I hope to prove by what follows in this work, that from mind proceeds ultimately all the motion in the univerſe.

And this leads me to ſpeak of Motion, the ſole agent, under the direction of intelligence, in all the operations of nature in the material world: For it not only moves bodies from place to place, but it alters their qualities, and adds to their bulk or takes from it; ſo that, as I have obſerved elſewhere *, it belongs to three categories, or general ideas, *quality*, *quantity*, and *where*. And, as it is chiefly by the motion of bodies in this material world that the being as well as the attributes of God is proved, it is proper that I ſhould treat of it at ſome length.

What Motion is in itſelf, abſtracted from the bodies which it moves, I have elſewhere † explained at great length, in what I have ſaid of Ariſtotle's definition of it. It will be ſufficient here to obſerve, that it is a thing which has no fixed or permanent exiſtence, but exiſts only in change, or paſſage from one thing to another; ſo that it is no wonder that Ariſtotle has laboured ſo much to give us a definition of a being of ſo ſingular a nature, and ſuch as there is nothing like it in the univerſe.

What I am here to inquire concerning Motion, is, what the *cauſe* of it is, and how it is produced. And this cauſe muſt be either body moving itſelf; other bodies moving it; or, laſtly, mind:

For

* Vol. I. of this work, p. 21.

† Vol. I. p. 13. and 14.

For theſe are all the cauſes by which motion can be produced. And I will only add, that the two cauſes laſt mentioned operate in very different manners: For body moves body only by an external application to it, either impelling or drawing it, whereas mind moves body by acting upon it internally.

I will begin with the ſimpleſt of theſe cauſes, that is Body moving itſelf; and which, according to the philoſophy of Sir Iſaac Newton, is the cauſe of body, once put in motion, continuing in motion: For he ſays, it continues *to move* (or, to ſpeak more properly, *to be moved*) in a ſtraight line and with an uniform velocity, by a *vis inſita*, that is by a power inherent in the matter and eſſential to it. This he has laid down in his third definition, in his work, entitled, *Principia Mathematica Philoſophiae Naturalis*; and he has alſo laid it down as an axiom, calling it the firſt law of motion.

Sir Iſaac, in this definition and axiom, has ſaid nothing of the beginning of motion; but only ſpeaks of the continuance of it after it is begun. But for my part I can make no diſtinction betwixt the two: for motion is ſtill motion and the ſame motion whether beginning or going on; and when the iron, brought within a certain diſtance of the loadſtone, begins to be moved towards it, that motion muſt be by a *vis inſita* too, as well as the continuation of the motion of body after it is once ſet in motion by the impulſe, I ſhall ſuppoſe, of another body. Now, to maintain that body moves itſelf when it either begins or continues motion, is, I think, downright materialiſm; as it takes from mind that eſſential quality of moving body, by which all the operations of nature are carried on. And here we may obſerve, that Sir Iſaac has carried the doctrine of materialiſm farther than any other author, antient or modern: For he has laid it down as an axiom; and what is more, he has given to body not only the power of moving itſelf, but intelligence alſo; by which

it

it conducts the motion; for he has said, both in his definition and in his axiom above mentioned, that body has a power not only of moving itself, but of doing it in a straight line, and with the same velocity; that is, as he expresses it, *movendi uniformiter in directum*. Now, nothing can be done in a certain way, and uniformly in that way, without intelligence: So that in this respect, he gives more power of motion to body, than our animal mind possesses; for it can only move the body, but cannot direct its motions, which must be done by our rational or intellectual mind. Now, this is completing the system of materialism: And, indeed, I can give to such materialism no other name than that of athiesm; since it gives a power to body, by which motion is not only carried on, but in the most regular and orderly manner. At the same time, I am far from thinking that Sir Isaac was an athiest. But by attempting to philosophise without the assistance of the Antients, he went on without knowing what he was doing, or where he was to end. It was one great lesson of antient philosophy, and which, I observe, is much inculcated by Plato, 'To know from what being given what follows.' Now, if Sir Isaac had learned that lesson, he would have known, that giving such a power of motion to body, as he has given, led directly to athiesm.

And here it may be observed, that Sir Isaac's notion of body moving itself agrees perfectly with the philosophy of Epicurus; and, indeed, that body moves itself is the foundation of Epicurus's whole philosophy. For he has said in express terms, as Lucretius has informed us, that his atoms, which are, according to his philosophy, the principles of all bodies, move themselves.

Prima moventur enim per se primordia rerum.

Lucret. Lib. 2. v. 132.

And it is by the

Concursus, motus, positura, ordo, figura,

of theſe atoms, that every thing in the univerſe, according to Epicurus, is produced. His ſyſtem, therefore, of materialiſm is the ſame in its principles with Sir Iſaac's; but, I think, more perfect, as he accounts alſo for the beginning of motion, and not for the continuation of it only, as Sir Iſaac does.

I would not have been ſo ſevere upon Sir Iſaac's doctrine of motion, nor have aſſerted that it was downright materialiſm and had a tendency to athieſm, if I could have diſcovered that in the ſyſtem he has given us of the Heavens, he had ſhown that he believed that the Celeſtial bodies were moved by mind. But that is not the caſe: For the motion of thoſe bodies, according to him, is compounded of two motions, projection and gravitation; which two, together, produce their motions round the ſun. Now, as to projection, we cannot conceive that mind ſhould project any body; for as mind moves body internally, it cannot be in the way of projection, which can only be by one body impelling another. It is evident, therefore, that ſo far the motion of the Celeſtial Bodies is not by mind, but by impulſe of other bodies: And as that is the only cauſe of motion, that is perceived by the ſenſe, it appears to me that Sir Iſaac had no notion of motion being produced in any other way.

As to the other cauſe of the motion of the Celeſtial Bodies, gravitation, Sir Iſaac has given an account of it in a paſſage upon which I have made ſome obſervations elſewhere *. He has there aſſigned ſeveral cauſes for it, but has not ſo much as mentioned mind as one of the cauſes; from which I have inferred, and, I think, not without reaſon, that he had not ſo much as the idea of Mind moving Body. One of the cauſes which he aſſigns for gravitation is, *Bodies floating in a medium corporeal or incorporeal, and impelling one another.* This thoſe may underſtand, who have ſtudied, more than I have done, the philoſophy of Sir Iſaac Newton: But, for my part, I can

* Vol. 4. p. 371.

can underſtand nothing by it, except that Sir Iſaac ſuppoſes gravitation to be produced by impulſe of body, as well as the motion of projection; which further confirms what I have ſaid, that he underſtood that cauſe of motion, which is perceived by the ſenſe. to be the only cauſe. And that he had no idea of mind being the cauſe of motion there is a further proof, beſides what I have mentioned, from his making the planetary motion to be compounded of the two motions of projection and gravitation: For if he had known that mind could move body, he would have known at the ſame time that it could move it in any direction, either in a ſtraight line or a curve; and ſo he would have known that it was quite unneceſſary to compound the planetary motion, as mind, and one mind only, could move them round the ſun, or give them any other motion, ſuch as that upon their own axis. In this way, the planetary motion would be perfectly ſimple, and ſuch as we muſt ſuppoſe all the motions of nature to be, when they can be performed in that way; for there is nothing more true than what Ariſtotle has ſaid, that as nature does every thing that is neceſſary or proper, ſo ſhe does nothing that is unneceſſary. It appears, therefore, that if Sir Iſaac had underſtood the nature of motion by mind, he would have made his ſyſtem of the motion of the Heavenly Bodies much more ſimple, and, conſequently, more perfect. And in this way he would have avoided materialiſm, or the imputation of athieſm, which could not have been charged againſt him; but which, I think, is unavoidable, according to the account that he gives of the motion of the Celeſtial Bodies. For if theſe motions, ſo wonderful and ſo perfectly regular and orderly, and agreeing ſo well with one another, are produced by material cauſes, we muſt, I think, ſuppoſe, that the whole ſyſtem of nature, both in heaven and earth, is produced in the ſame way; ſo that the whole material world is not produced or governed by God, but by Body moving itſelf and moving other bodies.

There is an account given us by an Engliſh clergyman, of the name of Derham, of the Syſtem of the Heavens, and of the motions of the Celeſtial Bodies; all which he aſcribes to God, and repreſents them to be, as they truly are, moſt evident proofs both of the exiſtence of Deity, and of his wiſdom and goodneſs. But he appears to have ſuppoſed, that theſe motions were the immediate production of divinity, and that God himſelf moved the ſeveral Heavenly Bodies. This he could not have ſuppoſed, if he had underſtood the way in which mind moves body, not by external impulſe, as body moves body, but internally by incorporating itſelf with body. Now, I think it would be impious to ſuppoſe, that the deity mixed ſo much with matter as to incorporate himſelf with body. We muſt, therefore, conclude, that the deity performs the motions in the heavens, in the ſame manner that he moves bodies here on earth, that is, as I have ſaid, by minds, which proceed from the third perſon of the trinity, and give life and motion to every thing in the univerſe. The minds, that only move the bodies here on earth, are, as I have obſerved, of the loweſt order. But as the Celeſtial Bodies are of an order of beings much ſuperior to the bodies here on earth, and perform motions much more wonderful, we muſt ſuppoſe that the minds animating them are much ſuperior to the minds animating the bodies here on earth. And, I think, we ought to believe that they not only have a motive power, ſuch as thoſe minds of the loweſt kind, which move bodies here on earth, but only move them, having neither ſenſation nor intelligence, but that they are intellectual minds, which not only move theſe Celeſtial Bodies, but govern their motions. And ſo far I agree with the Antients, who made the minds animating the Celeſtial Bodies, ſuperior minds, worthy of inhabiting ſuch bodies. But I do not make Gods of them, as they made them, but only miniſters to the great God, and miniſters of a ſuperior rank: And indeed, without ſuch ſuperior minds animating theſe Bodies, I cannot conceive how their various motions ſhould be

be conducted with ſuch perfect order and regularity; nor do I think it proper to ſuppoſe that theſe motions ſhould be immediately directed by the ſupreme God, any more than that they ſhould be immediately performed by him.

And here we may obſerve the difference betwixt the motions of the Celeſtial Bodies and of thoſe bodies here on earth which we call inanimate, ſuch as earth and ſtones and minerals. Theſe have a mind in them that moves them, which I call the elemental mind, but which only moves them, having neither ſenſation nor intellect. And this mind moves them only in two ways, either towards the center of the earth, that is by gravitation, or in the direction in which they are impelled by other bodies; all the other motions they perform being directed by the intelligence of man. But the motions of the Celeſtial Bodies are much more various, changing their direction every inſtant, and performed in ſpaces of infinitely greater extent and compaſs. And as they are likewiſe performed with very much greater order and regularity than the motions directed by the intelligence of man here below, they muſt be ſuppoſed to be governed by intelligences very much ſuperior to the human, but not immediately by God himſelf.

Thus I have explained the motions of the Celeſtial Bodies, and have ſhown, that, as motion can be produced only in two ways, either by external impulſe of body, or by the internal operation of mind in the body which is moved, the motion of the Celeſtial Bodies is produced only by mind: And in this manner I think I have given the true philoſophy of theſe motions, which, as our Scripture tells us, declare the glory of the Lord; and, indeed, the Heavens are the moſt magnificent exhibition of that glory, which can be imagined.

Having

Having thus ſhown the nature of Sir Iſaac's doctrine of motion, and to what conſequences it tends, I will now prove that it has no foundation in nature; and this I think may be proved both *a priori*, from the nature of motion, and from fact and obſervation.

And, *firſt*, as to the nature of motion; wherever any thing is moved, there muſt be both action and paſſion in the caſe, that is, there muſt be ſomething that moves, or acts, and ſomething that is moved, that is ſuffers or is paſſive; for action and paſſion are relatives. Now, there can be no relation except betwixt two things at leaſt; for we cannot conceive the ſame thing as relating to itſelf. And, therefore, the ſame thing cannot, at the ſame time and in the ſame reſpect, both act and ſuffer: So that the ſame body cannot both *move* and *be moved* at the ſame time; and, therefore, when we ſay that an animal moves itſelf, we muſt not underſtand that the body of the animal moves itſelf, but that it is moved by the mind of the animal.

I will here ſay no more upon this argument, from the nature of the thing, which, I think, is demonſtrative; but I will refer the reader to what I have ſaid at ſome length in the firſt Vol. of this Work, Book 2. Chap. 3.—where I have ſaid a great deal of the Category of Relation, and proved, I think, moſt clearly, that it can only ſubſiſt betwixt two different things; and have illuſtrated it by examples *.

But action and paſſion, ſuch as *moving* and *being moved*, are not only relatives, but are oppoſites; ſo that it is ſtill more inconceivable how they ſhould exiſt in the ſame ſubject at the ſame time: For though contraries, ſuch as heat and cold, may exiſt, and often do exiſt, in the ſame ſubject, it is at different times; but it is abſolutely inconceivable

* Page 69.

conceivable that they ſhould both exiſt at the ſame time in the ſame ſubject.

As this argument, from the nature of *relatives* and of *oppoſites*, may be thought by ſome of my readers too metaphyſical, I have, in the chapter above quoted from the firſt vol. of this work, p. 71. given a proof from fact and obſervation, which, I think, muſt convince every reader, though he be not a philoſopher: For though he may not believe that other motions, which he ſees on this earth, are produced by mind, yet I think he cannot doubt that the motions of his own body are produced by his own mind; and I have given, in the paſſage laſt quoted, an example of it from a very ſimple motion, viz. that of a man raiſing up his arm. Now, he muſt know, by the moſt certain of all knowledge, conſciouſneſs, that the arm does not move itſelf, but is moved by his mind willing that it ſhould be ſo moved: And, accordingly, it is ſo moved, though, by the law of gravitation, it ſhould, like other bodies, be moved downward towards the earth.

Sir Iſaac Newton, I know, carried his ſyſtem, of all bodies being moved either by themſelves or by other bodies impelling them, ſo far, that he maintained, as I have elſewhere obſerved, that our bodies are not moved by our mind, but by ethers and fluids, or by a *ſpiritus ſubtiliſſimus*, as he calls it in one paſſage*. But here, I think, his philoſophy is exceedingly defective: For, in the *firſt* place, he does not prove that theſe ethers or ſubtile fluids do exiſt. *2dly*, If he had proved their exiſtence, he ſhould have alſo proved that they were, by ſome cauſe or another, put in motion; for no body can move another that is not firſt moved itſelf. So that, in both theſe reſpects, Sir Iſaac's philoſophy of motion is exceedingly defective.

But

* See his words quoted in vol. I. p. 275.—where he ſays that the voluntary motion of animals is produced by a *moſt ſubtile ſpirit*.

But even ſuppoſing it to be true, that our bodies are moved by ethers or ſubtile fluids, Sir Iſaac ſo far agrees with my doctrine of motion, that he thinks our bodies do not move themſelves. We differ, however, as to the cauſe of their motions; for, while I derive them from mind, he maintains, as I have ſaid, that they are moved by other bodies, ſuch as ethers and ſubtile fluids, operating upon them. Now, this confirms me more and more in the obſervation I have made, that Sir Iſaac had not ſo much as the idea of body being moved by mind, otherwiſe he could not have had the leaſt doubt, that our minds and bodies being ſo intimately connected, the motion of our bodies was produced by our minds. I muſt, therefore, hold, that he believed that no other body is moved by mind, but that all the motions of the univerſe are carried on by body moving itſelf or by being moved by the impulſe of other bodies.

Sir Iſaac maintains, that theſe ethers and fluids not only move our bodies, but produce our ſenſations *. This, I think, is the moſt unintelligible part of Sir Iſaac's philoſophy of motion; and it proves to me, that Sir Iſaac did not ſo much as know what *ſenſation* is; for if he had known that it is produced by the action of external objects upon our ſenſes, and that it is the perception by the mind of that action, he never could have believed that theſe ethers and ſubtile fluids could have produced our ſenſations: For though, according to Sir Iſaac's doctrine, they produce the motion of our bodies, yet the action by which they produce that motion is certainly not perceived by any of our ſenſes, and therefore can never give to the mind that perception which we call *ſenſation*.

Sir Iſaac, in order to complete his ſyſtem of materialiſm, ſhould have

* In this paſſage of Sir Iſaac's works, which is referred to in the preceding page, he ſays, that not only animal motions, but ſenſations, are produced by ethers and ſubtile fluids.

have derived not only our ſenſations, but our ideas, from his ethers and fluids; and then his ſyſtem of materialiſm would have been as complete as that of a Frenchman, the Abbê Prade, who derives the whole operations of our mind from matter and motion, in a work which he has entitled, *L'Homme Machine.* But though Sir Iſaac has not ſaid, in ſo many words, that our ideas, as well as our ſenſations, are derived from ethers and fluids, he has in effect maintained that doctrine: For if it be true, that theſe ethers and fluids produce our ſenſations, it follows of neceſſary conſequence, that they produce our ideas, which all originate from our ſenſations; the firſt ideas we form being of objects of ſenſe*, the perceptions of which are what we call ſenſations. And as ideas are the foundation of arts and ſciences, and of our whole knowledge in this life, it follows, of neceſſary conſequence, that theſe ethers and fluids produce all our knowledge, and all the operations of the mind neceſſary for attaining knowledge; which makes the ſyſtem of materialiſm perfectly compleat.

As to the motion of our own bodies by our own minds, I think we have the cleareſt proof of it that we can have of any thing; and that is conſciouſneſs, by which we know that our bodies are moved by our minds, and in a very wonderful manner, not immediately and directly, but by the intervention of our animal mind; for our intellectual mind does not operate immediately and directly upon our bodies, but only wills that the animal mind ſhould move them; and, accordingly, that mind does ſo by the means of muſcles, ſinews, and bones: So that by a ſingle act of the will, this complicated machine, as I have elſewhere obſerved †, is ſet a going, and made to move our bodies. Now, I cannot believe that conſciouſneſs, the ſureſt evidence we have of any thing, miſguides me in this caſe, but I muſt hold that my body is truly moved by my mind.

* See Vol. V. of this work, p. 168.

† Ibid. p. 108.

Having thus begun at home, and eſtabliſhed that the motion of my body is produced by my mind, I proceed, by analogy, to account for the motions of other bodies. And, in the *firſt* place, I muſt ſuppoſe that the motions of other men's bodies, as they are perfectly of the ſame kind with the motions of my own body, are produced by a cauſe of the ſame kind. And this analogy goes to the motions of all other animals, and even of vegetables; I mean thoſe motions of vegetables by which they grow and are nouriſhed, produce leaves, flowers, and fruits, and propagate their kind: For all motion, as I have ſhown*, is produced in one of three ways; either by the body moving itſelf; by being moved by the impulſe of other bodies; or, laſtly, by mind. And as I have ſhown, and, I think, demonſtrated, that body cannot move itſelf, and as it is impoſſible to ſuppoſe, nor, indeed, has it been ſuppoſed by any man, that the vegetable is moved by the impulſe of other bodies, of which we neither know the exiſtence, nor how they are themſelves moved ſo as to be able to move the vegetable, I muſt conclude that the vegetable is moved in the ſame manner as my body is, viz. by mind.

But this analogy goes further, even to bodies unorganized, ſuch as earth, ſtones, and minerals: For, as they do not move themſelves any more than bodies organized, and as no account has been given, or attempted to be given, of other bodies, which, being firſt moved themſelves, put unorganized bodies in motion, I muſt conclude, that they, as well as other bodies, are moved by mind; and by that mind, which I call the *elemental mind*, and which is ſo univerſal in nature (and, therefore, is called by Ariſtotle by the name of *nature* †) that all bodies of every kind, organized or unorganized, animal or vegetable, are moved by it. And thus the whole motion of the univerſe is produced by mind, if not immediately at leaſt ultimately: For though one body, no doubt, may be moved by the impulſe of

* Page 7. † See vol. I. p. 231.

of another body, yet it is impoſſible to ſuppoſe an infinite ſucceſſion of bodies impelling one another; as then the cauſes of motion would be infinite, and, conſequently, there would be no cauſe at all that could be aſſigned for the motion of any body.

But Sir Iſaac appears not to have had ſo much as the idea of motion by mind, as, I think, I have ſhown from the account he has given of the cauſe of attraction or gravitation *, where, among the various cauſes that he aſſigns for this phaenomenon, which is the grand principle of his philoſophy, he does not ſo much as mention *mind*, though he is reduced to the neceſſity of accounting for it from a very extraordinary cauſe, which to me is quite unintelligible †. The cauſe I mean is "*ethers*, *airs*, or ſome *medium* corporeal or incorporeal, impelling the bodies, ſwimming in it, towards one another." Now, thoſe who are more verſant in his philoſophy than I am may underſtand how bodies can ſwim in a *medium* incorporeal, and be impelled by that *medium* towards one another; but to me it is quite unintelligible. I will only ſay further upon this ſubject, that this phaenomenon of attraction, which is the grand principle of Sir Iſaac's aſtronomy, is, I think, of itſelf, demonſtrative evidence of motion's being produced by mind: For it is impoſſible to conceive that bodies, ſometimes at the greateſt diſtance, can tend towards one another, by their action upon one another; as we are as ſure, as we can be of any thing perceived by our ſenſes, that body can only act upon body by contact. And this makes Sir Iſaac's doctrine of the motion of the Tides as unintelligible as his doctrine of attraction: For he ſays, that the flux and reflux of the ſea ariſes from the action of the ſun and the moon ‡. Now, how can we conceive that thoſe bodies, ſo far removed from the ſea, ſhould act upon it? though we can very well conceive that the tides can be moved, like other bodies, by mind, and in conformity with the

* Vol. IV. p. 371.

† See on this ſubject, p. 10. of this vol.

‡ Phil. Nat. prop. 24. theorem, 19.

motions of the Celeſtial Bodies, which are alſo produced by mind. But, becauſe two bodies are moved in perfect conformity with one another, we are thence to infer, not that the one is the cauſe of the motion of the other, but that there is ſome ſuperior cauſe which directs the motions of both.

There is one kind of attraction which is perceived in ſmall chemical bodies, by which one body attracts another and incorporates with it, but, if a third body be preſented to it, which it likes better, it relinquiſhes the firſt body with which it had joined itſelf, and incorporates with that third body; from whence this attraction is very properly called *elective attraction*. This it is impoſſible to account for otherwiſe than from the operation of mind.—I will only add upon this ſubject of *attraction*, that Sir Iſaac, by ſuppoſing that mind is not one of the cauſes of the motion of body, appears to give up that fundamental principle of his aſtronomy, *attraction*.

I will conclude this chapter with ſome obſervations upon this antient doctrine, of mind being mediately or immediately the cauſe of motion. It is perfectly agreeable to the doctrine of our Scripture, by which we are taught that *God is in all things*, and that *in him we ourſelves live, move, and have our being*; ſo that he moves all bodies, and is, therefore, the author of all the motions in the heavens and in the earth, by which the whole buſineſs of nature is carried on. Matter, therefore, according to the doctrine of antient philoſophy, is merely paſſive, and is no more than the ſubject upon which mind, the only active principle in the univerſe, acts. And this principle the antients carried ſo far as to maintain, that mind not only made bodies attract one another and join together, but, when they were joined, made them cohere; for coheſion, they ſaid, was from a principle of action, which does not belong to body but to mind

mind only*. Nor, indeed, when we conſider that by mind bodies are made to go together and to join, as in the caſe of elective attraction, ſhould we wonder, that by the ſame power of mind they ſhould cohere and be kept together when they are joined.

This philoſophy, which teaches us that all bodies, unorganized as well as organized, have in them an immaterial principle, or mind, which moves them, accounts for all the motions in the univerſe, which cannot be otherwiſe accounted for; and, among others, for the motion of bodies impelled by other bodies, or of projectiles, which, after the impulſe has ceaſed, continue their motion for ſome time. That the motion is not continued by the impulſe that has ceaſed, I think is certain; for there muſt be a preſent cauſe acting upon the body, otherwiſe it could not continue to be moved: And ſo far Sir Iſaac is in the right, that he does not ſuppoſe that the motion is continued by the impulſe which has ceaſed, but ſays that it is carried on by a *vis inſita*, or power inherent in the body. But his error is in ſuppoſing that it is any power belonging to body that carries on the motion; for, I think, I have ſhown, that it is not body, nor any power belonging to body, but that mind I call the elemental mind, by which bodies are moved up, or down, or in that direction in which they are impelled.

And here we may obſerve how well this philoſophy, of mind being the principle of motion in all bodies, agrees with that moſt antient and valuable piece of philoſophy, the treatiſe of Timaeus the Locrian,

* See what I have ſaid upon this ſubject in vol. I. of this work, p. 86. where I have ſhown that, without this power of mind, there could be no animal or vegetable, rock or mountain, or any thing elevated upon the face of the earth; for it is a power which overcomes even gravitation, making the inferior parts of any body adhere to the ſuperior, when otherwiſe, by the power of gravitation, they would fall down towards the centre, and be ſpread into an horizontal ſurface like a fluid.

Locrian, *De Anima Mundi* *; for he ſays, that all bodies are compoſed of *matter* and *ideas*. Now, theſe ideas muſt proceed from the ſupreme mind; for they form the body out of rude matter, and make it a body of a certain ſpecies, animal, vegetable, or mineral, and at the ſame time give it motion. And this makes this work of Timæus a moſt valuable piece of natural philoſophy, as it accounts for that compoſition of matter, which forms the ſeveral bodies here on earth, ſo different in their kinds, and which we cannot ſuppoſe to be the production of mere matter, which, as I have ſhown, is merely paſſive, and has no principle of action or motion in it. It accounts, at the ſame time, for that motion which we ſee in all bodies, organized or unorganized; ſo that the ſame mind, which forms them, alſo moves them. And it proves, that, in the formation of things in this material world, mind and body were neceſſarily connected, and have continued ſo ever ſince; ſo that in every body there is a mind. And thus it appears, that the ideas we form of things are not mere fictions or creations of our mind, but have a real exiſtence in nature, and make every thing what it truly is, and give it motion and animation.

And here I think it will not be improper to obſerve the influence of motion in the ſyſtem of the univerſe. It is the agent in all the operations of nature, either in the heavens or in the earth; for by motion are produced the ſucceſſion of day and night and of ſeaſons, the generation of animals and vegetables, their growth and their nouriſhment. And there is another operation of it, not commonly obſerved, which is, that it is the origin of all the operations of our minds, and of all the knowledge we acquire in this life, which muſt all begin with ſenſations, or the perceptions of ſenſe; for, as I have ſaid in more than one place of this work, our ſenſes are the firſt inlets

* This treatiſe is printed with the works of Plato, and annexed to a Dialogue of his entitled, *The Timæus*.

inlets of our knowledge. Now, as our ſenſations are produced by motion, that is by the action of the material objects round us upon our organs of ſenſe, and as of our ſenſations we form our ideas, (the firſt of which are of particular objects of ſenſe, as I have elſewhere ſhown *, from our ideas ariſes all our knowledge. Let none of my readers, however, believe, that I maintain, that matter or body is the cauſe of our ideas or knowledge: For it muſt be conſidered that thoſe bodies, which act upon our organs of ſenſe, and, in that way, produce our ſenſations, are themſelves moved by mind; ſo that mind is ultimately the cauſe even of our perceptions of ſenſe, and by conſequence of all our knowledge in this life.

But though mind gives motion to all the bodies here on earth, and though their motions are carried on in the moſt regular and orderly manner, and muſt be directed by intelligence, we are not to ſuppoſe that the intelligence belongs to the minds which animate and move theſe bodies, but that thoſe minds, though they have not intelligence in themſelves, are governed and directed by that ſupreme intelligence which governs every thing in this univerſe. The mind, therefore, that moves theſe bodies is of the loweſt kind: For it has neither ſenſation nor intelligence, nor has it even the power of the vegetable mind, which performs a great many motions of different kinds; but it ſimply moves the body, by one uniform motion, either up or down, or in the line in which the body is impelled. But this mind, though the loweſt of all minds, is an immaterial ſubſtance, and may give us an idea of the nature of ſuch ſubſtances, more ſuitable, at leaſt, to vulgar apprehenſion, than the ideas of thoſe immaterial ſubſtances which think and reaſon; for this immaterial ſubſtance

* Vol. V. p. 168. where I have ſhown, that general ideas muſt neceſſarily proceed from particular; and that as all our knowledge, in this life, comes originally from our ſenſes, which perceive only particular or individual things, our firſt ideas muſt neceſſarily be of ſuch things.

ſtance is incorporated with the body which it moves. Now, we can have no conception of one body being ſo incorporated with another body, as to act upon it and move it, and yet to make but one ſubſtance with that other body, and to occupy the ſame place. We underſtand very well, that one body, by external impulſe upon another, ſhould move it; but we never can conceive how one body ſhould enter into another, and from within produce its motion in the way that mind moves body. What, therefore, thus incorporates with body, moves it, and, according to the doctrine of Timaeus, gives it its form, and makes it a body of a particular ſpecies, cannot be body, but muſt be a ſubſtance of a quite different kind, that is an immaterial ſubſtance. Further, we cannot conceive that body can move body otherwiſe than by impelling or drawing it. Now, it is impoſſible to conceive that the internal principle, which moves body, can do it in either of theſe ways.

But though, in this way, the diſtinction betwixt body and mind be clearly apprehended by the philoſopher, yet it is not to be wondered that the vulgar, who are converſant with body only, and perceive things only by their ſenſes, ſhould not form the idea of an immaterial ſubſtance. Even the firſt philoſophers of Greece appear not to have formed that idea; and it was Pythagoras, as we are informed by the authors of his life, Porphyry and his ſcholar Jamblichus, who firſt taught the Greeks to know the το οντως ον, that is what has a real exiſtence, and is not like material things, of which they ſaid, ουκ εστι αλλα γινεται, that is, *what cannot be ſaid truly to exiſt, but is always becoming ſomething that it was not before:* This is the caſe of body, which is not a moment the ſame thing, but is always changing; by which I mean *not changing its place but its ſubſtance.* We are, therefore, not to wonder if the firſt philoſophers of Greece were, as Ariſtotle tells us, materialiſts; and that, though Pythagoras brought into *Magna Graecia* the doctrine of immaterial ſubſtances,

ſubſtances, Anaxagoras, as he tells us, was the firſt man in Greece who employed mind in the formation of the univerſe; whereas, the philoſophers before him produced every thing from one or other or all of the four elements. Every thing, therefore, according to thoſe philoſophers, was material, and their Gods among other things; for they were all embodied, and had all the appetites, deſires, and paſſions belonging to an embodied ſubſtance. Of theſe Gods Cicero has given us a long catalogue in his third book, *De Natura Deorum:* And in his ſecond book he has let us know, that the Stoics made the *Mundus, or material world*, their God; which, they ſaid, had every perfection, and intelligence among the reſt. But the intelligence, which is very evident in the works of nature, they did not diſtinguiſh from that ſupreme intelligence, which has given the material world all the intelligence which appears in it; and they ſeem to have ſuppoſed that the matter, which compoſes the material world, had intelligence in itſelf: So that even thoſe philoſophers in Greece, who were in ſuch high eſtimation, do not appear to have made the diſtinction betwixt matter and mind.

Thus, I think, I have ſhown, that all motion proceeds from mind, mediately or immediately; and as this power of moving is an attribute of all mind, whereas, other powers, ſuch as thoſe of thinking and reaſoning, belong to certain minds only, I think I have very properly made it the general definition of mind*.

In this manner I hope I have ſhown moſt clearly, that the bodies in this material world muſt be moved by mind: And as body is only moved by mind incorporated with it, it is impoſſible that all the bodies of the material world can be moved by one mind; ſo that there muſt be a mind moving each ſeparate body. Now, theſe ſeveral minds muſt proceed from one general or univerſal mind; for the or-

* Vol. I. p. 7.

der, we obſerve in the univerſe, is, that Particulars proceed from Generals. There muſt, therefore, be one univerſal mind, from which the particular minds, which animate ſuch an infinite number of bodies, proceed; and this univerſal mind is God, the author of all the motions in the univerſe: And as all theſe motions are regular and orderly, forming altogether a ſyſtem, as I ſhall ſhow in the ſequel, which can be the work of intelligence only, it is evident, that the author of all theſe motions muſt be a being not only intelligent, but of ſupreme intelligence. But, before I go to the proof of this, I will add one chapter more upon a ſubject of ſuch conſequence in the ſyſtem of the univerſe, as motion is; and in this chapter I will endeavour to account how Sir Iſaac's doctrine of motion comes to be ſo imperfect and to lead to ſuch bad conſequences.

CHAP.

CHAP. III.

Sir Iſaac Newton a man of Science but no Philoſopher.—The ſame the caſe of Euclid:—This evident from his not diſtinguiſhing Magnitude, the ſubject of Geometry, from Number, the ſubject of Arithmetic;—alſo from his definition of a Point, in which he has omitted the eſſential difference betwixt a Point and a Monade, laid down by Ariſtotle, that a Point has a place, which a Monade has not.—Though ignorant of the Philoſophy of the Sciences of Arithmetic and Geometry, he treats the Sciences themſelves very accurately.—The ſame the caſe of Sir Iſaac Newton with reſpect to Aſtronomy:—He has explained the laws of the Celeſtial Motions moſt accurately, but did not know the Philoſophy of Motion *nor its cauſe.—The knowledge of this the height of Philoſophy and even of Theology, God being the original author of all the motions in the ſyſtem of the Univerſe.—Sir Iſaac's ignorance of Philoſophy led him to aſcribe all Motion to the impulſe of Body.*

SIR Iſaac was, no doubt, a very good mathematician and a great aſtronomer. But mathematics and aſtronomy are ſciences different from philoſophy: And I do not believe that Sir Iſaac was learned in philoſophy; nor did I ever hear that he had ſtudied it, or had read any book upon the ſubject. Now, in philoſophy are contained the general and fundamental principles of all ſciences; and therefore I call it the ſcience of ſciences. A man, therefore, may be learned in any of the inferior ſciences, but if he be not a philoſopher, he will not know the principles from which that ſcience is derived. Of this Euclid is a remarkable example. He underſtood both

geometry and arithmetic, and has given us an excellent work upon each of theſe ſciences. But he did not know the philoſophy of either of them, not even what the ſubject of them is: At leaſt he has not told us that the ſubject of both of them is *quantity;* and that quantity is that which is diviſible into parts, which parts are either continuous, or diſcrete, that is ſeparated. If the parts are continuous, they make what is called *magnitude*, which is the ſubject of geometry; if they are diſcrete, they make what is called *number*, which is the ſubject of *arithmetic*. Now, a man, who does not know to what category the ſcience he treats belongs, may be ſaid, in a philoſophical ſenſe, not to know what he treats. Euclid, therefore, not knowing that both the ſciences belong to the Category, or general idea of Quantity, and not being able to diſtinguiſh the two ſpecieſes of that quantity, may be ſaid not to have known, philoſophically, what either of the ſciences is. And the definition he has given us of what he makes to be the firſt principle of geometry, viz. a *point*, ſhows that he was no philoſopher; for he ſays, 'That a Point 'is that which has no parts or magnitude.' Now, that is the definition of an immaterial ſubſtance, not of a point, which is certainly a material ſubſtance, being the extremity of a line, as in an after definition he tells us it is. But, beſides this connection which it has with a line, it has an exiſtence by itſelf: For, as Ariſtotle has obſerved, it has a *place*, and, conſequently, muſt be *matter* or *body;* whereas, as the ſame author tells us, a monade has no place. And this he makes to be the difference betwixt the two ſciences, but which Euclid does not appear to have known; though the difference be ſo great, that geometry applies only to *matter* or *body*, whereas, arithmetic applies to all things, material or immaterial, ſubſtance or quality; ſo that arithmetic, though it be ſo common a ſcience, is the moſt univerſal and moſt comprehenſive of all ſciences, as it applies to every thing that exiſts But though Euclid ſeems not to have been able to diſcriminate theſe two ſciences of arithmetic and geometry,

metry, he underſtood the ſciences themſelves and the practice of them, and has treated of both very accurately. In like manner, Sir Iſaac Newton has treated of the motions of the Celeſtial Bodies, and has explained, moſt accurately, by what laws and rules theſe motions are conducted. But he did not underſtand the philoſophy of Motion: For he could not define it as Ariſtotle has done*; nor did he know that it is a moſt wonderful being, (if it can be called a being), having no fixed or permanent exiſtence, nor continuing the ſame for two moments together, but exiſting only in conſtant change and ſucceſſion. But what is worſe, he did not know what is the cauſe of it and produces it, whether mind or body. Now, to know this, is an important point of philoſophy, and of the higheſt philoſophy, that is theology: For, unleſs we know that mind is ultimately the cauſe of all motion in the univerſe, and that all bodies are moved by mind mediately or immediately, we cannot believe that God is the author of this univerſe, the whole buſineſs of which is carried on by motion; every body being moved one way or another, not immediately by the ſupreme mind, which it would be impious to ſuppoſe incorporated with body, (in which way only mind can move body,) but by particular minds of number infinite, all proceeding from him, and moving, one way or another, every body in the univerſe; and as all their motions are directed by ſupreme intelligence, or by the miniſters of that intelligence, the buſineſs of nature is carried on in the moſt regular and orderly manner, and ſo as to make a moſt wonderful ſyſtem of the whole. But Sir Iſaac, not being a philoſopher, did not conceive how mind could move body, nor how body could be at all moved otherwiſe than in the way we perceive by our ſenſes, that is by the impulſe of other bodies.

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* See vol. 1. of this work, p. 13 & 14.

As I have ſaid ſo much of the motion of body by mind, I think it will not be improper to ſubjoin ſome obſervations upon our progreſs from the knowledge of body, with which all our knowledge in this life muſt begin, to the knowledge of mind, which is the ſubject of ſcience; and from the knowledge of inferior minds to that of ſuperior, and even of the ſupreme, as far as our limited capacities can comprehend. But, before we can arrive at this higheſt of all ſciences, we muſt ſtudy other ſciences, beginning with that which is moſt natural to us, being ſo much connected as we are with body; I mean natural philoſophy, as it is very properly called. Upon this ſubject a great deal has been written in modern times, and many experiments made; and yet I am not ſure that any of our modern philoſophers know what natural philoſophy is, or what is the ſubject of it. The generality of them, if not all, believe as Sir Iſaac Newton did, that body only is the ſubject of this philoſophy, which does no more than explain how body operates upon body, and produces all thoſe motions which we ſee here on earth: Whereas, I ſay, and think I have proved, that all the motions, we perceive here on earth, proceed originally from mind; ſo that natural philoſophy does no more than explain the operations of mind in the bodies that we ſee here on earth. Theſe bodies are of three kinds: *Firſt*, Bodies unorganized, ſuch as earth, ſtones, and minerals, and which are commonly called inanimate; though I hold that there is a mind of one kind or another in every body. For ſuch is the union of all things in this univerſe, that mind and body are never ſeparated: And it is fit it ſhould be ſo, as body is by its nature merely paſſive, and can do nothing without mind, the only active power in the univerſe; ſo that body, unleſs it were incorporated with mind, could be of no uſe in the creation:—*Secondly*, Vegetables, whoſe growth, nouriſhment, and propagation of their kind, muſt be, as I have ſhown, the operation of mind:—And, *laſtly*, Animals, which, it is allowed by every body, have in them animal life, or that mind which is called the

the animal mind. And, accordingly, natural philoſophy treats of all theſe three ſubſtances, and of the motions in them produced by mind.

The next ſtep, in the progreſs of our knowledge, is to animals intelligent. Of theſe there is, in this earth, only one, viz. man; and it is only by the ſtudy of him that we can have any knowledge of what intelligence is: And, as we are of that ſpecies ourſelves, we may, by the ſtudy of ourſelves, acquire what is the moſt perfect knowledge here below. It was, therefore, not without reaſon, that, upon one of the gates of the temple of Apollo at Delphi, the precept, *know thyſelf*, was inſcribed.

Under this ſcience of intellect is comprehended, *firſt*, morals, by which man learns to govern himſelf; and, *ſecondly*, the political ſcience, by which he learns to govern a ſtate.

But there is ſtill ſomething wanting to enable us to aſcend to the higheſt philoſophy, I mean Theology; and that is the knowledge of an intellectual mind, not embodied or incorporated with matter: For we can have no knowledge of ſuperior intelligences, and far leſs of the ſupreme intelligence, unleſs we have formed the idea of a pure immaterial ſubſtance. But, even from the ſtudy of ourſelves, we may form the idea of ſuch a ſubſtance: For man contains in himſelf the intellectual, the animal, the vegetable minds, and that mind, which is common to all bodies, and which I call the elemental mind, by which bodies are moved up or down, or in the direction in which they are impelled, and, joined to all theſe minds, body. In ſhort, man is an epitome of every thing in nature, and therefore is very properly called a microcoſm or *little world*: So that the ſtudy of him may be ſaid to be the ſtudy of Nature and of the great world; and particularly of that which is principal, both in the great world and in his little world, that is intelligence, by which we learn every thing elſe:

For,

For, by the ſtudy of our own intellectual mind, we muſt know that it is a ſubſtance quite diſtinct from our body, and ſo much unconnected with our body in its actions and operations, that, in theſe, it is impeded by our body; and, in this reſpect, it is perfectly different from our animal, vegetable, and elemental minds, which are ſo connected with body, that they cannot be conceived to act or exiſt without it.

In this way, I think, it is clearly proved, that our intellectual mind, though incloſed in our body in this life, is a ſubſtance quite diſtinct from our body; and, in this way, from the moſt certain of all knowledge, I mean the knowledge of ourſelves, we form the idea of an immaterial ſubſtance, and ſo are fitted for the ſtudy of ſuperior intelligences, and even of the ſupreme intelligence, as far as we can comprehend it. And thus we are prepared for the ſtudy of the higheſt part of philoſophy and of human knowledge, I mean Theology.

Upon the ſubject of the progreſs of the human mind to philoſophy, I would recommend to the reader a treatiſe of a philoſopher of the Alexandrian ſchool, Ammonius Hermeias, upon the ſubject of *The Five Words* of Porphyry, another philoſopher of that ſchool, viz. Genus, Species, Difference, Peculiar, and Accidental; which are general ideas comprehending every thing belonging to philoſophy. In this treatiſe, Ammonius has given the beſt account, I ever read, of the nature of philoſophy, and of the ſciences proper to prepare us for the ſtudy of it. Among other things he has obſerved, that, from the ſtudy of natural philoſophy, which treats only of mind incorporated with body, we ought not to proceed immediately and directly to that higher philoſophy, which conſiders mind as entirely abſtracted from body; for, ſays he, that is too great a ſtep to make at once. And, therefore, before we ſtudy mind of that kind, he

he recommends the ſcience of Geometry; the ſubject of which is Lines and Figures, abſtracted from body, but not conceived to exiſt without body like the ſubjects of Metaphyſics or Theology. The demonſtrations, however, concerning them are not conſidered as of any particular Lines or Figures, but of Lines and Figures in general abſtracted from all body. And what makes this ſcience much more eaſily underſtood than any metaphyſical ſcience, is, that the ſubjects of its demonſtrations are repreſented to the mind by figures upon paper: So that we learn this ſcience not by words only, but by the very things themſelves repreſented to our eyes. And, therefore, I think geometry is a very proper tranſition from natural philoſophy, which conſiders mind only in bodies, to ſubjects of intellect which neceſſarily exiſt in body, but are abſtracted from it and conſidered as pure intellectual ſubſtances; for the demonſtrations in geometry muſt not be applied to the line or figure upon the paper, but to every Line or Figure of the ſame kind; ſo that the ſubjects of geometry may be conſidered as immaterial ſubſtances, not exiſting in any matter.

CHAP. IV.

Enumeration of the different kinds of Mind, and an account of the motions they produce.—1ſt. The Elemental Mind—this Mind univerſal in nature.—2d, The Vegetable Mind—its motions more various.—3d, The Animal Mind—Senſation peculiar to this Mind.—4th, The Intellectual Mind—Thought, Reaſon, &c. its peculiar attributes.—The other Minds act only with Body—this acts without Body.—Man compoſed of theſe three kinds of Mind and of Body;—this compoſition the famous Tetractys of the Pythagoreans.—Man a Microcoſm.—Our Intellectual Mind, in its preſent ſtate, impeded by our Body, and the Animal Life, in its operations.—Difference, in this reſpect, betwixt it and the Supreme Intellect.—Of the Laws of Motion, according to which the Motions of the Planets are governed.—Theſe prove the truth of the doctrine of the Pythagoreans, that the Univerſe was formed by numbers.—The Science of Muſic formed by numbers alſo.

IN the ſecond chapter of this book, I think, I have ſhown that all the motions in the univerſe are originally produced by mind: And as this is ſo important a point, not only in the philoſophy of nature, but in theology, I think it is proper to enumerate in this chapter the different kinds of minds which move body; and to give an account of the ſeveral motions which they produce. And I will begin with the loweſt kind of mind, viz. that which, as I have ſaid, only moves bodies in a certain direction; *up* as in the caſe of *fire*; *down* as in the caſe of earth, ſtones, metals, and ſuch like bodies, alſo, bodies that are impelled by other bodies, in the direction of the

the impulſe; which bodies cannot be moved by the impulſe after it has ceaſed, but by mind, as I have ſhown elſewhere *. This motion is univerſal in this material world, and belongs to all bodies unorganized as well as organized. Of the mind which produces this motion, and which Ariſtotle calls ψυχη τις, by which he means *a kind of mind, diſtinct from the other minds in nature, ſuch as the animal and vegetable*, I have ſpoken already †: And I will only add here, that, as it belongs to every body and makes a part of it, Virgil's deſcription of that univerſal ſpirit, that goes through all nature, will very well apply to it.

> Principio caelum ac terras, campoſque liquentes,
> Lucentemque globum Lunae, Titaniaque aſtra
> Spiritus intus alit, totamque infuſa per artus
> Mens agitat molem, et magno ſe corpore miſcet.
>
> ÆNEID. VI. v. 224

Beſides this univerſal moving mind, there are other minds which only move particular bodies, ſuch as that which moves the iron and the loadſtone towards one another ‡, and that which produces elective attraction and repulſion in chemical bodies, of which I have ſpoken elſewhere. The ſecond kind of moving mind is of a higher kind, being what is called the Vegetable Mind, and of which the motions are more various than thoſe of the firſt mind; for, by the operation of this mind, the vegetable is nouriſhed, grows, and propagates its kind. The third kind of mind is the Animal, more various ſtill;

* Page 21.

† Page 20.

‡ How Sir Iſaac would have accounted for this motion I do not know, as he has no where mentioned it. But as he does not appear to have had ſo much as the idea of body being moved by mind, he muſt have ſuppoſed that it was produced by a *vis inſita*, or power eſſential to matter, not by mind, as Thales, the firſt philoſopher in Greece, ſaid it was moved. This opinion of Thales muſt appear a little extraordinary, when we conſider that the firſt philoſophers of Greece were ſo far materialiſts, that they maintained the world to be made of different kinds of bodies, (ſee p 24.—25.) But it ſeems that Thales had no idea of body moving itſelf, any more than Sir Iſaac had the idea of its being moved by mind.

for it is ſenſitive, and is thereby diſtinguiſhed from the two others, which only move body, but have no ſenſations. This mind, therefore, feels pleaſure and pain, and conſequently has appetites and deſires, which prompt it to move the animal body in many different ways, in order to gratify theſe appetites and deſires. The laſt and higheſt in the order of nature, is the Intellectual Mind, which, though it directs the movement of bodies, does not immediately and by itſelf move them, but acts without body, thinks, reaſons, propoſes ends of action, and deviſes means to accompliſh theſe ends. And this is the great difference betwixt this ſuperior mind and the other minds which I have mentioned, that theſe only act upon body or with body, and cannot be conceived to act or exiſt without body. All theſe minds that I have mentioned are in us; and, with body, make that wonderful *little world* which we carry about with us, and which is the famous τετρακτυς of the Pythagoreans, conſiſting of the vegetable, the animal, the intellectual minds, and body. This, as I have obſerved elſewhere *, was thought by the Pythagoreans ſo great a diſcovery, made by the author of their ſect, Pythagoras, that they ſwore by him who diſcovered this τετρακτυς, which, they very properly ſaid, was the fountain of ever flowing nature; and, indeed, from it the whole of nature, and all its operations, proceed. And it may be obſerved, that, in our compoſition, as there is body, there is alſo that firſt mentioned kind of mind, which is common to all bodies, I mean the mind I call the elemental mind, by which our bodies are moved downwards towards the centre of the earth, or in any direction in which they are impelled; ſo that every thing, matter or mind, belonging to the great world is in our little world. But in this our ſo various compoſition, the fourth kind of mind, the intellectual, is imperfect, being diſturbed and impeded in its operations by the body and animal life, with which it is connected in this ſtate of its exiſtence; but, in the ſupreme mind, it is in perfection: And it muſt neceſſarily be ſo, as it directs all the different motions

* Vol. 5. p. 215.

motions of this univerſe, propoſing ends and deviſing means; for all the other three minds I have mentioned only move bodies, but have no intelligence by which their motions are to be guided; and though we have intelligence, it is, as I have ſaid, an imperfect one. There muſt, therefore, be a ſuperior intelligence, by which all the motions of the univerſe, many and various as they are, are guided and directed to certain ends: And this ſuperior intelligence, therefore, is *God*, the author of all the order and beauty which we obſerve in the univerſe; and which, as it is not incorporated with body, as our intelligence is, acts without impediment or moleſtation, and therefore is perfect and ſupreme intelligence, and is the author of this univerſe, which could not be conceived without that order and arrangement of things that we obſerve in it. But of this I ſhall ſay a great deal more in the ſequel.

To what I have ſaid upon the ſubject of minds moving bodies, it will not, I think, be improper to add ſomething concerning the general laws of motion of natural bodies.

As motion is the grand agent in all the operations of nature, if it was not governed by certain rules, the univerſe could not be a ſyſtem. What I am to conſider here of motion, is not the cauſe of it, of which I have ſpoken elſewhere, nor the effects it may produce, but what is eſſential to it, the quickneſs or flowneſs of it: And that depends upon the time which it takes to go through a certain ſpace; for Time is the meaſure of Motion. The motion, therefore, which carries a body through a certain ſpace in a ſhorter time than another body is carried through the ſame ſpace, is a quicker motion; whereas that which carries it through the ſame ſpace in a longer time, is a ſlower motion.

Of the ratio which the motions of body have to one another i

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this reſpect, we have a notable example in the grandeſt motions which we obſerve in this univerſe; and that is the motions of the planets round the ſun. Now the times of the motions of theſe ſeveral planets, compared with one another, are as the cubes of their diſtances from the ſun, the center of their motions; which is a diſcovery, made by our modern aſtronomers, of what was unknown to the antients. And there is another diſcovery made likewiſe by a modern philoſopher, Galilaeo, concerning a motion univerſal in this our earth; I mean the motion of falling bodies, by which they are carried towards the centre of our earth, with a certain acceleration of the motion by the continuance of it, (that is, by its approaching nearer to the centre,) which is in the ratio of the times to the ſquares of the ſpaces paſſed through.

Thus it appears to be true, what the Pythagoreans ſaid, that the univerſe was formed by Numbers; and, indeed, if it had not been ſo formed, it could not have been a ſyſtem; for there can be no ſyſtem, neither in the works of nature, nor in the works of men, without numbers.

There is one uſe made of numbers in an art, and a very great art, and the fineſt of all the fine arts, viz. muſic, which appears to be very extraordinary, I mean the application of numbers to the tones of the human voice, or of an inſtrument of muſic; for it is the different ratios of notes to one another, which compoſe the gamut.

CHAP.

CHAP. V.

Nothing can exiſt without a cauſe:—A firſt cauſe therefore neceſſary. Inquiry into the cauſe of the world.—This cauſe muſt be ſelf-exiſtent —neceſſarily exiſtent—eternal, and unchangeable.—Such a cauſe muſt be mind, the efficient cauſe of the world.—But a material cauſe as neceſſary as an efficient;—alſo a formal cauſe and a final.—The material world from all eternity, according to Ariſtotle;—with whom the author coincides.—Reaſons urged for this opinion,—and objections ſtated and anſwered.

IN the preceding chapter I have ſhown, that this material world, from which I am to prove the exiſtence of the ſupreme being, contains many different minds, by which all the various motions in it are performed. It is alſo compoſed of very many bodies of different kinds: and I am now to inquire what cauſe has produced this wonderful compoſition of minds and bodies.

That nothing can exiſt without a cauſe, is an axiom of philoſophy, the truth of which never was diſputed: And it is as certain, that there muſt be a firſt cauſe of the exiſtence of every thing; for if there were to be cauſes of cauſes, *in infinitum*, there would truly be no firſt cauſe at all. The queſtion then is, What is the firſt cauſe which has produced and ſet agoing all that variety of ſubaltern cauſes, the effects of which fall under our obſervation? And that muſt be a cauſe not produced from any other cauſe, and which, therefore, is ſelf-exiſtent. It muſt alſo have a neceſſary and eternal exiſtence,

exiſtence, for otherwiſe there muſt have been a time when nothing exiſted. Now, that cannot be; for if ſo, nothing could ever have exiſted, becauſe, *ex nihilo nihil fit*; ſo that if the firſt cauſe had not exiſted from all eternity, there never could have been any thing produced.

This firſt cauſe muſt be alſo unchangeable; for whatever undergoes a change of any kind, does ſo far forth ceaſe to exiſt, and conſequently is neither ſelf-exiſtent, neceſſarily exiſtent, nor eternal. The conſequence of which is, that the material world cannot be the ſelf-exiſtent being which is the cauſe of all being; for it is in conſtant change and ſucceſſion of one thing to another. It is, therefore, not ſelf-exiſtent, and conſequently cannot be the cauſe of its own exiſtence. There is therefore an abſolute neceſſity, that there ſhould be ſome other cauſe of the production of this world: And it is evident, that this cauſe muſt be mind, which I have already ſhown to be the author of all the motions in nature, and the efficient cauſe of theſe motions. Now, as I have proved that body cannot move itſelf, much leſs can it have produced all thoſe minds which move bodies in this material world. That mind ſhould produce mind is moſt natural; and, indeed, we cannot conceive that it ſhould be produced in any other way; for it is impoſſible to conceive that body ſhould produce mind, as impoſſible as to conceive that mind ſhould produce body, as I have ſhown in the preceding volume*. There muſt, therefore, be a material cauſe for this world, as well as an efficient: So that we have in the production of it all the four cauſes which produce every thing in the univerſe; viz. Mind, the firſt or efficient cauſe; which out of Matter, the ſecond cauſe, has formed this material world, that is, has given it its Form, which is the third cauſe; and as this mind has done that for ſome end or purpoſe, we have alſo the Final Cauſe.

* Chap. 12. of Book 3.

cauſe. And, indeed, it would have been extraordinary, if, in the greateſt of all productions, all the four cauſes had not concurred*.

Although the material world be not, as I have ſhown, ſelf-exiſtent, nor conſequently the cauſe of its own exiſtence, I am of the opinion of Ariſtotle and the other antient philoſophers, that, with all the changes which it has undergone and is daily undergoing, it has exiſted from all eternity. But it will not from thence follow, that it is not the production of an eternal cauſe; for that an eternal cauſe ſhould have produced ſomething from all eternity, is ſo far from being abſurd or inconſiſtent, that it is the neceſſary conſequence of the eternity of the cauſe. And the Chriſtian Theology furniſhes us with an example of ſuch a production, from ſuch a cauſe, in the eternal generation of the Son of God: For all Chriſtians muſt maintain that he is produced, or begotten, according to our Scripture ſtile, of the Father; and no man, who is a Chriſtian, and underſtands the religion he profeſſes, will maintain that he was produced *in time*, and *not from all eternity*.—But of this I ſhall ſay more in the next chapter.

As production and preſervation are eſſential qualities of the Supreme Being, it follows, I think, of neceſſary conſequence, that there never could have been a time when he did not exert thoſe qualities. To ſuppoſe, therefore, that there was a time when he had not produced the univerſe, of which the material world is a part, would be to ſuppoſe that there was a time when he was not God. The univerſe, therefore, muſt have exiſted from all eternity.

* The firſt philoſopher who diſcovered theſe four cauſes, in the univerſe, was Ariſtotle; and a great diſcovery it was; and which was altogether unknown to the Greek philoſophers before him, who talked much of various cauſes producing the univerſe, ſuch as earth, air, fire, and water; but, as they did not know the nature of cauſes, nor how many there were of them, they may be ſaid not to have known about what they were treating, nor what they would have been at.—See what I have ſaid at ſome length on the ſubject of cauſes, in vol. 1. p. 53.

It may be objected that this doctrine of the eternity of the world is contrary to our Scripture, which tells us that the world was created at a certain time, and in a certain number of days, namely in ſix days; and that God reſted the ſeventh day, which, on that account, was to be kept holy. But this account of the creation Moſes has adapted to the capacity of the people for whom he wrote, I mean the Jews; who never could have conceived an eternal production, or that any production or any effect could be coeval with its cauſe: And he makes God reſt upon the ſeventh day, in order to eſtabliſh, among his countrymen, the religious obſervance of that day; and, accordingly, it is well known to have had that effect. Nor is it in this paſſage only, but in many others, that the language of the Old Teſtament is adapted to the capacities of the vulgar; as where it is ſaid that God was angry, and that he repented of what he had done: And it was neceſſary that it ſhould be ſo, as the vulgar can conceive nothing but what has ſome relation to the affairs of men in this life. Even a future life of rewards and puniſhments is not mentioned by Moſes; as the Jews appear to have had no idea of a life after death, till our Saviour came among them and brought life and immortality to light. All the rewards, therefore, promiſed, and all the puniſhments threatened in the Old Teſtament, are only temporal, and to happen in this life.

Thus, I think, I have proved, that the material world, and even the whole univerſe, is an eternal production of an eternal cauſe, in the ſame manner as the Second Perſon of the Trinity is; of which I am now to treat.

CHAP.

CHAP. VI.

Addition to the Chapter, of laſt Volume, on the Trinity.—Reaſons for enlarging further on the ſubject.—The Trinity in the great World, illuſtrated by the Trinity of our Microcoſm.—The three Minds, though three Subſtances, *make but one Being in us.—The ſame the caſe of the Trinity in the great World.—The World* one *and* many, *as well as the Trinity.—This explained by the connection betwixt Genus, Species, and Individuals.—Intelligence and Vitality eſſential to the Divinity.—Connection betwixt the ſyſtem of Theology contained in the doctrine of the Trinity, and the ſyſtem of the Univerſe,—The uniformity of this ſyſtem perfect.—Two other myſteries of our Religion explained, viz. the Eternal Generation of the Second Perſon of the Trinity, and his Incarnation.—Reaſons for promoting the ſtudy of Antient Philoſophy, which explains ſuch deep myſteries.—Objection, That by ſuch inveſtigations we do not treat the myſteries of our Religion with proper reverence, Anſwered—And the connection betwixt Philoſophy and the Chriſtian Religion ſhown.*

AS, in the preceding chapter, I have mentioned the Trinity as illuſtrating what I have ſaid of the material world having exiſted from all eternity, I will add ſomething here to what I have ſaid upon the Trinity in the preceding volume; and I hope the reader will not think, that, when I have done ſo, I have ſaid too much upon a ſubject of ſuch importance, being the foundation of the Chriſtian Religion, and that which makes us Chriſtians: For it is in the name of the Father, Son, and Holy Spirit, that we are

baptiſed, that is initiated into the Chriſtian Religion. And, as no man can believe what he does not comprehend, I think it will not be improper to add this chapter upon the ſubject; in which I will explain another myſtery of the Chriſtian Religion,—the eternal generation of the Son of God.

But beſides the reverence that every Chriſtian ought to have for his religion, I hold that no man can be truly a Theiſt who does not know the doctrine of the Trinity; for, without that knowledge, he cannot perfectly know the nature of God, in what manner he exiſts, nor how, or in what order, all things in the univerſe proceed from him.

What appears to be moſt uncomprehenſible, in the doctrine of the Trinity, is, that there are three *perſons* in it, or *ſubſtances* as they ought to be called*, and yet theſe three make but one Being; ſo that the Trinity is both *three* and at the ſame time *one*.

And here, I think, I have uſed a very proper illuſtration of the doctrine of the Trinity in the great world, from the Trinity in our little world: For that there is there a Trinity cannot be doubted; as, beſides our intellectual mind, which may be called the *Firſt Perſon* of our Trinity, there are two other minds in it, the animal and the vegetable, and theſe *three* make but one Being. And here it may not be improper to obſerve the wonderful connection and relation betwixt our little world and the great world; ſo great, that the compoſition of man is very properly called a microcoſm or *little world*.

But though the Trinity in our *little world* agrees ſo perfectly with

* The word in Greek is ὑποστασις, which is the very ſame with the Latin word *ſubſtantia*, and with our word *ſubſtance*.

with the Trinity of the great world, this laſt mentioned Trinity is a ſubject of infinitely greater importance than the Trinity of our little world; for it contains the ſyſtem of the divine nature, which, as I have ſhown in the preceding volume*, muſt neceſſarily comprehend one Supreme Being, the Author of all things, and from him proceeding Intelligence, and from Intelligence a Spirit of Life and Animation, both ſo eſſential to the firſt being, that they are to be conſidered as making with him but one being, conſiſting of three ſubſtances.

And here we may obſerve a wonderful conformity betwixt this ſyſtem of divinity, and the ſyſtem of the world produced by divinity. Of the antient philoſophers, ſome maintained that the univerſe was *one*, others that it was *many;* but others of them, and among them Heraclitus, maintained what I hold to be the true opinion, that it was both *one* and *many:* And Proclus, a commentator upon Ariſtotle, tells us that the *one* in the *many*, and *the many* in *the one*, comprehended the whole Theology of Plato; and he might have added, the whole ſyſtem of the univerſe, which is compoſed of genuſes, ſpecieſes, and individuals. Now, that the genuſes and ſpecieſes conſiſts of the *one* and *many* is evident. But I ſay further, that every individual of every ſpecies is *one* and *many*: For every individual muſt have all the properties of the ſpecies to which it belongs. It muſt likewiſe have all the properties of the genus of that ſpecies; and, if there be a ſuperior genus, (which there muſt be, one or more, till we come up to the higheſt genuſes, that is the Categories,) alſo of that genus; for as the genus contains the ſpecies virtually, the ſpecies being derived from it, ſo the ſpecies comprehends the genus actually, having all the qualities belonging to the genus in it. And in like manner the individuals of every ſpecies comprehend all the properties of that ſpecies, and by conſequence

* Page 191.

quence the genus, which, as I have ſaid, is certainly comprehended in the ſpecies. Thus, for example, the individual *man* is of that ſpecies of animal called *man*, and therefore he muſt have in him all the qualities of that ſpecies, by which it is diſtinguiſhed from other ſpecieſes of animals; and he muſt alſo have in him all the properties of the genus *animal*, which neceſſarily belong to every ſpecies of that genus. He is, therefore, intelligent, by which the ſpecies *man* is diſtinguiſhed from the ſpecies of other animals on this earth. And he muſt alſo have in him what belongs to the genus *animal*, and is common to him with other animals. He muſt alſo have in him what belongs to the genus above *animal*, that is *body;* and, laſtly, he muſt have what belongs to the genus above that, namely *ſubſtance*, which is one of the Categories: So that as he is an individual, he is only *one*, but as belonging to a ſpecies and to the genuſes above that ſpecies, he is *many*.

Thus it appears, that the whole ſyſtem of the univerſe, and even the individuals of that ſyſtem, conſiſt wholly of *the one in the many*, and *the many in the one*. So that the Supreme Being, the head of that ſyſtem, if he were ſo different from the other beings of the ſyſtem, as to be only one and not more, there would not be that unity in the ſyſtem which we muſt conceive to be in a ſyſtem ſo perfect as that of the univerſe. The ſubſtances, which the doctrine of the Trinity joins with the nature of the Deity, are not only perfectly conſiſtant with it, but ſo eſſential to it, that we could not have an idea of Deity without them. Theſe are, as I have ſaid, Intelligence and the principle of Vitality; without both which we could not conceive the Deity to have produced the univerſe; and, as that production is eſſential to his nature, we could not have otherwiſe conceived him to be God.

Such being the ſyſtem of the univerſe, it is evident that the ſyſtem of Theology, contained in the doctrine of the Trinity, would have

have been inconſiſtent with that ſyſtem, if it had not been likewiſe *the one in the many*, and *the many in the one*. Why the many are not of ſuch number in the Trinity as in the other parts of the univerſe, I think I have given a very good reaſon *. As, therefore, the relation of the One and the Many goes through the whole ſyſtem of beings in the univerſe, beings divine as well as others, it is evident that the ſyſtem of the univerſe is the moſt uniform, and in that reſpect the moſt compleat ſyſtem that can be imagined. How compleat it is in other reſpects I ſhall afterwards ſhow.

I will only ſay further, upon the ſubject of the Trinity, that it is ſo neceſſarily connected with the being of a God, that we cannot conceive a God without the principles of Intelligence and Vitality being eſſential parts of his nature, and that it appears to have been believed by every nation who had what can be called a ſyſtem of religion. It was a part of the religion of the Jews in the time of Moſes, though it was not revealed or explained to them as it was by our Saviour to his Diſciples: For it is obſerved, by thoſe learned in the Hebrew language, that in the account of the creation given by Moſes, where he ſpeaks of God doing any thing, though the word expreſſing *God* is in the ſingular number, thereby denoting the unity of the Godhead, the verb is in the plural number; and even in our Engliſh tranſlation, God ſays, "Let *us* make man after *our* own image." It was alſo the religion of Egypt, where Plato learned it: And it is at this day the religion of the Bramins of India, as I have ſhown in volume 4th of this work †; where I mention a type which they have of the Trinity, and which I do not think an improper one, viz. a triangle inſcribed in a circle, repreſenting *the three in one* and *the one in three*. It is alſo the doctrine of the religion of the Lama's, the moſt univerſal religion in the eaſtern parts of Aſia ‡. This doctrine appears alſo

* Vol. 5. p. 193. † p. 292.

‡ Parſon's *Remains of Japhet*, p. 205.

alſo to be known in Mexico *: And it is to be found even in the deſarts of Siberia, where a medal was diſcovered in the ruins of an antient temple, with a figure, which is a type of the Trinity, upon it, and with an inſcription in the Celtic language, and in the characters of that language uſed at preſent in Ireland; which ſhows that it was part of the religion of the Celts as well as of other antient nations †. The Grand *Lama* or *Delay Lama*, as they call him, has many of theſe medals which he gives to the people as a holy thing to hang to their necks ‡. In ſhort it appears to have been ſo generally believed by all nations having an eſtabliſhed religion, that it may be ſaid to be the religion of nature.

I will here add nothing more upon the doctrine of the Trinity, having ſaid ſo much upon it in the preceding volume; where I have alſo ſaid a great deal upon the ſubject of the ideas of Plato, which I have ſhown to have a neceſſary connection with the Trinity; ſo that, altogether, they exhibit a wonderful ſyſtem of the univerſe, all proceeding, by proper ſteps and regular degrees, from the firſt cauſe.

There is another myſtery in the Chriſtian Religion which is as incomprehenſible, by thoſe who are not philoſophers, as the doctrine of the Trinity is; but, for the comprehenſion of which, I hope I have prepared the reader, by what I have ſaid of the eternity of the univerſe, though it be the production of the Deity. The myſtery I mean, is the eternal generation of the Son of God. The Son, or Second Perſon of the Trinity, is, according to the doctrine of the Chriſtian Church, eternal as well as the Father, from whom he is produced: And this is what is meant by the eternal generation of the Son. Now to a man, who is not a philoſopher, it muſt appear inconceivable

* Parſon's *Remains of Japhet*, p 221.

† Ibid. p. 184. ‡ Ibid. p. 185.

conceivable that one being ſhould be produced by another, and yet be co-exiſtent with him from all eternity. It is not, therefore, I think, to be wondered that there ſhould be ſuch a hereſy in the church as Arianiſm, or that it ſhould have been once ſo prevalent. Now, the doctrine of Arius was, that, as the Son, or Second Perſon of the Trinity, was produced, (or *begotten*, as it is expreſſed in Scripture,) by the Father, he muſt have been in exiſtence poſterior to him; and then he muſt have exiſted *in time*, and not from all eternity, as the Father exiſted; and, accordingly, Arius maintained that there was a time when he was not: His expreſſion was, 'ην 'οτε ουκ 'ην. But antient learning will explain this myſtery, as well as the myſtery of the Trinity, and ſhow that one thing may proceed from another as its cauſe and yet be coeval with it. This may be explained by an example which every man, who has learned the elements of geometry, will readily underſtand. It is this, that every corollary of a propoſition is a truth eternal as well as the propoſition itſelf; and yet it is derived from the propoſition as its cauſe, and could not have exiſted if the propoſition had not been an eternal truth.

What has led Arius and his followers into the error of ſuppoſing that the Son, being produced by the Father, could not be co-eternal with him, but muſt have exiſted in time, is what we obſerve of the production of things on this earth, where the production is always poſterior in its exiſtence to the cauſe producing it. But this is only true of things material, which have no permanent exiſtence, but are conſtantly changing, being never the ſame thing for two moments together; ſo that they cannot be ſaid properly to exiſt, but are always in the ſtate of becoming ſomething different from what they are; 'ουκ 'εσ∫ι αλλα 'γινεται, as it is expreſſed in Greek: Whereas Beings divine have a real exiſtence, and are the 'τα οντως 'οντα; and the ſame is true of all immaterial Beings. Now, the Theorems of ſcience are certainly not Beings material but immaterial.

But, ſetting aſide things immaterial, there is one material thing which will illuſtrate this matter very much, and make it intelligible even to thoſe who are not philoſophers. The thing I mean is the Sun, which produces rays that are coeval with the cauſe producing them; as we cannot ſuppoſe the Sun to exiſt without rays. And this example, with the other I have given from the theorems of ſcience, proves this general propoſition, that wherever any thing, by the neceſſity of its nature, produces another thing, both the thing produced and the cauſe, or that which produces it, muſt be co-exiſtent: So that if the cauſe be eternal, the production alſo muſt be eternal. Now this is the caſe of the generation of the Son of God; for as production is eſſential to the Supreme Being, and as the firſt production, according to the order of nature, muſt have been the principle of intelligence, or the Second Perſon of the Trinity, it was neceſſary that this production ſhould be coeval with the Firſt Perſon of the Trinity, from which it is derived, and conſequently co-eternal with him. And in this way, I think, the eternal generation is clearly explained, as it is ſhown that the Firſt Perſon of the Trinity could not exiſt without producing the Second. Whoever does not believe this, muſt believe as Arius did, that *the time* was when our Saviour did not exiſt; and that he was produced in the way of common generation here on earth. Now, this is a hereſy that ſtrikes at the very foundation of the Chriſtian religion, but which, as I have ſhown, was an error that men, who were not philoſophers, would naturally fall into, and was therefore a more general hereſy and more predominant than any other that ever was in the Chriſtian church.

And thus, I think, the two fundamental principles of the Chriſtian religion, the doctrine of the Trinity, and of the eternal generation of the Son of God, are clearly explained. And as they are thus made comprehenſible by us, they may be believed, and ought to be believed, as I think I have ſhown that they are truths of philoſophy

phy as well as of religion: And for the ſame reaſon that the Second Perſon of the Trinity muſt have been begotten from all eternity of the Firſt, ſo the Third muſt have been begotten of the Second.

In this way the eternal proceſſion of the Second and Third Perſons of the Trinity from the Firſt, and of all things in the univerſe from them, is clearly explained. Nor, indeed, do I think that, without the doctrine of the Trinity, the proceſſion of all things in the univerſe from the firſt cauſe, could be otherwiſe explained: For it is impoſſible to ſuppoſe that all things ſhould have proceeded immediately from the firſt cauſe, and promiſcuouſly, without order or arrangement; as that would be making a chaos of the creation: Whereas a more orderly and regular production cannot be imagined than, firſt, Intelligence, by which the univerſe was formed;—then the principle of Life and Animation, by which every thing was moved and put in action, and ſo the univerſe made a compleat ſyſtem.

There is one other fundamental doctrine of the Chriſtian religion which I have not yet mentioned. That is the incarnation of our Saviour. But this is not ſuch a myſtery, nor ſo difficult to be underſtood, as the doctrine of the Trinity, or the eternal generation of the Second Perſon of the Trinity: For it is only ſuppoſing that our Saviour, inſtead of human intelligence, brought with him to this world that divine intelligence which belongs to his nature, and which was embodied with the animal and vegetable mind belonging to human nature.

Thus, I think, with the aſſiſtance of antient philoſophy, I have been able to explain the philoſophy of the Chriſtian religion: For, as I have elſewhere obſerved*, as it is the beſt popular religion that ever was, ſo it is the moſt philoſophical; nor, indeed, do I think that

* Vol. 5. p. 189.

the philoſophy of it can be well explained, or even comprehended, without the aſſiſtance of antient philoſophy. To a man who has not ſtudied the ſyſtem of the univerſe, as it is delivered to us in the antient books of philoſophy, the doctrine of the Trinity muſt be a moſt incomprehenſible myſtery; for he never can comprehend how the *one* ſhould be *three*, and the *three one:* Whereas, from theſe antient books of philoſophy, he may learn that the whole ſyſtem of nature is compoſed of *one in the many*, and *many in the one* *. So that, as I have obſerved, the Trinity, if it had not been compoſed in that way, would have been diſconform to the reſt of the ſyſtem of the univerſe. Now, if a man cannot comprehend the doctrine of the Trinity, he cannot believe in it, nor conſequently can he believe that fundamental principle of the Chriſtian religion, that Jeſus Chriſt is the Son of God, and the Second Perſon of the Trinity; and his eternal generation will be equally incomprehenſible by him, unleſs he has learned that the production of an eternal being is eternal as well as the being who is the author of the production. The ſtudy, therefore, of antient philoſophy ought to be very much encouraged by the church, as without it a man can only underſtand the popular part of the Chriſtian religion, but not the philoſophical: So that he cannot be ſaid to be admitted into the *Sanctum Sanctorum*, nor to know ſo much as Plato learned in Egypt of the philoſophy of Chriſtianity; I mean the doctrine of the Trinity.

There are, I know, who think that we do not treat the myſteries of our religion with ſufficient reverence, when we examine them ſo curiouſly; but that we ought to receive and believe them as revealed to us by God, without any ſuch examination. To this I have already given an anſwer, that we cannot truly believe what we do not comprehend or underſtand, though we may profeſs to believe it. Now, there is the myſtery of the Trinity;—of the eternal generation

* See this enlarged upon in p. 45. of this volume.

ation of the Son of God, the only begotten of the Father;—and of his incarnation;—all fundamental doctrines of Chriſtianity, (particularly the doctrine of the Trinity, without which we cannot, as I have ſaid, comprehend how Jeſus Chriſt ſhould be the Son of God,) but which cannot be comprehended nor believed without ſome knowledge of philoſophy. It is for this reaſon I have ſaid* that the Chriſtian religion is a philoſophical religion, more than any religion that ever was in the world. But it is a popular religion at the ſame time; and I think I have ſhown it to be the beſt popular religion that ever was. Now, though a man may not have cultivated his intellect enough, to underſtand the philoſophical part of the Chriſtian religion, yet if he believe that Jeſus Chriſt was the Son of God, (though he may not be able to explain how he ſhould be ſo, not underſtanding the doctrine of the Trinity,) and that he came to this world, and took upon him the human form in order to ſave man from his fallen ſtate;—and if he likewiſe believe that, if he practices the precepts of the goſpel, particularly that precept which recommends to us the love of God and of man, as the fundamental duty of a Chriſtian, he ſhall be happy in the next life, whereas, if he lives a wicked and irreligious life he ſhall be puniſhed in the next world;—He may be reckoned a Chriſtian, and will have his reward in the next world; though, as our Saviour has told us, "That in his "Father's houſe there are many manſions", I am perſuaded he will not enjoy there ſo much happineſs, as thoſe who have cultivated their intelligence to ſuch a degree as to underſtand thoſe fundamental doctrines of Chriſtianity which we call *myſteries*, and whoſe practice of religion is ſuitable to their underſtanding of it. For as man is an intellectual creature, and as intelligence is predominant and the governing principle in his nature, it is evident that the perfection of his intelligence, particularly in matters of the moſt ſublime ſpeculation, ſuch as things divine, muſt be the perfection of his nature.

CHAP.

* Vol. 5. p. 189.

CHAP. VII.

Of the ſyſtem of Genuſes and Speciefes in the Univerſe, and its uſefulneſs in Language, in Logic, and in the perfection of Human Knowledge.—By it we ſhow how all things proceed from the higheſt of the Categories, Subſtance,—*which contains them all* Virtually, *while they contain it* Actually.—*This doctrine, applied to the Supreme Being, explains a paſſage in* Geneſis.—*Of the advantages of the ſtudy of Logic, which carries us up to Theology.—General Ideas the foundation of all Science.—Proceſs of them from the Supreme Being:—Defect in the ſyſtem of Nature if they did not exiſt.—This doctrine of Ideas Plato brought from Egypt—as well as that of the Trinity.—Explanation of* Virtual *and* Actual *Exiſtence.*

BEFORE I conclude this book I think it will not be improper to add to it a ſhort chapter upon a ſubject which I have often mentioned in the courſe of this work, the diviſion of things in the ſyſtem of the univerſe into genuſes and ſpecies. It is a diviſion of ſuch importance, that there could be no order or regularity in the ſyſtem without it. And it is of ſuch uſe to us in this lower world, that we could comprehend nothing without it, nor expreſs any thing by words: So that we could have no uſe of language; for it would be impoſſible to give a name to every individual thing. We muſt, therefore, name things by their ſpecieſes or their genus. And even the moſt barbarous and imperfect languages give names to things which denote their ſpecies; for there is no nation that has any uſe of ſpeech which does not denote every thing by the ſpecies to

to which it belongs. In this way they ſpeak of the different ſpecieſes of animals with which they are converſant; ſo that they have a name for *a man*, *a horſe*, or *an aſs:* But very few of them, if any, have a name for the genus of theſe ſpecieſes, I mean *animal*; nor do they appear to be ſo far advanced in the knowledge of things as to have any idea ſo general as that of *genus*. And, indeed, this aſcent, from the perception of individual things to the ſpecies to which they belong, from the ſpecies to the genus, and from a lower genus to a higher, ſhows that wonderful progreſs in knowledge and that improvement of our intellect for which we are placed in this world. Thus, from the perception that we have by our ſenſes, of any particular animal, (*man* for example), we riſe to the idea of the ſpecies to which he belongs; then from the ſpecies we proceed to the genus of that ſpecies, which is *animal*. And in doing this we obſerve what the logicians call the ſpecific difference; that is, what diſtinguiſhes the ſpecies from the genus, and one ſpecies of that genus from another. This, in man, is *intelligence*. We may obſerve likewiſe other things which are proper and peculiar to man, and alſo things that are accidental or common to him with other ſpecieſes of animals; and in this way we go through Porphyry's *five words*, *Genus*, *Species*, *Specific Difference*, *Proper* or *Peculiar*, and *Accidental* *. But the progreſs of things, and of our knowledge, does not ſtop here; for we aſcend from the genus *animal* to a higher genus, that is *animated body*, or the το ἔμψυχον, as the Greeks called it, comprehending both the animal and the vegetable: Then from *animated body* we proceed to *body*; and from *body* to *ſubſtance*, which is one of the Categories, that is one of the higheſt *genuſes* †, beyond which there is nothing but the Supreme Being, from whom all things proceed, and who, therefore, comprehends them all. So that here we have a progreſs from an individual

* See on this ſubject, p. 32.

† See what I have further ſaid upon this ſubject, p. 46.

individual to one thing, which comprehends many individuals; then to another one thing, which comprehends more things under it; then to a third thing, which comprehends ſtill more; and ſo on till we come to what comprehends all things, and is not only *the one in many* but *the one in all.*

This account I have given of the progreſs of our knowledge, preſents to us a ſyſtem by which many things proceed all from one thing, in the moſt regular and orderly way; which one thing does *virtually* comprehend them all: For the higheſt genus that I have mentioned, viz. the category of *ſubſtance*, does *virtually* comprehend *man* and every other animal, and is *actually* contained in *man* and the other things I have mentioned. In the ſame manner the Supreme Being does *virtually* comprehend *ſubſtance*, and is comprehended *actually* in every individual ſubſtance. And, therefore, I think the doctrine of ſpecieſes and genuſes, riſing above one another, is the beſt illuſtration that can be given of the proceſſion of all things from the firſt cauſe, and explains moſt clearly that fundamental principle of theology which is laid down in our Scripture, "That all "things are in God, and God in all things:" That is, "That all "things are *virtually* or *potentially in God*, and God is *actually in* "*all things.*" But when we ſay, that God is *actually* in all things, we muſt not be underſtood to mean that every attribute of the divinity, that is the whole divinity, is *actually* in every thing, but only that every thing that is eſſential to the thing, and conſtitutes its nature, is derived from God: So that in this reſpect, and this only, God is in all things. Of this I will give an example in the principle of motion which I have ſhown to be in every body. Now, this principle is derived from the Third Perſon of the Trinity, the ſource of all life, animation, and conſequently of motion. And this ſenſe that I have given of God being actually in all things, perfectly agrees with the illuſtration of the proceſſion of divinity which I have

have given from the doctrine of genuſes, ſpecieſes, and individuals; for the ſpecies does not contain all that is in the genus, nor the individual all that is in the ſpecies, but each of them contains only what is neceſſary to conſtitute the thing and make it what it is.

What I have here ſaid ſhows of what importance the ſcience of logic is, which is ſo little cultivated at preſent in Britain: For it not only explains to us the operations of our nobleſt faculty, intellect, in the ſtudy of ſciences, and directs theſe operations, but it carries us up to theology, the ſummit of human knowledge, and is the beſt preparation for that ſtudy.

This illuſtration of the proceſſion of all things from the firſt cauſe, which the doctrine of genuſes and ſpecieſes affords, would, I think, be very valuable, even if theſe genuſes and ſpecies had no real exiſtence, but were no more than fictions or creations of our mind, collected from a great number of individuals; which is the opinion, I believe, of all the philoſophers of this age, and was the opinion even of Ariſtotle, who ſuppoſes that every being on this earth, even the meaneſt inſect, proceeds directly from the ſupreme being, without the intervention of genuſes or ſpecieſes; which he ſays are only ideas of our mind, but which have no exiſtence in the nature of things. Upon this ſubject I have ſaid a good deal elſewhere*; and I will only add here, that as general ideas are the foundation of all ſcience, I cannot be convinced that they are created by us, and have no exiſtence in the nature of things by themſelves, out of the mind of any intelligent being, even of Supreme intelligence. That they are in the mind of the Supreme Being, and that they proceed from him, as every thing elſe in the univerſe did, I think it would be impious to deny. And I ſay they proceeded from him as they exiſted in his mind, that is as generals and not as the particulars:

* Vol. 5. p. 187.

For, as Gregory Nazianzen has taught us, all the ideas of the Divine Mind are realized, otherwiſe they would exiſt there to no purpoſe, as many ideas exiſt in our mind. And, indeed, it is moſt abſurd to ſuppoſe, that the general ideas in the mind of the Deity ſo far changed their nature, when they were realized, that they were divided into the particular ideas of which they were compoſed. They proceeded, therefore, from the mind of the Deity as they exiſted in it, and formed immaterial ſubſtances, ſuch as Plato tells us all his ideas are; and, indeed, as I have ſhown, it is impoſſible to ſuppoſe that any thing material can proceed from Deity.

But this proceſſion from the Deity was, like every other proceſſion from him, regular and in due order. The firſt in rank and dignity, not in time, (for every thing proceeding from the Deity is, like himſelf, eternal), are the higheſt genuſes, ſuch as the Categories. From them proceed lower genuſes, and from theſe genuſes ſpecieſes; and ſo on till we come down to the loweſt ſpecieſes of things, which produce nothing but individuals, that are incorporated with body and animate all the bodies on this earth. And thus we have a ſyſtem of beings all producing one another; the higher and more excellent, the ſubordinate and leſs excellent; but all proceeding ultimately from the firſt cauſe, and making a chain of beings in the creation, like the chain in Homer, that was faſtened to the throne of Jupiter, of which no link is wanting*; whereas there would be a wonderful gap in the works of creation, if nothing were interpoſed betwixt the firſt cauſe and the meaneſt inſects, or thoſe minds which inform, as I have ſhown, not only animals and vegetables, but even unorganized matter, and produce thoſe movements which we obſerve in ſuch matter.

Theſe are the ideas of Plato, of which I have ſaid ſo much in the paſſage

* See vol. 5. p. 187.

paſſage above quoted. This doctrine of ideas he brought with him from Egypt, as well as the doctrine of the Trinity, with which I think it is intimately connected; for, if the proceſſion of things from the firſt cauſe was to end in the Third Perſon of the Trinity, I ſhould think the ſyſtem of the univerſe mutilated and imperfect.

I have ſaid ſo much of Ideas here and in other parts of this work, that I am afraid the reader is weary of them, and wiſhes that I would change the ſubject: And I will do ſo after making one general obſervation upon them, which I think is of great importance; and it is this, that the doctrine of ideas explains to us the eſſence of things, which, it is commonly ſaid, we do not know; and, accordingly, I have ſaid ſo in more than one place. And it is certain that we deſcribe and define things only by their qualities; but theſe qualities cannot have produced themſelves, but muſt proceed from ſomething which muſt exiſt in the thing that has thoſe qualities, and which therefore I call the eſſence of the thing. Now that eſſence is the idea which exiſts in every thing, and makes it what it is: And this was perfectly underſtood by Timæus the Locrian; and he has fully explained it in that moſt valuable work of his, *De Anima Mundi*, where he tells us that all things in this material world proceed from two cauſes, *matter* and *idea;* and the *matter* he compares to the *mother*, and the *idea* to the *father:* So that, according to his ſyſtem, there is an idea in every thing, which, as I have ſaid, forms the thing, makes it what it is, and gives it all thoſe qualities by which we know it and deſcribe it, ſo that this idea is truly its eſſence: And this I hold to be the beſt account that ever was given or can be given of the production of every thing in the univerſe. And it is a moſt perfect ſyſtem of Theiſm; for, as all ideas proceed from God, this philoſophy of Timæus makes him the author of all things in the univerſe.

It is theſe ideas which give body its form, and make it what it is, either an animal body, a vegetable, or a mineral. And, indeed, it would be abſolute materialiſm to ſuppoſe that matter could give itſelf thoſe different forms and qualities of body: So that I hold that an idea, or in other words, mind, is abſolutely neceſſary to give a particular body that form by which it is diſtinguiſhed from other bodies. And it is the ſame idea, or mind, that produces thoſe motions which belong to all bodies, unorganized as well as organized, by which they aſcend or deſcend, or are moved in the line in which they are impelled, and by which they are moved to or from one another. This is the mind which I call the elemental mind, and which is ſo univerſal in nature, that Ariſtotle calls it by the name of *Nature;* and it no doubt produces all the motions in bodies which we call *natural* motions, and in that way diſtinguiſhes them from the motions produced by the animal and vegetable minds, which are to be conſidered as minds quite different from this natural and univerſal mind, as it may be called.

Thoſe ideas of things material are very properly ſuppoſed by Plato to have an exiſtence ſeparate from the body in which they are incorporated, and to be more excellent, being pure and unmixed, than when they are thus incorporated. And this is what he calls the αὐτο-αἰθρώπος and the αὐτο-ἵππος. And of the ſame kind was every plant of the field, which, our Bible tells us, the Lord made before they were in the earth, and every herb before it grew *. Now, theſe plants and herbs, before they were in the earth and grew, I can

* Chap. ii. v. 5. of Geneſis. What the words in Hebrew are I do not know, as I do not underſtand that language; but, according to the Septuagint, the words are very properly tranſlated in our Bible. In the Septuagint it is, Καὶ πᾶν χλωρὸν ἀγροῦ (ἐποίησε) πρὸ τοῦ γενέσθαι ἐπὶ τῆς γῆς, καὶ πᾶσαν χόρτον ἀγροῦ, πρὸ τοῦ ἀνατεῖλαι. And I am perſuaded it is well tranſlated from the Hebrew; for I cannot believe but that theſe 70 men underſtood the Hebrew better than any men now living.

can underſtand to be nothing elſe but the ideas of them in the Divine Mind, which he realized by incorporating them with matter.

And not only are the ideas of things material in the Divine Mind, from which mind they derive their exiſtence, but the ideas of immaterial ſubſtances alſo are in his mind; and theſe ſubſtances are thoſe ideas realized. In this manner we muſt ſuppoſe, that the Second Perſon of the Trinity exiſted in the Divine Mind, and was from thence realized, and made to exiſt ſeparately by himſelf; and in the ſame manner the Third Perſon of the Trinity exiſted in the mind of the Second Perſon. Theſe ideas, forming the Second and Third Perſons of the Trinity, are, like their great author, from all eternity: And as they are not embodied, that is incorporated with matter, they do not degenerate, but continue always in their primitive perfection; whereas minds embodied, muſt, of neceſſity, by the contagion of the matter with which they are joined, be more or leſs depraved, according to the quality of that matter. And in this way we are to account for the difference we obſerve among the individuals of the ſame ſpecies of animals; for thoſe who are *ex meliore luto*, as the antients expreſſed it, are leſs degenerate than thoſe of a *worſe kind of clay*.

Thus it appears, that all beings, material (by which I mean minds incorporated with matter) and immaterial, are ideas of the Divine Mind, exiſting in that mind *virtually*, but not *actually* and in energy till they iſſue from it and have a ſeparate exiſtence.

From what I have ſaid of the manner in which things exiſt in the Divine Mind, that is *in idea*, before they have a ſeparate exiſtence out of it, the terms of *exiſting virtually* and *actually*, may, I think, be eaſily underſtood; but as they are commonly uſed, and every thing in nature exiſts either *virtually* or *actually*, I think it will not be

be improper to fay fomething further, in order to explain thofe two different ways of exifting. When we fay that a thing exifts *virtually*, we mean that it exifts in fome other thing which contains it, but has not produced it in the form belonging to its nature. But when we fay that it exifts *actually*, we mean that it is produced out of the thing containing it, and has a feparate exiftence in the form belonging to it. To make this diftinction more clear, it will be neceffary to diftinguifh betwixt intellectual animals, and other animals and vegetables. In thefe the things, which are produced out of them, are faid to exift in them *virtually* before they are produced; for, in this way they exift in the feeds of the parent animals and vegetables; but they do not exift *actually* till they are produced and are really animals and vegetables. But, in intellectual beings, things exift *virtually* or *potentially* (for either word may be ufed) in the ideas of the mind of the intellectual being. In this manner a work of art exifts *virtually* in the idea of the artift before it be produced, that is, before it *actually* exifts: In this way alfo all the works of God exift *virtually* in the intellectual world in him, but only *really* and *actually* when they are produced and exift out of his mind. But, according to the theology of Gregory Nazianzen, all the works of God exift in both ways: For he maintains, that all the ideas of the Divine Mind are realifed and have an *actual* exiftence *; whereas in the intellectual world of man, that is in our microcofm, there are very many things which exift only *in idea*, that is *virtually*, but never *actually*. And this, I think, is a very proper diftinction betwixt our minds and the Supreme Mind, in which laft nothing can be conceived to exift to no purpofe; which would be the cafe of his ideas, if they were not produced out of his mind into actual exiftence.

BOOK

* See what I have faid of Gregory Nazianzen's doctrine, p. 186. of vol. 5. and alfo p. 57. of this volume.

BOOK II.

Of the *Attributes* of God, and particularly of his *Intelligence.*

CHAP. I.

The Exiſtence *and* Nature *of God conſidered in the preceding Book; —This to treat of his* Attributes.—*Theſe to be learned from his works as well as from his Nature and Exiſtence.—His firſt Attribute* Intelligence.—*This univerſally admitted to be neceſſary to the Supreme Being.—The Intelligence of Man compared with that of the Supreme Being.—By ſuch compariſon only can we form any Idea of that Intelligence.—All our Ideas ariſe from our Senſations; —the Ideas of Divinity congenial with him, innate and eſſential to his nature.—Our progreſs from Particulars to Generals:—That of Superior Intelligence the reverſe:—But after Ideas are formed our progreſs the ſame with that of Superior Intelligences.—The Divine Mind contains the Ideas of all things poſſible to exiſt:—The caſe of our Mind very different.—All the Ideas of the Divine Mind realized,—many of ours* Entia Rationis.—*The Divine Ideas continually preſent, ſo that no Idea excites another:—We paſs from one Idea to another;—in Syllogiſm and Definition we have ſomething of this Divine Faculty.—Of Mr Locke's groſs error in confounding*

Ideas

Ideas with Senſations;—and of the difference betwixt Νους *and* Επιστημη.—*Our progreſs in Knowledge from the one to the other, till we come to* Science, *the greateſt work of Intelligence.—No progreſs of this kind in the Divine Mind, who ſees all things intuitively.—This faculty, in ſome degree, we poſſeſs in comprehending* Axioms and Self-evident Propoſitions.—*The ſenſe of the* Beautiful *a quality of the Divine Mind.—The* Beautiful *conſiſts in Syſtem—and is perceived by the* Intellect *only.—Of this quality we alſo participate;—it is the governing Principle in us;—is often thwarted by the paſſions of our animal nature;—muſt be perfect in the Supreme Being.—The contemplation of it his greateſt happineſs.*

IN the preceding Book I have demonſtrated that God exiſts, and have endeavoured to explain his nature; and, though creatures of our finite capacity cannot comprehend the Supreme excellency of the ſubſtances of which he is compoſed, yet I think I have ſhown it to be no incomprehenſible myſtery, that theſe three ſubſtances ſhould make only one being. If it were incomprehenſible we could not comprehend our own exiſtence: For, as I have ſhown, we have three minds, the Intellectual, the Animal, and Vegetable, which make but one being, that is *man*. I have further ſhown, that every thing in nature, even every individual thing, is *one* in *many*. I have alſo ſhown, that the union of ſeveral things to form one being, is agreeable to the general analogy of nature, according to which every individual thing is *one* of *many*. I have likewiſe ſhown, that the exiſtence of Deity is proved in the only way that the exiſtence of any being can be proved, even our own exiſtence, that is by his works, and particularly by his being the author of all the motions of the univerſe, by which the whole buſineſs of nature is carried on. By this the reader muſt not underſtand my meaning to be, that all bodies are immediately and directly moved by the Supreme

preme Mind; for that could not be, unleſs he were embodied in them, the only way in which, as I have ſaid, mind can move body: But to maintain this, would be the groſſeſt impiety.—My meaning therefore is, as I have ſaid, that the motion of all bodies is produced by inferior minds, which proceed from that Subſtance (or *perſon*, as we call it) of the Divinity, *the Holy Spirit*, which gives life and action to all the beings in the univerſe.

Thus far our inquiry has gone concerning the Divinity: And what we are next to conſider is, what his attributes are, and whether he be, as I have ſaid he is, a Being of infinite wiſdom and goodneſs as well as of power. And, as it is only by the works of God that we know he exiſts, the ſame works muſt let us know what qualities or attributes we are to aſcribe to him.

The prime attribute of the Divinity is intelligence, being the firſt proceſſion from him in his only begotten Son, who is the principle of intelligence, called in Greek λογος, and in our Engliſh tranſlation expreſſed by a very improper name, *word*. This word, in the Engliſh language, denotes, and only denotes, an articulate ſound expreſſing ſome perception or idea of the human mind, but never can denote intelligence of any kind, and much leſs the principle of intelligence, that is the Second Perſon of the Trinity and the firſt proceſſion from God the Father. The word in Greek is uſed to denote intelligence expreſſed in ſpeech, as well as intelligence in the mind of the intellectual being; but, as it is uſed in the doctrine of the Trinity, it can denote nothing but intelligence, and, as I have ſaid, the firſt principle of intelligence *. The firſt thing to be

* See vol. I. of Origin of Language, p. 7. in the note; alſo what I have ſaid upon this ſubject in the fourth volume of this work, p. 382. where I have ſhown that the Greeks make the diſtinction betwixt λογος ενδιαθετος, and λογος προφορικος; and where I have alſo ſpoken of the doctrine of the Trinity.—See alſo Vol. V. of this work, p. 190.—I have treated the ſubject at length in Chap. VI. of the firſt Book of this vol.

conſidered in the works of God, is, Whether they do not ſhow intelligence and ſupreme intelligence? And this muſt depend upon another thing to be inquired into, Whether the univerſe be a ſyſtem or not? for if it be a ſyſtem, it muſt be the work of intelligence. That intelligence is eſſential to the Supreme Being, every man, who has any idea of a God, muſt allow; nor, indeed, is it poſſible to conceive the Supreme Being without ſupreme intelligence. This is the doctrine of all philoſophers, Heathen as well as Chriſtian †. Man, too, is an animal of intelligence, by which he is diſtinguiſhed from the other animals upon this earth. But he was not ſo upon his firſt appearance here; for, as the individuals of the ſpecies are without intelligence when very young, ſo the whole ſpecies was when they firſt appeared on this earth and were in what I call the natural ſtate. And here it may be obſerved in paſſing, that, as every thing in this univerſe is conducted in the greateſt order and conſiſtency with the whole of things, it was very natural that there ſhould be the ſame progreſs of the ſpecies as of the individual. But our intelligence, even when it is cultivated by arts and ſciences as much as is poſſible, is by infinite degrees inferior to the Divine: And yet it is only by comparing our intellect with what we muſt ſuppoſe the intelligence of God to be, and adding to our intelligence what we may ſuppoſe is wanting to make it perfect, that we can have any idea of the Divine intelligence; ſo true it is, that it is only by the knowledge of ourſelves, that we can have any idea of God or of ſuperior intelligences. Let us, therefore, compare our intelligence, when brought to the greateſt perfection by arts and ſciences, with the Divine: And,

† Vide Plutarch. *De Iſide et Oſiride, in initio.* His words are, Ου γαρ αργυρω και χρυσω μακαριον το Θειον ουδε βρονταις και κεραυνοις ισχυρον αλλα επιστημη και φρονησει. Και τουτο καλλιστα παντων Ομηρος ὡν ειρηκε περι Θεων, αναφθεγξαμενος,

Ζευς προτερος γεγονει και πλειονα ηδει

He might have added another authority alſo from Homer, where he ſays,

——— ——— Θεοι δε τε παντα ᾽ισασιν. *Odyſ.* 4. *v.* 379.

And, in this compariſon, the account I am to give of the human intelligence, will be very proper for the inſtruction of thoſe who know no more of that intelligence than what is to be learned from Mr Locke.

And, in the firſt place, our ideas, without which there can be no intelligence, ariſe all from our ſenſations; for it is by our ſenſes only that we know any thing when we firſt come into this world; and from theſe are derived our ideas in the manner I have elſewhere deſcribed at ſome length*. On the other hand, the ideas of the Divine Mind are all congenial with that mind; and it would be profane in the higheſt degree to ſay that the ſupreme intelligence derived his ideas from the objects of ſenſe. The conſequence of this is, that the ideas of the Divine Mind are all innate, eſſential to his nature, and from all eternity as he himſelf is; whereas our ideas come only in proceſs of time, and are brought to no degree of perfection, but by the cultivation of arts and ſciences.

From this way of forming our ideas, it is evident that the progreſs of the human mind muſt be from particulars to generals; for it is only from particulars, which are apprehended by the ſenſes, that we form ideas of generals. Whereas the progreſs of ſuperior intelligences is juſt the contrary; for they proceed from generals to particulars, that is from what is more excellent to what is leſs ſo. It is, therefore, from the general idea that a ſuperior intelligence recogniſes the particular. Even in man it is not intellect that perceives the particular object. All that the intellect apprehends is the genus or ſpecies of the object; but it is the ſenſe that preſents to him the object. And, therefore, as I have ſaid elſewhere†, we cannot be ſaid properly to ſee a man or a horſe; for all that the ſight perceives, is a particular thing of ſuch or ſuch form. But it is the

* Vol. IV. of this work, Book I. Chap. 6. † Ibidem.

intellect which perceives that it is a man or a horſe, by applying to the figure preſented by the ſight the idea of a man or horſe. So that when we have formed ideas, we proceed, as ſuperior intelligences do from generals to particulars: And ſo we do in all the demonſtrations of ſcience; though in forming our ideas, as I have ſaid, the progreſs is quite the contrary.

Another thing, by which the human intellect is remarkably diſtinguiſhed from the Divine, is, that in the mind of the Deity are contained the ideas of every thing that exiſts or which can exiſt, that is, does not imply a contradiction, or is not inconſiſtent with the nature of things, or with the attributes of Divinity, which I hold to be an eſſential part of the nature of things: And, therefore, Ariſtotle is in the right, when he ſays that every thing exiſts which is poſſible to exiſt; for if it exiſt in the Divine Mind, it muſt have a real exiſtence in the nature of things, as I ſhall preſently ſhow. How different the caſe of the human mind is, I need not obſerve.

But farther, I ſay that the Deity has not only the idea of every thing that exiſts, but that every idea of his mind is realized, and has an actual exiſtence: For there are not in his mind any *entia rationis*, as we call them, ſuch as are in ours, that is ideas of things that neither do exiſt, nor ever did exiſt, nor perhaps ever will exiſt. I therefore hold it to be excellent philoſophy what Gregory Nazianzen has maintained, that all the ideas of the Divine Mind are realized, and have an actual exiſtence in the nature of things *.

Another eſſential difference betwixt our minds and the Divine, is that all the ideas of the Deity are continually preſent to him, ſo that there is no need of any one idea in his mind exciting another, as in ours. There is not, therefore, in the Divinity that νοησις μεταβατικη, of

* Of the doctrine of Gregory Nazianzen ſee vol. V. p. 186. alſo p. 58. of this vol

of which the commentators upon Ariſtotle ſpeak ſo much, by which the mind paſſes from one idea to another. How inferior our minds are in this reſpect to the Divine, it is needleſs to obſerve. We have, however, ſomething of that faculty by which ſeveral ideas are at once the ſubject of the contemplation of our minds. It is in this way that we form an idea by perceiving the one in the many, and that we underſtand the definition of any thing propoſed to us: Nor, without this faculty, could we be convinced of the truth of any ſyllogiſm; for we muſt have in our mind altogether the ideas contained in the premiſſes, otherwiſe we could never give our aſſent to the concluſion.—And thus much may ſuffice to ſhow the difference betwixt our intellect and the Divine, with reſpect to ideas.

Of that difference which is betwixt the ideas of the Divine Mind and of ours, that all our ideas are derived from objects of ſenſe, whereas it would be groſs impiety to ſay that the Divine ideas originated in that manner, I have already ſpoken; and I ſhall only add here, that, though all our ideas are derived from our ſenſations, they are quite different from them, being formed by our intellect, and not by our ſenſes, of which they are not the perceptions, though theſe perceptions give riſe to them. It is, therefore, the groſſeſt error which Mr Locke has fallen into, of confounding ſenſations and ideas, and of making a whole claſs of ideas, which he calls *ideas of ſenſation*. But of the difference betwixt ideas and ſenſations I have ſaid enough in the preceding volume. I will, therefore, ſay nothing more of ideas here, but proceed to inquire concerning that compariſon of our ideas, by which ſcience is produced; and which Ariſtotle has very properly diſtinguiſhed, in the definition that he has given us of *man*, from that faculty of the mind, by which our ideas are formed, and which is called by the Greeks νους, whereas ſcience is called επιστημη; and man is very properly defined by him to be νου

και

και 'επιστημης δεκτικος. And it is of the laſt thing mentioned in this definition, that is ſcience, that I am now to ſpeak.

This operation of the human mind is what is called *diſcurſus mentis*, and is performed by a faculty of the mind quite different from the νους, or that faculty by which it forms ideas. But this is a diſtinction which Mr Locke has not made; ſo that he appears to me not to have known what *ſcience* was, any more than what an *idea* was.

By this diſcurſive faculty we compare our ideas together, and in this way diſcover their connection, of which we firſt form propoſitions, and of propoſitions ſcience: For, as all things in the great ſyſtem of the univerſe are connected together, we muſt diſcover that connection, otherwiſe we can know nothing that deſerves the name of knowledge or ſcience. By thus connecting our ideas, and forming propoſitions and ſciences, we alſo form *ſyſtems*, which is the greateſt work of intelligence. The Supreme Intelligence perceives all thoſe connections intuitively, and at once ſees the whole ſyſtem, and the connections of all its different parts. But we can perceive thoſe connections only by the exerciſe of our diſcurſive faculty, or that proceſs of the human mind, expreſſed in Greek by the word Διανοια, and in Engliſh by the word *reaſoning*. By that, and by that only, we form ſcience, betwixt which and the νους Ariſtotle, as I have obſerved, has very properly made the diſtinction in the definition he has given us of man in his natural ſtate.

And here, too, we may perceive in us a *Divinae particula aurae*, by which we are enabled to raiſe our thoughts, in ſome degree, to what we muſt ſuppoſe to be the perfection of the Divine intellect: For God has been graciouſly pleaſed to beſtow upon us a faculty by which we are enabled to perceive the connection betwixt ſome ideas intuitively, as he perceives the connection betwixt all. It is by this faculty

faculty that we perceive the truth of ſelf-evident propoſitions, without which faculty we never could have proved or demonſtrated any thing; for if every thing were to be proved, nothing could be proved.

Thus, from the defects of the human intellect, I have endeavoured to give ſome idea of the infinite ſuperiority of the Divine; and as we can have no knowledge of the Divine intelligence, except by the ſtudy of our own, I think there is no other way by which we can attain to any conception of the ſuperiority of the Divine nature.

As intellect is the eſſence of an intellectual being, which conſtitutes his nature, and makes him what he is, it is evident that all his qualities muſt proceed from intelligence: And there is one quality, very remarkable, belonging to the intellectual nature, of which I am now to ſpeak. It is the ſenſe of the beautiful, the το καλον, as the Greeks call it, or the *pulchrum* and *honeſtum* of the Latins. As it conſiſts in ſyſtem, nor can exiſt in any ſubject where there is not a ſyſtem greater or leſs, and as it is only by intellect that the connections and relations of things are conceived, without which there can be no ſyſtem, it is evident that the beautiful is perceived by the intellect, and by it only. And here, too, we may be ſaid to have in us a very conſiderable portion of the Divinity; for, as I have ſhown elſewhere *, there is nothing which influences our actions more, even the moſt minute and trifling, than this ſenſe of the beautiful; and, indeed, it may be ſaid to be the governing principle in human life. That this principle muſt be infinitely more prevalent in the Divine Nature, I think is evident; for it muſt be infinitely more extenſive than in us, comprehending ſyſtems that we cannot comprehend. And it muſt be the ſole governing principle in the Deity: Whereas in us it is often thwarted and diverted from its purpoſe by

* Vol. V. Book III. Chap. 7. alſo vol. II. Book II. Chap. 5.

by the paſſions of our animal nature, and by the errors of our judgment, as I have ſhown in the preceding volume, in what I have written on *the beautiful* *. It is that which makes the happineſs of the intellectual nature; for it is not merely the perception of truth, and of the order and arrangement of things in a ſyſtem, but it is the beauty of ſuch an order of things †, which gives delight to the intelligent being, and is his only delight. And, therefore, we muſt ſuppoſe that the happineſs, even of the Supreme Being, muſt conſiſt in the contemplation of the beautiful: And ſuch was his happineſs, when, as Moſes tells us, he conſidered his work of Creation, and *ſaw that it was beautiful*, as the paſſage is tranſlated in the Septuagint, and no doubt ought to be tranſlated. And it was the greateſt happineſs that the beautiful could give, as it aroſe from the view of his own works; for though we are delighted with the beauty in the works of others, we are much more pleaſed with it in our own works. And it is in this way I underſtand what is ſaid in Scripture of God doing things for his own glory, that is to enjoy the delight which the contemplation of the *beautiful* or the *glorious* gives him.

And here I conclude the compariſon betwixt the Divine intelligence and the human; from which as it appears that the Divine intelligence is infinitely ſuperior to ours, ſo I think it is ſhown that our intelligence is ſuch, that we are very properly ſaid in Scripture to be made after the image of God, or, in the language of a Heathen writer before quoted, to have in us *Divinae particula aurae.*

Our intellect, ſuch as it is, is our governing principle in this life. But we are moved alſo by inſtinct to do ſeveral things. Of the difference betwixt inſtinct and intellect I ſhall ſpeak in the ſequel of this work. Here it will be ſufficient to obſerve, that, when we are moved by inſtinct, we act as the brute animals do: But when we act by

* Vol. V. Book III. Chap. 7. alſo vol. II. Book II. Chap. 5. † Ibidem.

by intelligence, we are guided by an opinion which we have formed that the action is good, by which I mean contributing to our happineſs; whereas if the opinion we form is wrong, and if the action be truly not *good*, but *evil*, then we ſo far make ourſelves miſerable. So that upon the uſe we make of our intelligence depends our happineſs or miſery in this life; and I may add alſo in the life to come. If we employ our intelligence in ſtudying to do all the good we can to our fellow creatures, and if we cultivate it by arts, ſciences, and philoſophy, the ſummit of which, and of all human knowledge is Theology; (for, by the ſtudy of it, we are enabled to form ſome idea of God, and to learn that he is the author of all things in the univerſe); and if we ſtudy the wiſdom and goodneſs which he has ſhown in his works, the contemplation of which wiſdom and goodneſs is the greateſt happineſs that the intellectual nature can enjoy, then we are, by this uſe of our intellect, as happy as we can be in this life. But, on the contrary, if we employ it only in procuring means to indulge the pleaſures of ſenſe, or to feed our vanity, we are miſerable. And there are two paſſions, for the gratifying of which if we employ our intellect, (I mean avarice and ambition), we are not only miſerable, but the moſt miſchievous animal upon this earth; for our intellect, when it is ſo employed, makes us much more miſchievous than any other animal which has not the uſe of that faculty. Now ambition is the deſire of power and pre-eminence; and avarice, which is the deſire of wealth, is ſeldom or never ſeparated from ambition, ſince wealth does in ſome degree give power and pre-eminence: And theſe two, joined together, have not only been the cauſes of moſt deſtructive wars, but have produced thoſe great empires, which have deſtroyed ſo many of the human ſpecies and may be ſaid to have deſolated the earth.

Nor ſhould we be ſurpriſed that our weak and imperfect intellect ſhould be ſo much perverted, and applied to ſuch improper uſes, if

we conſider that, in this life, it dwells in body, and in the ſame body is joined with our animal mind, which has ſo many bodily appetites and deſires, and is the ſeat of ſo much paſſion and perturbation. And there are two of our paſſions which ariſe from the intellect itſelf; I mean vanity and ambition: For both theſe are neceſſarily connected with a ſenſe of the *beautiful*, which, as I have ſaid in more than one place, is eſſential to intellect. Now, no vain man deſires fame or applauſe, except for a thing that he thinks is beautiful and praiſe worthy: The ambitious man, who deſires power and pre-eminence, undoubtedly thinks that in theſe there is dignity and beauty: It is well known that a wealthy man is vain of his wealth, and conſequently muſt think that there is ſomething fine and beautiful in it: Even the luxurious man, who lays out ſo much money in furniſhing his table with the greateſt delicacies of eating and drinking, is not prompted to be at that expence, ſo much by his ſenſual appetites as by his vanity, which makes him think that there is great beauty in ſuch a table, and in all the appurtenances of it; and it is chiefly for the ſame reaſon that men lay out ſo much money in fine houſes, fine gardens, and fine equipages. When, therefore, we conſider how prevalent this ſenſe of the beautiful is in human nature, and what influence it has upon us, even, as I have ſhown, in things the moſt minute and trifling*; and when we further conſider that it is eſſential to that part of our compoſition which diſtinguiſhes us from other animals, I mean intelligence;—We ſhould not be ſurpriſed, that a weak intellect, ſuch as ours, ſhould very often have wrong opinions concerning what is beautiful and praiſe-worthy; nor is there any thing but religion or philoſophy which can give us true notions upon that ſubject.

CHAP.

* Vol. V. p. 131.

CHAP. II.

The Requiſites of a Syſtem.—1ſt, *It muſt conſiſt at leaſt of two Things.*—2d, *It muſt be a* Whole, *of which theſe Things are* Parts. —3d, *Theſe Parts muſt not be alike.*—4th, *Neither muſt they be altogether different.*—5th, *There muſt be ſomething* Principal, *to which all the other Things are ſubordinate.*—6th, *The Syſtem muſt not be infinite.*—Laſtly, *It muſt be governed by General Laws.*—*The extent of the Syſtem of the Univerſe beyond our conception—but we may diſcover what is Principal in it.—It muſt be governed by fixed and general Laws, operating conſtantly and regularly—Impoſſible for us to diſcover all the connections and dependencies of the Univerſe;—but, from what we know we are to argue to what we do not know.*

AS I have ſaid in a former Chapter that the formation of a ſyſtem is what chiefly ſhows intelligence, we are now to inquire whether or not the Univerſe be a ſyſtem. But, before we enter upon this inquiry, it is proper to conſider what is required to make a ſyſtem of any kind. And, 1ſt, There can be no ſyſtem of one ſingle thing that has no relation to any thing elſe; for there can be no relation but of two things at leaſt, whether theſe things be parts of the ſame ſubject or be different ſubjects. 2d, Every ſyſtem muſt be a whole, to which all the parts have relation; and theſe parts muſt alſo have a relation to one another. 3d, The things of which the ſyſtem is compoſed muſt not be altogether alike, though they muſt, as I have ſaid, have a relation to one another; for otherwiſe

there would not be variety ſufficient to make a ſyſtem. Neither, 4th, muſt all the things in it be altogether different; but there muſt be ſome reſemblance even betwixt thoſe things that ſeem moſt unlike: So that the *rerum concordia diſcors*, which Horace applies to the ſyſtem of the univerſe, is true of every ſyſtem in a certain degree. 5th, It is eſſential to every ſyſtem that there ſhould be ſomething principal in it to which every thing elſe is ſubordinate; for this is what makes the ſyſtem *one:* But, at the ſame time, it muſt be *one* in *many*; and therefore the more various the ſyſtem is, that is the more parts it conſiſts of and the more different theſe parts are from one another, (though all connected with and referring to what is principal in the ſyſtem, and giving union to the whole), the more beautiful the ſyſtem muſt appear to a mind that can comprehend it all in one view. The 6th requiſite, I ſhall mention, of a ſyſtem, is, that, though it may be very great, and greater than our limited capacities can comprehend, yet it cannot be infinite, but muſt have bounds; for otherwiſe it would be no ſyſtem, as having neither numbers nor meaſure, which are abſolutely neceſſary in forming a ſyſtem. Laſtly, The ſyſtem muſt be governed by general laws; for, if every thing in it was governed by a particular law peculiar to that thing, it would not be a ſyſtem.

From what I have ſaid of the extent and variety that is neceſſary to make a ſyſtem beautiful, it is evident, that if the univerſe be a ſyſtem, and a beautiful ſyſtem, as, I hope, I ſhall be able to ſhow it is it muſt be ſuch a one as cannot be comprehended by the human mind.* It may, therefore, be ſaid, that, as a ſyſtem is neceſſarily a whole, if we do not ſee the whole, we do not ſee the ſyſtem, nor can we certainly tell whether it be a ſyſtem or not.

But to this I anſwer, That a ſyſtem may conſiſt of other ſyſtems leſſer and ſubordinate; and the univerſe, if it be a ſyſtem at all is moſt

moſt certainly a ſyſtem of ſyſtems. Now one of theſe ſyſtems we may comprehend; and we may alſo diſcover the relation this ſyſtem has to ſome other: And by enlarging our knowledge in that way, and diſcovering more particular ſyſtems, and more relations of theſe particular ſyſtems to one another, we may come to diſcover what is principal in the grand ſyſtem, to which every part is to be referred, not only thoſe we have diſcovered, but thoſe which, from the infirmity of our nature, we are unable to diſcover.

It is to be obſerved of the univerſe, that it differs very much from the works of human nature, ſuch as paintings, ſculpture, and buildings: For as theſe are not in motion, if the parts are fitly connected together, proportionate to one another, and ſuch as make a whole, correſpondent to the intention of the artiſt, we ſay it is a good piece. But, as the material world is all in motion, if it be a ſyſtem, the motion of it muſt be carried on by certain determinate rules which we call *laws of nature*; and as there is a conſtant round of generation and corruption going on, theſe changes muſt be produced by certain fixed cauſes operating conſtantly and regularly: For if we could ſuppoſe the Deity to produce all the effects, we ſee, by a *fiat*, or by cauſes acting inconſtantly and ſometimes producing one effect and ſometimes another, whatever end might be produced, there would be no ſyſtem; and, in the caſe ſuppoſed, the univerſe might ſhow the power of its author, and his goodneſs too, if the end attained was a good end, but it would not ſhow intelligence, which is eſſential to every ſyſtem. For there can be no ſyſtem unleſs not only an end be propoſed, but proper means employed to accompliſh that end; and if the ſyſtem be large, there muſt be a chain of cauſes and effects, ſome cauſes more remote and ſome more immediate, and no effect muſt be produced without an adequate cauſe.

Laſtly, From what I have ſaid of the nature of a ſyſtem, ſuppoſe the

the univerſe to be a ſyſtem as perfect as Divine intelligence can make it, there muſt neceſſarily be many connections and dependencies of parts which we cannot ſee. We muſt, therefore, be contented to diſcover as much as we can of final cauſes; and from what we know, we muſt argue to what we do not know. Thoſe who require to know the cauſes of every thing in the univerſe, and inſiſt to ſee the principles of all things through their glaſſes or in their alembecks, I would adviſe to renounce the ſtudy of natural philoſophy and metaphyſics, comforting themſelves with the thought, that theſe purſuits are out of the reach of human underſtanding, as they certainly are of theirs. I ſhould be ſorry, however, if they gave over their experiments, by which they may diſcover many things that the philoſopher can make good uſe of, though they cannot.

CHAP.

CHAP. III.

Of the Syſtem of the Univerſe.—There can be no Syſtem of Individual Things without order and arrangement.—All Things in the Univerſe conſiſt of Genuſes, Speciefes, and Individuals.—Theſe have the moſt intimate connection with one another, the Genuſes being Actually *comprehended in the Species, and* Virtually *comprehending them;—and upon this connection the Science of Logic depends.—Illuſtration of this by* Subſtance, Body, Animated Body, and Animal. *—The ten Categories of Archytas the higheſt Genuſes, and the bounds of the Univerſe.—Excellence of Archytas's work.—Of the connection of the parts of the Univerſe with one another.—The higher Genuſes both contain and are contained in the lower.—The ſame the caſe of Speciefes;—and alſo of Individuals.—A Syſtem not only in Genuſes and Species, but in Individuals.—Concluſion, The Univerſe is the moſt perfect Syſtem of Syſtems.*

HAVING ſaid ſo much of the nature of ſyſtem in general, and of what is required to make a ſyſtem, I will now proceed to ſhow that the univerſe is really ſuch a ſyſtem. And I think I ſhall prove it to be the moſt perfect ſyſtem that can be imagined: For I ſhall ſhow it to be a ſyſtem of ſyſtems, all united together, ſo as to make but one ſyſtem, of which every part has a relation to ſome other part, ſo that there is nothing ſingle or by itſelf.

If there were nothing in the univerſe but individual things without

out order or arrangement, it is evident that there would be no ſyſtem in it: But that is not the caſe; for all things therein conſiſt of genuſes, ſpecieſes, and individuals. That a genus is a ſyſtem, being a whole, comprehending under it all the ſeveral ſpecieſes, which have the moſt intimate connection with one another, as each of them *actually* comprehends the genus while the genus *virtually* comprehends them all *, is well known to every man, who has learned logic, without the knowledge of which no man can have an idea of the ſyſtem of the univerſe, nor indeed a perfect idea of any ſyſtem.

Of genuſes there are many, but all in regular order, riſing above one another, and ſo connected that the higher contains the lower. Thus the genus *animal* is contained under the higher genus, *animated body*, or the το εμψυχον, as the Greeks called it: For all bodies, as I have ſhown, are animated by a mind which moves them; but the animal has a mind, which not only moves it, but is ſenſitive, has appetites and deſires, and conſequently feels pleaſure or pain. A higher genus, above *animated body*, is *body;* and above body is a higher genus ſtill, viz. *ſubſtance*. And not only are there genuſes of ſubſtances, but alſo of the *qualities* of *ſubſtances;* and there is a genus of *quality* itſelf, likewiſe of *quantity*, of *relation*, of *where* and *when*, of *doing* and *ſuffering*, &c. all which are enumerated in the fourth chapter of Ariſtotle's Categories. But it will be ſaid, is there then no end of thoſe genuſes riſing above one another; and can no bounds or limits be ſet to them? If it were ſo, then there would be no ſyſtem of the univerſe; for, as I have ſhown, there can be no ſyſtem of infinity. But a ſcholar of the Pythagorean ſchool, Archytas by name, has numbered all the higher genuſes, and reduced them to ten. Archytas's book is entitled Περι του Παν-

τος,

* What the difference is betwixt a thing exiſting *virtually* and *actually*, I have explained, in p. 58 of this vol.

τος, and very properly, as it comprehends all things in the univerſe. This work Ariſtotle has given us in his Logic, under the title of Κατηγοριαι, as comprehending all the Praedicates of Propoſitions, which are the ſubject of his logic. I have ſaid a great deal elſewhere in praiſe of this work of Archytas: But I will add here what is perhaps the greateſt praiſe of this work; that it gives us a ſyſtem of the univerſe, and of the whole of things, of which otherwiſe we could have no comprehenſion; and, at the ſame time, it ſets bounds to the univerſe, which would be infinite if the genuſes of things could not be numbered.

But it is not ſufficient that a ſyſtem have bounds and limits; for its parts muſt be connected together, ſo as to make a whole. Now, this, as I will ſhow, is the caſe of the univerſe in a moſt eminent degree. And, firſt, as to the connection of the genuſes with one another. And I ſay the higher genus both contains and is contained in the lower genus, which is the moſt intimate connection that can be imagined betwixt two things;—ſo intimate, that it appears at firſt ſight to be impoſſible; but when explained it will appear to be truly the caſe: For the higher genus contains *virtually* the lower genus, which is produced out of it; and the lower genus muſt of neceſſity contain the higher genus *actually*.—Thus *animated body*, or the το εμψυχον, does *virtually* contain the genus *animal*, which proceeds from it; and, on the other hand, *animal* muſt contain *actually* the το εμψυχον, otherwiſe it would not be *animal*. In this manner *body* contains *virtually* both *animated body* and *animal*, and is *actually* contained in them; and in the ſame manner alſo all the three, *animal*, *animated body*, and *body*, are contained in the firſt of the Categories, viz. *ſubſtance*; while, at the ſame time, Subſtance is *actually* contained in each of the three. It is in this way that each of the ten Categories virtually contains all the genuſes that are ſubordinate to it, and is actually contained in each of them: So that

here we have the moſt intimate connection betwixt each of the higheſt genuſes and all the ſubaltern genuſes. And this holds not only with reſpect to ſubſtance, as in the inſtance I have given, but alſo with reſpect to the qualities or properties of ſubſtances. Thus, for example, from the Category of *quantity* there are deduced two ſubaltern genuſes, *quantity continuous* or *magnitude*, and *quantity diſcrete* or *number*. Now, both theſe are *virtually* contained in the Category of *quantity*, and likewiſe *actually* contain it; for both *magnitude* and *number* are *virtually* contained in quantity, being derived from it, and do *actually* contain it.

In this manner the genuſes are connected with one another, the higher with the lower: And in the ſame manner each ſpecies is connected with its genus; for each genus *virtually* contains its ſpecies, and is *actually* contained in it. Thus the genus *animal virtually* contains *man*, which proceeds from it: And *man actually* contains *animal;* for otherwiſe he could not be *man*.

The ſpecieſes of things have not been numbered, as the higheſt genuſes have been: But we are not for that to believe that they are infinite in number; for in a perfect ſyſtem, ſuch as that of the univerſe, nothing can be without bounds or meaſure. And this I apply even to the individuals of the loweſt ſpecieſes: For though theſe be infinite with reſpect to our capacity, and therefore incapable of being numbered by us, they are, I am perſuaded, not of number infinite, any more than the genuſes and ſpecieſes, but very much more numerous: For, as the univerſe itſelf is not infinite, there can be nothing infinite or without bounds in it; and, beſides, in a body of limited dimenſions, ſuch as our earth, there could not be room for an infinite number of individuals of any one ſpecies, much leſs for an infinite number of individuals of all the ſpecieſes. Theſe individuals are ſo united with the ſpecies to which they belong, that each

each individual does actually contain in itſelf every thing that is in the ſpecies, or in the genus to which the ſpecies belongs: For, as that is eſſentially inſeparable from the ſpecies, it muſt neceſſarily go to every individual of the ſpecies; as otherwiſe the individual could not be ſaid to belong to the ſpecies, but muſt be a different being. Here, therefore, we have a moſt wonderful compoſition of all the properties belonging to the ſeveral genuſes of the Category, to which the individual belongs; for as theſe muſt be all in the ſpecies, they muſt alſo be in the individual, which otherwiſe could not be truly ſaid to be of that ſpecies. The individual *man*, therefore, muſt contain in himſelf, as I have ſaid in another place *, every one of the Categories, not only the genus *animal*, and the ſuperior genuſes of the το εμψυχον, or *animated body*, and *body*, and *ſubſtance*, but all the ſeveral Categories mentioned by Ariſtotle in his 4th chapter on the Categories, *quantity*, *quality*, *relation*, &c.

Thus, I think, I have proved that there is a wonderful compoſition and union of things in this material world in which we live; the higher genuſes containing the lower, and being contained in them, which is the cloſeſt union that can be imagined: And, in the ſame manner, the ſeveral ſpecieſes are united with the genuſes to which they belong. And each of the Categories, and every genus and ſpecies under it, make ſo many ſyſtems, all perfect of their kind, in each of which there is one thing principal and predominant, from which all the other things belonging to the ſyſtem proceed, and with which they are intimately connected. Even every individual of each of the ſpecieſes is itſelf a ſyſtem, comprehending all that belongs to the ſpecies and to the genuſes above it; and it is a ſyſtem, conſiſting of parts, ſome principal and others ſubordinate, arranged in proper order, which is the caſe of bodies organized, ſuch as animals and vegetables, as is very well known to anatomiſts and botaniſts. And as we can only judge of the univerſe from what we

* Page 45, 46, and 81.

ſee of it in this our earth, we muſt ſuppoſe that all other things in the univerſe are thus arranged and divided into ſyſtems; wherein all the things of every ſyſtem are ſo connected together, that not one of them is ſingle and by itſelf, but is connected with ſome other thing in the ſyſtem by the moſt intimate of all connections, that of *whole* and *part*.

And thus, I think, I have proved that the univerſe is, as I have ſaid, a ſyſtem of ſyſtems, making altogether the moſt perfect ſyſtem that it is poſſible to imagine.

CHAP.

CHAP. IV.

A Syſtem perceived by us both in Generals and in Particulars;—but many Syſtems in the Univerſe which are not perceived by us.—The Categories a grand Syſtem, comprehending Subſtances *and all their Accidents.—Subſtances exiſt by themſelves:—Accidents are neceſſarily connected with other things.—The Categories comprehend all things in the Univerſe.—The Accidents numbered by Archytas, but not the Subſtances.—Theſe, though not infinite, exceed our capacities to number.—They are either Material or Immaterial.—The Material comprehended in the Animal, Vegetable, and Mineral Kingdoms.—Of theſe the two firſt are Organized; the laſt not.—Immaterial Subſtances comprehended in the Intellectual, the Animal, the Vegetable, and Elemental Minds.—All the things of the Univerſe moſt intimately connected by* containing *or* being contained *in one another.—Examples of this.—All things being produced, preſerved, and governed by the ſame Author, we muſt infer that what we cannot diſcover is of the ſame kind.—The perfection of the Syſtem of the Univerſe proves it to be the work of Supreme Intelligence.—This proof furniſhed only by Ancient Philoſophy.—By the diviſion of the Univerſe into Syſtems, our limited capacities can comprehend it—Every thing in the Univerſe is a Genus, a Species, or an Individual.—Truth ariſes from one Idea containing or being contained in another.—From Ideas are formed Propoſitions, either Affirmative or Negative.—Explanation of theſe.—How many things both contain and are contained.—The Syllogiſm founded upon all things containing and being contained.—Example.—Imperfection of Mr Locke's*

Locke's definition of truth, from his ignorance of the connection of things in the Univerſe.—The Supreme Being comprehends all things, but is himſelf comprehended in nothing.—Of the wonderful likeneſſes of different Speciefes and Genuſes.—The Univerſe muſt be the work of Supreme Intelligence.—Of the reality of the exiſtence of Genuſes and Speciefes.

THE Univerſe, as I have ſaid, is a ſyſtem of ſyſtems. Many of theſe ſyſtems we perceive; and we find a ſyſtem not only in generals, ſuch as genuſes and ſpecieſes, but in particulars or even in individuals, which are contained in the loweſt ſpecieſes. But there are certainly, in the univerſe, many more ſyſtems than we can apprehend: For, in the firſt place, as to individuals, which are ſyſtems as well as generals, they are infinite in number with reſpect to us, though there be nothing in the ſyſtem of the univerſe that is really infinite; for, if it were ſo, the univerſe would not be a ſyſtem. But, beſides the individuals, there are certainly in the univerſe many genuſes and ſpecieſes, which every body muſt admit to be ſyſtems, but which we have not yet diſcovered; and, indeed, as we cannot conceive intelligence operating otherwiſe than in ſyſtem, we muſt hold that there is a ſyſtem in every thing in nature, both in particulars and generals. But beſides particular ſyſtems, ſome of which only we can comprehend, we learn from that great work of Archytas, which I have ſo often mentioned, that there is a ſyſtem of the whole of things in this univerſe, comprehending *ſubſtance* and all the *qualities* or *accidents* of ſubſtance. By ſubſtance we muſt underſtand, that which exiſts by itſelf and not neceſſarily in conjunction with other things without which it could not exiſt; whereas the accidents or qualities of things cannot exiſt by themſelves, but can only exiſt in or with other things * with which they are

* Theſe things are more fitly expreſſed by the Greek word συμβεβηκοτα, than by the words *quality* or *accident*.

are neceſſarily connected. This is the caſe not only of particular qualities, inherent in any ſubject, but of the relation it may have to other ſubjects; which relation cannot exiſt without theſe other ſubjects. Now, the Categories preſent to us a ſyſtem of all things that exiſt by themſelves and without other things, and likewiſe of all things that exiſt only with other things, being inherent in them or related to them; that is, in other words, it comprehends all things that we can conceive as exiſting in the univerſe.

Theſe laſt mentioned things Archytas, as I have ſaid, has numbered, and made them amount to nine, conſiſting of *quantity*, *quality doing*, *ſuffering*, &c*. But as to Subſtances, he has not attempted to number them, though they are certainly not without number; but it is beyond our capacity to number them. And I think it was a great effort of genius to reduce to number even the qualities, which are ſo many and ſo various, but which are all comprehended in the general ideas of qualities that he has given us.

It is, therefore, evident that ſubſtance and its qualities muſt comprehend every thing in the ſyſtem of the univerſe. But as ſubſtances are very various and very different from one another, I will ſay ſomething more of them than Archytas has ſaid. As to qualities, by the diviſion he has made of them, I think he has explained them ſufficiently.

Subſtances are either material or immaterial. Material ſubſtances are either the four elements, earth, air, fire, and water, by themſelves, or their compoſition into animals, vegetables, or minerals; that is, the three kingdoms as they are called, which contain all bodies. Theſe bodies are organized or unorganized: Organized, ſuch as animals and vegetables; unorganized, ſuch as earths, ſtones, and minerals. And

* See Ariſtotle's Categories in the beginning, where all the Categories of Archytas are recited.

And this diviſion gives us the form of bodies, as the other gives us the matter of which they are compoſed So that, with reſpect to ſubſtances material, we have all the variety in the ſyſtem of the univerſe that can be imagined.

As to immaterial ſubſtances, or minds, we have alſo, in the ſyſtem of the univerſe, all the variety that is poſſible; for there is the intellectual mind, the animal and vegetable minds, and that mind which only moves bodies in certain directions. By this laſt mind bodies are moved upwards as fire is, downwards towards the centre of the earth, as all bodies are, organized or unorganized, or in the line in which the body is impelled; and, laſtly, there is a mind by which bodies are moved towards one another, or by which they are moved from one another, which two motions are commonly called *attraction* or *repulſion*: So that in minds, as well as in bodies, there is in the univerſe all the variety that can be imagined.

Thoſe minds and bodies, ſo many and ſo various, are not only all contained in the ſyſtem of the univerſe, but all ſo intimately joined and connected together, that there is not one thing in the univerſe that is not contained in another thing, or does not contain ſome other thing. And the things that do contain other things are alſo contained in them: That is to ſay, what produces another thing, does *virtually* contain that thing, even before it is produced; and after it is produced, it is *actually* contained in that thing. Thus, for example, the ſpecies *man* is virtually contained in the genus *animal*, and would have been ſo contained, if the ſpecies *man* had never exiſted; but when that ſpecies exiſts, then the genus *animal* is *actually* contained in it. The ſame is the caſe with reſpect to the individual *man*: The ſpecies *virtually* contains that *individual*, and contained him before he exiſted; but after he exiſted, the ſpecies is *actually* contained in him *.

The

* See p. 61. of this volume.

Not only is the ſyſtem of the univerſe the moſt comprehenſive that can be imagined, comprehending every thing that we can conceive to exiſt, but all its parts are connected and united with each other by the cloſeſt union poſſible, that of *whole* and *part*. And not only is the univerſe ſo comprehenſive a ſyſtem, but it is, as much as we know of it, or can know of it, the moſt perfect ſyſtem that can be imagined; and, as it is all produced, governed, and preſerved, by the ſame author, we muſt preſume, that what we cannot diſcover of it is of the ſame kind. That we cannot diſcover the whole of the ſyſtem in this ſtate of our exiſtence is evident; but, to have found out the higheſt genuſes, comprehending all things in the univerſe, and reducing them to number, was, I think, a wonderful diſcovery. Such was the diſcovery of Archytas, the Pythagorean philoſopher, publiſhed by Ariſtotle in his book upon the Categories.

The univerſe is, as I have ſaid, a ſyſtem of ſyſtems: And in each of theſe ſyſtems things are ſo connected together, that even the individuals of every ſyſtem contain not only every thing belonging to the ſpecies, but every thing belonging to the genus, and even to the genus above that till we come to the Category to which it belongs; of which I have given an example in the *individual man*, to which I refer *.

Thus, I think, I have proved, that the univerſe is a ſyſtem not only the moſt comprehenſive, but the moſt perfect ſyſtem that can be imagined; and that, therefore, it muſt be the work of intelligence and Supreme Intelligence. This proof is furniſhed to me by antient philoſophy, without the knowledge of which I would adviſe no man to apply to philoſophy of any kind, much leſs to Theology, the ſummit of philoſophy: He may be a very good mathematician: He may be very learned in plants and minerals, and in the hiſtory of animals:

* Page 83.

He may diſcover, by teleſcopes, more ſtars than have yet been diſcovered; and, by microſcopes and alembecks, he may improve his knowledge of the minute parts of nature:—But, without antient philoſophy, I ſay, it is impoſſible that he can be a good Theologiſt, that is, can excel in the nobleſt branch of philoſophy, *Theology*.

The whole ſyſtem of the univerſe, conſiſting of ſo many ſyſtems, creatures of our limited capacities cannot diſcover or comprehend; but many of the ſyſtems, of which it is compoſed, we have diſcovered; and we know not only that the univerſe is a more perfect ſyſtem, by being thus divided into ſyſtems, than it would otherwiſe be, but that it is the only way in which it could in any degree be comprehended by our limited intelligences; for it is only by its being ſo divided that we could have had any comprehenſion of it.

From this diviſion of things we diſcover a moſt important truth concerning the ſyſtem of the univerſe, and which I think ſhows it to be a perfect ſyſtem, more than any thing that I have hitherto mentioned. And it is this, that every thing in it *contains* or is *contained* in ſome other thing; and that the ſame thing ſome times both contains the other thing and is contained in it: But not in the ſame ſenſe; for one of the things contains the other *virtually* or *potentially*, but is contained in that other thing *actually*. Thus, every genus, as I have ſaid, *virtually* contains all the ſpecieſes under it, and every one of theſe ſpecieſes does *actually* contain the genus, otherwiſe it could not be of that genus; for the ſpecies is compoſed of the genus, and of what Porphyry calls the *ſpecific difference*, that is what diſtinguiſhes it from the genus. Again, every ſpecies *virtually* contains the individuals under it; and every individual *actually* contains the ſpecies, otherwiſe it would not be of that ſpecies*. Now, every thing in the univerſe is either genus, ſpecies, or individual: For that is a diviſion of

* See what I have ſaid of the difference betwixt *containing virtually and actually*, p. 62. of this volume.

of things that goes through the whole univerſe; and, therefore, I have made it the foundation of my doctrine of the ſyſtem of the univerſe. Now, to know what contains another thing, or is contained in that other thing, is truth or ſcience. All our ideas, like every thing elſe in the univerſe, do, each of them, contain another idea, or are contained in another idea, or both contain and are contained; and, as our ideas are all formed from things in the univerſe, it is moſt natural that they ſhould have this property, which is common to all things in the univerſe.

Of our ideas propoſitions are formed; and theſe propoſitions are either affirmative or negative. Every affirmative propoſition aſſerts that the praedicate either contains the ſubject or is contained in it*. And this leads to a diſtinction, and a very important diſtinction, of propoſitions, which Ariſtotle makes†. In ſome, he ſays, the *praedicate* contains the *ſubject:* And theſe propoſitions, according to him, are καθ' ὑποκειμενου; as when the *genus* is praedicated of the *ſpecies*, or the *ſpecies* of any *individual.* In others the praedicate is contained in the *ſubject:* And theſe he calls ἐν ὑποκειμενῳ; as when any quality or accident is praedicated of the ſubject to which it belongs, ſuch as, *A man is good or bad;*—or when a leſs general idea is praedicated of a more general, as when *man* is praedicated of *animal*; in which laſt caſe the praedicate does not contain the ſubject, nor can contain it, but is contained in it, being a part of it.

This is the caſe of affirmative propoſitions: As to negative, they

 aſſert

* See vol. V. p. 152. and 153. where I have explained the meaning of the words *praedicate* and *ſubject;* ſhowing that the Praedicate, or *greater term* as it is called, is what is affirmed or denied of any thing, and that that, of which it is affirmed or denied, is the Subject, or *leſſer term;* and theſe two are connected together in the ſyllogiſm by what is called the *middle term.*

† On this diſtinction ſee Vol. I. of this work, p. 383.

aſſert that the praedicate does not comprehend the ſubject, nor is comprehended in it. But though the praedicate of that particular propoſition do not contain the ſubject, nor be contained in it, it will not from thence follow, that there is any idea which does not contain ſome other idea, or is not contained in it: For though the praedicate of the negative propoſition do not contain the ſubject, nor be contained in it, yet there muſt be ſome other ſubject, which it contains or which is contained in it; and that muſt be one or other of Porphyry's *five words**, viz. *genus*, *ſpecies*, *ſpecific difference*, *peculiar*, and *accidental*; which comprehend all the things of the univerſe. Now, if it be any one of theſe, it muſt either contain or be contained in ſomething elſe: If it be a genus, it muſt contain a ſpecies: If it be a ſpecies, it muſt contain individuals: If it be a *ſpecific difference*, it muſt be contained in ſome genus; or, if it be *peculiar* or *accidental*, it muſt neceſſarily be contained in ſome ſubject of which it is a *peculiarity* or *accident* †. And thus it appears, that a negative propoſition is no exception to the rule I have laid down, that every thing in the univerſe either contains or is contained in ſomething elſe: To which I will add, that many things both contain and are contained. A lower genus is contained in a higher, and, at the ſame time, contains the ſpecies under it. Again, the ſpecies is contained in the genus, and, at the ſame time, contains the individuals under it. And what appears at firſt ſight to be an incredible paradox the ſame thing, as I have ſhown, both contains and is contained in ſome other thing ‡: So that there appears to be a moſt wonderful union, the cloſeſt that can be imagined, of the things of this univerſe with one another; and which ſhows, as I have ſaid, the ſyſtem of the univerſe to

* Theſe five words comprehend every thing belonging to nature or philoſophy.—See what I have ſaid of them, p. 32. and 55. of this vol.—alſo in preface to vol. 3. p. liii.

† With reſpect to the meaning of the word *accident*, ſee p. 86. of this vol.

‡ See p. 81.

to be the moſt perfect that can be imagined; and, indeed, more perfect than we could imagine it to be, if we did not know from fact and obſervation that it was ſuch.

Nothing, therefore, is more certain than that, beſides the connection which things of the ſame ſpecies and genus have with one another, every thing on this earth comprehends or is comprehended in ſomething elſe; or, as I have ſaid, both comprehends and is comprehended. And thus every thing is a *whole* or a *part* of another thing, than which no cloſſer union can be imagined.

This doctrine of all things containing or being contained in ſomething elſe, is not only the foundation of the truth of all affirmative propoſitions, but of the truth of all reaſoning; and this is very natural, all reaſoning conſiſting of propoſitions. But of the nature of reaſoning, and how it is all reducible to ſyllogiſm, I have ſpoken at length in the preceding volume*, where I have ſhown that it depends upon the doctrine of *containing* and *being contained;* ſo that all reaſoning is reducible to theſe two propoſitions, that if A contain B, and B contain C, then A contains C; or if A be contained in B, and B be contained in C, then A is contained in C.—The example I have given, in the paſſage above quoted, is a ſyllogiſm, concluding that *man is a ſubſtance;* the meaning of which is, that the general idea of *ſubſtance* comprehends *man*, or, in other words, that *man* is a ſpecies of the genus *ſubſtance*, that is to ſay, is contained in it: At the ſame time it proves that *man* contains the genus *ſubſtance;* for, as I have ſhown, the *genus* contains the *ſpecies* under it *virtually*, at the ſame time that the *ſpecies* contains the *genus actually*†:—So that in this ſingle ſyllogiſm there is a proof not only that *man* contains *ſubſtance*, but that he is contained in it. In this caſe the *praedicate*, or greater term of the concluſion, both contains the *ſubject*,

* See vol. 5. p. 152. † See p. 56.—61.

ſubject, and is contained in it. But, if the praedicate of a propoſition only contain the ſubject, or be only contained in it, the concluſion will be the ſame; for if A contain B, but is not likewiſe contained in it, and if B contain C in the ſame manner, then A will contain C. And, again, if A be contained in B, but does not likewiſe contain it, and if B be contained in C in the ſame manner, then A will be contained in C.

Thus it appears that all truth, even the truth of ſyllogiſm, ariſes from that general propoſition which I have maintained, that all ideas contain or are contained in other ideas; and that, from thence, the truth of all propoſitions, of all ſyllogiſms, and of all arts and ſciences, ariſes.

And here it may be obſerved, that upon this principle of mine, that every thing in the univerſe contains or is contained in ſomething elſe, the whole doctrine of the ſyllogiſm is, I think, moſt clearly explained, without dividing the ſyllogiſm into figures, and theſe figures into modes, as Ariſtotle has done; by which I think he has made the doctrine of the ſyllogiſm more intricate and perplexed than was neceſſary: For the whole art of it comes to this, to find out a middle term, which either contains the Subject of the Concluſion, or is contained in it, and at the ſame time contains the praedicate of the concluſion, or is contained in it. So that the whole doctrine of the ſyllogiſm comes to this, as I have ſaid, that, if A contain B, which is the *middle term*, or be contained in it, and if B contain C or be contained in it, then A contains C or is contained in it.

If Mr Locke had known this connection of things in the univerſe, by which every thing contains or is contained in another thing, he would not have given us ſuch a definition of *truth* as he has given, when he tells us that truth conſiſts in the agreement or diſagreement

of

of our ideas, without letting us know wherein they agree or diſagree: So that his definition of a thing of ſuch importance as *truth*, not only in philoſophy and ſcience, but in the common buſineſs of life, is moſt ridiculouſly imperfect; and it ſhows very plainly that he knew as little of the nature of *truth* as he did of the nature of ideas, of which truth muſt be compoſed. Whereas, if he had known that, as all things in nature contain or are contained in ſomething elſe, ſo ideas contain or are contained in one another; and, therefore, when the propoſition is affirmative, the idea of the praedicate contains or is contained in the ſubject; and if we will uſe the language of Mr Locke, that may be called the *agreement* of two ideas: Whereas, if the praedicate of the propoſition does not contain the ſubject, nor is contained in it, then the two ideas may be ſaid to *diſagree*; and in this way Mr Locke's language of *the agreement or diſagreement of ideas*, may be made intelligible, which, as he has expreſſed it, is quite unintelligible.

To conclude this ſubject, upon which I have ſaid ſo much;—If we could believe that there was no connection betwixt things in the univerſe, ſuch as I ſuppoſe, but that every thing exiſted by itſelf, and *did not contain*, or *was not contained* in any thing elſe, the conſequence would be, that there would be no union of things in the univerſe, which, in that caſe, would not be *one* but *many*, and conſequently no ſyſtem, but a confuſed maſs of things: Whereas, upon the ſuppoſition of things in it being ſo united, as I ſuppoſe, it muſt be the moſt perfect ſyſtem that can be imagined; in which there is the moſt intimate connection and cloſeſt union poſſible, that of *whole* and *part*.

This wonderful connection of things in the univerſe, by which there is nothing that does not comprehend ſome other thing, or is not comprehended in it, that is to ſay, is not either a whole or a part;—

or

or that does not both comprehend and is comprehended, that is, in other words, is a whole with reſpect to one thing, and a part with reſpect to another thing;—is ſuch an union of the ſeveral parts of the univerſe, as makes it a ſyſtem the moſt perfect, as I have ſaid, that can be imagined; and yet it has not been obſerved, as far as I know, by any perſon who has treated of the ſyſtem of the univerſe, by which, and which only, we can conclude that the univerſe is produced by Supreme Intelligence. The diviſion of things into genuſes and ſpecieſes, from which no doubt it follows, that every ſpecies, and every individual under that ſpecies, is contained in the genus, is known to every man who has learned the elements of logic. But that every thing in the univerſe, which can be made the praedicate or ſubject of a propoſition, contains or is contained in ſome other thing, or both contains and is contained, has not been attended to by any philoſopher, antient or modern, as far as I know; and yet it makes the ſyſtem of the univerſe more perfect than even the diviſion of things into genuſes and ſpecieſes, as it leaves not any one thing ſingle and by itſelf, but ſhows that there is nothing which is not connected with ſomething elſe, and by the moſt intimate connection poſſible, that of *whole* and *part*. And it is this connection of *whole* and *part* that makes, as I have ſhown, all truth and ſcience.

What makes it the more ſurpriſing, that this connection of things has never been thought of, is, that we daily ſpeak of *generals* and *particulars*: And it is evident that every thing in the univerſe muſt be either a general, or a particular comprehended under ſome general; ſo that all things in the univerſe are generals or particulars: Which comes juſt to what I have ſaid that every thing in the univerſe comprehends or is comprehended in ſome other thing, or both comprehends and is comprehended; for one general idea may comprehend another leſs general idea, and be itſelf comprehended in another idea more general.

And

And here it is proper to make a diſtinction betwixt the Author of the univerſe and the things which he has produced. Theſe, as I have ſhown, either comprehend or are comprehended, or the ſame things both comprehend and are comprehended: Whereas the great Author of the univerſe comprehends all thoſe things which are produced by him and are an emanation from him, while he himſelf is comprehended in nothing, but is, as I have ſhown, ſelf-exiſtent.

Beſides all theſe connections of things, there are certain likeneſſes, not only of things of the ſame genus or ſpecies, but of different genuſes or ſpecieſes. Thus, ſome plants are ſo like animals, that they make a claſs of beings, which are called *Zoophytes;* and the Coral is ſo like a mineral, that it was always held to be ſuch, till lately that it was diſcovered to be an animal.

We may, therefore, conclude that, upon the whole, there is a wonderful connection of things in this lower world, ſuch as could not be produced by chance, nor by any intelligence leſs than the Supreme, which has formed the ſyſtem of the univerſe.

There are ſome of this age I know, and calling themſelves philoſophers too, who will think, that all that I have ſaid, at ſo great length, of the order and arrangement of things in the univerſe, is no more than the order and arrangement of our own ideas, but without any foundation in nature: And particularly that the diviſion of things into genuſes and ſpecieſes, which I make to be the chief thing in the ſyſtem of the univerſe, is altogether an operation of our minds, by which we collect from particular things likeneſſes and reſemblances, of which we form what we call genuſes and ſpecieſes; and th[illegible] in this way we arrange things for our more ready comprehenſion [illegible] memory of them. Upon this ſubject I have ſaid a good deal

where*; and I will only add here, that a man, who ſees and obſerves the different animals of this earth, ſuch as *man*, *horſe*, and *ox*, &c. cannot believe that the diſtinction of theſe different ſpecieſes is merely a work of our imagination, without any foundation in nature. And when he conſiders the connection and reſemblance that there is betwixt the three animals I have mentioned and other animals upon this earth, he muſt be convinced that there is a genus, or more general idea, which comprehends not only theſe animals, but all the animals that we know. This is that genus which I call *animal*, and which, therefore, is no more a fiction or creation of our minds than the ſeveral ſpecieſes of animals I have mentioned. And, indeed, to deny that there is an order and arrangement of every thing in this univerſe, and particularly of animals, according to their genuſes and ſpecieſes, is to deny that there is any order or any ſyſtem of things in the univerſe. That there is ſuch an order in animals, I think, is evident not only to our reaſon but to our ſenſes; and beſides it is revealed to us in the firſt chapter of Geneſis, where we are told that God created all animals, of the earth, the water, and the air, *after their kinds*, that is, arranged them according to their ſeveral genuſes and ſpecieſes.

* In the preceding chapter.

CHAP.

CHAP. V.

A Proof of the Syſtem of the Univerſe from the Phaenomena of the Heavens.—The Luminaries in the Firmament as uſeful as they are Beautiful and Magnificent:—They ſet bounds to duration; and give us the ſucceſſion of Day and Night, of Seaſons and Years, and the generation of Plants and Animals.—Reaſon why all this magnificence, order, and variety, which excites the admiration of the Philoſopher, does not even rouſe the attention of the Vulgar Man.—Of the Solar Syſtem, and the agreement of the motions of the Bodies compoſing it.—Reaſons for ſuppoſing the fixed Stars centres of other Syſtems; and that all are parts of the great Syſtem of the Univerſe.

IN the preceding Chapter I have given a proof of a ſyſtem in the univerſe, taken from the whole of things exiſting in it; which, I think, is more convincing than what is taken from particular phaenomena. There is, however, one phaenomenon, which deſerves particular attention, as it is a moſt wonderful phaenomenon. The phaenomenon I mean, is the Heavens above us, or the Firmament, as it is commonly called, which, as our Scripture tells us, declares the glory of the Lord. And it is certainly the moſt viſible ſign of that glory, and ſuch as muſt appear to the philoſopher the greateſt of all wonders: And it would appear ſo even to a vulgar man, who, we may ſuppoſe, had been born blind, but got his ſight when he became a man and had acquired the uſe of reaſon, having cultivated his mind by arts and ſciences to a certain degree, ſo far as to know what is uncommon and extraordinary in any of

them, which we know many blind men do. The firſt ſight he had of this wonderful canopy of heaven, would affect him with an enthuſiaſtical admiration, ſuch as no object of this earth could produce in him.

But not only is our firmament, adorned as it is with ſo many celeſtial bodies, the moſt magnificent ſpectacle that can be imagined, but it is moſt uſeful, and of abſolute neceſſity, for carrying on the ſyſtem of nature in the world which we inhabit; for it is by the luminaries of our ſky that we enjoy the firſt created, and the moſt valuable thing in this world; I mean light. Our grand luminary is the ſun, which gives us light by day: But our planet has a ſatellite, I mean the moon, which gives us light in the night, when we no longer ſee the ſun.

By the motion of the ſun and moon we ſet bounds to duration, (by which I mean the continuation of the exiſtence of things), and meaſure it, and make what we call *time*, which is duration meaſured: For that can only be done by motion, and not by every kind of motion; but by motion, which is itſelf its own meaſure. Now that is only motion in a circle, or ellipſis, which revolves into itſelf, and in that way meaſures itſelf; which motion in a ſtraight line, or any other than the two motions I have mentioned, cannot do. In that way, by the motion of our earth round its axis, we have that meaſure of Time which we call Day, as diſtinguiſhed from Night: By the motion of the moon round the earth we have that meaſure of time we call a month; and by the motion of our earth round the ſun we meaſure a year.

To the ſun we owe not only the ſucceſſion of day and night but of ſeaſons, and the production and ripening of vegetables according to their different kinds, and alſo the generation of animals according to their different ſpecieſes; which could not be, any more than

than of vegetables, without the heat of the ſun. And not only is our heavens the grandeſt and moſt magnificent ſpectacle that can be imagined, and at the ſame time of the greateſt uſe, but there is a beautiful variety in it, which muſt give great pleaſure to every attentive and intelligent ſpectator: For, in the firſt place, there is in it the variety of ſunſhine and cloud, and conſequently of light and ſhade upon the landſcape. Sometimes the whole ſky is clouded, and conſequently the whole landſcape under a ſhade. At other times only a part of it is clouded; and then we have likewiſe a variety of light and ſhade in our ſky and landſcape: And when there is that variety in our ſky, it is a pleaſure to ſee the ſun or moon *immerged* as it were in a cloud, and then *emerging*. Beſides this, the colours and figures of the clouds are very various: For ſometimes the colour is very dark and gloomy; at other times the ſky is *fleec'd*, as one of our poets expreſſes it, with very light clouds. And as to the figures, they are very various; for ſometimes they form as it were hills, and valeys betwixt them; and we have mountains of ſnow, and alſo mountains of gold. And as to the ſun, not only does he exhibit, while he is in our ſky, all that variety of proſpect which I have mentioned, but in the morning, before he appears, he adorns our ſky with fine colours, and he does the ſame after he diſappears in the evening.

And here it may be obſerved how wonderful the wiſdom of God has contrived that, by the motions of the ſame body, (I mean the earth), and at the ſame time, the ſucceſſion of day and night, of ſeaſons and of years, are all produced; for, as I have ſaid, by the motion of the earth round its axis, the ſucceſſion of day and night is produced, and by its motion round the ſun, the ſucceſſion of ſeaſons and years; while light and ſhade are ſo equally diſtributed, that all parts of the earth, [illegible] ſituated in climates ſo different, and with ſuch different lengths of days, enjoy the light of the ſun an equal

equal time in the year. Now it is a proof of great wiſdom, to produce the greateſt number of effects by the feweſt cauſes poſſible.

Although our canopy of heaven be ſo magnificent a ſpectacle, and the bodies in it be of ſuch neceſſary uſe for our earth, yet, as Horace tells us,

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

The reaſon of which is, that they are ſeen every day, and are ſo obvious to common obſervation, that they do not at all excite the wonder or even the attention of the vulgar †. For there is this difference betwixt the philoſopher and the vulgar, that theſe admire nothing which is conſtantly under their eyes, or of which they have the daily uſe: Even as to the arts invented by men, ſuch as language and writing, though they be moſt wonderful arts, and of moſt difficult invention,

* Lib. I. Epiſt. 6. By *formido* I underſtand here not *fear*, which is the ſenſe of the word in common uſe, but an *enthuſiaſtical admiration*; for *admiration* is the ſubject of this epiſtle, which begins,

> Nil admirari, propè res eſt una, Numici,
> Solaque, quae poſſit facere et ſervare beatum.

And what follows, where he ſpeaks of the *munera terrae*, and of the *wealth of Arabia and India*, and of the *ſhows* and *applauſe* of the Roman people, I think plainly indicates, that by *formido* he cannot mean *fear*, but *admiration*; for theſe things I have mentioned could not create *fear* but *admiration*. This however is a meaning that is not given to the word by any commentator that I know.

† Upon this ſubject there is a fine paſſage in Cicero, where he ſuppoſes, as I have done, that a man, from eternal darkneſs, ſhould at once ſee the light and appearance of the heavens. "Quaenam ſpecies coeli videretur?—Sed aſſiduitate quotidiana et "conſuetudine oculorum, aſſueſcunt animi; neque admirantur, neque requirunt ra- "tiones earum rerum, quas ſemper vident: Proinde, quaſi *novitas* nos magis quam "*magnitudo* rerum, debeat ad exquirendas cauſas, excitare."—De Nat. Don. Lib. II. Cap. 38.

invention, (particularly language, which, I think, I have ſhown* could not have been invented without ſupernatural aſſiſtance), yet, as they are learned by all of us when we are very young, and as we are in the conſtant uſe of them, the vulgar think that there is no art at all in them, but mere practice and habit; whereas the philoſopher admires them, and knows them to be not only moſt uſeful but moſt wonderful arts: For by one of them our ideas are made audible; and by the other they are made viſible, together with the ſounds of the language which expreſs them. But thoſe works of God, which I have mentioned, being the works of Supreme Intelligence, we ought to admire infinitely more than any thing produced by the imperfect intelligence of man.

And not only are the heavens the moſt magnificent ſpectacle, and moſt uſeful to our earth and its inhabitants, but the motions of the bodies in it are ſo regular, and ſo concordant with one another, as to make a wonderful ſyſtem: For all the planets, to the number of ſeven, including our earth, are moved round the ſun, their common centre, and with him conſtitute what we call our ſolar ſyſtem; and as they are all parts of the ſame ſyſtem, their ſeveral motions are all governed by the ſame laws†. And Sir Iſaac Newton has diſcovered to us, that not only the planets have this agreement of their motions among themſelves, but that a moſt wonderful analogy exiſts betwixt the motions of them all and of projectiles on earth, by which he has been able to give us the compleateſt ſyſtem of aſtronomy that ever was; and, at the ſame time has diſcovered a connection betwixt heaven and earth, and betwixt the motions of the ſmalleſt and greateſt bodies, and the moſt remote from one another, which no philoſopher before him ever dreamed of; and which very much enforces my arguments tending to ſhow the univerſe to be a ſyſtem.

And

* See Book II. Chap. 1. of Vol. IV. of this work.

† See p. 38. of this vol.

And this, I think, is truly the philoſophy of his *Principia*, though I do not know that that uſe has ever been made of it: For though Sir Iſaac was not a philoſopher, and has erred very much, as I have elſewhere ſhown, in the account he has given of the cauſe of motion, he was no doubt an excellent mathematician and aſtronomer.

What I have ſaid, with reſpect to our ſolar ſyſtem, may ſuffice in a work of this kind. But there is no reaſon to believe that ſuch an hoſt of fixed ſtars is merely for the purpoſe of adorning our night-ſky; but on the contrary, from analogy, our only rule of judging in ſuch caſes, there is the greateſt reaſon to think that they are all ſuns, having each their attendant planets, and making ſo many different ſolar ſyſtems, all parts of the grand ſyſtem of ſyſtems, the univerſe, and which, ſome way or another, muſt be connected with our ſolar ſyſtem: And the late Dr Wilſon of Glaſgow has imagined one way in which they may be connected: For he ſuppoſes that there is a centre of the univerſe, as well as of our ſolar ſyſtem; and that round this centre, (be it ſome greateſt of all ſuns, or only a central point), all the ſeveral ſyſtems, of which the univerſe is compoſed, are moved. The thought is grand and altogether new, and, if we may judge of what is unknown by what is known, very likely to be true.

CHAP.

CHAP. VI.

Of the Syſtem of Animals on Earth:—1ſt, *Man;*—*He the moſt artificial Syſtem of all.*—*Of the different parts of his Syſtem, particularly of his Intellectual part;*—*he is an Epitome of the whole Univerſe;*—*a moſt convincing proof of the exiſtence of Supreme Intelligence, ariſing from conſciouſneſs, the ſource of all our knowledge.*—*Many other Speciefes of Animals;*—*each of theſe Speciefes a Syſtem,*—*and even every Individual.*—*The ſame the caſe of Vegetables.*—*A Syſtem alſo in Minerals.*—*The Univerſe only comprehenſible by us by the diviſions of the parts of it into Genuſes and Speciefes:*—*All theſe diviſions end in the Categories,*—*and the Categories in the Supreme Being.*—*Of the tendency of Nature to* the one:—*Our progreſs in knowledge the ſame;*—*it ends in the knowledge of God.*—*Every thing in the Univerſe ſuited to the purpoſe intended by Nature:*—*This exemplified in the Animal race, with reſpect to its preſervation and continuation.*—*The Supreme Intelligence of God proved by his works.*—*The Syſtem of the Univerſe no leſs* beautiful *than* perfect.

IN the preceding Chapter I have treated of the ſyſtem of the Heavens, and have ſhown how much that ſyſtem is connected with the ſyſtem of things here below. In this Chapter I deſcend from the heavens to this our earth; and am to treat of what is of the greateſt value there, the animal race. And I will begin with what is moſt valuable of that race, viz. *man*, the nobleſt animal here below. He is by himſelf a wonderful ſyſtem,

being compoſed of a body moſt artificially formed, as anatomiſts well know, and alſo of three minds, the intellectual, the animal, and the vegetable *, beſides that mind which belongs to his body, by which all bodies fall, that is, tend towards the centre, or go on in the direction in which they are impelled; but which, as it is common to all bodies, unorganized as well as organized, I do not reckon as any part of the compoſition of man, by which he is diſtinguiſhed from other animals. And this ſo wonderful compoſition is ſo well arranged and put together, as not only to make us fit to be the governing animal here below, and to ſerve all the purpoſes of a moſt artificial life in this world, but to prepare us for a better in the next, if we make a proper uſe of the talents that God has beſtowed upon us, and of our time.

Of the compoſition of man, and of the Trinity in him, I have ſpoken elſewhere †; and I will only add here, that our intellectual or governing mind is quite different and ſeparate from the reſt of our compoſition, and particularly from our body, of which it is not a quality, as ſome people imagine, but a ſubſtance altogether different. What proves this is, that the intellectual mind acts by itſelf without the body, which, ſo far from aſſiſting it in its operations of thinking

* There are, I know, many of our modern philoſophers who maintain that there is but one mind in our bodies; and that it is the ſame mind which thinks, moves our bodies, concocts and digeſts our victuals, nouriſhes us, and makes us grow. But, as I have elſewhere obſerved, (Vol. I. p. 166.) it is impoſſible to ſuppoſe that the ſame mind ſhould perform operations ſo exceedingly different: And, beſides, ſuch a ſuppoſition would put an end altogether to the ſyſtem of man; for it is the three minds in him which make him a ſyſtem. But I think the opinion of an Alexandrian philoſopher, whoſe name I have forgot, is very probable, that the animal mind is produced out of the intellectual, and the vegetable out of the animal: For it is according to the order of nature, that what is inferior of every kind ſhould be produced out of what is ſuperior of that kind; and it makes the Trinity in our little world moſt perfectly reſemble the Trinity in the great world.

† Page 44.

thinking and reaſoning, is an impediment to it. Now what acts, exiſts; and what acts by itſelf, muſt exiſt by itſelf. This mind, therefore, does not periſh or go to duſt, as the body does when the man dies, but muſt continue to exiſt and to act as a ſubſtance by itſelf. And in this way I think it is demonſtratively proved, that our intellectual mind, or ſoul, is a ſubſtance quite different from our body; in which reſpect we may obſerve how different it is from our other two minds, the animal and vegetable, which cannot act, nor even be conceived to exiſt, without the body.

I will farther add, concerning this mind, that as its actions and operations are ſo different from thoſe of body, and altogether unconnected with it, we muſt ſuppoſe that it is a ſubſtance not material but immaterial. And as we are ſure that it does not periſh with the body, but exiſts and acts after the body is at an end, we muſt ſuppoſe it not to be mortal like the body, but immortal *.

In man compoſed, as I have ſaid, of body, and the intellectual, the animal, and the vegetable minds, is contained the whole τετρακτυς of the Pythagoreans, which was reckoned ſo great a diſcovery†. In ſhort, man is ſuch a ſyſtem, compoſed of every kind of things in this univerſe, of body, and of the intellectual, the animal, the vegetable, and the elemental minds, that he may be ſaid to be an epitome of the univerſe; and is, therefore, very properly called by the antients a *microcoſm*, or *little world:* And he alone is, I think, a proof of the exiſtence of God; for no man can believe, nor is it maintained by any philoſopher, that man has made himſelf. He muſt, therefore, be the production of Supreme Intelligence; nor can we conceive that any other intelligence could have produced a ſyſtem ſo wonderful.

* See what I have ſaid on this ſubject in Vol. I. Book II. Chap. XII.

† See p. 36. of this volume.

And this proof, of the exiſtence of ſuch an intelligence, is to us the moſt convincing that can be imagined; for it proceeds from conſciouſneſs, which to us is the moſt convincing of all evidence, as convincing as the evidence of our own exiſtence, which we know in the ſame way by conſciouſneſs: In which way Des Cartes has very properly proved his own exiſtence; for he has ſaid, I think, *therefore I am*. And in this way we know not only that we have a mind which thinks, but another, as I have ſhown, which moves body; ſo that we perform all the offices of mind, which conſiſt of thinking and moving body *.

The ſyſtem of the great world may be ſaid to be a ſtill more convincing proof, as it comprehends man and every thing elſe exiſting. But it is a proof not ſo eaſily apprehended by our finite minds, as a proof ariſing from our own compoſition, which we know by the moſt certain of all knowledge as I have ſaid, that is conſciouſneſs.—We alſo know, in the ſame way, that moſt important diſtinction betwixt mind and body, namely, that it is mind which moves, and body that is moved; a diſtinction which may be ſaid to be the foundation of the whole philoſophy of nature. We alſo diſcover, by the ſtudy of ourſelves, our progreſs in this life from the mere animal to the intellectual creature; for we begin with perceptions of ſenſe, which are the foundation of all our knowledge here below. Of theſe we form ideas in the manner I have already deſcribed †; which is the firſt operation of our intellect; and of ideas we form ſcience. And in that way recover the uſe of intellect which we had loſt by our fall; and ſo become a creature not only capable of intellect and ſcience, as Ariſtotle has very properly defined man in his natural ſtate), but a creature of intellect and ſcience in actuality and energy.

And thus it appears, that by practiſing the precept of the Delphic God,

* Vol. I. Book I. † Page 67.—and the paſſage quoted from Vol. IV.

God, that is, *to know ourſelves*, we not only lay the foundation of all inferior ſciences, but we may riſe to the ſummit of all ſcience, the knowledge of God; ſo far as he can be comprehended by our limited capacity.

And here, I think, we cannot ſufficiently admire the wiſdom and goodneſs of God, who has ſo formed us, that by the ſtudy of ourſelves, that is by conſciouſneſs, the moſt certain of all knowledge, we can attain all the knowledge that it is poſſible we can attain in this life, and ſo prepare ourſelves for a better life to come, in which we are to attain to the greateſt perfection that our nature is capable of.

This compoſition, of body and ſo many minds, makes man the moſt various and moſt curious animal upon this earth, and when we join to that his progreſs through ſo many different ſtates, the moſt wonderful animal, and which ſhould be the ſtudy of every man who loves knowledge, if we were not ſo much connected with him as we are *.

But there are very many other ſpecieſes of animals on this earth beſides man, more, I believe, than have been numbered; and each of theſe ſpecieſes is a ſyſtem; and ſo is alſo every individual of theſe ſpecieſes: So that not only as many as there are of ſpecieſes, but as many as there are of individual animals, ſo many there are of ſyſtems: For every anatomiſt knows, that each individual animal is a ſyſtem; and the ſame is the caſe of vegetables: So that the diviſion of all things in the univerſe, into ſyſtems, ſtill goes on with reſpect to animals and vegetables; and therefore, as I have ſaid, the univerſe is a ſyſtem of ſyſtems of various kinds.

As

* See what I have ſaid on this ſubject at the end of laſt vol.

As vegetables, and all things produced on this earth, are for the uſe of animals, ſo the number of animals muſt be prodigious, much greater than we can number; for they are to be found every where, inhabiting the earth, the air, and the water: And they are each of them directed by the wiſdom and goodneſs of God, as ſhall be ſhown in the ſequel of this work, to live in the moſt proper way, ſuited to their nature, and to that part of the earth which they inhabit; and alſo to propagate their kind and rear their offſpring, ſo that the race may be continued, and nothing be defective in the ſyſtem of nature.

Minerals alſo are of different kinds, which are diſtinguiſhed from one another by different qualities.

By the diviſion into genuſes and ſpecieſes, all things here below are ſo arranged and diſtributed as to be comprehenſible by our finite capacities; and in this way we can comprehend and diſtinguiſh, from one another, the three kingdoms, as they are called, of this earth, the animal, the vegetable, and the mineral, and the ſeveral ſpecieſes under theſe.

Thus, I think, I have ſhown, that there is a wonderful number of ſyſtems on this our earth; *firſt*, the ſyſtems of individuals, of number incomprehenſible by us; *2dly*, the ſyſtems of the loweſt ſpecieſes comprehending thoſe individuals; *3dly*, the genuſes comprehending thoſe loweſt ſpecieſes; and, *laſtly*, the higher genuſes comprehending the lower; and ſo riſing above one another, till they come to the higheſt genuſes, that is the *Categorics*, or *Univerſals* as they may be called: So that here we have ſyſtems riſing above one another, and ſo connected, that the ſame ſyſtem is a genus with reſpect to thoſe below it, and a ſpecies with reſpect to thoſe above it.

Thoſe

Thoſe higheſt genuſes comprehend not only the things of this earth but all things in nature. If, therefore, they could not be reduced to number, the ſyſtem of the univerſe would be infinite, and therefore, as I have ſhown*, truly no ſyſtem at all; for there can be no ſyſtem without thoſe bounds and limits which are given it by number; which, therefore, was held by the Pythagoreans to be eſſential in the ſyſtem of the univerſe, as giving it both order and arrangment, together with bounds and limits. The diſcovery, therefore, of the doctrine of the Categories, which was made in the ſchool of Pythagoras, beſides the other praiſe that I have beſtowed upon it, may be ſaid to have made a ſyſtem of the univerſe which was not known before.

All theſe ſeveral genuſes and ſpecieſes contained in the Categories, and even the Categories themſelves, end in *one*, I mean the Supreme Being, who contains them all.

And here we may obſerve the tendency of nature in its progreſs to *the one*. The individuals are reduced to *one* in the loweſt ſpecieſes: The ſpecieſes go to a greater *one*, the *genus*: The genus to a greater one ſtill; that is to a higher genus of which it is but a ſpecies: And ſo on from genus to genus till the progreſs ends in the Categories, and they in the Supreme Being, the Author of all things in the univerſe. It, therefore, appears that Plato has very well defined a general idea, ſuch as a ſpecies or a genus, to be *one in the many*; the more general the idea, the greater the number of *the many* in it, and the more comprehenſive *the one of that many*, till at laſt we come to the *one not in the many* only, but *in all:* From which we may ſee the truth before noticed of that doctrine of antient philoſophy, that all things in nature are *the one in the many* and *the many in one* †.

It

* Page 76. † Page 45.

It may be further obſerved on this ſubject, that the tendency of our minds, and the progreſs of our knowledge, is always *from the many to the one; from the many individuals to the ſpecieſes*; and from the *ſpecieſes* to *that one* we call a *genus*; from that to a *greater one*, that is a *higher genus*; and ſo on from leſſer to greater ones, till we come to the Categories: And even the Categories, though ten in number, may be conſidered as a great *one*; for they are all reducible to *ſubſtance* and its *qualities* or *accidents*. From the Categories we proceed to the greateſt one of all, who is not only *one in the many*, but, as I have ſaid, *one in all*; ſo that the whole progreſs of our knowledge leads us to the contemplation of the Supreme Being, that is, to Religion. And here we may obſerve the goodneſs of God, who has formed the ſyſtem of man ſo that, by the progreſs of his intellect in this life, he is naturally led to the knowledge of God, which is the greateſt happineſs, as well as the greateſt perfection, of his nature.

Before I quit the ſubject of Divine Intelligence operating in the things of this earth, I muſt obſerve that every thing in it is perfectly well fitted to anſwer the purpoſe, for which, by nature, it is intended. And this is particularly obſervable in animals: For, ſuitable to the ſtructure of the body of every animal, there is a mind given, by which not only the individual is preſerved, but the kind continued; for no animal is made for himſelf alone, but is more or leſs connected with his kind. Thus, in every ſpecies, the male and female are made for one another, and not only copulate for the propagation, but, in very many ſpecieſes, join their care in rearing the offſpring. In other ſpecieſes the animals herd together; and in ſome of them it is found neceſſary that they ſhould not only live together in herds, but in a ſociety that may properly enough be called political, ſuch as the bees and ants.

Thus

Thus it appears, that in every ſpecies of animals there is a ſyſtem, not only of the individual but of the kind, by which the animals of that ſpecies are more or leſs connected together; and the end propoſed by that ſyſtem is the preſervation both of the individual and the kind. But this is not all; for we find that ſome ſpecieſes are connected together ſo as to make but one ſyſtem; which is the caſe of the animals of prey and thoſe they prey upon: And all of every kind are inſeparably connected with the earth and the other three elements, the air, the water, and fire, that is heat.

Beſides the common relation that animals and vegetables have to Mother Earth, they have reſemblances to one another, of which we are daily diſcovering more and more; and many ſubſtances, that were believed to be vegetables, are now with great certainty diſcovered to be animals. Theſe come ſo near one another, and have ſuch reſemblance, that they may be ſaid to run into one another by degrees hardly perceptible. This, as I have ſaid*, is the caſe of the coral, which was formerly believed to be a vegetable, but it is now found to partake of the animal nature; ſo that it is that kind of ſubſtance which, by the antients, was called a *Zoophite*; for ſo great is the union of the ſyſtem, that things, appearing at firſt ſight quite different, ſuch as animals and vegetables, come as near as poſſible to one another, and ſometimes run together ſo as to make but one ſyſtem.

Thus, I think, I have proved, that the things of this univerſe, as far as we know or can know of it, are moſt intimately connected, being divided into genuſes, ſpecieſes, and individuals, which are all ſo many ſyſtems; for not only the genuſes and ſpecieſes are ſyſtems, of which no man can doubt, but every individual, as I have ſhown †, is alſo a ſyſtem. The univerſe, therefore, as I have

 ſaid,

* Page 97. † Page 86.

ſaid, is compoſed of ſyſtems; and theſe ſyſtems are all ſo connected together, as to make a ſyſtem of ſyſtems; for that ſuch is the caſe, is evident from this, that all things in the univerſe are either Ουσιαι or συμβεβηκοτα, that is *ſubſtances* or *accidents:* Which laſt we commonly expreſs by the word *quality;* but the word *accident*, as I have elſewhere obſerved *, expreſſes much better the meaning of the Greek word συμβεβηκοτα, which imports that the *accident* muſt go along with the *ſubſtance*, and cannot exiſt without it. Now, as all things in the univerſe are either Subſtance or Accident, and as accidents, as well as ſubſtances, are divided into ſyſtems, (for I have ſhown, in what I have written on the Categories †, that they are divided into *nine* claſſes, conſiſting of genuſes and ſpecieſes), the ſyſtems of each of them muſt be as neceſſarily connected together as ſubſtances and accidents are: So that here we have a neceſſary connection of all the ſyſtems of the univerſe with one another, making altogether but one ſyſtem.—And thus, I think, it is proved, that the univerſe is *a ſyſtem of ſyſtems*, all connected together by the moſt intimate connection of *ſubſtance* and *accident;* and that the Parts of theſe ſeveral ſyſtems muſt be all connected together in the ſame manner as genuſes, ſpecieſes, and individuals are: So that the ſyſtem of the univerſe, however many and various its parts are, is but one ſyſtem. The univerſe, therefore, is both *one* and *many;* which I have ſhown to be the caſe, not only of the whole ſyſtem, but of every particular in it ‡.—So wonderful is the connection of things in the univerſe.

When to all that I have ſaid of the ſyſtem of the univerſe we add another requiſite of a ſyſtem, That there ſhould be ſomething principal in it, to which every thing elſe is ſubordinate, and which is another thing that makes the ſyſtem *one* §, it muſt make the ſyſtem the moſt perfect that it is poſſible to imagine. Now this principal thing,

* Page 86. † Page 87. ‡ Page 45. & 46. § Page 76.

thing, to which all things elſe in the ſyſtem are ſubordinate, is the Supreme Being, who, as I have ſhown, is the author of the whole ſyſtem, and the preſerver of it, and who comprehends in his nature the principles of intelligence and vitality, without which there could be no ſyſtem. But of this I will ſay no more here, as I have elſewhere ſpoken of it at great length *.

If this be the caſe, what ſhall we ſay of Dr Clarke's *Demonſtration of the Being and Attributes of God*, and particularly of his intelligence, without ſhowing, or indeed mentioning, that there is any ſyſtem in the univerſe. Now it is by ſyſtem that intelligence operates; nor can we conceive any operation of intelligence without a ſyſtem greater or leſſer. Neither can there be, as I have ſhown †, *beauty* without a ſyſtem; ſo that the Doctor has not proved that there is either intelligence or beauty in the univerſe.

And thus, I think, I have proved by the works of God, that he is a Being of ſupreme intelligence; for it is only by the works of any being that he can be proved to have intelligence. Now, in this way, we are as ſure that the Supreme Being has intelligence, and ſupreme intelligence, as that we have intelligence ourſelves; for it is by our works that we know not only that we exiſt, but that we are intelligent beings. Des Cartes, therefore, as I have obſerved ‡, has ſo far reaſoned well, when he has ſaid, "I think," that is, I operate as an intelligent being; "Therefore I am;" but he ſhould have added "an intelligent being."

As the univerſe is the moſt perfect ſyſtem that can be imagined, ſo it is the moſt *beautiful:* For it is ſyſtem, as I have ſhown, that makes beauty; and beauty is the delight, and indeed the only de-

* Page 43. † Page 71. and the paſſages there referred to. ‡ Page 108.

light, of the intelligent mind†: And when the mind perceives that beauty in its own works, then it enjoys the higheſt pleaſure that even beauty can give it. The contemplation of *beauty* is what is called *the Beatific Viſion*, the ſupreme happineſs of man in his future ſtate, when he ſhall know more of the works of God than he can do here below, and which may be ſaid to have given pleaſure to God himſelf when he ſaw that his works were *beautiful;* for ſo it is expreſſed in the Septuagint, not by the word *good*, as in our tranſlation.

And here I conclude this book on the intelligence of God; in which I have taken occaſion to treat of the doctrine of the Trinity, the foundation of the Chriſtian Religion, and of all Theology, and, I may add, of the whole ſyſtem of nature; for I think I have made it evident, thas this doctrine is not only the beſt Theogony, but the beſt Coſmogony that can be imagined. The Second Perſon of the Trinity, or the Principle of Intelligence, "made," as our Scripture tells us, "every thing;" and it is added, "that nothing was made with-"out him." The meaning of which laſt words, I take to be, that every the leaſt thing in the univerſe proceeds from intelligence: And accordingly our Scripture tells us, "That not a hair of our "heads falls to the ground without the will of God."

† Page 71. and 72. and the paſſages there referred to.

BOOK

BOOK III.

Of the Goodneſs of God.

CHAP. I.

Goodneſs *eſſential to the Divine Nature—ſhown from his works.—Of the* Beauty *of the Syſtem of the Univerſe;*—Goodneſs *ſhown both in the formation and preſervation of it.*

IN the preceding Book I have proved, from the works of the Author of this Univerſe, that he is a Being of Supreme Intelligence. It is a proof that, I think, muſt convince every intelligent reader: For it is only intelligence that can perceive intelligence in the works of any being; and I heſitate not to pronounce a man void of intelligence, who does not perceive intelligence in the works of God, if he has formed any idea of them, or if they be properly laid before him *.

The ſubject of this Book is to be the Goodneſs of God, another predominant attribute of the Divine Being; ſo predominant, and ſo eſſential

* See upon this ſubject Cicero, *De Natura Deorum*.

eſſential to his nature, that he is called by Plato the τὸ ἀγαθὸν. And our Saviour has ſaid, that *God only is good**: Of which the meaning no doubt is, That he is eminently good, that is, he is *goodneſs* itſelf, and no other being is *good*, but in ſo far as he partakes, more or leſs, of the Divine goodneſs, the Divinity being the ſource of all goodneſs.

As it is from the works of God that we muſt learn to know his attributes, and even his exiſtence, as I think I have proved†, I will ſhow from the material world, in which we live, (by which only, as I have ſaid, we can know the being and attributes of God), that he is moſt perfectly good as well as moſt perfectly intelligent and wiſe. And theſe works I will conſider in a more extenſive view than they have been conſidered by thoſe that have written upon the ſubject.

That the works of God are perfectly beautiful, I have ſaid in the laſt chapter of the preceding book, by ſhowing that they form a moſt perfect ſyſtem: But there is a difference betwixt *beauty* and *goodneſs*, as I have ſhown in the preceding volume of this work‡; where I have ſaid, "That the beautiful belongs to the formal "cauſe of every thing; as it is by the union of parts, and by their "connection with one another, that every thing is formed, and is "more or leſs *beautiful*. But the *good* belongs to the final cauſe, "being that for the ſake of which every thing is formed, both by "God and nature, and by man; ſo that what we call *good* is nothing "elſe but that which makes the thing proper to anſwer the end for "which it is intended."—Now, that every thing in the ſyſtem of the univerſe, is proper to anſwer the end for which it is intended, is evident: For the whole ſyſtem conſiſts of ends propoſed, and means deviſed to execute theſe ends; and, indeed, without both theſe the univerſe would be no ſyſtem: Whereas, I think, I have moſt clearly proved

* St Matthew, Chap. xix. v. 17. † Page 2. ‡ Page 137.

proved that it is a ſyſtem; nor could we otherwiſe conceive it to be the work of intelligence, far leſs of that perfect intelligence which I have ſhown has produced it. This difference betwixt the *good* and the *beautiful*, I have illuſtrated by examples both from the works of nature and thoſe of man *. The goodneſs, therefore, of God I hold to be inſeparably connected with his prime attribute of intelligence; as it is the goodneſs of God which makes him employ intelligence both in the production of ſuch a ſyſtem as the univerſe, and in the preſervation of it: For intelligence muſt be ſuppoſed to act for ſome end; and that end muſt be the *good* produced by its operation.

The goodneſs, therefore, of God is ſhown, *firſt*, in the production of the univerſe, by which every thing in it is ſo formed, adjuſted, and connected together in all its parts, as to anſwer the end for which it is intended; and, *2dly*, in the adminiſtration of the univerſe, which is ſo carried on, that, notwithſtanding the infinite number of changes which we ſee in it, the end, for which every thing is intended in the original formation, is anſwered, ſo that the univerſe continues ſtill *one* and *the ſame*.

And here we may obſerve with what propriety the goodneſs of God is made ſo eſſential a part of his nature, that he is denominated by it, and called the το αγαθον, not only by Plato, as I have ſaid, but by that greateſt philoſopher of the Alexandrian ſchool, Plotinus, in his Enneads. And, indeed, without goodneſs, ſuch as I have deſcribed, we could not conceive the univerſe to be either produced or preſerved by Supreme Intelligence, which muſt neceſſarily act for ſome end, and deviſe means for accompliſhing that end.

It will naturally be aſked, What is the end propoſed by God in the formation and preſervation of the univerſe? And my anſwer is, that

* Vol. V. p. 138.

that the end is to make every thing as perfect of its kind as it can be, and as fit to produce the end for which it is intended, and to preſerve it in that ſtate.

And this naturally leads to another queſtion, What makes the perfection of the beings of the univerſe? This queſtion can only be ſolved by conſidering the nature of the ſeveral beings in the univerſe, which, as I have ſaid, muſt be all perfect of their kind, in order to make this ſyſtem of the univerſe perfect.

CHAP.

CHAP. II.

General Survey of the World, 1ſt, *The Firmament and its Luminaries:—Theſe exhibit a glorious ſpectacle;—are alſo of neceſſary uſe to us.*—2d, *The four Elements of which our Planet is compoſed.*—3d, *The Animal Race.—Theſe to be afterwards conſidered.*

I WILL begin with the works of Nature in this part of the Univerſe in which we live. The firſt of theſe is the Luminaries in our firmament, which, at the ſame time that they exhibit to us a moſt glorious ſpectacle, are, as I have ſhown, of the greateſt uſe, and are perfectly fitted to anſwer the ends for which they are intended, viz. the viciſſitude of day and night, the ſucceſſion of ſeaſons, and the production of vegetables, by which all the animals on this earth are nouriſhed.

The next thing to be conſidered, with reſpect to our earth, is the four Elements, the air, the water, the fire, and the earth itſelf, which are intended for the nouriſhment, the health, and preſervation of all the animals of this earth, and of the vegetables upon which they ſubſiſt; and ſo perfectly are they adapted for theſe purpoſes, that nothing more proper could be imagined.

The only other production of nature on this earth that I ſhall here mention is Minerals, which, as it is well known, are of the greateſt

uſe to the firſt animal on this earth, that is Man; and ſo fitted for his uſe, that nothing elſe could ſupply their place.

To what I have ſaid concerning the goodneſs of God, manifeſted in the natural world, where every thing appears to be formed for the nouriſhment and preſervation of the moſt valuable beings on this earth, I mean the animals, it may be objected, that there are ſome things in our earth, which ſeem to deſtroy the order and regularity of things in it, ſuch as earthquakes, inundations, and eruptions of burning mountains, by which great miſchief has been done in many countries and in different ages of the world. But to this my anſwer is, that all theſe events, extraordinary as they may appear to us, are the conſequence of general laws, by which the ſyſtem of the univerſe, and every other ſyſtem, muſt be governed, otherwiſe it would not be, as I have ſaid, a ſyſtem * All theſe events, therefore, which I have mentioned, muſt be the effect of ſome natural and neceſſary cauſes, which produce in one place the overflowing of water, in another the trembling of the earth, proceeding from ſome inteſtine commotion in its bowels; and, laſtly, the eruptions of burning mountains, produced by fire in the bowels of the mountains, which diſcharges itſelf in ſmoke and flame, and throws out from the mountain that fluid which is called *lava*. That all thoſe phaenomena happen by chance, no body will ſuppoſe who believes that this univerſe is a ſyſtem, and a ſyſtem governed by general laws; which, in ſome caſes, make it neceſſary that thoſe effects ſhould be produced, as neceſſary as rain, or hail, or ſnow, or the overflowing of rivers, which we ſee happen ſo often: And the only difference betwixt theſe common phaenomena, and the other extraordinary phaenomena that I have mentioned, is, that the firſt of theſe proceed from cauſes which operate more conſtantly than the other, and which therefore we underſtand better, and can often foreſee their operations;

* Page 76

operations; but both are parts of the ſyſtem of nature and equally neceſſary.

The next claſs of Beings to be conſidered is the Animals of this earth, and which are the chief things in it; as for the uſe of animals all the things I have mentioned appear to be intended. And it is fit it ſhould be ſo, as they are the only beings of this earth that are ſenſitive, and conſequently capable of pleaſure or pain, of happineſs or miſery; which, therefore, muſt be conſidered as the principal objects of the Divine goodneſs. And as that is the caſe, it is very proper to conſider them by themſelves; but, before I ſpeak of them, I think it is proper to ſay ſomething of an attribute of the Divinity manifeſted in his works, and that is Preſervation, which is no leſs eſſential to his nature than Production.

CHAP. III.

Preſervation, as well as Production, an eſſential Attribute of Supreme Intelligence.—No Annihilation of any thing, any more than Production out of nothing.—The Univerſe therefore Eternal;—but this only with regard to the Syſtems in it;—the Particulars compoſing them in a conſtant round of change.—Death of Animals and Vegetables only a Diſſolution, not an Annihilation, of their parts.—Proof of the immortality of Immaterial Subſtances from their having no parts.—Animals and Vegetables only eternal by Generation.—Change univerſal in the Material World.—The change in the World of Spirits only as to their qualities.

IT belongs to Supreme Intelligence not only to produce and form this univerſe but to preſerve it. And in this, as well as in the production of the univerſe, the wiſdom and goodneſs of God are wonderful.

And, in the firſt place, there is nothing annihilated in this ſyſtem, nor indeed have we ſo much as the idea of annihilation; for we can no more conceive a thing reduced to nothing than produced out of nothing. So far, therefore, I think the univerſe muſt be admitted to be eternal: But I hold it to be eternal in every reſpect *a parte ante*, as well as *a parte poſt*, to talk in the language of our modern philoſophy; for, I think, I have proved that it is an emanation of the Supreme Being from all eternity*. Nor, indeed, can I conceive that there was a time when the Supreme Being had produced nothing:

* Page 41. and following.

thing: For I hold Production to be eſſential to the Divinity; nor can I conceive the Divinity, like the Gods of Epicurus, doing nothing.

But though the ſyſtem be eternal, and alſo the things of which it conſiſts, yet theſe things are not unchangeable, but, ſo far from that, are conſtantly undergoing changes: Nor does there appear to be in the univerſe any thing that is altogether unchangeable, except the author of it, *with whom there is no variableneſs, neither ſhadow of turning**. And this makes, in my opinion, the ſyſtem ſtill more wonderful, that the ſubjects of which it conſiſts are conſtantly changing; and yet it is ſo contrived that the ſyſtem itſelf ſtill continues the ſame.

One of theſe changes is ſo great, that the individual, which ſuffers it, is ſaid *to periſh*; and I think not improperly, for the form of it is loſt. Now it is the form, not the matter, which denominates the ſubſtance, and makes it what it is. This change, in our ſpecies, is called *death* or *diſſolution*; and ſo, I think, may be called that change in every ſubſtance, by which the parts of it are ſeparated or diſſolved, but not annihilated, ſo that the ſubſtance is no longer what it was. In our ſpecies, when this diſſolution happens, our three minds, the intellectual, the animal, and the vegetable, are ſeparated from the body, ſo that there is an end of the animal or man; but the body remains for ſome time, ſo far, that it keeps together and is not diſſolved, retaining for ſome time that mind which is in all natural bodies, organized or unorganized, and, therefore, is called by Ariſtotle *nature*, and by me the *elemental* mind; by which all bodies are not only moved towards one another, but the parts of them cohere and keep together†. In the ſame manner all animals die or are diſſolved by the ſeparation of their animal and vegetable lives from their bodies; and their bodies are likewiſe diſſolved in the ſame manner as our bodies are after the ſeparation of our minds. The death of the vegetable is of the

* James, Chap. 1 v. 17. † Page 18—20, and 33.

the ſame kind; and bodies that we call inanimate periſh in the ſame manner, by the diſſolution and ſeparation of their parts. But, even by this greateſt change of things in the material world, there is nothing loſt or annihilated; for the minds ſtill remain and animate other bodies; or perhaps the intellectual mind of man, which can act without body, may not be again embodied: Whereas the other minds I have mentioned, which cannot act without body, muſt animate other bodies; for otherwiſe, as they can only act in body, they could not be ſaid to exiſt, but muſt be conſidered as annihilated. And even the bodies of animals, and of other things I have mentioned, are not annihilated, but appear again in ſome other form, either as earth of one kind or another, or as vegetables.

From what I have ſaid here, that there is no annihilation of any thing in the univerſe, but only diſſolution, that is, a ſeparation of the parts of which the ſubject is compoſed, it is evident that all immaterial ſubſtances muſt, by their nature, be of eternal exiſtence, whatever change in their qualities they may undergo; for, as an immaterial ſubſtance has not parts like body, there can be no diſſolution of it, and conſequently no extinction: So that not only our minds, but every mind in the univerſe is neceſſarily immortal.

But as to the ſeveral ſpecieſes of animals and vegetables, it is ſo ordered, by the wiſdom of God, that though the form of the particular individual periſhes, it is renewed again by generation or reproduction; ſo that

——— genus immortale manet, ———

Virgil. Georgic. Lib. IV. v. 208.

and a diviſion of things into genuſes and ſpecieſes, without which there would be no ſyſtem in the univerſe, is continued. And even inanimate bodies, ſuch as minerals, though they be diſſolved, are brought

brought together again, and united by that power in nature which makes things of the ſame kind unite together and cohere.

Thus, I think, it is proved, that even in the material world there is nothing loſt, though every thing be changed more or leſs; ſo that the ſyſtem is continued amidſt all the changes which particular things in it undergo. In the world of ſpirits there muſt be likewiſe changes; for nothing, we are told, is unchangeable except God; and accordingly we know that not only men fell but angels. But this happened by cauſes which were neceſſary; ſo that it could not have happened otherwiſe, unleſs the general laws, by which the ſyſtem is governed, had been, as ſhall be afterwards ſhown, altered.

Having ſaid thus much of Preſervation as eſſential to the Deity, I now proceed to ſpeak, as I propoſed, of the animal nature in particular.

CHAP.

CHAP. IV.

The Animal Nature endowed with a Principle of Motion and Perception;—capable of Pleaſure and Pain, Happineſs and Miſery;—inhabits Organized Body.—Firſt *rank of Beings* Intellectual.—Second, Senſitive.—Third, *poſſeſſing the Power of Motion; ſuch as* Vegetables, *and* Bodies *commonly, though improperly, called* Inanimate.—*Impoſſible to ſet bounds to the variety of Speciefes in the Univerſe, but by the impoſſibility of their exiſtence.—Only one Being of perfect Intelligence,—different degrees of imperfect Intelligences;—Man the loweſt of theſe.*

BY *Animal* the reader muſt not ſuppoſe that I only mean a body which has in itſelf a mind that moves it; which muſt be the caſe of every body that we ſee moved, not by any external cauſe, ſuch as the impulſe of other bodies, but by an internal principle, that can be nothing elſe but mind, which, as I have ſhown, is the cauſe of the motion of all bodies. But, by animal, I mean a ſubſtance that has a mind in it, which not only moves it, but has perceptions by what we call organs of ſenſe, and conſequently appetites and deſires, which, as they are gratified or not gratified, produce pleaſure or pain, and conſequently happineſs or miſery. And this mind inhabits the body which is organized and in that way prepared for the perceptions of ſenſe; for I ſpeak here only of the animals of this earth, which are compoſed of body and mind, not of beings purely ſpiritual and without bodies.

The

The firſt rank of animals in the univerſe conſiſts of intellectual beings, intelligence being the moſt excellent thing in the univerſe, and the prime attribute of the Supreme Being; without which even his goodneſs could not operate: So that, though goodneſs be moſt conſpicuous in the operations of Divinity, yet it could not operate, nor produce its effects, without intelligence.

As the *good* is the end propoſed, intelligence muſt deviſe means for accompliſhing that end; ſo that the attributes of intelligence and goodneſs are neceſſarily conjoined in the Divine nature; and, indeed, even in the human nature, there cannot be goodneſs without intelligence at leaſt in ſome degree.

The next beings, in the order of things, in rank and dignity, are ſenſitive beings, which have perceptions of ſenſe, but not intelligence.

The third claſs of beings is of thoſe which have neither perceptions of ſenſe nor intelligence, but only the power of motion, by which ſome of them grow and are nouriſhed, ſuch as vegetables. Others of them are only moved from place to place, and are joined to other bodies, or ſeparated from other bodies, and are diminiſhed by the ſeparation of their parts, or increaſed by the addition of other bodies to them, and in that way altered, and in every way altered by the change of their qualities. And this is the loweſt rank of beings on this earth, and ſuch as we call inanimate beings, but which, as I have ſhown, have a mind in them which moves them, and which, as the motions are for certain purpoſes, muſt be directed by intelligence, though they have not intelligence of their own: For philoſophy teaches us that mind is every where in the univerſe; nor, indeed, can we conceive any buſineſs of nature carried on without it,

unleſs we maintain, with Sir Iſaac Newton*, that body can move itſelf, and even with intelligence.

That all theſe ſpecieſes of things do exiſt on this earth we are certain. What other ſpecieſes of things exiſt in the univerſe, or may exiſt on this earth, as we have not diſcovered them, we cannot tell. But, I think, it is certain, what Ariſtotle has told us, and it ſhows the comprehenſive view that he had of Nature, that every thing which is poſſible to exiſt does exiſt; and that, therefore, the univerſe is, according to the philoſophy of the Alexandrian ſchool, πλήρωμα των ειδων, *the complement of forms, or ſpecieſes of things*. And, indeed, the univerſe could not be compleat, and conſequently not the work of Supreme Intelligence, if it did not comprehend whatever was poſſible to exiſt, that is, without contradiction to the nature of things, or to the intelligence of the Supreme Being which is an eſſential part of the nature of things, and may indeed be ſaid to be the whole nature of things.

That there is but one being of perfect intelligence, and he the Supreme Being is evident. All the other intellectual beings, therefore, muſt be more or leſs inferior to him; and accordingly there are archangels, angels, cherubims, ſeraphims, and, in order to make the ſyſtem of nature compleat, there muſt be many ſpecieſes of intellectual beings below them, till we come down to man, the loweſt ſpecies of intellectual beings that we know. But whatever degree of intelligence theſe beings may poſſeſs, they have one thing in common with one another, and with all ſenſitive natures, that they are ſuſceptible of pleaſure and of pain, and conſequently may be either happy or miſerable. The more perfect intelligences are capable of greater happineſs than imperfect intelligences: But I ſay they are all as happy as their natures will admit, without excepting even man in

* See Page 8.

in his natural ſtate, and even in the ſtate of civility; which, to many of my readers, will, I know, appear a violent paradox. But of this I will ſay a great deal more in the ſequel: And here I will conclude the chapter with obſerving, that animals, as well as every thing elſe in the univerſe, are divided into genuſes and ſpecieſes; and, indeed, without ſuch a diviſion, there would be no order or arrangement of things in the univerſe, and conſequently no ſyſtem.

CHAP. V.

Of the Happineſs of the Animal Race in particular:—It only capable of Happineſs or Miſery.—Diviſion of Animals into Intellectual and Senſitive.—Man both Senſitive and Intellectual.—Pleaſure *the ſource of Happineſs.—Pleaſures of the Mind greater than thoſe of the Body:—The ſame the caſe of* Pain.—*The moſt perfect Animals moſt Happy;—for their uſe other animals intended:—Yet every Animal as Happy as his nature will admit;—otherwiſe the Univerſe not a perfect Syſtem.*

HITHERTO I have ſpoken of the goodneſs of God with reſpect to the whole ſyſtem of Creation: But I am now to ſpeak of his goodneſs with reſpect to one part of the ſyſtem; I mean the animal race, in the happineſs of which it is chiefly manifeſted.

Happineſs or miſery can only belong to the animal nature; for it is animals only that are ſenſitive, that is, have feelings of pleaſure or pain. Some of theſe are ſenſitive, but not intellectual; others are both ſenſitive and intellectual: Of theſe laſt is Man.

As it is Pleaſure which makes happineſs, all pleaſure muſt ariſe either from the perceptions of ſenſe, or from the exerciſe of intellect; that is either from body or from the intellectual mind. Of theſe two pleaſures, the greateſt muſt ariſe from the exerciſe of the ſuperior faculty, that is of intelligence. As to *Pain;*—Epicurus has told us, that the

the pains of the mind are the greateſt: For, ſays he, the mind not only ails the preſent, but the paſt and the future; whereas the body only ails the preſent. The pleaſures of the intellectual mind muſt alſo be greater than thoſe of the body; and for the ſame reaſon, that the mind not only enjoys the preſent, but the paſt and the future. And the pleaſures of this mind are ſo much greater than thoſe of the body, that a man may enjoy the pleaſures of mind under the greateſt diſtreſs of body. Of which Epicurus himſelf was an example; for, in a letter of his to a friend, he ſays, that while he was dying of a moſt painful diſeaſe, he was happy in the thoughts of the great diſcoveries in philoſophy which he had made *.

Thus it appears, that the moſt perfect animals, that is the intellectual, if they make the proper uſe of their intellect, are capable of the greateſt happineſs; and it is according to the order of nature that it ſhould be ſo. But all animals cannot be equally perfect; for the ſyſtem of the univerſe being, as I have ſaid, πληρωμα των ειδων, *the complement of forms*, it was neceſſary that it ſhould comprehend animals of every kind; and, indeed, the ſyſtem would otherwiſe have been imperfect, and not a *ſyſtem*, as it is, *of the whole of things*. But, though every animal could not be equally happy, not being equally perfect, the goodneſs of God requires that every animal ſhould enjoy all the happineſs that his nature is capable of; ſo that the queſtion is, Whether that be not truly the caſe? And it appears to me that it is; for otherwiſe the ſyſtem of the univerſe would not have been a perfect ſyſtem, which we muſt ſuppoſe it to be, being the work of perfect intelligence.

The principal Beings in the ſyſtem are, as I have ſaid, ſenſitive and intellectual beings. For their uſe all the other beings are intended, and accordingly are ſo employed. If, therefore, thoſe beings were

* Cicero, Lib. II. *De Finibus*, Cap. 30.

were not as perfect of their kinds as they could be, there would be ſomething irregular and defective in this ſyſtem of the univerſe. Now, as they, and they only, are capable of pleaſure, and conſequently of happineſs, they ought to be as happy as their nature will admit; for the ſyſtem of nature would be defective on this earth, of which only I ſpeak, if what is principal in that ſyſtem be not as perfect as it can be: And, therefore, I think that the goodneſs of God is neceſſarily connected with his intelligence, by which the ſyſtem of the univerſe was formed.

And thus, I think, the goodneſs of God is proved *a priori*, being neceſſarily connected with his intelligence. And what only remains to be conſidered is, whether or not it cannot likewiſe be proved by facts.

CHAP.

CHAP. VI.

Inquiry into the Happineſs of Man.—*He was the laſt of God's works, and is an Epitome of the Creation,—proper that he ſhould be the Governing Animal on Earth.—His preſent miſery no objection to the perfection of the Syſtem of the Univerſe, he having changed his Nature and fallen from a more perfect ſtate.—The Goodneſs of God not to be judged of by the preſent ſtate of Man.*

IN the preceding Chapter, I think, I have proved, from the neceſſary connection that there muſt be betwixt the intelligence and the goodneſs of God, that, in the animal ſyſtem, the intellectual animals muſt neceſſarily be the happieſt, if they make a proper uſe of their intellect. In this Chapter I am to inquire, whether man, being the only intellectual animal on this earth, be not the happieſt animal.

Man was the laſt of God's works in the formation of this world, and with him was completed the great work of creation, of which he may be ſaid to be an epitome; for, as I have ſhown*, he contains in his little world every thing that is to be found in the great world. As he is the only intelligent animal on this earth, and the image of God, it was no doubt fit that he ſhould be the governor of it: And accordingly God gave him dominion not only over the animals upon the earth, but over the fowls of the air and even the fiſh of the ſea;

* Page 107. and the paſſages there referred to.

ſea; and all the fruits of the earth were given him for food*. Now, if ſuch an animal, ſo much ſuperior to all the other animals on this earth, were miſerable, or did not enjoy all the happineſs which both his ſenſitive and intellectual natures afford, we might ſay that there is a great imperfection or defect in the ſyſtem of the univerſe, more eſpecially when we conſider that all the inferior animals on this earth enjoy, as I ſhall afterwards ſhow, every pleaſure that their nature, which is only ſenſitive, is capable of. In the civiliſed life, I think, I have ſhown in the preceding part of this work, that by far the greater part of men are more miſerable than the brutes; and even in the natural life they have not that enjoyment of intelligence which muſt make the happineſs of every intelligent creature. Now, if I could ſuppoſe that man had always been in the ſtate in which we now ſee him, and was to continue in that ſtate to all eternity, I ſhould think the objection to the goodneſs of God, and to the perfection of the ſyſtem of the univerſe, was unanſwerable. But man was not always in the ſtate in which we now ſee him, nor came out of the hands of his Creator ſuch an animal as he now is; but has changed his condition, and is fallen from a more perfect ſtate. And this leads me to ſpeak of the Fall of Man, which is the ſource of all the miſery that he ſuffers at preſent; and which, if rightly explained, will ſolve that grand queſtion, not only in the hiſtory and philoſophy of man, but in theology, concerning the Origin of Evil. I therefore think it proper to make it the ſubject of another chapter: And I will only add to this chapter, that thoſe who judge of the goodneſs of God from the happineſs of man in his preſent ſtate, judge very falſely, as they judge by the happineſs of a creature who is not ſuch as God made him, but ſuch as he has made himſelf by his fall from the better ſtate in which he was created. And the only queſtions are, 1*mo*, Whether or not the Supreme Being could have, in conſiſtence

* Geneſis, Chap. I.

conſiſtence with the general laws of nature, prevented that fall which has made man ſo miſerable in his preſent ſtate; *2do*, Whether, in conſiſtence with theſe general laws, man could have been more happy than he is in that ſtate. And, *laſtly*, Whether, in this preſent ſtate, in which he is ſo miſerable, he is always to continue?

CHAP. VII.

The Queſtion of the Origin of Evil, *ſtated by Plato but not ſolved.—This defect ſupplied by our Religion.—It aroſe from our* Pride *and* Self-conceit.—*Moſes's account of the* Fall of Man *Allegorical, and ſo underſtood by Joſephus.*—Reminiſcence, *as maintained by Plato, agreeable to the doctrine of an* Antecedent State:—*Such a State inferred from the imperfection of Man in his Natural State, compared with the Natural State of other Animals.—Neceſſary, that of a whole Species with imperfect Intellects, and poſſeſſed of* free will, *ſome ſhould fall.—That the caſe of Man on this Earth.*

THE firſt thing to be inquired into in the ſolution of this grand queſtion concerning the Origin of Evil, is, How this event, of the Fall of Man, from his more perfect ſtate into the ſtate we now ſee him in, happened? This is a queſtion which Plato, who maintains that *man fell*, has not anſwered, nor attempted to anſwer. And there, I think, his philoſophy is ſo far deficient: But this defect is ſupplied by our Religion, which informs us that it was not indulgence in ſenſual pleaſures that made man degenerate into his preſent ſtate, but pride and an opinion that his intelligence was much ſuperior to what it truly was, and that it made him like to God, knowing good and evil. This account of the Fall is given by Moſes in the way of allegory or parable, the moſt antient way, of inſtructing men, and indeed the only way in which ſuch a people as the Jews, for whom Moſes wrote, could have been inſtructed: For ſuch

ſuch men cannot be taught by theorems of ſcience and inferences from theſe, but by objects of ſenſe and facts which are familiar to them. It was in this way that our Saviour inſtructed the Jews by his parables; and in the Old Teſtament there is an example of a parable, which I think is the fineſt fable that ever was written. It is what is called the *Parable of Jotham**, the ſubject of it is the meeting of the trees of the foreſt to chuſe a king: And the moral of it is a great and important truth in politics, That thoſe, who are moſt unfit to govern, are moſt deſirous of governing; while thoſe, who are fitteſt for it, decline it, knowing how to employ their time better for the improvement of their minds and their own happineſs. The whole ſtory, therefore, of the Garden of Eden, and of the Trees of Life and of the knwledge of Good and Evil, muſt be ſuppoſed to be nothing elſe but an allegorical way of informing us that man fell by pretending to know good and evil, and from an immortal creature, which we muſt ſuppoſe him to have been, before the fall, became mortal. In this way the ſtory of the Fall is underſtood by Joſephus, who, I think, muſt be ſuppoſed to underſtand the books of Moſes better than we do. And, indeed, I think, it would be impious, (for it would be a ridicule of Religion), to ſuppoſe, that the Trees of Life and of the knowledge of Good and Evil really exiſted. In this allegory it may be obſerved, that there is a great deal of dialogue mixed with the narrative, which would make it more familiar and more pleaſing to the people for whom Moſes wrote. This allegory, when explained in the manner I have done, gives a very probable account of the fall of man; for it was very natural, that being ſo much ſuperior to all the other animals on this earth, by his being the only intelligent animal, he ſhould fancy himſelf ſtill more ſuperior, and believe himſelf to be nothing leſs than a god. Now, the natural conſequence of ſuch a diſorder of his governing principle, that is of his intelligence, was that he ſhould loſe the

* Judges, Chap. ix. v. 8.

uſe of it, and only retain the capacity of acquiring it: And this we ſee happens in common life; for a man by fancying himſelf a King may become mad, and ſo loſe the uſe of intellect altogether for a time, but may again recover it. But we may ſuppoſe that a man, though he may recover the uſe of intellect, which he has loſt in the way I have mentioned, may not recover all the knowledge he had before he loſt the uſe of his intellect, but only part of it, by ſeeing objects which put him in mind of it. And this I hold to have been the caſe of our firſt parents; and that, therefore, Plato is in the right, when he maintains that all the knowledge, we acquire in this life, is no more than Reminiſcence of what we knew in our former life *.

It may be obſerved of this allegory of the Fall, that it ſuppoſes man to have fallen at once, by eating *the forbidden fruit*. But this is the nature of allegory, to ſuppoſe a thing done at once, which may have been many years a-doing. And, therefore, I underſtand that man was for a conſiderable time in that perverſion of his intellect, which made him think himſelf a god, before he loſt the uſe of it altogether and became a creature, ſuch as Ariſtotle has deſcribed him, only capable of intellect and ſcience.

This account of the fall of man is, like the other things in our ſacred writings, perfectly agreeable to philoſophy and the religion of nature; and accordingly Plato has maintained, as I have ſaid †, that there was an antecedent ſtate of man, in which he was a more perfect animal than he is at preſent: And, indeed, I hold it to be altogether irreconcileable with the wiſdom and goodneſs of God, to ſuppoſe that man came out of the hands of his Creator an animal ſo imperfect

* See p. 202. of Vol. V. of this work.

† Page 380. and following of Vol. IV.

perfect in his natural ſtate as man is, more imperfect of his kind than any other animal we know; and I maintain that he cannot be brought to any degree of perfection without civil ſociety, in which, as Homer has told us, he is the moſt miſerable of all animals upon this earth. And not only from the attributes of God, which I have mentioned, is it proved that there muſt have been a change in his nature ſince he was created, but, I think, it is evident from the hiſtory of man, compared with the hiſtory of other animals upon this earth. For all theſe animals, when they come to full growth and the maturity of their age, are as perfect as by their natures they can be: Whereas man, though come to his full growth, is, in his natural ſtate, without arts and civility, a moſt imperfect animal of his kind; ſo imperfect, that he cannot be called an intelligent animal, that is a *man*. That he is ſuch in his ſolitary ſtate is evident; and even in the herding ſtate, though he may practice ſome neceſſary arts for procuring his ſuſtenance, and defending himſelf againſt the injuries of the weather, ſuch as the Orang Outangs practice*, yet he cannot be called an intelligent animal, any more than ſome brutes, which herd together and provide very much better for themſelves all the neceſſaries of life, ſuch as bees and ants. Now how can we ſuppoſe that the nobleſt animal upon this earth, and the only intelligent animal, ſhould have come out of the hands of his Creator with a mind much more imperfect than thoſe brutes I have mentioned. I therefore hold the fall of man to be, as I have ſaid, a truth of philoſophy as well as of religion; and that otherwiſe it is impoſſible to account for the nobleſt animal here below being in his natural ſtate, without the culture of civility and arts, the moſt imperfect of the animal race on this earth.

The next thing to be conſidered in this inquiry is, whether this fall of man was not neceſſary, and could not have been prevented without

* See Vol. IV. p. 26.

without an alteration of theſe general laws, by which the univerſe is governed, and muſt be governed, if it be a ſyſtem. And I ſay that it was neceſſary. And, in the firſt place, as man fell by an improper uſe of his free will, that could not have been prevented, except by depriving him of that free will, and making him no longer an intelligent animal, or, in other words, by annihilating him as an intelligent animal: For *will*, or *free will* as it is commonly called, is eſſential to intelligence; and we cannot ſuppoſe an intelligent animal acting otherwiſe than as he *wills*, whether he acts right or wrong. And this is the difference betwixt a man or any other intelligent animal, and a brute who acts by what is called *inſtinct*, which prompts him to act in ſuch or ſuch a way, without his forming any opinion of which he is incapable, not being an intelligent animal. Whereas man, being an intelligent animal, forms an opinion that the thing he is to do is good or proper to be done; and his determination to act from that opinion, is what is called *will*. But, 2*do*, I ſay that it was of neceſſity, that ſome of a whole ſpecies of animals, with imperfect intellects, ſuch as the intellect of man was even in his prior ſtate, ſhould fall into error, and in that way abuſe their intellect ſo much as to loſe the uſe of it.—I ſay *ſome* of the whole ſpecies, which we may conſider as very numerous, and not confined to this planet of ours, but inhabiting other planets; for to confine one whole ſpecies of animals, ſuch as man, to this ſmall portion of the univerſe, would be to ſet bounds to the works of God, ſuch as we ought not to ſuppoſe. I ſay, therefore, that all men did not fall any more than all the angels, but only ſome of them as of the angels. Now, I ſay that was neceſſary, according to the order of nature; for that ſome of many animals, of imperfect intellects, ſhould fall into error, and even the greateſt errors, may be ſaid to be neceſſary. That ſuch a thing *may be*, it is impoſſible to deny. Now, whatever *may be*, according to the general laws of the univerſe, *muſt be*: For there is nothing *contingent* in the works of God, that is, which

which *may be* or *not be*; and it is true, what Ariſtotle has maintained, and which ſhows that he muſt have had a moſt extenſive view of nature, "that every thing poſſible (that is which does not imply "a contradiction, and is not inconſiſtent with the general laws of "nature, by which the ſyſtem is governed) does exiſt," as otherwiſe the poſſibility would be to no purpoſe, which is not the caſe of any of the works of God, who, as he does every thing that is neceſſary, does nothing that is unneceſſary or ſuperfluous: And, beſides, the event would be a contingency, which *might be* or *not be*; ſuch, as I have ſaid, there is not in the works of God, nor indeed can be in a ſyſtem ſo perfect as that of the univerſe. And, indeed, to common ſenſe it appears at firſt view incredible, that, of ſo many millions of creatures, as we may ſuppoſe, of imperfect intellect, all ſhould make the proper uſe of their intellects, and not fall into error: But, on the other hand, it would be irreconcileable with the wiſdom and goodneſs of God, to ſuppoſe that they all *fell*; for it would be to ſuppoſe a whole ſpecies of animals to be ſo formed as to be deſtined to be miſerable. The middle way, therefore, betwixt theſe two extremes appears to me to be the truth.

But it may be ſaid, Why did a God of infinite wiſdom and goodneſs produce a race of animals, of whom ſome at leaſt are deſtined to be miſerable? And, I think, this objection could not be anſwered if they were deſtined to be perpetually miſerable. But in the ſequel of this work I will ſhow, that they are not deſtined to be perpetually miſerable, but that they are ſooner or later to be reſtored to their primitive ſtate; and that this reſtoration is to begin even in this life: And this leads me to inquire how this reſtoration is to be carried on, which will be the ſubject of another chapter.

CHAP.

CHAP. VIII.

Man fell to a State of mere capacity of Intellect and Science.—At firſt he was Unſocial and Solitary—had neither Intellect nor Science. —Inſtance of this in Peter the Wild Boy.—*Next he became a Herding Animal like the Orang Outang;—had then ſome Inſtinctive Arts but no Intellect, though he approached towards it.—To become Intellectual, he muſt enter into Civil Society, and cultivate Arts and Sciences.—Objection, That the Goodneſs and Omnipotence of God might have either prevented Man's* Fall, *or have reſtored him at once to his Primitive State;—Anſwered.*

BEFORE we enter upon the queſtion, how the reſtoration of Man is to be carried on in this life, we muſt firſt inquire to what kind of animal he fell. This Ariſtotle has told us in words which I have given elſewhere*. It is ſo compleat a definition of man in his natural, that is his fallen ſtate, that upon it I have founded my whole philoſophy of man. But in order to underſtand it, we muſt be both philoſophers and Greek ſcholars: For we muſt know that λογικον does not denote an intelligent being, but a being that has the comparative faculty, which all the better kind of brutes poſſeſs; and we muſt be able to diſtinguiſh betwixt Νους and επιστημη, and to know that Νους denotes that faculty of the mind by which we form ideas; whereas επιστημη denotes that faculty by which we compare our ideas, and form of them propoſitions and ſcience.

While

* Vol. IV. Book I. Chap. I.

While man was in this ſtate, having only the capacity of intellect and ſcience, he appears to have been a ſolitary and unſocial animal, ſuch as the wild beaſts are. And this is likewiſe proved from fact and obſervation: For the ſavage or wild men, that have been lately diſcovered, when firſt diſcovered, ran away from man *. So that, in his firſt ſtate after his fall, man is an animal perfectly ſolitary and unſocial. That man, in this ſtate, has not intellect, and much leſs ſcience, is proved by a fact that has been diſcovered in this age; and it is, I think, a very curious and important fact of natural hiſtory, as it relates to the hiſtory of man; I mean the ſtory of *Peter the Wild Boy*, of whom I have given an account in a former volume†.

The next ſtep, in his progreſs in this life from the ſolitary animal, was to become a herding animal. But neither will herding make man intelligent. And this too is proved by a fact that has been diſcovered in this age, and which, I think, is likewiſe a very curious and important fact: It is the caſe of the Orang Outangs ‡, who live in the herding ſtate; and though, from an inſtinct natural to all animals, they practice ſome things neceſſary for their preſervation, ſuch as making huts of branches of trees to preſerve them from the injuries of the weather, and arming themſelves with ſticks to defend their perſons, yet they have not what can be called intelligence; though they have carried the capacity for it ſo far as to give marks of it, ſuch as a ſenſe of what is beautiful, graceful, and becoming; which, as I have ſhown elſewhere, neceſſarily accompanies intellect §, and even the faculty of acquiring it, as appears from the caſe of the Orang Outang. What then was man to do, in order to recover (in ſome degree at leaſt in this life) the uſe of intelligence; for it would be inconſiſtent with the wiſdom and goodneſs of God, that he ſhould for ever continue in the ſtate of mere capacity of intellect, or that in this

* Vol. III. p 45.

† Ibid. p 57. and 367.

‡ Page 141. of this volume.

§ Page 71. Ibid.

this life, or in any other life he ſhall afterwards be in, he ſhould not be enabled to make ſome progreſs, more or leſs, towards a recovery from his fallen ſtate. For that purpoſe, as I have ſaid, neither the ſolitary ſtate nor the herding is ſufficient. Now, the only other ſtate, in which man lives in this life, is the civiliſed: And that ſtate, I ſay, is abſolutely neceſſary for giving him the uſe of intellect, and enabling him to make ſome progreſs towards a recovery from his fallen ſtate; for it is in that ſtate only, that he can recover the uſe of intellect, which he has loſt, and improve it by the cultivation of arts and ſciences. The faculty of intellect, which only remained with him after his fall, is a latent quality in him, which can only be produced by degrees; and it is only civil ſociety, and the cloſe intercourſe of men with one another in that ſociety, that bring forth this latent quality by giving him occaſion to exerciſe it, in the ſame manner as other latent faculties in our natures are produced, ſuch as the uſe of ſpeech, of muſic, and, I may add, of every other art and ſcience, which all belong to our nature, but are only exerted by uſe and practice in civil ſociety.

It may be objected to what I have ſaid of the fall of man, and of his reſtoration from his fallen ſtate by the means of civil ſociety, That, as God is perfectly good and at the ſame time omnipotent, he might have exerciſed his power to prevent the fall of man, or, after he had fallen, to reſtore him immediately and directly to his primitive ſtate, without the ſlow proceſs of that reſtoration by the means of civil ſociety.

To this I anſwer, that as the univerſe is a ſyſtem, it muſt be governed by general laws, otherwiſe it would be no ſyſtem*. Now, thoſe laws are what we call the *laws of nature*, which ariſe from the nature of things; and as God is the author of nature, ſo that the nature of things is part of his nature, he could not have altered the nature

* Page 76. of this volume.

nature of things, without altering his own nature; which, it is admitted by all Theologiſts, he cannot do. He cannot, therefore, make *truth falſehood*, nor two contrary propoſitions to be both true. As to his preventing the fall of man by an act of omnipotence, that could only be by taking from him the uſe of his *free-will*, which would in effect have been annihilating him as an intellectual creature *. Now, I think, I have ſhown †, that there is no ſuch thing as annihilation of the works of God, nor, indeed, of the works of men, however they may change their form. And as to man's reſtoration from his fallen ſtate and the recovery of his intellect otherwiſe than by the intercourſe of men in civil ſociety, it would have been contrary to the nature of things if theſe had been accompliſhed by the exertion of omnipotence. The truth, therefore, is, that the wiſdom and goodneſs of God, which, as I have ſhown, are inſeparably connected, have ſo formed the ſyſtem of the univerſe, that every thing goes on in the moſt regular manner according to general laws: And yet the goodneſs of God is every where manifeſted in the ſyſtem; ſo that what evil is in it, ariſes neceſſarily from the nature of things, is not of long continuance, and is productive of good. This is the caſe of the pains that man ſuffers in this life, which are neceſſary, and at the ſame time productive of the greateſt good, as they tend to his reſtoration to the ſtate from which he has fallen.

* See p. 141. † Chap. III. of this Book.

CHAP. IX.

Of Civil Society and its effects.--Senſations and the Conſciouſneſs of them, neceſſary for preparing us for Civil Society;—Conſciouſneſs denied to the Brute.—A Herding State neceſſarily prior to Civil Society.—Our progreſs from ſuch a State, or from a ſingle Family, to a Political State.—Inſtance of ſuch a progreſs in the Jewiſh Nation, and in the Nations of North America.—The improvement of the Human Intellect by the cloſe intercourſe produced by Civil Society:—This intercourſe carried on by Language, the firſt and moſt difficult of Human inventions:—Language compared with the Analyſis of Speech into its Elemental Sounds, and with the invention of the Writing Art.—Language, the Author ſuppoſes, partly revealed and partly invented:—Its progreſs from Inarticulate Cries to a perfect Language ſuch as the Greek or Shanſcrit.

IN this Chapter I am to treat of Civil Society, and to ſhow how it has given man the uſe of intellect, and is the fource of all the arts and ſciences by which his intellect is cultivated and improved.

But ſome things are neceſſary in order to prepare man for the civiliſed life and for the invention and cultivation of arts and ſciences. And there are two things mentioned by me in the beginning of this volume *, which we have from nature, and which are, as I have there ſaid, the foundation of all our knowledge in this ſtate of our exiſtence. The firſt is our Senſations, proceeding from the actions or

* Page 3.

or impreſſions of bodies upon our organs of ſenſe; from which ariſe the perceptions of thoſe bodies: And this is the firſt operation of our minds in this life. The next operation is, the Conſciouſneſs of theſe perceptions. From theſe two ſources, as I have ſaid, is derived all our knowledge in this life, even the knowledge of our own exiſtence. It is by this faculty of conſciouſneſs, as I have ſaid in the paſſage above quoted*, that we are diſtinguiſhed eſſentially from the brute: For the brute, though he have perceptions of ſenſe as well as we, has not the conſciouſneſs of theſe perceptions; and therefore he has no knowledge, not even the knowledge of his own exiſtence. It is from the conſciouſneſs which we have of the perceptions of ſenſe that we form our ideas; and from our ideas, it is well known that all arts and ſciences are derived. But of ideas, though I have ſaid a good deal elſewhere, I will ſay ſomething more in a ſubſequent chapter.

Having premiſed thus much concerning what is neceſſary to prepare man for his improvement in civil ſociety, I come now to inquire how civil ſociety began, and in what ſtate men were before they formed that connection with one another which civil ſociety produces. And I ſay that they muſt have been in the herding ſtate: For we cannot ſuppoſe that men, diſperſed in a country, ſhould have all at once met and aſſembled together to form ſuch an union as that of civil ſociety; but it was moſt natural, and, indeed, I think, neceſſary, that they ſhould firſt be aſſembled in herds, and, having thus become acquainted with one another, ſhould agree to form a cloſer union; I mean that of civil ſociety. A ſociety thus conſtituted may have been at firſt pretty numerous, if we ſuppoſe that the whole herd at once agreed to form a ſociety. But we may ſuppoſe that only ſome of them agreed to that; and that only one man with a female or two, and ſome children, may have ſeparated from the reſt, and formed a ſmall ſociety by themſelves. And in this way I account

* Page 3.

account for civil ſociety being formed not only from herds at once, but from families, which we may ſuppoſe to have ſeparated from the herd before it was formed into a ſociety, and even from the ſociety after it was formed, for certain reaſons. But after theſe families had ſeparated from the herd or ſociety, they would find it neceſſary, in proceſs of time, to aſſociate with other families, and ſo form a political ſociety. This aſſociation we muſt ſuppoſe to have been at firſt of few families: And accordingly the Indian nations of North America conſiſted originally of no more than three families, which are yet preſerved among them diſtinct *; and there is one very remarkable family, of which we have a moſt authentic record, I mean the family of Jacob, which continued by itſelf, without incorporating with any other family, till it became a great and powerful nation.

Civil ſociety being thus conſtituted, we are next to inquire how it produces the improvement of the human intellect, and I may ſay the acquiſition of it. I have already ſaid that it is by the cloſe intercourſe of men in that ſociety, that the improvements of our intellect are produced. But how is this intercourſe to be carried on? And I ſay that can only be by the uſe of language; for it would not be ſufficient to uſe only ſigns and geſtures and inarticulate cries, ſuch as the beavers uſe † in carrying on their buſineſs. But for that communication of men with one another, which is neceſſary in order to carry on the buſineſs of political ſociety, and conſequently to produce arts and ſciences, there muſt be the uſe of ſpeech; and it is for want of that faculty that the Orang Outangs have no polity or government among them, nor any arts or ſciences. Language, therefore, is the foundation of all the improvement we can make of our mind in this life: And it muſt have been invented before any other

* Vol. I. of Origin of Language, p. 365. 2d edition.

† See Vol. III. p. 53.

other art. This I have maintained in ſeveral paſſages of this work. But, with reſpect to the invention of it, I think, there is a diſtinction to be made betwixt articulate ſounds, that is the materials of which language is compoſed, and the art by which they are ſo put together in words and ſentences as to make ſpeech and to convey to the hearers our ideas.

The more I conſider language, the more I am convinced, that, though it be the moſt common art amongſt men, and of much more general uſe than any other art, it is the moſt wonderful art practiſed by men; and I am perſuaded that every man, who conſiders language as a philoſopher, will agree with me. At the ſame time, it muſt have been invented, as I have ſaid, in the firſt age of civil ſociety, and before any other art. In ſuch a ſtate of man, I am convinced, as I have ſaid in ſundry paſſages of this work, that it could not have been invented without ſome ſupernatural aſſiſtance. What diſtinguiſhes language from every other art invented by man is, that in other arts nature furniſhes the materials of the art, ſuch as wood, ſtone, metals, minerals, and colours, which are the materials of painting: Whereas of language we may be ſaid to create the materials; for we form the articulate ſounds of which it is made. That theſe muſt have been at firſt of moſt difficult formation, muſt be evident to every man who conſiders that language is neceſſarily formed from animal cries; for man was an animal, before he had the uſe of intelligence or language. Now, let us conſider the nature of animal cries, and how different they are from language or ſpeech. An animal cry, while it laſts, goes on in a continual flow, and is only diſtinguiſhed by *loud* or *low*, *quick* or *ſlow*, *long* or *ſhort*, *acute* or *grave*; and all theſe diſtinctions are in the ſound of language. But there is this great difference betwixt language and animal cries, (in which difference the eſſence of language conſiſts), that language inſtead of going on without any break or diviſion into parts,

as

as animal cries go on in what I call a conſtant flow, with thoſe differences which I have mentioned, is broken and divided into ſounds, ſo different from one another that they cannot be called the ſame ſounds. Now, this difference is produced in the moſt natural way, by the various organs of pronounciation, which are employed to produce them. Theſe organs are, 1*ſt*, the wind-pipe or larynx, by which the breath from the lungs is conveyed into the mouth: 2*dly*, The ſeveral organs of the mouth, ſuch as the tongue, the palate, the lips, and the teeth; all which form, of that breath, articulate ſounds, ſo various and ſo different from one another, and yet united in a moſt wonderful manner ſo as to produce ſpeech. Some of theſe articulate ſounds are produced by the poſition only of the organs of ſpeech; and this is the caſe of thoſe ſounds we call vowels, which are produced by certain poſitions of the organs of the mouth while the breath is paſſing throw it: While others, called *conſonants*, are produced by certain actions of theſe organs, particularly of the palate, the tongue, the lips, and the teeth. Of this wonderful compoſition we may judge, by the difficulty there muſt have been in reſolving all that variety of ſounds, ſo mixed together, into the elemental ſounds of which they are compoſed, that is the alphabet. This analyſis was firſt made in Egypt, the parent country of all arts*; and, though it be the firſt thing our children are taught, yet I think it was a very great work of art, without which there could have been no ſcience of language, nor of another moſt wonderful art; I mean the writing art, which, Plato tells us, was likewiſe invented in Egypt. And, indeed, it very naturally followed the diſcovery of the elemental ſounds of which language is compoſed; for the writing art is nothing elſe but putting together, upon paper or any other ſubſtance fit for that purpoſe, certain marks or ſigns for thoſe elemental ſounds, which, being ſo put together in different ways, make ſyllables and of them words. This too is a very wonderful art; as it

* Vol. IV. p. 267.

it makes ſounds viſible, and ſpeaks, as it were, to the eyes. It is alſo of the greateſt uſe, as it gives a fixedneſs and permanency to ſpeech, which, by its nature, is voluble and tranſitory, (for, as the poet ſays,

—— Semel emiſſum volat irrevocabile verbum.)

and in that way preſerves arts and ſciences for many generations, and tranſmits them from the moſt diſtant countries and moſt antient times; by which means the moſt valuable learning we enjoy, that is the antient learning, has been preſerved to us. So wonderful an art could not have been, any more than language, invented at once: And, accordingly, there was a progreſs in it which we know, from the picture-writing, which was practiſed by the Mexicans in South America when they were firſt diſcovered, to the ſymbolical or hieroglyphical writing, which was the firſt writing among the Egyptians, and is at this day uſed by the Chineſe. But though it be ſo wonderful an art, it is the art which, next to language, is of moſt general uſe: And it is the firſt art that our children are taught; for they learn to write, even before they are taught the art of language, and when they have acquired by uſe the practice of it only*. But to return to language.—That all thoſe different ſounds, of which language is compoſed, ſo many, ſo various, and ſo mixed together, produced by thoſe hidden organs of the mouth that I have mentioned, (the operations of which are not ſo obvious, and are much more delicate and nice than thoſe of our other organs, ſuch as our legs or our arms), ſhould have been invented without ſupernatural aſſiſtance, in the firſt and rudeſt ages of civil ſociety, and before any other art was invented, appears to me, as I have ſaid, abſolutely incredible†; and I am perſuaded it will appear ſo to all my readers, when they conſider how language is at firſt learned by us in our preſent ſtate,

* Who would deſire to know more of this wonderful art of writing, may read what I have written in Vol IV. p. 26 and following.

† That ſupernatural aſſiſtance, I have elſewhere ſaid, was given to the Egyptians by their Daemon Kings, Ibid. p. 263.

that is by imitation and habit. But the men who firſt ſpoke could not learn it in that way; for they were exactly in the caſe of our deaf and dumb men, who cannot learn by imitation, and therefore muſt be taught. Now, how difficult and how laborious a taſk that is, I myſelf can witneſs, from the converſations I had with the Abbe de l'Epée in France, who taught dumb men to ſpeak, and from what I myſelf ſaw of the operations of Mr Braidwood here in Scotland upon his dumb ſcholars: For he laid hold of their mouths and chins, and in that way made them move the organs properly for pronounciation; and as to the interior organs, ſuch as the tongue and the palate, he ſhowed them, by opening his own mouth and making them open theirs, how to uſe theſe organs in pronounciation. It is this difficulty of forming the materials, that is articulate ſounds, of which language is compoſed, that has convinced me that it could not have been invented without ſupernatural aſſiſtance.

But though I think it impoſſible that the firſt men who ſpoke could, any more than dumb men, have taught themſelves to articulate, I am of opinion, that after they had learned, by ſupernatural aſſiſtance, to form articulate ſounds, they might, by their own natural ſagacity, of theſe articulate ſounds form ſpeech: But even this I hold to have been the greateſt effort of the inventive genius of man that he ever made.

Of this we may judge by conſidering the nature of a language formed and compleat, ſuch as the Greek. In ſuch a language, all ideas, that man can form, of what he perceives in the heavens above, in the earth below, in the ſea or waters of any kind, muſt be expreſſed with all their qualities, accidents, relations, and connections with one another, alſo things immaterial as far as we can comprehend them, and likewiſe the actions and operations of things both material and immaterial: And not only muſt we expreſs by words

words all the things I have mentioned, exiſting in nature, but we muſt expreſs likewiſe all the things invented by men, which make a kind of world of art. And when words are invented, denoting ſuch an infinite number of things, they muſt be arranged and put together in ſuch a way as to form ſpeech, and to convey the meaning of the ſpeaker to his hearers.

How many words there are in a compleat language of art, ſuch as the Greek, I believe no man knows, as they never have been numbered, and I believe could hardly be numbered, though it is ſaid that Varro numbered the words in Latin, and made them to be five millions. But one thing is certain, that ſuch a prodigious number of words never could be comprehended in the memory, nor be applied to uſe, if they were all unconnected with one another. It was, therefore, of abſolute neceſſity that they ſhould be connected with one another, ſo that the knowledge of one ſhould lead to the knowledge of ſeveral more. This is done by the three great arts of language, Derivation, Compoſition, and Flection, which connect words together both in ſound and ſenſe, and by that means prevent ſuch a multiplication of words as would make them incomprehenſible in the memory, and therefore unfit for uſe. Of this we may judge, if we were to ſuppoſe that every word, derived, in a language of art, from another, were to be expreſſed by a word quite different in the ſound; and if the words compounded were to be expreſſed by ſounds quite different from the words which compoſe them; and if the caſes of nouns, and the tenſes of verbs expreſſing times, numbers, and perſons, were all to be expreſſed by words having no connection with one another:—And as the verb expreſſes paſſion as well as action, and therefore has both an active and a paſſive voice, (and in Greek likewiſe a middle voice), if all the tenſes in theſe voices, with their times, perſons, and numbers, were to be expreſſed in the ſame way, even the words denoting

verbs and their ſeveral accidents would be ſo multiplied, that they could not be comprehended in the memory nor readily uſed.

From this uſe of the three great arts of language, I think I have ſhown, that the art of language chiefly conſiſts in preventing that multiplication of words which would render the language unfit for uſe; and that, therefore, thoſe, who do not know the uſe that is made of theſe three arts, do not know what the art of language is.

In this great art of language, the antient languages, and particularly the Greek, very much excel the modern: For in Engliſh we mark the caſes of nouns by particles, or *prepoſitions*, as we may call them, of unpleaſant ſound, and, as they recur ſo often, fatiguing to the ear, ſuch as *of*, *to*, *from*, and *by*, by which we ſupply the want of flection in our nouns; and, in the tenſes of our verbs, we ſupply the want of flection by auxiliary verbs, ſuch as *am*, *have*, *ſhall*, or *will*, &c.

Of the three great arts of language I have mentioned, which produce ſo many new words deduced from old words, the moſt fruitful in that production is the laſt mentioned of the three, namely flection, of which the production in the Greek verb is wonderful; for, from a ſingle theme of a Greek verb, without reckoning any of its derivatives or compounds, there are produced about 1300 words, as I have ſaid in a preceding volume of this work*. This may appear at firſt ſight incredible, eſpecially as it is produced by one only of the three great arts I have mentioned, that is flection. But we ſhould conſider that this one art produces, in the verb, all the variety of conjugations, voices, and tenſes, (which laſt are varied ſo much by the three numbers and the three perſons), and, laſtly, by the variety of participles and their numbers and caſes. And there is one variety, beſides, in the Greek verb, that I have not yet mentioned.

* Vol. IV. p. 119.

tioned. It is the expreſſion, by what is called *moods*, of the diſpoſition of the ſpeaker, whether he *affirms* the thing *ſimply* and *abſolutely*, or as *dependent upon another thing;* which affirmations are expreſſed by the *indicative* and *ſubjunctive* moods; or whether he *commands it*, which is expreſſed by the *imperative*, or *wiſhes it*, which is the expreſſion of the *optative*. All theſe varieties are ſo great, that they make the Greek verb the glory of the grammatical art, and, indeed, I think one of the greateſt inventions of men. But, after all this is done, there is one thing ſtill remaining to be done, and this of ſuch importance, that without it all the other things I have mentioned would ſignify nothing. What I mean is, that the words muſt be ſo connected together in the ſentence, as to expreſs what the ſpeaker or the writer means; for without ſuch connection, the words, however ſignificant in themſelves, would convey no meaning. And this laſt part of the art, called ſyntax, compleats the grammatical art, as far as concerns the meaning of the words in ſentences.

Thus, I think, I have proved, that the Greek language is a wonderful work of art, much more wonderful than it is commonly thought to be; and that one part of it particularly, I mean the verb, is the glory of the grammatical art. But though it be ſo very great an art, yet after men had been taught to articulate by more than human art, they might learn by their own natural ſagacity, though not without much pains and trouble, of thoſe articulate ſounds to make ſpeech and form a language: And this, I think, muſt actually have been the caſe; for as the Creator is ſupremely wiſe, as well as ſupremely good, he does every thing that is neceſſary for the good of his creatures, but nothing that is unneceſſary or ſuperfluous.

To conclude this ſubject of language—Whether we conſider it as revealed from Heaven or as invented by man, or, as I ſuppoſe, partly

partly revealed and partly invented, it is certainly, as I have ſaid, the moſt wonderful art practiſed by men: And of this, I think, we can have no doubt, when we conſider that, by language, our animal cries, which, as I have obſerved, go on in one flow, are divided and broken into ſo many different ſounds, as to expreſs all the various things not only of nature, but of art, ſo various and ſo many, that I believe they never have been numbered. Next, theſe words muſt be connected together both by ſound and ſenſe, in ſuch a way as to be comprehenſible in the memory and readily apprehended by the underſtanding, ſo that by practice and habit they may in time become familiar and eaſily uſed. And, *laſtly*, it may be obſerved, that in the learned languages, ſuch as the Greek and Shanſcrit, (which is the Greek, or rather its original the Egyptian, preſerved among the Bramins in India *), the words have not only a moſt various and beautiful articulation, but they are adorned both with melody and rhythm: So that, in thoſe languages, muſic is joined to articulate ſounds; and theſe two make language not only the moſt uſeful of all arts, but a moſt pleaſant art, which, while it conveys to the mind all arts and ſciences, at the ſame time charms the ear.

* See Vol. IV. Book III. Chap. IV. and V.

CHAP.

CHAP. X.

Language at firſt Monoſyllabical.—This proved by the caſe of the Chineſe Language.—Objection ariſing from the Polyſyllabical Languages of North America, anſwered.—Language neceſſary for the inſtitution of Civil Society;—therefore muſt have been in the Herding State, though very imperfect.—The firſt Language confined to the expreſſion of our Senſations and Deſires;—afterwards it was extended to expreſs names for things.—Progreſs in this matter, 1ſt, *of Particular names to form General:*—2dly, *to connect words by Derivation, Compoſition, and Flection;—and,* laſtly, *by Syntax.*

I NOW return to ſpeak of the beginning of this wonderful invention, Language. The firſt articulate ſounds, I am perſuaded, would be all monoſyllables; for it was moſt natural that men ſhould firſt learn to pronounce one ſyllable, and in that way make a word, before they learned to put ſeveral ſyllables together for that purpoſe. And this is proved by fact; for the Chineſe language is certainly a moſt antient language, and, I am perſuaded, an original and primitive language*. Now, in the Chineſe, all the words are monoſyllables;

* There is a Frenchman of the name of Bergier, a Doctor in Theology, who has publiſhed a book, entitled, *The Primitive Elements of Language*, printed at Paris in 1764, in which he has endeavoured to prove, both from the reaſon of the thing, which I have mentioned, and from ſundry examples which he gives us, not only from the Chineſe language, but from the Hebrew, the Greek, and the Latin, that the radical words in all languages, which undoubtedly muſt have been the firſt words uſed, are monoſyllables.

lables; nor do I wonder that there are no more of them, as it is ſaid, than 330. But by variouſly accenting them, that is, by giving them different muſical tones, they make the ſame monoſyllable ſignify nine or ten different things: For, muſic being more natural to man than articulation, (as he has naturally in his voice the difference of *acute* and *grave*, which are the materials of which muſic is compoſed), it was very natural that, inſtead of inventing a new word for any thing, he ſhould expreſs it by accenting differently the ſame word; and there are ſome barbarous nations, particularly the Hurons in North America, who in that way ſupply the want of tenſes, perſons, and numbers in their verbs.

The difference, as to the length of words, betwixt the Chineſe language and the languages of the barbarous nations, is very remarkable: We have in Carver's Travels, in North America, a catalogue of words in the Chippaway language, (p. 420.) in which there is not a monoſyllable to be found, but many words of ſix or ſeven ſyllables; and I have, in Vol. I. of the Origin of Language *, given a ſpecimen of ſome words of a barbarous language of ſtill greater length. The way I account for this ſo remarkable difference betwixt the Chineſe language and theſe barbarous languages, is, that the Chineſe language, which is undoubtedly of the greateſt antiquity, appears to have come from Egypt to China by the way of India, (as well as a great deal of the Egyptian written language), when the language was firſt formed in Egypt: Whereas the articulation in the barbarous languages appears to have been collected by the barbarians from ſome people that had learned the uſe of language from the Egyptians, or from ſome other nation that had learned it from them; and theſe articulate ſounds the barbarians mixed, as was very natural, with their animal cries, and in that way produced words of ſuch enormous length.

Not

* Page 543.

Not only is language of abſolute neceſſity for carrying on the buſineſs of civil life, but, I think, it was neceſſary for the firſt inſtitution of it. I am, therefore, of opinion, that ſome kind of language, very imperfect to be ſure, muſt have been invented in the herding ſtate, which, as I have ſaid, was prior to civil ſociety, and, I think, of neceſſity prior, as men muſt have lived for ſome time in the looſe herding way, before they united in that cloſe union, which we call civil ſociety, for which the herding ſtate was a very proper preparation; for Nature, that is Divine Wiſdom, orders matters ſo regularly, that every thing paſſes from one ſtate to another by proper degrees, not ſuddenly or abruptly. Now, it was neceſſary, that, when men went out of a herd and formed a ſtate of civility, they ſhould have ſome communication by the voice, intimating their deſires and inclinations to one another; and as in all ſuch caſes there muſt have been a leading man who formed the ſociety, he muſt, in that way, have given his orders, conſiſting for the greater part of animal cries, varied and diſtinguiſhed by ſome articulate ſounds, or by different tones of the voice, by which different things were expreſſed. This language, therefore, would be ſuch as Horace, who very well underſtood the progreſs of language, tells us the firſt language among men was, conſiſting, as he ſays, of *verba, quibus voces ſenſuſque notarent*,—that is ſounds, by which they expreſſed their ſenſations and deſires; and it was moſt natural that men ſhould firſt ſpeak for that purpoſe, for which only other animals utter their cries. But after ſociety was formed and other arts were invented and cultivated, this art of language would be among the firſt that was brought to ſome degree of perfection. Then ſays Horace, *Nomina invenere*—that is, they not only expreſſed their inclinations and deſires, but they gave names to things by which they diſtinguiſhed one thing from another. Theſe names, I am perſuaded, were at firſt given only to the particular objects of ſenſe with which they were converſant. But they would, in pro-

ceſs of time, extend them to other objects, and ſo make general names for all the particulars of the ſame kind; and as the wants of the ſociety would increaſe, arts would be invented to ſupply theſe wants, and conſequently many more names muſt have been invented for particular things, and then made general in the way I have mentioned.

And here a curious queſtion occurs, Of what nature were the ſounds uſed by men to denote theſe firſt objects of ſenſe to which they gave names? And, I think, they muſt have been ſounds of the eaſieſt pronounciation: And as the vowels are of much eaſier pronounciation than the conſonants, I am perſuaded that the firſt names given to things conſiſted moſtly of vowels; and, accordingly, we obſerve that the words of the barbarous languages, that is languages ſpoken by nations who have not formed language into an art, are very vocal.

It may be further aſked, What it was that made theſe firſt men denote certain things by certain ſounds, and other things by different ſounds? That there muſt have been ſome reaſon for the variety of ſounds expreſſing different things, and that names were not all given by chance, I think, is evident. The queſtion then is, For what reaſon was one object of ſenſe called by one name, and another by a different name? And, I think, there muſt have been ſome quality in the object which made men give it one name rather than another. That theſe qualities were eſſential or ſpecific qualities, diſtinguiſhing the object from objects of another ſpecies, we cannot believe; for that would be to ſuppoſe that thoſe men, who firſt gave names to things, had a knowledge of the nature of things much greater than it was poſſible they could have. It muſt, therefore, have been from ſome qualities of the object, perceptible by the ſenſe, that they muſt have been firſt denominated. Now, the qualities of objects

objects the moſt obvious to ſenſe, and which affect us moſt, are their actions or operations; and by ſounds having ſome ſimilarity to theſe it was natural that we ſhould denominate them. Now, there are only two qualities of the operations of theſe objects which we can expreſs by our voice. One of theſe qualities is any ſound that they may produce, which certainly may be imitated by our voices: The other is their motions, which, being either quick or ſlow, may alſo be imitated by our voices. Thus a quick motion is very properly expreſſed by the word *voluble*, a ſlow motion by the word *gradual*, and no motion at all by the word *ſtedfaſt*. From theſe imitations by our voices I believe that the firſt names were given to things, while language was yet without art: But when it came to be formed into an art, there would be a wonderful variety of words produced by the three great arts of language I have mentioned, derivation, compoſition, and flection.

What I have hitherto ſaid concerning the invention of language, relates only to words expreſſing external objects which we perceive by our ſenſes. But what ſhall we ſay as to the internal operations of our own minds, which we know by conſciouſneſs and reflection? How could the words expreſſing them have any kind of ſimilitude to them? And I ſay, that, as all our knowledge in this life ariſes from our ſenſes and begins with objects of ſenſe, it was by likening the operations of our mind to thoſe of body, that we made words to expreſs them: And in our ſpeech, at this day, they are ſo expreſſed; for we ſpeak of *collecting* the operations of our mind, of *weighing* them, of *diſſecting* them, and of one of them *containing* another: So that it is plain we form our ideas of thoſe operations of our mind from what we perceive of our operations upon objects of ſenſe or upon the qualities of theſe objects.

I have obſerved, that as vowels are of eaſier pronounciation than

conſonants, the firſt language ſpoken by men muſt have been very vocal. But even the five vowels, which we uſe, require certain poſitions of the organs of the mouth, without which they cannot be properly pronounced. But we have a vocal ſound from our throat, which requires no particular poſition of the organs of the mouth, nor any thing more than an open mouth. Now, the Wild Girl, whom I ſaw in France, and of whom I have ſpoken in ſeveral different paſſages of this work*, told me that the language of the country, from which ſhe came, conſiſted wholely of ſuch ſounds from the throat, articulated by ſome guttural conſonants, ſuch as the *Kappa*, *Gamma*, and *Chi* of the Greeks, and the ſimple *Aſpirate*, not only uſed in the Greek but in many other languages. Of the organs of her mouth ſhe told me ſhe made little or no uſe; and the principal organ of it, the tongue, ſhe did not uſe at all till ſhe came to France, except to aſſiſt her in ſwallowing. The ſounds, therefore, of the language of her country muſt have been the moſt ſimple ſounds of which we can conceive any language to be compoſed: For ſhe muſt have ſpoken with open mouth, that is with no uſe of the lips, as the Hurons, a nation of North America, ſpeak, and her language muſt have come as near as poſſible to mere animal cries. I hold it, therefore, to have been one of the firſt languages invented, and the beginning of the art: So that, I think, by my converſation with this woman, I have diſcovered the very origin of language.

This *Wild Girl* was one of the three great curioſities, concerning the human ſpecies, which I have ſeen. The firſt of theſe was *Peter the Wild Boy*, who was, as I have ſaid, altogether in the original ſtate of men upon this earth; for he was ſolitary, living upon the natural fruits of the earth, without cloaths, houſes, the uſe of ſpeech or

* See Vol. IV. particularly Book I. Chap. II. and the Appendix to that volume,—alſo Vol. I. of Origin of Language, p. 193.

or of any other art. The firſt ſtep, in the progreſſion of man towards the civil life, was the herding ſtate, ſuch as that in which the Orang Outangs live, of whom I ſaw two. The next ſtep of this progreſſion the ſavage Girl had made, for ſhe came from a people living in what may be called the very firſt ſtate of civil ſociety, and had learned, as I have ſaid, to ſpeak a language the moſt rude and imperfect that can be imagined, and which I hold to have been the firſt beginning of the art *.

Having thus ſhown the beginning of language, I will here ſay very little of its progreſs. I will only obſerve, that as the ſounds of the words of the firſt language muſt have been very ſimple, and approaching very near to animal cries, from which, as I have ſaid, all language was derived, ſo the words muſt have been very few in number. But as ſociety advanced, the wants of men would increaſe, and conſequently more names for things would be neceſſary; and theſe, in proceſs of time, would multiply ſo much, that it would be neceſſary to connect them together both by ſound and ſenſe, ſo that they might be comprehended in the memory. This was done, as I have ſaid †, by the three great arts of language, derivation, compoſition, and flection.

Having thus connected things together by what is called the Analogy of language, they would conclude the art by Syntax, without which, as I have ſaid ‡, every other thing in the grammatical art would be of no uſe; for ſuppoſe the words expreſſed every thing in the cleareſt manner, with all the qualities, circumſtances, and accidents of things, yet if they were not put together in a certain way, which

† See what I have ſaid of theſe three ſtates of man in his progreſs to civility, arts and ſciences, in Vol. IV. Book I. Chap. II.

* Page 155. ‡ Page 157.

which is done by ſyntax, they would communicate no meaning to the hearer, becauſe they would only expreſs ſo many different things without any connection with one another.

And here I conclude the ſubject of language, upon which I am afraid the reader will think that I have ſaid too much in this part of my work, after what I have ſaid in other parts of it, particularly in the volumes that I have written upon the Origin and Progreſs of Language. But he ſhould conſider, that language is not only the moſt common art among men, but the moſt curious, and of the moſt wonderful invention, and, at the ſame time, of the greateſt uſe; for without language there could not be that cloſe intercourſe of men in civil ſociety, by which arts and ſciences were invented, and men made that progreſs in this life towards recovering from their fallen ſtate, which, as I have ſhown, they could not have made except in civil ſociety: And he will obſerve, that I have here ſpoken more of the invention of language, and of the firſt ſounds and words uſed by men when they began to ſpeak, than any where elſe; and, I think, I have given a better account of the beginning of this wonderful art than is to be found in any other author.

CHAP.

CHAP. XI.

Progreſs of Men from the invention of Language to Ideas, firſt Particular then General.—Ignorance of Mr Locke in this matter.—All our Ideas ariſe from our Senſations — Diſtinctions to be made for knowing accurately the nature of them, but which Mr Locke has not made.—Confuſion of his Language on the ſubject of Ideas of Senſation *—What theſe truly are.*—Ideas of Reflection *not ſufficiently explained by him.*

AFTER Civil Society was conſtituted, and Language invented, by which a cloſs communication of men with one another was carried on, they would learn to form ideas; for it is by *ideas* that we diſtinguiſh things from one another. Our firſt ideas muſt have been of particular or individual things, with which all our knowledge in this life, as I have ſaid, begins; nor, without making this diſtinction of individual things by the means of ideas, could the common buſineſs of the civiliſed life be carried on.

How theſe particular ideas are formed, I have explained in Vol. V. of this work*, where I have ſhown that we muſt ſeparate a quality, one or more, which is predominant in the object and peculiar to it, from other qualities that are accidental and common to it with other objects. In this way, as I have ſhown in the paſſage I have quoted, we diſtinguiſh one animal from another; and in the ſame

* Vol. V. p. 168.

ſame manner we diſtinguiſh vegetables and minerals from one another. But of theſe particular ideas men, even in the firſt ages of ſociety, muſt have formed ſome general ideas. And this too was neceſſary for carrying on the buſineſs of civil life: For without theſe general ideas they could not have had the uſe of language, as it was impoſſible for them to give a name to every individual thing, and therefore it was neceſſary to denominate things by the ſpecieſes to which they belong. How theſe general ideas are formed, I have likewiſe explained in Vol. V. *, where I have ſhown that they are formed by obſerving that other objects of ſenſe have the ſame peculiar or diſtinguiſhing qualities, that we have obſerved in the ſingle object of which we have formed the particular idea. Men muſt, therefore, for the purpoſes of civil life, have formed ideas of the loweſt ſpecieſes. But it is not neceſſary to ſuppoſe that they went ſo far as to form ideas of genuſes; for that belongs to men farther advanced in civil ſociety. Thus, for example, they would form the idea of different ſpecieſes of animals, ſuch as *horſes* and *oxen:* But they would not form the idea of the genus *animal;* and, accordingly, a name for that genus is not, I am perſuaded, to be found in any of the barbarous languages.

I will only add further upon the ſubject of general ideas, that as Mr Locke makes no diſtinction betwixt the ideas of particular objects and general ideas, it appears from that, as well as from ſome other things that I have elſewhere obſerved, that he did not know what ideas were, though he has ſaid ſo much about them: For, as I have obſerved in the paſſage above quoted, it is impoſſible to conceive a general idea without particular ideas; and if the particular idea is not actually formed, and well formed, it is impoſſible that the general idea can be what it ought to be.

Of

* Page 169.

Of the formation of ideas I have alſo ſaid a great deal in the fourth volume of this work*; and I will only add here, that as they all ariſe from our ſenſations, it is proper that we ſhould know accurately the nature of theſe ſenſations. And there is, firſt, the impreſſion made by external objects upon our organs of ſenſation: In this reſpect our mind is merely paſſive. Next is the perception of the objects themſelves, which make theſe impreſſions upon our organs: And here the mind is active; but it is only our animal mind, and therefore the brute has that perception as well as we. Of theſe perceptions we form ideas in the manner I have deſcribed in the paſſage quoted from the preceding volume, where I have ſhown that our ideas are the work of intellect, and therefore do not belong to the brute. It is for the want of making theſe diſtinctions that Mr Locke has confounded ſenſations and ideas, and made a whole claſs of ideas, which he calls *ideas of ſenſation*. Mr Locke's error, therefore, ariſes from his not diſtinguiſhing betwixt the materials of which our ideas are formed, that is our *ſenſations*, and the *ideas* which are formed of them, and ſo making *ideas* of our *ſenſations*.

But though there be no *ideas of ſenſation*, ſuch as thoſe of Mr Locke, there are ideas of another kind, and which are truly *ideas of ſenſation*, though they be ſuch ideas as very few can form. The ideas I mean are thoſe we form of the manner in which the objects of ſenſe operate upon our organs of ſenſe, and produce the different perceptions we have of thoſe objects. For example, if we know that we perceive objects of *ſight* by the reflection of the rays of light from theſe objects to the pupil of our eyes, where they form an image of the object, which is perceived by the mind, the knowledge of this is what I call the *idea of the ſenſation of ſight*. It is, as I have ſaid, an idea which very few have formed: For it is

* Book I. Chap. I. VI. and I. VII.

truly a great ſecret of nature, which can be known to none but natural philoſophers; and it is certainly a moſt wonderful phaenomenon of nature, by which the rays of light, reflected from the object at the diſtance perhaps of millions of miles, are conveyed to our eyes entire, and without being mixed with other rays. The ſame may be ſaid of the idea of the ſenſation of *ſound*, which is conveyed to our ears from a diſtance of miles through the medium of the air, and conveyed entire and without being mixed with other ſounds; and this is certainly likewiſe a wonderful phaenomenon, though a very common one. Of the ſenſation of *ſmelling* the idea is more obvious, as the ſmell is not conveyed to us from ſo great a diſtance: And the ideas of *touching* and *taſting*, being produced by objects of ſenſe in contact with our organs, are ſtill more eaſily conceived. And thus, I think, I have ſhown that we have truly *ideas of ſenſation*, though very different from what Mr Locke calls *ideas of ſenſation*. As to what he calls, not improperly, *ideas of reflection*, they are ſuch, no doubt, as he ſuppoſes them to be: But he does not tell us from what ſource they are derived, viz. from the conſciouſneſs that we have of the operations of our mind; which may be ſaid to be the eſſential difference betwixt us and the brutes, and the foundation of all arts and ſciences, and particularly of the moſt valuable ſcience of *mind*, of which we know nothing but by reflecting upon the operations of our own mind, and by what we can infer with reſpect to other minds from theſe operations.

CHAP.

CHAP. XII.

The invention of Language and the formation of Ideas were followed by the diſcovery of other neceſſary Arts, ſuch as Number, Agriculture, Cloaths, and Houſes.—*Then the Liberal Arts, ſuch as* Muſic, Poetry, Ornaments of Dreſs, and of Buildings.—*Next Sciences*, Natural Philoſophy, Morals, Logic, Metaphyſics, and Theology.

AFTER Language was thus invented and ideas formed, the inventive genius of man, his love of knowledge, which is eſſential to an animal of intelligence, and the eaſy communication he had with other men by the means of language, would naturally produce many arts and ſciences. One art I ſhall mention, becauſe for carrying on the buſineſs of civil life it is almoſt as neceſſary as language. The art I mean is that of *Numbers*, without which civil ſociety could hardly ſubſiſt. This art is not of ſo difficult invention as the art of language: For the difference betwixt *one* and *multitude* is perceived by the ſenſes; and I have no doubt but the brute has that perception as well as we. But to limit *multitude*, and in that way to ſet bounds to it or make it what the Greeks called πληθος χωρισμενον, is the work of intellect, and not ſo eaſy a work, as we, that are taught it and have the conſtant practice of it, may think. This is evident from the ſmall progreſs that many of the barbarous nations have made in this art; ſome of them making the firſt number, that is *three*, the only boundary, after which they begin again, and ſay *three* and *one*,

three and *two*, *three* and *three*; others of them going as far as the number of the fingers of one hand, that is *five*: While the Hurons of North America have made a much greater progrefs; for they have taken the fingers of both hands, and fo make a decimal arithmetic fuch as we ufe*.

After the invention of language and arithmetic, without which no other art in civil life could have been invented or carried on, the next ftep in man's progrefs would be to what are called the neceffary arts of life, fuch as agriculture, cloathing, and building houfes, and then to many other arts of eafe and convenience, which the inventive genius of man would produce. By the invention and practice of thefe arts the intellect of man would be fo much improved that he would naturally proceed to the invention of finer arts, fuch as thofe we call *liberal*.

The firft of thefe I hold to have been *Mufic*, of which men had the practice very early, even, as I have faid†, before language; but it was only reduced to an art after the neceffary arts of life were invented. Then *Poetry* and the *Ornaments of Drefs*, and of *Buildings*; for a perception of beauty, or what we call *tafte*, I hold to be eſſential to intellect, and one of the firft things which intellect produces: And accordingly we find it among men who have hardly any other ufe of intellect. It is this fenfe which produces a certain order and regularity in the actions of men, without which no civil fociety could be carried on, nor indeed could there be any ufe of intellect in the affairs of life.

But as the love of knowledge and delight in it is natural, and I may fay neceffary, to an intelligent animal, man was not fatisfied with

* See what I have faid on this fubject in Vol. I. of Origin and Progrefs of Language, p. 54. 2d edition.

† Page 160.

with the invention and practice of the neceſſary arts of life, nor even of the arts of pleaſure and ornament, but he aſpired to ſcience: And what he firſt ſtudied of that kind was, as was natural, the great book of Nature, which was always before his eyes, and from which he learned that there were many things which had a great ſimilarity to one another; and having diſcovered what that ſimilarity was, he reduced them to certain claſſes, which we call genuſes and ſpecieſes, and ſo made *one* of *the many*, which is a very proper definition given by Plato of a general idea. And in this he followed the order of Nature; for, as I have obſerved elſewhere*, all things in Nature conſiſt of *the one* and *the many*. And here, I think, we cannot ſufficiently admire the wiſdom and goodneſs of God, who has ſo arranged the infinite number of things, which we perceive in Nature, as to reduce them all to thoſe unities which we call genuſes and ſpecieſes, by which we are enabled to comprehend them, which otherwiſe it would have been impoſſible for us to do. Whereas, by the order in which God has been pleaſed to put them, we can not only comprehend them, but make a ſyſtem of ſcience of them, and a moſt wonderful ſyſtem it is, formed by Archytas the Pythagorian philoſopher, and publiſhed by Ariſtotle under the name of *Categories*, of which I have ſpoken a great deal elſewhere †.

This union of the *one* and the *many*, which is the foundation of all ſcience, not only takes place in genuſes and ſpecieſes, but in every individual thing, even individual objects of ſenſe, of which, as I have ſhown, we form our firſt ideas; for every one of theſe objects is a collection of different qualities, which joined together make *one*. In ſhort, every object in the univerſe is *one* and *many*, and even the Deity is *one* in *three* and *three* in *one*. And in this way we may obſerve that our perceptions of the objects of ſenſe are very different from thoſe of the Brute: For he has no general ideas of

* Page 45.—111. † Page 80.

of objects of ſenſe; ſo that he does not ſee in different objects of ſenſe the *one* in the *many*, nor even in one object of ſenſe that union of ſeveral qualities of the ſame ſubject, which makes it *one*, perceiving in it only certain things which affect his ſenſes, ſuch as Colour, Sound, or Motion.

After having arranged in this way theſe natural bodies, which his ſenſes preſented to him, man, from that love of knowledge which, as I have ſaid, is eſſential to an animal of intelligence, would naturally proceed to conſider not only the qualities by which the ſeveral kinds of them are diſtinguiſhed from one another, but alſo all their other qualities: In ſhort, he would ſtudy what is commonly called Natural Philoſophy, which by our modern philoſophers is ſuppoſed to be only the knowledge of *body* and its different qualities; whereas it is truly the knowledge of the operation of *mind* in *body*, which produces all its motions and all its other qualities.

Having thus got the knowledge of bodies, and of the minds acting in thoſe bodies, that is the *animal* and the *vegetable minds*, which move bodies organiſed, and that mind which moves bodies unorganiſed, or the *elemental mind*, as I call it, he proceeded to the knowledge of a much higher kind of mind, that is of the *intellectual*: And this ſtudy he began by the ſtudy of his own mind; which we know by the moſt certain of all knowledge, *conſciouſneſs*. And as it is the moſt certain, ſo it is the moſt valuable of knowledge; as it leads us to the moſt exalted of all knowledge, the knowledge of the Supreme Mind; for it is only by the ſtudy of our own minds that we can have any knowledge of that mind, or indeed of any intelligent mind. So that the precept given by the Delphic God, and which was written upon the gate of his temple, *Know thyſelf*, was a moſt valuable precept, leading us, as I have ſaid elſewhere *, not only

* Page 108

only to the knowledge of God, but alſo of man, and of the whole ſyſtem of nature;—in ſhort, to every knowledge that is of the greateſt value in human life, which we never can learn in any degree of perfection, without firſt knowing ourſelves. Nor is this to be wondered, when we conſider that man is a little world, containing a portion of every thing that is to be found in the great world; ſo that he may be ſaid to be an epitome of that world.

Thus it appears, that from the knowledge of our own minds we, according to the natural progreſs of our knowledge, proceed to the knowledge of man in general, that is to morals and politics. And in this ſtep of our progreſs we ought to take along with us the ſcience of Logic, by which we learn to know what truth is, and the operations of our intellectual mind in the ſearch of it, and to conduct properly theſe operations: So that it is a knowledge which ought to accompany ſciences of every kind, but which cannot be learned, any more than the other things I have mentioned, except by the ſtudy of the operations of our own minds.

The next ſtep in the progreſs of our knowledge, and which concludes that progreſs, is what is called Metaphyſics; by which we ſtudy not particular beings, ſuch as man or any other animal on earth, but Being in general and its properties, that is the general principles of all beings, and the firſt cauſe of them all, the Supreme Being. This ſcience, therefore, includes Theology, which is the ſummit of human knowledge, and indeed of the univerſe.

All theſe ſeveral ſciences which I have mentioned, namely the knowledge of natural bodies and their ſeveral qualities, the knowledge of the human mind, and of Morals and Politics which ariſe from that knowledge, likewiſe of Metaphyſics and Theology, are all comprehended in Philoſophy; and as the happineſs of our intellectual

lectual mind, which is the moſt valuable part of our compoſition, muſt proceed from knowledge, (for to excel in knowledge is the perfection of our intellectual mind), ſo it muſt make our moſt perfect happineſs. It is, therefore, not without reaſon, what Plato has ſaid, that philoſophy is the greateſt bleſſing which the Gods have beſtowed upon man.

CHAP

CHAP. XIII.

Egypt the Parent Country of all Arts and Sciences.—There Geometry invented, and Government and Religion eſtabliſhed.—The knowledge of one Supreme Being—of the Fall of Man—and of a Future State of Rewards and Puniſhments, known there.—The Egyptians had a Philoſophic Religion as well as a Popular.—The Myſtery of the Trinity known to them—and learned there by Plato, as well as his Doctrine of Ideas.—The Learning of the Egyptians now to be learned only from Greek Authors who imported it into their own country, ſuch as Plato and Herodotus.

TO enlarge upon the progreſs of man from the neceſſary arts of life to the perfection of the human intellect by Metaphyſics and Theology, would carry me too far from the purpoſe of this volume, and is the leſs neceſſary, that in a preceding volume* I have treated of the ſubject at ſome length, where I have endeavoured to ſhow that all arts and ſciences took their riſe in Egypt. Here, therefore, I will only add, that among many other arts and ſciences, which were invented in that country, there was one ſcience which the nature of their country made neceſſary; I mean Geometry, by which the bounds and marks of the ſeveral lands, that were confounded by the overflowing of the Nile, were preſerved; and from thence the ſcience had its name, and was called *Geometry*. But though Geometry, among us, be not a ſcience ſo neceſſary as it was in Egypt, it is an uſeful ſcience; and conſidered philoſophically,

* Vol. IV. Book II.

cally, as *quantity* is one of the Categories, and a moſt general idea, containing under it *quantity continuous*, that is *magnitude*, and *quantity diſcrete*, that is *number*, it is fit that we ſhould underſtand the nature of both and their ſeveral qualities. And beſides, as it is leſs abſtracted from matter than any other ſcience, and its demonſtrations taken from objects preſented to the ſenſes, it is the firſt ſcience that men ſhould be taught; and accordingly it was the firſt ſcience taught in the ſchool of Pythagoras, the greateſt ſchool of learning among the Greeks; and he thought it ſo neceſſary for the beginning of ſcience, that, upon the gate of his ſchool, he inſcribed ουδεις αγεωμετρητος εισιτω.

Thus it appears, that the wiſdom and goodneſs of God have ſo ordered matters on this our earth, that civil ſociety affords us the means of regaining, in ſome degree, the ſtate from which we had fallen, firſt by giving us the uſe of intellect, and then by our improving that intellect by arts and ſciences. But this cannot be done in any great degree if the government of the ſociety be not ſuch as it ought to be; for government is of abſolute neceſſity in all civil ſocieties. Upon this ſubject I have ſaid a great deal in the the 4th volume of this work, Book II. Chap. VIII. and IX.; and I will only add here, that it is chiefly the governor who makes the government good or bad; for it belongs to him to form the people, and to make them ſuch as they ought to be. But, as I have ſaid in the 4th volume above quoted *, it is *Nature* chiefly, that qualifies a man to be a governor; for, let his education be what it will, if by nature he be not fitted to govern, he never will be a good governor. Now, it is from our race that we derive our nature, and, among other qualities, a virtuous diſpoſition; and the inheritance of ſuch qualities is what we call, or ſhould call, *Nobility*, and accordingly Ariſtotle has told us that *Nobility is the virtue of*

* Page 177.

*of the race**. We are, therefore, to conſider nobility, not as a thing merely of human inſtitution, but as having a foundation in nature. Nor is it peculiar to our ſpecies; for there is a diſtinction of races in all the animals that we are acquainted with, ſuch as horſes, dogs, and oxen; and, indeed, if there were no ſuch diſtinction among men, civil ſociety could never be properly conſtituted, nor anſwer the ends which God and Nature have propoſed by it: For, if all men were equally fit to govern, there would not be that proper ſubordination of men which government requires; and if they were all unfit to govern, there could be no good government among them, nor indeed any thing that deſerves the name of government.

In this way, as I have ſhown in the chapter above quoted, were governed the fineſt ſtates of which we read in antient hiſtory, particularly the heroic ſtates of Greece, ſuch as that of Sparta, and the ſtate of Rome as long as the diſtinction of Patricians and Plebeians was preſerved, and the two races not mixed together, nor allowed to enjoy promiſcuouſly all the great offices of ſtate. But it was in Egypt, more than in any other country, that the diſcrimination of the races of men was preſerved, and the beſt men ſet apart, not only to give counſel in the adminiſtration of the government, but to preſide over the religion of the country, and to cultivate arts and ſciences; which three offices were, I think, very properly joined together, and made Egypt not only the beſt governed country that, I believe, ever was, but made it the parent country of all arts and ſciences†.

Nor were the Egyptians leſs eminent for their religion than for their arts, ſciences, and government. And this leads me to ſpeak of the greateſt of all the diſcoveries which civil life and its arts and

* See p. 184. of Vol. IV. of this work.

† Of the Egyptian government ſee Vol. IV. Book II. Chap. X.

ſciences have produced among men, and that is the knowledge of God and of his attributes of wiſdom and goodneſs, without which knowledge we never can make any great progreſs towards regaining the ſtate from which we are fallen: For our intelligence can never be brought to any degree of perfection but by the ſtudy and knowledge of what is moſt perfect of intelligence. Now, the Egyptians, by their cultivation of arts and ſciences, advanced ſo far in religion, as to diſcover that there was only one Supreme Being, that there was a future ſtate of rewards and puniſhments, and alſo that man had exiſted in a prior and more perfect ſtate from which he had fallen. This was the philoſophical religion in Egypt; for it was the religion of their Prieſts, that is, their *Philoſophers*, and was communicated as a myſtery only to a few choſen men under the ſeal of profound ſecrecy; nor was communicated at once, but at two different times and at the diſtance of four years, being divided into what they called the greater and the leſſer myſteries *. But there was a popular religion for the country, which was very proper; and this was the religion of the vulgar; and from Egypt it went to Greece, and from Greece to Italy. But even this religion was not, as is commonly believed, a religion of Polytheiſm; for there was in it one God ſuperior to the reſt, who therefore were to be conſidered as his miniſters.

Theſe ſo great diſcoveries in religion I do not think the Egyptians, with all their arts and ſciences, could have made, without the aſſiſtance of thoſe Kings whom they called *Gods*, who, though they were not Gods, were, I am perſuaded, of a nature ſuperior to men, and therefore are, by Plutarch, as I have elſewhere obſerved †, very properly called *Dæmons*, that is, ſomething betwixt *Gods* and *Men*. And I think it is very natural to ſuppoſe that the wiſdom and goodneſs

* Of theſe myſteries I have ſpoken at great length in the fourth volume of this work, p. 399. and following.

† Vol. IV. p. 158.

neſs of God would give ſome ſupernatural aſſiſtance to the moſt antient nation in the world, and to which we owe ſo many arts and ſciences, and indeed I may ſay all the arts and ſciences which we poſſeſs, and by which we have been enabled to make ſome progreſs towards regaining the ſtate from which we are fallen.

Beſides theſe religious doctrines which were contained in their leſſer and greater myſteries, they knew even the myſtery of the Trinity; for in Egypt Plato learned it*, and with it his doctrine of ideas, which I think I have ſhown to be neceſſarily connected with the doctrine of the Trinity, ſo that both together make a compleat ſyſtem of the philoſophy of Nature and of Theology. All this learning we cannot get from the books of the Egyptians, which are not now extant, or if they were, we could not underſtand them. But we have it from Greek authors, ſuch as Herodotus and Plato, who were in the country, and learned their philoſophy from the Egyptians themſelves, with whom they converſed; which was better than learning it from books: And a man, now-a-days, that has employed his time in the ſtudy of the Greek authors, who, beſides what they learned of philoſophy from the Egyptians, cultivated it much themſelves, and have preſerved to us a great deal of the philoſophy of Pythagoras, who was in Egypt above 20 years, and, I am perſuaded, learned more of the Egyptian philoſophy than all the other Greeks;—ſuch a man will certainly very much improve his intellectual mind, which is the nobleſt part of his compoſition, and diſtinguiſhes him from all the other animals on this earth, and in this way will prepare himſelf for further improvements of his intellect, and conſequently for the enjoyment of greater happineſs in a future ſtate.

CHAP.

* Vol. IV. p. 163.

CHAP. XIV.

Many of our Modern Diſcoveries owing to our Vices and Crimes, ſuch as the love of Money, which has produced the Diſcovery of America and the Weſt Indies—alſo of the Cape of Good Hope and Greenland.—Praiſe of Captain Cooke's Voyages of Diſcovery.—Advantages of the Diſcoveries of the Moderns, in Geography and Navigation—in the Natural Hiſtory of the Earth and its Inhabitants, particularly in the Natural Hiſtory of Man.—Of the Modern inventions of Clocks and Watches—Window-glaſs—the Compaſs—Paper—and Printing.—A ſenſe of the Beautiful congenial to Man,—accompanies him in all his progreſs from the State of Nature to Civility.

FROM what I have ſaid in the two preceding chapters, it appears that antient nations have, by the means of civil ſociety, invented and cultivated many arts and ſciences, and thereby very much improved their knowledge, and conſequently their intelligence. In this chapter I propoſe to ſhow that the moderns have not been wanting, though in a degree much inferior to the antients, in the improvement of their intelligence by arts and ſciences alſo.

It is a melancholy reflection, that our preſent life in Europe ſhould be deſtructive both of health and morals, and thereby tend very much to leſſen the numbers of people in the ſeveral nations; yet, I think, I have ſaid enough in the courſe of this work, and particularly in the preceding volume, where I have treated of the ſtate of population in modern times, compared with antient

antient, to eſtabliſh this truth. The ſtate of civility in Europe, however, has its advantages; for it contributes not a little to the increaſe of our knowledge, and makes us certainly creatures more intelligent than we could have been if we had continued in the natural ſtate, and even more intelligent in ſome reſpects than the moſt learned among the antients. The very many arts which we practiſe at preſent in the nations of Europe, tend to improve our knowledge, and conſequently our intelligence. And even ſome of our vices have a great tendency that way; particularly there is the love of money, which is ſaid to be the root of all evil, and undoubtedly produces more crimes and vices than all our other paſſions put together, but which has wonderfully enlarged our ſphere of knowledge, and may be ſaid to have diſcovered to us this earth that we inhabit, which was very imperfectly known to the antients. It is the love of money which has made men go all over the earth in ſearch of it. It was this paſſion that made the Portugueſe undertake that wonderful voyage by the Cape of Good Hope to the Eaſt Indies, in which they have been followed by the Dutch, the French, and the Engliſh, who have ſettled colonies there, by which means that fine country, perhaps the fineſt in the world, but which was hardly known at all to the antients, is now perfectly well known. Many attempts have been made to find a ſhorter way to this country than by the way which the Portugueſe had diſcovered, by the Cape of Good Hope, particularly by the north-weſt, all from the ſame motive, the love of money; and in theſe attempts a great many countries have been diſcovered that before were altogether unknown.. And there is a country which is more *extra anni ſoliſque vias* than any other country we know, and which we ſhould not have thought habitable by man, if it had not been diſcovered by theſe adventurers in ſearch of a ſhorter paſſage to the Eaſt Indies, and found to be actually inhabited. The country I mean is Greenland, which was firſt peopled from the iſland of Iceland, likewiſe

wiſe utterly unknown to the antients and to the moderns till the ſixteenth century. And there is another country, ſo large that it may be reckoned a half or at leaſt a third part of the Globe, which was utterly unknown to the antients, and even to the moderns till about the end of the fifteenth century, when it was diſcovered by the Spaniards, under Chriſtopher Columbus, who undertook the voyage for the diſcovery of a ſhorter paſſage to India, through an ocean very little known at that time, (I mean the *Atlantic*), and made a ſettlement in this New World, in which he has been followed by ſome other nations of Europe, particularly the Engliſh; and all this for the love of money.

The Engliſh have the praiſe to have made great diſcoveries, not with any view to trade or money, but ſolely for the diſcovery of this our globe of earth. The diſcoveries I mean, are thoſe they made in that part of the Great South Sea which is called the Pacific Ocean; where they have diſcovered a great many iſlands, and one, the largeſt in the world, New Holland. Theſe diſcoveries were chiefly made by Captain Cooke, who went round the world thrice at the public expence, and with no other view than to enlarge our knowledge of this earth. The Dutch firſt diſcovered this great iſland, and gave it the name of *New Holland*. But they knew nothing of the ſtate of the country, not ſo much as that it was an iſland, which was firſt diſcovered by Captain Cooke. Before that, it was believed to be a part of a great antarctic continent, which was ſuppoſed to exiſt, reſembling the arctic continent upon which we live. The Britiſh have alſo diſcovered, by means of this famous navigator, Captain Cooke, another country, without any view to trade or money, and which, I think, is a great curioſity; I mean New Zealand, where the people live not far removed from the natural ſtate, and in the firſt age of civil ſociety, uncorrupted by the crimes and vices of ſuch ſocieties as thoſe of Europe at preſent. Of their

their noble and magnanimous behaviour to us I have ſaid a good deal in Vol. IV. of this work *.

But, beſides the diſcovery of ſo many particular countries, we have made a diſcovery with reſpect to this globe we inhabit, which may be ſaid to comprehend the whole Geography of the earth. It is the diſcovery that our earth is ſurrounded, and as it were incloſed, by an Ocean, diſtinguiſhed in its different parts by different names, ſuch as the North Sea, the Atlantic Ocean, the Pacific Ocean, or Great South Sea, and the Eaſtern Ocean, all connected together, and communicating with one another; the conſequence of which is, that we are able to circumnavigate our globe, which has been done by ſeveral of our navigators, particularly by Captain Cooke, who, as I have ſaid, went thrice round it. So that by means of the three great Oceans I have mentioned, and their communication with leſſer ſeas in the inland countries, ſuch as the Mediterranean, for example, and the Baltic, we are able to ſail to almoſt every part of our earth, even to within not many degrees of either of the Poles, which we ſeem to be prevented from approaching by ice only.

By theſe means, I think, we have acquired a greater degree of natural knowledge than the antients could have had, not only of our earth in general, and of the ſituation of the ſeveral parts of it with reſpect to one another, but of the ſeveral animals inhabiting it, of whom we have diſcovered ſeveral ſpecieſes utterly unknown to the antients: And particularly we have acquired, what is certainly, with reſpect to us, the moſt valuable knowledge we can have of animals; I mean the knowledge of the animals of our own ſpecies; of whom, by our voyages to ſo many parts of the earth and by our ſettlements there, we have diſcovered a wonderful variety, greater than could have been imagined of the

* Page 57.

ſame ſpecies of animals; for we have found him in all the different ſteps of his progreſs from a mere brute to an animal of intellect and ſcience. The inhabitants of New Holland have got no farther than the firſt ſtep in that progreſs. Of them we have a very particular account in a work entitled, The Hiſtory of New Holland, which is a collection from all the books of travels to that great iſland. From what we are told in this book, it appears that the New Hollanders have got no kind of art among them, except the uſe of ſome ſort of language, which they certainly did not invent, but muſt have acquired by their intercourſe with ſome other nation. They have alſo the uſe of fire: But as to houſes, they have none, not even huts; nor do they live in caves, but, as the antient inhabitants of Italy did when Saturn came among them, in the hollows of trees, which they make by fire *. Neither have they any uſe of clothes, for they go quite naked: But, by way of ornament, they make large punctures or furrows on different parts of their bodies, ſome in ſtraight, and others in curved lines†; ſo that they do not paint their bodies, as ſome other barbarous nations do, but rather carve them, which our author very properly conſiders as a proof of their love of finery.

The authors, who mention thoſe New Hollanders, ſpeak nothing of their government; but, as they live in herds ſeparated from one another, I think there muſt be ſome kind of government among them, (though but a very imperfect one), otherwiſe they could not be kept diſtinct from one another.

The next ſtep in this progreſs is, I think, that of the inhabitants of the Ladrone iſlands, who, in one reſpect, when the Europeans firſt came among them, were in a ſtate ſtill more rude than that of the

* See p. 70. of this Hiſtory of New Holland.

† Ibid. p. 55.

the New Hollanders; for they had not the uſe of fire, that great inſtrument of civil life, till they learned it from the Spaniards, their firſt viſitors: But now that they have got the uſe of fire, they are in a ſtate more civiliſed than the New Hollanders; and they are governed by a race of nobles, though without any regular form of government. As to religion, they had none till the Jeſuits came among them *.

There are other people who are in the infant ſtate of civil ſociety, ſuch as the Carraibs were when they were firſt diſcovered by the French. Of theſe I have ſpoken elſewhere †; and I ſhall now proceed to the new diſcovered people of the Pelew Iſlands, who, I think, are in a more perfect ſtate of civil ſociety than any of thoſe nations we call *barbarous*; and, indeed, I think, that without the invention and cultivation of arts and ſciences there cannot be a more perfect ſtate of civil ſociety. They live under a regular government of a king, a council, and an order of nobles; they practiſe every virtue belonging to the human kind; and when we were among them they ſhewed a love of knowledge, which is natural to an animal of intelligence, but which we have not found in any other barbarous nation ‡.

Beyond theſe Pelew men there is only one other ſtep, and which compleats the progreſs of civility; but which is only to be found in the nations of Europe. The ſtate I mean is, that in which arts are invented or practiſed, and not only what we call the neceſſary arts of life, but arts of elegance and refinement, ſuch as Muſic, Poetry, Painting, and Statuary. But even theſe we have not invented; for they have come down to us from the antient world. We have, however,

* Vol. V. p. 5. † Vol. III. p. 74.

‡ See what I have ſaid of them, Vol. V. p. 56. &c.

however, invented ſome, and theſe moſt uſeful arts, ſuch as that mechanical art of *clock-making*, by which we meaſure the *fuga temporis*, as Horace calls it, (a thing the moſt voluble and fleeting that we know), much better than the antients did by their *Clepſydra*. And not only do we meaſure *time* (the moſt valuable thing we enjoy at preſent, as upon the right uſe of it depends both our happineſs in this life and in the life to come) by the inſtrument before mentioned that we keep in our houſes, but by another inſtrument called a *watch*, that we carry about with us in a ſmall pocket. And there is a thing which was altogether unknown to the antients, although moſt uſeful for domeſtic life, that we have alſo invented; I mean glaſs for our windows, by which we ſee *the bright light of the ſun* (which to ſee, is, in Homer's language, *to live* *,) without being incommoded by wind or cold. And, indeed, I think the enjoyment of the ſun, not obſcured by clouds or fogs, but ſhining with full luſtre, is a great pleaſure of life; and I am perſuaded that the heat of the ſun,

——— whoſe energy divine

(as Dr Armſtrong ſays in his poem upon *Health*)

Dwells not in mortal fire, ———

is much more conducive to the health both of animals and vegetables than our culinary fire. Pliny mentions a Roman who was in uſe to ſit for hours naked in the ſun, which he ſuppoſed contributed much to his health; and our dogs, though they be very fond of the fire, and though there be a fire in the room, yet if the ſun be ſhining in it, chuſe rather to lie in the ſunſhine than upon the hearth. But the antients, who had windows in their houſes as well as we, muſt have had them always open or ſhut like their doors.

Beſides theſe inventions, ſo uſeful at land, we have invented a moſt uſeful

* ——— ὄφρα λαμπέσθαι φάος ἠελίοιο.

uſeful inſtrument in navigation, without which we never could have made thoſe great diſcoveries of countries before mentioned and of the whole frame of this our earth; I mean the mariner's *Compaſs*. We have alſo diſcovered another art, that is, the art of making a very valuable commodity of very mean materials; I mean *Paper;* without the uſe of which, and of another greater art ſtill, the art of Printing, which we have likewiſe invented, antient learning could not have been reſtored, or propagated as it has been all over the weſt of Europe.

It is here to be obſerved, that man, in his progreſs from the moſt imperfect ſtate of civil ſociety to a more perfect one, has a ſenſe of the *Beautiful*, which appears to be ſo congenial to intellect, that an animal cannot have the leaſt degree of intellect, without having, at the ſame time, a ſenſe of the beautiful. But the perception of beauty that a man then has, cannot be of the beauty of mind, or of characters or ſentiments; but it muſt be of the beauty of *body*, and even that not of the fineſt kind. We have hitherto found no nation in ſo barbarous a ſtate, that they have not ſome perception of that kind, particularly with reſpect to their own bodies. Even the inhabitants of New Holland, who have made only the firſt ſtep towards the acquiſition of intellect by civil ſociety, adorn their bodies, as I have ſhown, by carving them: And the Orang Outang, though he has very little more than the capacity of intellect, appears, as I have ſhown in the account I have given of him *, to have a ſenſe of what is decent and becoming. Now, as a ſenſe of the beautiful is, as I have ſhown †, the foundation of virtue, and, I may add, of religion,

* See Vol. IV. p. 26. and the paſſages there referred to, where there are many things mentioned which prove inconteſtibly, I think, that he is a man; though if there were no other but his ſenſe of what is *decent* and *becoming*, I ſhould think that ſufficient.

† Page 119. and the paſſage there referred to.

gion, (for no man can be truly religious who does not perceive the beauty of holineſs), this ſhows the wiſdom and goodneſs of God, who has made a ſenſe of the beautiful ſo congenial to our nature as intelligent beings, that we cannot have the leaſt degree of intelligence without ſome ſenſe of it.—So that we appear to be formed by nature for virtue and religion.

CHAP.

CHAP. XV.

From the Hiſtory of Antient and Modern Times, Man appears to be going on in the recovery from his Fallen State.—Inquiry into the Origin of Evil.—Evil *either* Natural *or* Moral.—*Natural Evil already conſidered.—Moral Evil belongs to the Intellectual Nature—the conſequence of* Our Fall.—*Our recovery only to be made in Civil Society:—There we are governed by Opinion,—and therefore are liable to error, and, its conſequence, miſery.—Two Sources of Moral Evil:—*1ſt, *Indulgence in pleaſures of Senſe;—theſe increaſed by the Civiliſed Life;—Diſeaſes the conſequence of that indulgence:—*2d, *The Errors of the Intellect with reſpect to the* Beautiful *in Sentiments and Actions:—The conſequences of theſe—Ambition, Wars, Conqueſts, and the Deſolation of the Earth by great Empires,—the love of Money,—Vanity in Dreſs, Equipage, &c.*

THUS, I think, I have ſhown, that man, by his Fall, loſt the uſe of intellect, retaining only the capacity of it: But this capacity he cannot exert, except by the intercourſe with his fellow creatures, which civil ſociety gives him; and by civil ſociety I have ſhown that he not only acquires the uſe of intellect, but brings it to a very conſiderable degree of perfection. This we know with the greateſt certainty, from what is preſerved to us of the learning of antient nations, particularly of the Egyptians and Greeks: And even in modern times I have ſhown that we have acquired a great deal of knowledge of this our earth, and of the ſeveral nations inhabiting it;

it; and likewiſe that we have invented ſeveral moſt uſeful arts. It therefore appears, from the hiſtory both of antient and modern times, that man is going on to anſwer the end for which he was intended by his life in this world; that is, to make ſome progreſs towards the recovery from his fallen ſtate, by the acquiſition of the uſe of his intellect, and by the improvement of it. Now, intellect is the prime quality of an intelligent animal, and what makes him ſuch; and in man it is the foundation not only of arts and ſciences, but of virtue and religion, and of every quality of any value which he poſſeſſes.

Such is the ſtate of man in this life with reſpect to intelligence. I am now to inquire how he is as to *happineſs* or *miſery*, that is *good* or *ill*, in this life: And this leads us directly to the ſolution of the grand queſtion, which I have propoſed, concerning the origin of evil.

Evil is either *Natural* or *Moral*. What we call *Natural Evil*, is what happens in the material world by hurricanes, earthquakes, eruptions of burning mountains, and ſuch like commotions of the elements here below: Of theſe I have ſpoken in a preceding part of this volume*, where I have ſhown that theſe events, though they happen but rarely, are produced as neceſſarily as the common phenomena of nature. Of the ſame kind are tempeſts and bad ſeaſons, which deſtroy the fruits of the earth: For theſe all proceed from thoſe general laws of nature, by which the ſyſtem muſt be governed, otherwiſe it would be no ſyſtem; and, as God is the author of nature, the laws of nature are his laws, which he can no more alter than he can alter his own nature †.

As to *Moral Evil*, it belongs only to the intellectual animal, and is

* Page 122. † Page 146. and 147.

is what we call *wickedneſs*, *vice*, or *folly*: It was the conſequence of the fall of man, towards the recovery of which he cannot make any progreſs in this life, as I have ſhown, except by civil ſociety. Now, as in civil ſociety man is not governed as he was in the natural ſtate, that is by inſtinct as the brutes are, but by his own reaſon forming an opinion of what is good or ill, it was impoſſible that, with a weak intellect, very much weaker than that which he had before his fall, he ſhould not fall into many errors, and conſequently make himſelf very unhappy; which I have ſhown in the preceding volume to be the caſe.

Here, I think, it is proper to obſerve, that there are two ſources of moral evil in this life, both of them ariſing from our wrong judgment of what is good or ill. The firſt is indulgence in all the pleaſures of ſenſe, of which the civiliſed life affords very many more than are to be found in the natural life, in which men can only indulge their appetites with the natural productions of the earth, in the ſame way that brutes, ſuch as horſes and oxen, do. Now, the indulgence of our appetites with all the luxuries and delicacies, both of eating and drinking, which the arts of man have furniſhed, muſt neceſſarily deprave our intellect, and make it employ itſelf in deviſing means for gratifying theſe appetites, inſtead of employing itſelf in its improvement and progreſs towards a better ſtate. And not only is the conſequence of this indulgence in ſenſual pleaſure very great with reſpect to the mind; but when it is accompanied, as it commonly is, with indolence and eaſe, it produces diſeaſes without number, and theſe not confined to the parents, but going to the children, and ſo affecting the whole race. Man, living in the natural way, that is, upon the fruits of the earth, and without the uſe of fleſh prepared by fire or of wine or ſtrong liquors of any kind, I hold not to be liable to any diſeaſe, any more than the other animals of this earth that live in the natural way: And, indeed, it would be impeaching the

wiſdom and goodneſs of God, to ſuppoſe that he had ſo framed the nobleſt animal on this earth, and the image of himſelf, as to be the only animal liable to thoſe internal diſorders, we call diſeaſes; and, accordingly, we do not read of any one of the Antedeluvian Patriarchs, who all lived upon the natural fruits of the earth, without the uſe of fleſh or of ſtrong liquors, though we have a very particular account of their lives and deaths, that died of any diſeaſe.

As to the eating of fleſh—If it were eaten always with vegetables, and uſed only to give a reliſh to vegetables, which is the way I eat it, I am perſuaded it would not produce near ſo many diſeaſes: Whereas, if it be eaten in great quantities, as it was by the inhabitants of Paraguay, whoſe only food it appears to have been before they were civiliſed, or, as it may be more properly expreſſed, *humanized* by the Spaniards*, it produces a great number of diſeaſes, even without the uſe of ſtrong liquors, which the Paraguains had not; for, as we are told, they were more diſeaſed than any other barbarous nation.

The other ſource of the miſery of man, in the civiliſed ſtate, does not proceed from his indulgence in ſenſual pleaſures, but from the intellect itſelf; for it proceeds from the ſenſe of the Beautiful, the *το καλον* of the Greeks and the *pulchrum* and *honeſtum* of the Latins. When a proper uſe is made of this ſenſe, it is, as I have ſhown, the foundation of virtue, and alſo of religion: For there can be no true religion without a ſenſe of the beauty of holineſs; and, as beauty is the object of love, the love of God is alſo a neceſſary part of religion, and love, as our Scripture tells us, without any mixture of fear †. But in the ſenſe of the beautiful, as in other things, our imperfect

* See Vol. IV. of this work, p. 98.

† See what I have ſaid at ſome length on this ſubject, in p. 391. of Vol. IV. of this work.

perfect intellect often errs; and then we are deceived with falſe notions of the beautiful in ſentiments and actions. In private life, when this happens, it is called Vanity; which, though it may not make a man miſerable in any great degree, makes him contemptible: In public life it gets the name of Ambition, which produces great diſorders in the government of ſtates when it prevails among the ſubjects; but, when it becomes the paſſion of kings and governors, their ambition produces wars and conqueſts, and wonderful events in the affairs of men. It was ambition which, in antient times, produced thoſe great empires, the Aſſyrian, that of the Medes, the Perſian, and, the greateſt of all, the Roman; all which, and particularly the la[t], may be ſaid to have almoſt deſolated the earth. Beauty naturally produces admiration; and, therefore, a man, who thinks himſelf poſſeſſed of that quality, admires himſelf, and deſires that others ſhould admire him, and that they ſhould expreſs their admiration by praiſe, and by allowing him a pre-eminence in all the buſineſs of life, and particularly in government. From this motive thoſe conquerors, who eſtabliſhed the empires I have mentioned, aſſerted that pre-eminence, to which they thought they were entitled, by force of arms. This miſtaken ſenſe of the beautiful, therefore, I hold to be the foundation of all the great empires I have mentioned; and, even in private life, when joined with the pleaſures of ſenſe, it is the ſource of all the miſery of man in this ſtate of his exiſtence.

But it will be aſked, What is the thing I call *Beauty*, which, I ſay, has produced ſuch wonderful effects in human life? This queſtion I have anſwered in the Vth. volume of this work;* where I have ſaid, "That it is a perception, which the intellect, and "the intellect only, has of a certain union and congruity of ſeveral "things, which makes them in ſome ſenſe *one*, or in other words, a "*ſyſtem*, which we perceive not only in different objects, but in

* Page 120, &c.

" the parts of the ſame object." In this volume* I have ſhown the difference betwixt the *Beautiful* and the *Good.* From the paſſage of Vol. V. above quoted, it appears that I may claim the merit of having firſt given a definition of the *Beautiful;* a thing of ſo very great influence in human life, that the nature of it ſhould be moſt carefully ſtudied by every philoſopher: For it is not only the foundation, as I have ſhown, of virtue and religion, but it is the ſource of that principle which is ſo predominant in human nature, that a man, who is entirely void of it, cannot be conſidered to be a man; I mean the principle of honour †. It produces alſo that love which every man of genius and taſte has for the ſciences and fine arts; for ſuch a man loves them, not for the profit they may bring him, but for their beauty—In ſhort, it is the ſource of every thing that is great and noble in our natures or that can make us happy. I therefore think, that the Stoicks were in the right, when they maintained that the το καλον was not only the *ſummum bonum*, or *chief good*, but the only *good* of man; and, indeed, it is the only good and the only pleaſure of his intellect, by which he is a man, and is diſtinguiſhed from all the other animals of this earth ‡. And it is the only pleaſure of all intellectual beings, even of the Supreme Being; for, as we are told in the laſt verſe of the firſt chapter of *Geneſis*, God, after he had finiſhed his whole work of creation, ſaw all things that he had made, " And behold they were καλα λιαν," as it is in the Septuagint, that is, *very beautiful*, not *very good*, as we have tranſlated it: And, as he ſaw that theſe things were *very beautiful*, they muſt have given him pleaſure. In the paſſage, nevertheleſs, which I have quoted from Volume V. of this work, I have ſhown, that, though Plato and Ariſtotle have ſpoken a great deal, and particularly Plato, of the το καλον, yet neither of them have given

* Page 118. † Vol. V. p. 125.

‡ See on this ſubject Vol. V. p. 135.—and Chap. XIV. of Book III. of the ſame volume.

given us any definition of it. Ariſtotle, indeed, has told us one property of it, that it muſt conſiſt of things which are not very ſmall;—nor yet very great, ſuch as, he ſays, an animal of 10,000 ſtadia would be*. This, I think, ſhows that he conſidered beauty as belonging only to material or corporeal things: Whereas, I think, it is evident, as I have ſaid in the volume above referred to†, that we perceive *Beauty* not only in corporeal objects but in minds, that is, in characters and ſentiments and in the works from theſe proceeding; and, indeed, this is the beauty of the higheſt kind. As to Plato, though he has written a whole Dialogue, which he calls the Συμποσιον or the *Banquet*, upon the ſubject of *Beauty*, he has not told us what it is; and though he makes Socrates, who is a ſpeaker there, ſay, "That to know perfectly what *Beauty* is, or the Αυτο το καλον, is "the greateſt wiſdom and the greateſt happineſs of men ‡," yet he has not ſo much as attempted to give us a definition of it: And he has written another Dialogue upon the ſubject, as I have obſerved in the paſſage above quoted §, entitled, *Hippias Major*, in which he refutes ſeveral opinions concerning the το καλον, but gives no opinion of his own, concluding the Dialogue with the common Greek proverbial ſaying, χαλεπα τα καλα. Cicero, alſo ſpeaking of the *pulchrum* and *honeſtum*, inſtead of giving us a definition of it, refers us to the natural ſenſe which every one has of it: His words are, *Honeſtum igitur id intelligimus, quod tale eſt, ut, detracta omni utilitate, ſine ullis praemiis fructibuſve, per ſeipſum poſſit jure laudari: Quod quale ſit, non tam definitione, qua ſum uſus, intelligi poteſt, (quanquam aliquantum poteſt), quam communi omnium judicio, et optimi cujuſque ſtudiis atque factis; qui permulta eb eam unam cauſam faciunt, quia decet, quia rectum, quia honeſtum eſt, etſi nullum conſecuturum emolumentum vident* ‖. So that Cicero not

* See Vol. V. p. 121.
† Page 123.
‡ Ibid. p. 122.
§ Ibid. p. 121.
‖ Lib. II. *De Finibus*, Cap. 14.

not only has not defined the beautiful, any more than Plato or Ariſtotle, but has ſaid that it could not be defined, being only to be apprehended by the common ſenſe and feelings of men. As to Ariſtotle, however, I think I ſhould not do juſtice to him, if I did not obſerve that he wrote a book upon the ſubject of *the Beautiful*, which is now loſt *. This, I think, ſhows that he himſelf was not ſatisfied, any more than I am, with the account he has given us of the beautiful in his Poetics and Rhetoric. If that book, upon the beautiful, had been preſerved, it would have made the matter quite clear, and ſaved me a great deal of trouble.

And here we may obſerve an eſſential difference betwixt the perceptions of ſenſe and thoſe of intellect; for the ſenſe only perceives corporeal objects, either one ſingle object, or many of them together, but all and each of them by itſelf and without any relation to any thing elſe: Whereas the intellect perceives things only as they are connected together and have a relation to one another. Thus it is the intellect, and the intellect only, which perceives the genuſes and ſpecieſes of things: Even individual objects of ſenſe it perceives only by connecting together the ſeveral qualities of the objects, and in that way making *one* of them; in which way, as I have obſerved †, the intellect forms an idea of a particular object of ſenſe. It is, therefore, the intellect, and the intellect only, that makes *one* of the *many;* wherein, as I have ſhown ‡, all ſcience conſiſts, which is produced by intelligence, and intelligence only, though ſenſe furniſh the materials.—And thus, I think, I have clearly explained the difference betwixt the perceptions of ſenſe and thoſe of intellect; a difference, which has not, I think, been ſufficiently attended to, neither by antient nor modern philoſophers: And from the difference betwixt theſe two perceptions, I think, I have made it evident, that beauty muſt be a perception of the intellect, and not of the ſenſe.

Thoſe

* See p. 105 of Vol. II. of this work. † Page 167. ‡ Page 173.

Thoſe two paſſions, the one for ſenſual pleaſures, the other for beauty, are generally accompanied with another paſſion; I mean the love of money, which furniſhes a man not only all the ſenſual pleaſures he can wiſh for, but every thing that can procure him praiſe and admiration not only for the ſplendour of his table, but for all the finery of his dreſs, of his houſe, of his equipage, and of every thing that can attract the admiration of men.

That all theſe paſſions and purſuits proceed from the ſenſe which we have of the beautiful, I think is evident; for as to dreſs, equipage, buildings, &c. we perceive beauty in them, which makes us deſire them. But of all the things I have mentioned, there is nothing we deſire ſo much as admiration and praiſe, becauſe the ſubject of it is the beauty, not of ſuch things as I have mentioned, but of ourſelves; and which, therefore, gives us the greateſt pleaſure. Governing other men gives us alſo that pleaſure in a high degree, becauſe it makes us believe that we are much ſuperior to the men we govern: And this is the foundation of the paſſion of ambition, which, as I have obſerved, has produced ſuch great events in human life.

But as the civiliſed life was abſolutely neceſſary for man's making any progreſs in this life towards a recovery from his fallen ſtate, what evil it produces muſt be reckoned in ſome degree neceſſary and unavoidable, (at leaſt with reſpect to ſome men), when the imperfect ſtate of our intellect is conſidered. At the ſame time, I think, it could not well be reconciled with the wiſdom and goodneſs of God, if all men in that ſtate were neceſſarily miſerable. But that is not the caſe: For ſome men, by cultivating arts and ſciences, may improve their intellect ſo much, as to prevent thoſe errors, which men, in the civil life, fall into, and which are the cauſe of all their miſery; and, if to the improvement of their intelligence by arts and

ſciences

ſciences be joined religion, or even if there be, without arts and ſciences, religion alone, if it be a good religion, there is nothing that hinders them to be happy in this life to a certain degree.

But man being governed, as I have ſaid, in the civiliſed ſtate by his free will, his happineſs or miſery muſt depend upon the uſe he makes of that will; for in this life, as well as in his preceding ſtate, he has it in his power to alter his nature, and to make himſelf as it were another man. If he take to religion and virtue, he will enjoy all the happineſs that he is capable of enjoying in this life: If, on the other hand, he take to vice and folly, he will be a miſerable man upon the whole; though he will no doubt have ſome pleaſure in the gratification of his vices and follies, but much overbalanced by the pains attending them; and for this reaſon I have ſaid* what may appear to many of my readers an extraordinary paradox, That man even in this life enjoys all the happineſs that his nature is capable of.

CHAP.

* Page 131.

CHAP. XVI.

The Evil Man ſuffers proceeds from the abuſe of his faculties of Body and Mind.—A life of Nature free from diſeaſe —What that life is. —As to diet, it is Vegetables.—If Fleſh is to be uſed, it ſhould be raw, as it is uſed by the Carnivorous Animals.—Bad effects of our improvements in Luxury:—Our Drink as unnatural as our Food; —Fermented Liquors, Wine and Spirits.—The great age of the Antideluvian Patriarchs to be attributed to their ſimple Diet, conſiſting of the Natural Fruits of the Earth,—without Fleſh, Wine, or other ſtrong Liquors. — Houſes and Clothes not neceſſary for Animals in the natural State.—This proved from examples.—The Natural Life of Man in the open air —Caves the firſt Houſes uſed by Man;—In theſe the Cyclops lived.—Then Clothes were invented:—Evils reſulting from the uſe of them;—they are not neceſſary for the coldeſt climates;—Anacharſis, the Scythian's, reaſon for going naked.—Of the invention of Fire, *and its pernicious effects.— Impoſſible that* Man, *living ſo unnaturally, ſhould be ſo long lived and healthy as he might be by living the life of Nature:—The Evils of Man's artificial life to be alleviated by the open Air, the Cold Bath, Anointing, Physic, and Exerciſe.—Evils attending exceſſes in Venery and the unnatural uſes of it.*

AS Man, in this life, is compoſed of mind and body, it is evident that all the evil he here ſuffers muſt proceed from his mind or body, or from both: And, I think, I have ſaid enough to prove that God or Nature is not the cauſe of the evils which he ſuffers, but he himſelf, by an abuſe of the faculties of mind and body, which

God has beſtowed upon him, and which, if rightly uſed, would have given him all the happineſs of which his nature, in this ſtate of his exiſtence, is capable.

As to his body, it is evident, from the caſe of the brute animals, that if he had lived as they do, that is in the way that God and Nature had appointed he ſhould live, he would have been as free of diſeaſe, which is the greateſt affliction of body that we are liable to, as they are: For the wiſdom and goodneſs of God has appointed certain ways of living for the different ſpecieſes of animals; and there is no natural philoſopher, who can doubt that every brute in the natural ſtate lives in a manner which is ſuitable to his nature, and which makes him happier than he would be if he lived in any other way. The ſame, I ſay, is the caſe of man, who, as he is the chief animal on this earth, is deſtined by God and Nature to purſue a manner of life which would make him happier, with reſpect to his body, than if he lived in any other way. The queſtion, therefore, is, what that manner of life is? And, *firſt*, with reſpect to his diet, as he is not an animal of prey, or a carnivorous animal, as the lion or tiger is, his natural diet is not fleſh, like theirs, but vegetables, ſuch as feed the other animals of this earth that are not carnivorous. The fleſh diet, therefore, is an unnatural diet for man, eſpecially as it is uſed by the nations of Europe, that is, prepared by fire; for, if he is to uſe it, it is much better that he ſhould uſe it as the wild beaſts do, whoſe natural food it is, that is, raw and as it comes from the animal. In this way our famous traveller, Mr Bruce, told me he ate fleſh in Abyſſinia, in the ſame manner that the people of that country eat it, that is, taken directly from the animal, without any preparation by fire or otherwiſe, and warm with the animal life; and he aſſured me that he never ate fleſh that he digeſted better: And the Wild Girl, whom I ſaw in France, told me that the firſt fleſh ſhe ate, roaſted or boiled, lay upon her ſtomach like as much lead, and threw her in-

to

to a very dangerous illneſs, from which ſhe recovered chiefly by ſucking the warm blood of chickens*. But we in Europe, not contented with boiling, roaſting, or broiling our fleſh, give it a reliſh with ſalt, which Salluſt, the Roman hiſtorian, very properly reckons one of the *irritamenta gulae*, and which the North Americans do not uſe, ſaying that it produces many of the diſeaſes to which we are liable †; and it is certain that ſalt makes us both eat and drink more than we ſhould do otherwiſe. But the wealthy among us, not content with that ſeaſoning for their fleſh, uſe many others, and make of it, what they call *made diſhes*, with high ſauces, tending to provoke their appetites to eat more than nature requires. And not content with fleſh, which the earth or air produces, we go to another element to ſeek for food; I mean the water, from which we take fiſh that we eat. This was thought by the Egyptians, the moſt antient, and, I believe, the wiſeſt people which ever exiſted, ſo unnatural food, that they did not uſe it, though their river abounded with it: And even the Greeks did not uſe it at the time of the Trojan war, as I have ſaid in Vol. III. of this work ‡, except when they could get no other food. And fiſh we uſe not only prepared by fire, but dreſſed with the fineſt ſauces we can contrive. This is the food which we have deviſed for ourſelves, in place of that which God and Nature have deſtined for us. As to our drink, it is ſtill more unnatural; for it is not the drink of any other animal that lives either on the earth, in the air, or in the waters, but altogether an artificial drink. Some of it is made by fermentation, ſuch as wine and beer, which are not natural drinks; and, therefore, the inhabitants of New Zealand, and thoſe of Terra Del Fuego, one of the coldeſt climates in the world, as they both live in a natural way, will not, as I have been informed, be perſuaded to taſte them: But, in modern times, we have invented another

* Vol. III. p. 176.

† Ibid. p. 171.

‡ Page 93.

drink ſtill more artificial, and as unnatural as can be conceived; I mean ſpirits, which are made by diſtillation from fermented liquors, and are ſo far from being fit for the drink of any animal, that they are fuel for fire, and produce a moſt ſudden and violent flame. And not only do we uſe this moſt unnatural liquor, unknown to the antients, but we do not uſe wine as they did, that is, mixed with water, but we uſe even wine and brandy, that is, what is called *Port*, without any mixture of water.

The uſe of theſe ſtrong liquors, being an unnatural drink, not only hurts the body, but alſo the mind; and, indeed, taken to exceſs, they deprive us altogether of what is moſt valuable in our mind, and which diſtinguiſhes us from all the other animals of this earth, that is, our intelligence.

That a wiſe and good God ſhould have deſtined ſuch a diet, ſo deſtructive both to mind and body, for the principal animal here on earth, and ſo different from that which he has allotted to inferior animals, is altogether incredible, and, I think, impious to believe. But, if there were any doubt in theory, the lives of the Antedeluvian Patriarchs make it evident from fact. Of theſe I have ſpoken at ſome length in Vol. III. of this work *. Feeding upon the natural fruits of the earth, they lived to a very great age, ſome of them above 900 years. But, after the deluge, when men ate fleſh and drank wine, the length of their lives gradually decreaſed. And if we are ſuch unbelievers as not to credit what we are told in our bible, of the length of the lives of thoſe antient patriarchs, while they

* Page 121 and following.—It may be obſerved, that there is a greater collection, in that 3d volume, concerning the various ways of men living in the different ages of the world, the length of their lives, their health and their ſize, than, I believe, is to be found in any one book extant; and which, I think, is worth the readers peruſing from curioſity merely, if he were to draw no philoſophical concluſions from it.

they fed upon the natural fruits of the earth and drank no wine, we cannot likewiſe diſbelieve what ſeveral authors, both Greek and Latin, have told us of the long lives of men *.

And thus much may ſuffice with reſpect to our diet. I come now to ſpeak of another thing in our manner of living, which I think of ſtill greater conſequence; I mean our houſes and our clothes Of this I have ſaid a good deal in Vol. III. of this work †; but I think it a matter of ſuch conſequence, that I will add ſeveral things here to what I have there ſaid.

That the natural life of the brute animals is their beſt way of living, to which their inſtinct directs them, I think I have clearly proved in the paſſage already referred to; and particularly from the example of horſes, which has fallen under my own obſervation: For I have ſhown, that by their inſtinct they are not directed to go into a ſtable, though the door be open, except to feed; and, after they have fed, to come out again, even in the moſt ſtormy nights, and to lye in the fields: And that in a day of wind and rain, when they have an open ſhade to go into, they will only ſhelter their heads and ears from the weather, leaving their bodies expoſed to it ‡. There are animals which, by nature, are deſtined to live under ground, ſuch as moles; but man is none of theſe: And, therefore, I cannot believe that he is an exception to the general law of nature, by which all the other animals of this earth are prompted by their natures, that is, by inſtinct, to live in the open air, with the ſhelter ſometimes of a bank or a thicket, when the weather makes that neceſſary. Air, indeed, is the element in which we live, as much as water is the element in which fiſh live: And we not only live *in it*, but we live *by it;* nor can we live without it: For we take it in not only by our mouths and noſtrils, ſo that we could not

* See p. 124. of the ſame volume. † Page 78. &c. ‡ Vol. III. p. 79.

not live a a few minutes without it, but alſo by the pores of our ſkin, which are called *abſorbing veſſels* *.

The firſt cover from the air, that men uſed, appears to have been what nature furniſhed them, ſuch as *caves;* and it was in that way that the Cyclops, as Homer has deſcribed them, lived. When nature did not furniſh ſuch caves to them, they dug them out of rocks, of which a remarkable monument is at this day to be ſeen in an iſland of India, near to Bombay †; and as the progreſs of arts advanced, they came at laſt to make that covering from the weather, above ground, which we call a Houſe.

But men, not ſatisfied with this cover from the weather, invented another, and a much cloſer one, which we call *clothes*. Before, however, I come to ſpeak of them, I think it is proper to obſerve, that the care of our ſkin, which covers our bodies, is of the greateſt importance in our whole animal economy; for our ſkin both *takes in* and *throws out* a great deal. By its abſorbing veſſels, it takes in the air, *in* and *by* which, as I have ſaid, we live: And it alſo throws out a great deal by its *perſpiring veſſels* ‡, of which I ſhall ſay more very ſoon.

Clothes were not uſed by man before his fall, as our Scripture tells us §. The firſt clothes, he uſed, were of ſkins ‖, which is the only clothing that ſuch of the barbarous nations, as do not go naked, uſe at this day; and, indeed, without the arts of ſpinning and weaving, by which clothes are made of vegetables, men could only be clothed by what clothes the brute, that is by ſkins. But the vegetable clothing, which we uſe, is much cloſer and warmer than ſkins thrown about the body are. So that, if any covering by clothes be hurtful, the

* Vol. V. p. 19. † Vol. III. p. 83.
‡ Ibidem. § Geneſis chap. iii. v. 7. ‖ Ibid. v. 25

the covering by our clothes muſt be much more hurtful than the antient clothing by ſkins, eſpecially if it conſiſt of three or four coverings, one above another: For it muſt keep our bodies intirely from any communication with the air, ſo that we can take in no air by our ſkins, except by a ſmall part of them, ſuch as our faces and hands; and even theſe the delicate people among us cover not only by houſes, but even when they go abroad by cloſe vehicles in which they are carried, or by gloves that they wear upon their hands when they walk or ride.

We are, therefore, hindered, in this way, from taking in the air by our abſorbing veſſels. But the other thing I mentioned is ſtill of worſe conſequence; I mean the hindering our ſkin from throwing out, by our perſpiring veſſels, a great deal of the filth of our body, more than we diſcharge either by ſtool or urine*. Of this filth there is not ſo much thrown out when we are clothed as when we are naked; for by experiment it is made certain that we perſpire more when we are naked and in the open air, than when we are clothed. And what is thrown out is kept about our body; ſo that a man, who is clothed, lives in the filth of his own body, and takes in again a conſiderable part of it, by which means there is a circulation of filth in his body†. If this be ſo, can there be any doubt, that of all the many inventions of man, for the deſtruction of his body, this is one of the worſt: And as the mind and body are ſo intimately connected, I have no doubt that it muſt have likewiſe an effect upon the mind. I am perſuaded, therefore, that the antient Gymnoſophiſts, in India, philoſophiſed better by being naked, than they would have done if they had been houſed and clothed; and, I believe, better than many of the Greek philoſophers, who were covered from the air, both by houſes and clothes;—though they may have fed as theſe Gymnoſophiſts did, upon vegetables only.

* Vol. V. p. 19. † Ibid. p. 19. and 20.

It may be thought, that, however hurtful this invention may be, it was of abſolute neceſſity for enabling man to endure the cold of the weather. If this were ſo, it might be ſuppoſed that the wiſdom and goodneſs of God had formed the chief animal of this earth ſo much inferior to other animals, that he could not live without the uſe of what I have ſhown to be neceſſarily hurtful to him, as tending to produce both weakneſs and diſeaſe and conſequently to ſhorten his life. But that is not the caſe: For, I think, I have proved, in Vol. III. of this work*, that man can live naked in climates much colder than that of Britain, particularly in the climate of New Holland, in the ſouthern latitude of 44; and that, under the Emperor Severus, the people in the ſouthern parts of Scotland, called *Mæatæ*, lived abſolutely naked. The anceſtors of the people of Britain, the Celts, who came from Gaul and peopled Britain, wore no clothes; and the marks of dignity among them they engraved upon their ſkins, till they began to wear clothes; and then they painted them upon their bucklers and ſtandards. This fact we are told by an author who has written an excellent work upon the hiſtory of the Celts †. In Vol. IV. of this work‡, I have quoted an author of the name of Zimmerman, who has written a work, entitled *Zoographie Geographique*, where he gives an account of men being able to endure the greateſt cold that art can produce, that is by the mixture of ſal ammoniac and ice; for ſo great is the cold of Nova Zembla, and therefore, ſays he, bears cannot live there, nor any other animal except man and a white fox: And he tells us, that in Greenland the men have their bodies very ſlightly covered, their head and neck quite uncovered, and no fire in their huts. Sir Francis Drake ſaw naked ſavages in a boat at ſea, a degree farther ſouth than the Straits of Magellan; which is a climate very much colder than any country we have diſcovered in any northern latitude. I hold it, therefore, to be certain that man can bear as much cold as any animal

* Page 29. and following. † Pellutier, p. 159. ‡ Page 52.

mal on this earth. And as to *heat*, the ſame author, Zimmerman, tells us, in the paſſage above quoted from Vol. IV. of this work, that women can work in an oven heated to the degree of 275, by Fahrenheit's thermometer. —I think, therefore, it is certain that there is no animal of this earth, that can endure more cold and more heat than man; and, therefore, that he is fitted for inhabiting every country of this earth, for which he appears to be deſtined by God and Nature.

For theſe reaſons I am convinced, that all the men of this earth were originally in the natural ſtate, that is without clothing; and that, therefore, clothing is entirely an invention of art, and has, like many other inventions of art, impaired the health and ſhortened the lives of men. I am alſo convinced, that the ſavages, who at this day live in the primeval ſtate and go naked, keep their healths very much better than we do; nor do we hear of any diſeaſes among them, except ſuch as are produced by the ſpirits that we give them. But though the primitive naked ſtate may be proper for vagrant ſavages, it would not be at all proper for the civiliſed life, in which men live in the cloſeſt intercourſe and communication with one another, and where, therefore, decency muſt be obſerved, particularly with reſpect to the ſexes: For, as in civil ſociety men and women do not copulate promiſcuouſly, it would be altogether improper and indecent, if their parts of generation were expoſed to view; and even the naked ſavages, though there be no marriages among them, conceal thoſe parts from view with coverings of leaves, as our firſt parents did, or with ſome thing elſe.

Clothing, therefore, I hold to be coeval with civil ſociety; and accordingly we do not hear of any ſuch ſociety of naked men, even in the earlieſt times. But the clothing needs not be, nor, I am perſuaded,

ſuaded, was it, in antient times, ſuch a cloſe covering as we wear, by which both the air is excluded from our bodies, and the filth we throw out by our ſkins kept about us; but it was another kind of covering, ſuch as I have ſaid the Greenlanders wear in their cold climate, or ſuch as the inhabitants of Terra Del Fuego, a country ſtill colder than Greenland, uſe, who have no other clothing than ſkins looſely tacked about them*. And, as to *cold*, I ſay further, the more cold that a man accuſtoms himſelf to endure, the healthier and ſtronger he is: And men, who, from a life in the fields in which they ſlept in the open air, have paſſed to a life under a roof and in cloſe and warm beds, are liable to diſeaſes, of which I have given one example that fell under my own obſervation †; whereas people, who have made the moſt ſudden tranſition from the cloſe houſed delicate life to the open air, have recovered of ſickneſs. I was informed of a ſhip that ſprung a leak, which obliged the crew, among whom there were a great many ſick men, to take to the long boat, where, after having been ſeveral days expoſed to wind and rain in a very tempeſtuous ſea, they were taken up by a ſhip that they accidentally met with, and the ſick men were by that time quite recovered: And it is a fact very well known in the army, that when it has occaſion to march from a camp, which it has occupied for any time, the ſick men in the hoſpital, who are carried along with the army in waggons, recover very much faſter then they did in the hoſpital. I have given other examples of the ſame kind in Vol. III. of this work ‡, ſufficient to prove, that our life in the open air is ſo natural to us, that it will not only preſerve our health, but recover it when loſt: And if ſo, the Californians, who inhabit a very cold country in the north-weſt part of America, were very much in the right, when they could not be perſuaded by the Jeſuits to ſleep with them in their huts, but choſe rather to lie at the door of them §. Neither would they accept of clothes which were offered them by the

* Vol. IV. p. 52. † Vol. III. p. 81. ‡ Ibid. p. 80. &c. § P. 80. and 81.

the Spaniards for nothing, though the cold of the country was ſo great, that ſome of the Spaniards are ſaid to have died of it*. And, as to the cold bath, there is an example of the effects of it, which are really wonderful upon the Carraibs, a people inhabiting the Carribee iſlands in the Weſt Indies, called by the French the *Antilles*. Of theſe I have ſpoken in Vol. III. of this work†, where I have ſaid that they are prodigious drunkards, getting drunk, men, women, and children, very frequently with a ſtrong liquor which they have learned to make of an herb they call *Manniock*; and they are liable to many diſeaſes, particularly the Great Pox, which is common among them in its higheſt degree of malignity, and is tranſmitted from the parents to the children, as they have no radical cure for it, but only palliatives; notwithſtanding all which, we are told that they live very long, even to the age of 100 and upwards; and there is an author, one Mr Rochford, who, in his hiſtory of the Antilles iſlands, ſays, that the ordinary life of the Carraibs is 150 years ‡.

That man is by nature fitted to endure the cold when he is naked, is evident from what we ſee every day of ourſelves; and that is the face naked. Upon that ſubject there is a very good ſtory told of Anacharſis the Scythian, who had a curioſity and love of learning, which made him come to Athens to converſe with the philoſophers there; where he lived as he did in his own country, that is naked. Being aſked, by an Athenian, how he could bear ſo great a cold as then was at Athens, when it happened to be winter, he anſwered the queſtion by aſking another at the Athenian, Whether he felt any cold in his face? The Athenian anſwered, That he did not. Neither, ſays Anacharſis, do I feel any in my body; for *I am all face*. Indeed, I can ſee no reaſon why the fore part of our head ſhould, by cuſtom and habit, be made to endure the cold ſo eaſily, and not the back part of our head and our whole body: For we ſee every day boys in our ſtreets going about with their necks and a good part of

* Vol. V. p. 13. † P. 87. 88. ‡ P. 13. and 14 of Vol. V.

their breaſts bare, without catching any cold; and I was told, by one of my countrymen who had practiſed phyſic in Ruſſia for ſeveral years, that the Ruſſians are accuſtomed to go about with their necks bare, as children do among us, and yet a ſore throat is a diſeaſe not known in Ruſſia. I am, therefore, convinced that our children though deſcended of parents, who, for ſo many generations, have been in the habit of wearing clothes, might nevertheleſs be brought up naked and continue ſo all their lives in very much better health than they do now *.

There is one thing that ſhould recommend the uſe of the cold bath to all our fine gentlemen and ladies, that, without the uſe of it, it is impoſſible they can be clean, living in the filth of their own body, but muſt ſtink, as the Ottaheite man, Omai, who came from a country where the inhabitants bathed twice a day, ſaid, that all the people of England did †.

The Scythians were excellent ſoldiers, and conquered many countries; ſo that their going naked neither leſſened the ſize and ſtrength of their bodies, nor impaired their courage: For our minds and bodies are ſo intimately connected, that whatever is good for our bodies alſo adds to the ſtrength and vigour of our minds.

But not only do we indulge ourſelves in the warmth of houſes and clothes, but we uſe a warmth ſtill more unnatural; I mean the warmth of fire: For the warmth we enjoy, proceeding from houſes and clothes, comes from our own bodies, and is only kept about us by houſes and clothes; but the warmth of fire is an extrinſic heat, proceeding in Britain from a ſulphureous mineral, that is *coal*, which is now almoſt the only fuel that is uſed by us, and which, at the ſame time that it gives us an unnatural heat, corrupts the air by its ſulphureous

* See note on p. 44. of Vol. V. † Vol. V. of this work, p. 34.

ſulphureous vapour, and, in a great town, produces ſuch an atmoſphere, that when we ſee it at a diſtance, we ſhould think, if we were not accuſtomed to it, that no animal could breath in it.

But of *fire* I have ſaid a great deal in Vol. III. of this work*; where I have obſerved that the conſtant and familiar uſe of fire by man, and his making it even a neceſſary of life, is a moſt extraordinary thing in the hiſtory of our ſpecies, when we conſider that it is the terror of all other animals, and even of man when he firſt ſees it, as I have made evident from the example of the Wild Girl whom I ſaw in France, to whom it was at firſt both an abhorrence and a terror †.

That the unnatural heat of fire, beſides corrupting the air, muſt produce a great many diſeaſes among men, I think is certain; and, accordingly Horace has told us, that,

> Poſt ignem aetherea domo
> Subductum, macies et nova febrium
> Cohors incubuit terris ———

And when to the unnatural warmth of fire we join the uſe of houſes and clothes, which, beſides the unnatural warmth that they likewiſe produce, keep from us the free uſe of the air, an element ſo neceſſary for our exiſtence;—and when to all this is added our unnatural diet, I ſay it again, that it is abſolutely impoſſible, by the nature of things, that we ſhould live ſo long, or continue ſo long in health, as by God and Nature we are deſtined to do, unleſs we could ſuppoſe that man has invented for himſelf a better life than God has deſtined he ſhould live.

As, therefore, men live in ſo unnatural a way, eating the food of an animal of quite a different kind, I mean a carnivorous animal, and

* Page 38. and following. † Vol. IV. p. 33.

and not as that animal eats it, but prepared by fire, cooked, and dreſſed;—uſing alſo, by way of drink, fermented liquors, ſuch as *wine and beer*, and the moſt unnatural drink that can be imagined, I mean *ſpirits*, which are ſo far from being the natural drink of an animal, that they are fuel for fire;—likewiſe covering himſelf from the air, in which and by which we live, and that not only by houſes, but by the cloſeſt covering that can be imagined, that is, by clothes in the day time, and by ſheets and blankets in which he is wrapped during the night;—I think it is impoſſible, by the nature of things, that he can live the time which God and Nature have deſtined he ſhould live, and without diſeaſe, or that, after having lived that time, he ſhould die the death of Nature. My ſyſtem therefore is, that we live ſo long as we do, and that more of us are not years a-dying of long and painful diſeaſes, and are not 9 years *a-killing*, which Othello, in Shakeſpear, prays that *Iago* may be.

But it will be ſaid, is then ſo ſhort a life, and ſo long and painful a death, ſo abſolutely neceſſary, that they cannot be prevented or alleviated by any thing we can do? And, I think, we may alleviate them, firſt by taking to the natural diet of vegetables, and then by living more in the air than we do; or, without making ſo great a change, by living as the antient Egyptians did, who ate fleſh and drank wine, and lived in houſes as we do, but lived, I am perſuaded, much longer and much more free of diſeaſe, and died a much ſhorter and eaſier death. And this was by the conſtant uſe of the cold bath, four times in the twenty-four hours; and by phyſic, that they took regularly once a month, which they thought neceſſary to prevent the bad effects of their unnatural diet: Both which practices I can recommend to the reader from my own experience *.—As to the cold bath, I think it ſo neceſſary for men who live, as we do, in

* See what I have ſaid upon this ſubject in Vol. V. p. 20.—where I have ſhown that the Egyptian practice of the cold bath was much better than the warm bath uſed by the Greeks and Romans.

in the filth of our own bodies, kept about us by our clothes, that I hold it to be abſolutely impoſſible that a man, who lives in that way, without cleanſing himſelf by bathing, can live in health the time that God and Nature has deſtined he ſhould live. And the cold bath has this advantage over the hot, that it not only cleanſes, but braces and accuſtoms a man to bear the cold; for which purpoſe I would adviſe every man, who takes that bath, to walk naked for ſome time in his room, with the windows open, and to practice ſome exerciſe, ſuch as I uſe, by ſwinging leads, and by that means to make ſome amends for the want of a practice, which, I am perſuaded, contributed very much to the health and ſtrength of the Greeks and Romans; I mean the practice of performing their exerciſes in the Palaeſtra or Campus Martius, naked. In Vol. III. of this work* I have mentioned a gentleman, whom I knew in London, the late General Ogilthorpe, who every morning exerciſed himſelf naked in his room, after getting out of bed, the beſt part of an hour, and lived to the age of 100, perfectly entire in mind and body. I alſo anoint after bathing; and I never omit it any day, even when I do not bathe; and I anoint both in the morning when I riſe and in the evening before I go to bed. This practice I alſo learned from the antients; for we hear of a man among the Romans, in the days of Auguſtus Caeſar, who lived to be very old, above the age of ninety; and it was, as he thought, by the conſtant practice of anointing; which is ſo much in uſe at this day among the Indians of the Eaſt, that, it is ſaid, our Seapoys could not ſerve us if they were not regularly anointed; and they are at great pains to work the oil into their ſkins, by what they call *ſhampooning*. And when it is in this way incorporated with the ſkin, it certainly makes it fitter for perſpiration, and for taking in as well as for throwing out; and, therefore, I think it is very properly practiſed by the people of the Pelew Iſlands, who, though they wear no cloaths, yet not only bathe, but

* Page 41.

but anoint *. In ſhort, the care of the ſkin is a principal part of what the Romans called the *cura corporis*.

If our diet, unnatural as it is, and of which we often take more than our natural appetite requires, were to be wrought off by regular exerciſe, though not ſo violent as what the Greeks uſed in their Palaeſtras, or what the ſavage nations, ſuch as thoſe of North America, uſe in hunting or in long journeys on foot, it would not be ſo pernicious: But when it is accompanied with indolence and eaſe, and when neither the outſides of our bodies are kept clean by bathing, nor the inſide by phyſic, it is impoſſible, by the nature of things, that we can live long in good health; and what, I think, is worſe than a ſhort life, we probably will die a long death.

There is one pleaſure of ſenſe that I have not mentioned, greater and more alluring than any other ſenſual pleaſure; I mean the pleaſure of venery. It is, therefore, practiſed in three ſeveral ways; *firſt*, in the natural way with women; then in a moſt unnatural way with boys or young men; and, *laſtly*, by men upon themſelves, without either women or other men; and this laſt way is practiſed chiefly by ſchool-boys, and ſo muſt have a very bad effect upon their growth and ſtrength. Of the intemperate uſe of this pleaſure, even in the natural way, I have ſpoken at ſome length in Vol. III. of this work †, and have ſhown how much it waſtes the animal life; where I have obſerved ‡, "That the unnatural practice of it by "boys at ſchool upon themſelves, which, as I have ſaid, is ſo per-"nicious to their growth and ſtrength, appears to be a vice pecu-"liar to modern times."

Before I conclude this chapter, I will add ſome obſervations upon one pleaſure of ſenſe that I have not yet mentioned, but which I think

* See Vol. IV. p. 57. † Page 178. and following. ‡ Ibid. p. 181.

think very well deſerves to be noticed. It is the pleaſure, which our ſenſe of ſmelling affords us, the moſt innocent of all the pleaſures of ſenſe; for it is pure and unmixed with pain, which neither precedes it, accompanies it, nor is ſubſequent to it; and in it we do not hear of any exceſs, which is ſo frequent in other pleaſures of ſenſe. It is ſo far from being hurtful to health, that it is beneficial to it; for the perfumes, which are ſo agreeable to our ſmell, improve the air that we breathe. It was, therefore, very much uſed by the wiſeſt of all nations, I mean the Egyptians, who choſe, with great care and attention, the ſeveral odours with which they perfumed the air. Upon this ſubject Plutarch has ſaid a good deal in his treatiſe *De Iſide et Oſiride**; where he obſerves, that the Egyptians gave the greateſt attention to every thing that regarded health, as they thought that the habit and diſpoſition of the mind was intimately connected with the habit of the body. And he has there quoted Ariſtotle, as ſaying that the odours of perfumed oils and flowers not only give great pleaſure, but are alſo very beneficial to health: He adds, that the phyſicians, in order to prevent the bad effects of a peſtilential air, recommended the burning of odoriferous woods, ſuch as the cypreſs and juniper; and he mentions a phyſician in Athens, one Acron, who, in the time of a peſtilence there, got great reputation by preſcribing, for thoſe who were ill of the plague, the burning ſuch woods. Indeed, I think it is impoſſible not to believe, that, as odours are ſo mixed with air, they muſt have a great effect upon it of one kind or another. We are, therefore, not to wonder that perfumes were ſo much uſed by the Greeks and Romans. Among the Romans it was a piece of luxury, which was in conſtant uſe, and which was not hurtful to their health, like their other luxuries, but beneficial to it. There was, therefore, among them, no ſupper of any elegance, in which the company were not all anointed with perfumed oils, or *unguents*

* Tom. II. p. 383. of the Paris edition.

as they called them; and it was thought as neceſſary for the entertainment of the gueſts as wine. And to the perfumes of oil they added flowers: Accordingly Horace, in recommending the enjoyment of life, while it laſts, to his friend Dellius, ſays to him,

> Huc vina, et unguenta, et miniùm breves
> Flores amoenae ferre jube roſae:
>
> CARMIN. Lib. 2. Ode 3.

Again, in his 7th Satire of the 2d Book, which contains a very humorous dialogue betwixt him and *Davus* his Slave, *Davus* tells him, that, notwithſtanding all he ſays in praiſe of temperance, no ſooner does Maecenas invite him to ſupper, but he immediately deſires to be dreſſed, and, among other things, calls moſt impatiently for oil:

> ——————————Juſſerit ad ſe
> Maecenas ſerum ſub lumina prima venire
> Convivam; 'Nemon' oleum feret ocius? ecquis
> 'Audit?' cum magno blateras clamore, furiſque.

And, when a man made love to his miſtreſs, he was *perfuſus liquidis odoribus* *. So that unguents and flowers were thought as neceſſary for the enjoyment of a pleaſurable life as wine. Now I think it is ſurpriſing that in modern times, as we ſtudy ancient arts ſo much, we have never thought of imitating this antient piece *of elegance*, as I think it may be more properly called than *of luxury*.

CHAP.

* Horat. Carmin. Lib. 1. Od. 5.

CHAP. XVII.

Civil Society, notwithſtanding the evils attending it, abſolutely neceſſary for the improvement of our Intellect.—Thoſe evils, however, may be remedied, by the Study of Arts, Sciences, and Philoſophy.—Our indulgence in Senſual Pleaſure thereby moderated; and our wrong ſenſe of the Beautiful *corrected.—The Intellectual Mind ſhould govern in our Little World, in the ſame way that Supreme Intelligence governs in the Univerſe:—Evil Conſequences of this not being the caſe both in Public and Private Life.—Great Advantage of the Improvement of our Intellect.—Moſt of that improvement we owe to the Egyptians:—They Invented Language, Agriculture, Metallurgy, Statuary, Architecture, and Muſic; and Propagated theſe Arts, by means of their Colonies, over a great part of the World.—The Miſeries of* Ennui, *which prevails both among Civilized Men and Savages, to be prevented by the Study of Arts and Sciences.*

IN the preceding chapter I have been pretty full upon the vices and follies to which men are liable in civil ſociety: But I think I have ſhown, that if civil ſociety produced more vices and follies, it was of abſolute neceſſity, in order to make man an intelligent animal, and not merely a better kind of brute, with the capacity only of intelligence. And not only does he acquire intelligence in civil ſociety, but he improves it very much by the conſtant uſe of it; ſo conſtant, that he never chuſes to do, or not do, any thing, without forming an opinion concerning it, which cannot be without the exerciſe of intelligence. But if thus, in the common affairs of life, we improve our intelligence by the conſtant uſe of it, much more do we cultivate and improve it by the invention and practice of arts, and by the ſtudy of ſciences. In this chapter I am to ſhow, that though civil ſociety produces a great many evils, it alſo furniſhes preventives or remedies

for thoſe evils. Theſe are the two things I have juſt now mentioned, arts and ſciences, which, in this age, we are ſo lucky as to enjoy, without having invented them; for ſciences have been tranſmitted to us from very ancient times, by the means of that wonderful art of writing, which the Egyptians invented, and many arts in the ſame way have come down to us. The common and neceſſary arts of life, ſuch as that of raiſing corn by agriculture, and in that way not only making bread, but alſo drink by fermentation, were, as I have ſhown elſewhere *, invented in Egypt, and thence have come to us. And not only neceſſary arts have, in this way, been tranſmitted to us from ancient times, but we have been taught the practice of the fine arts by ancient monuments of that kind that are ſtill preſerved, and ſo have improved our ſenſe of *the beautiful*, which, as I have ſaid, is the foundation of our moſt valuable knowledge. In this volume I have ſhown how much we may improve our intelligence, and enrich our minds, by the ſciences invented and cultivated by the Egyptians, Greeks, and Romans; and alſo, that, even in modern times, we have invented ſeveral uſeful arts, and likewiſe improved our knowledge by diſcoveries that we have made on this earth.

By the diligent ſtudy of theſe arts and ſciences, which have come down to us from antient times, or have been invented in modern, I think we muſt improve our intellectual faculty, and conſequently correct thoſe vices and follies which are produced in the civil life; for they all proceed from ignorance, or the errors of our judgment. If we knew that eating, drinking, and coition, were intended by God and Nature for the purpoſe of the preſervation of the individual and the continuation of the ſpecies, and that pleaſure was annexed to theſe ſenſual enjoyments, that we might be more readily diſpoſed to gratify them, we ſhould be convinced that it was a groſs error, and productive of very bad conſequences, to miſtake the *pleaſure*,

* Vol. IV. Book II. Chap. IV.

ſure, which is annexed to thoſe operations, for the *end* intended by them, and to mind nothing elſe but the pleaſure attending them: And we ſhould further know, that the pleaſure, indulged in this unnatural way, muſt draw to very bad conſequences with reſpect to health; and that even the pleaſure itſelf, indulged to ſuch excéſs, is leſs than if it were enjoyed with moderation and in a natural way.

The improvement of our intellect, by the cultivation of arts and ſciences, will alſo enable us to correct thoſe errors which we are led into by miſtaken notions of *the beautiful*, and which are of much greater conſequence than the other ſource of miſery in human life, that I have mentioned, I mean the indulgence of ſenſual pleaſure: For as the ſenſe of the Beautiful is eſſential to intellect, every man muſt have it in a greater or leſs degree: And if it be a wrong ſenſe, it muſt produce the greateſt miſchief; for it is then the ſource of ſtrife and contention, and of the greateſt diſorders both in government and in private life, and particularly of ambition, which, as I have ſhown, has been the cauſe of ſuch deſtruction of men and ſo much deſolation of the earth. It is alſo the ſource of one evil among men, which, as that wiſe Scythian, I have mentioned *, Anacharſis, obſerved, was peculiar to men, and very ſingular: For, ſays he, other animals are only afflicted by the evils which they ſuffer themſelves, but man is afflicted by the good which other men enjoy; that is, he is afflicted by the paſſion of envy, which, as Horace tells us, is ſo great a pain, that

> Invidia Siculi non invenere tyranni
> Tormentum majus.———

Our intelligence, if it be ſuch as it ought to be, will let us know that Beauty conſiſts in ſuch an order and arrangement of things, as makes

* P. 211. See, concerning Anacharſis, Æliani *Varia Hiſtoria*, Lib. 7. Cap. 6.

makes a ſyſtem, that is *one* of ſeveral things; for beauty, as I have ſhown*, is a perception, not of ſenſe but of intellect, which does not perceive a ſingle object, as our ſenſe does, but ſeveral together; and, in that way, it perceives the relation they have to one another. Beauty, therefore, like *truth* or *ſcience*, does not conſiſt of a ſingle thing, but of *the many*, of which it forms *one*. This, I know, will be thought, by ſuch of my readers as are not philoſophers, to be an inconceivable paradox; for they will ſay, that intellect undoubtedly perceives that a ſingle animal is a man or a horſe. But I aſk How does it perceive that? And, I ſay, it is by perceiving that the ſeveral qualities, which conſtitute a man or a horſe, are united in that animal, and make *one of the many*. In ſhort, it is the genus or ſpecies of the thing, which intellect perceives, and which conſiſts of ſeveral things that, collected together, make the thing *one*, which is therefore perceived by the intellect: And it is only that union of the qualities exiſting in one object that makes it an object of intellect; whereas our ſenſes perceive objects juſt as the brute perceives them, that is altogether as they affect the ſenſes, without any diſcrimination of the qualities.

Further, our intellect, if it be improved, as it ought to be, will inform us, that though there be ſuch an order and arrangement of material things, as makes us perceive *one* in *many*, and ſo gives us the idea of beauty, yet, where there is ſuch an arrangement in the qualities of mind, the beauty will be very much greater: We ſhall alſo learn, that there ought to be ſuch an order in our minds; and that all the ſubjects of which our little world is compoſed, that is our intellectual, our animal and vegetable minds, ſhould be in ſuch order as to make but one ſyſtem, of which all the parts are perfectly conſonant with one another; which ſyſtem ſhould be our chief ſtudy. And it is a ſtudy that will be rewarded with the greateſt pleaſure, as well as profit, for it makes us *know ourſelves*, which is not only the moſt

* Page 195.

moſt certain of all knowledge, being founded upon conſciouſneſs, but the moſt comprehenſive, leading us to the knowledge of many ſciences, ſuch as logic, morals, politics, and even theology; for, without the knowledge of our own intelligence, we could have no idea of Supreme intelligence. Upon this ſubject I have ſaid a good deal in a preceeding part of this book *; and I will only add here, that, as we are made after the image of God, and as therefore *intelligence* is the governing principle in our little world, as well as in the great, the goodneſs of God has been ſuch, that he has furniſhed us materials in our own mind, by which we may very much improve our intelligence †.

From this ſtudy of ourſelves, we may learn, not only that our intellectual mind governs in our little world, as well as Supreme Intelligence does in the great world, but that, in one reſpect, it governs in the ſame way; for it does not move our bodies by itſelf, any more than God moves the bodies in the great world, but employs an inferior miniſter to do that work, I mean our animal mind; which, therefore, is the immediate cauſe of all our motions, and of all the actions we perform. And this ſhows how neceſſary it is in our little world, that our animal mind ſhould be in perfect ſubjection to our intelligence. If that be ſo, What muſt we think of thoſe, who, inſtead of making their animal mind, and their whole body, ſubſervient to their intellectual mind, employ their intelligence in deviſing means to gratify the appetites and deſires of the animal life; ſo that, in thoſe men, the animal life, which, by nature, is no more than an inſtrument, that the intellectual mind employs for any purpoſe it thinks proper, becomes the governing principle in our ſyſtem. Such a government, ſo contrary to

* Page 174. † See what I have further ſaid upon this ſubject, p. 108. and 109.

to the nature of things, muſt, of neceſſity, make any man miſerable.

Thus I think I have ſhewn, that, by the ſtudy of our own minds, and of ancient arts and ſciences, we may acquire knowledge ſufficient to prevent or correct the vices and follies to which we are liable in civilized life. How much we owe to the goodneſs of God, who has furniſhed us, from our own minds, with the materials of ſo much knowledge, and of the greateſt certainty, being known to us, by the moſt certain of all knowledge, Conſciouſneſs, I have elſewhere ſhown *. And as to ancient arts and ſciences, we owe them likewiſe to the wiſdom and goodneſs of God, who provided a nation, which invented and cultivated theſe arts and ſciences, and propagated the uſe of them to a great part of the nations of the earth. The nation I mean was the Egyptian, which not only invented and cultivated theſe arts and ſciences, but carried the uſe of them to the moſt diſtant nations, even to India. And no nation could have done this except the Egyptian, which had a form of government the beſt calculated for the invention and cultivation of arts and ſciences, by which the beſt race of men in the country were ſet apart for that purpoſe and for the ſervice of religion, and had a third part of the lands of the country appropriated to them and to their families: So that learning among them was hereditary, as our lands in Europe are, and conſequently muſt have increaſed from generation to generation. It is not, therefore, to be wondered, that in a country where learning was ſo much the public care, it ſhould have been ſo much cultivated, and increaſed ſo much.

They not only invented the art of language, the parent art of all other arts and ſciences, but they invented the neceſſary arts of life, ſuch as agriculture and metallurgy. And as to the fine arts, they invented

* Page 109.

invented ſtatuary and architecture, (of which laſt mentioned art there are ſome wonderful monuments ſtill remaining,) and one of the fineſt of the fine arts, I mean muſic, which to form into an art I hold to be a matter of much difficulty: But the firſt practice of it without art, was not difficult; and therefore I am perſuaded that it was practiſed in that way before language was invented, being much more natural to man than articulation. For Nature has furniſhed to us the materials of which muſic is compoſed; that is, ſounds, differing as to acuteneſs and gravity in our animal cries: Whereas the materials of language, that is, *articulate ſounds*, are of our own creation, being formed by the poſition and action of our organs of ſpeech, of which the principal are hidden in our mouths; by which poſitions and actions our voice, that naturally goes on in a continued flow like the voices of other animals, is broken and divided into articulate ſounds. This was an art ſo great, that, as I have ſaid elſewhere, I think it could not have been invented without ſupernatural aſſiſtance. We are, therefore, not to wonder that muſic was practiſed by men before they had the uſe of language: For not only they had, as I have ſaid, from Nature the materials of which they formed muſic, but they learned the practice of it by imitation of the birds; which was the firſt muſic among men. This Lucretius has told us, where he ſays,

> At liquidas avium voces imitarier ore,
> Ante fuit multo, quam levia carmina cantu
> Concelebrare homines poſſint, aureiſque juvare:

And I was told by the wild girl that I ſaw in France, whom I have mentioned more than once in this work *, that the muſic of her country was altogether of that kind; and that ſhe could, at the time when I converſed with her, imitate the ſong of any bird. And as man is a moſt imitative animal, and particularly, as Ariſtotle has obſerved, by his voice, it was moſt natural that the firſt art he practiſed

* See, concerning her, Appendix to Vol. IV.

ſhould be by imitation, eſpecially if we conſider that the ſenſe of the beautiful is congenial to man, as well as to every other intelligent being: And as the ſongs of birds are beautiful, as well as pleaſant, there was nothing more natural than that the imitation of them ſhould be among the firſt things that he practiſed of the imitative kind. And this origin of the art will account for the muſic of the barbarous nations, ſuch as the Hurons in North America and the people of Chili in South America, riſing no higher than *a fourth*, the greateſt height to which the muſic of the birds riſes.

This was the firſt beginning of the practice of muſic; from which I think it appears, that language was a much greater invention than muſic: Firſt, as we have created the materials of which language is compoſed, that is, articulate ſounds; whereas Nature has furniſhed us the materials of muſic: And, 2dly, becauſe we formed a muſic in imitation of birds; whereas we could not form language by imitation of any other animal. But though the invention of language, and the firſt practice of it, was certainly much more difficult than the invention and firſt practice of muſic, the formation of muſic into an art was certainly a great work of genius, and may, I think, be compared to the formation of language into an art from the rude ſtate in which it was when firſt practiſed by men. But though the invention of language was very much more difficult than that of muſic, and which makes language the greateſt art among men as well as the moſt uſeful, yet the formation of muſic, after it was invented and practiſed in imitation of the birds, into an art, was, as I have ſaid, a very difficult work, and ſuch as could not have been performed except by men who had made conſiderable progreſs in other arts and ſciences. In order to make an art of muſic, as well as to make an art of any other ſubject, it is neceſſary to know what the ſubject is, and to analize it into the different parts of which

which it is compoſed; for analyſis is the foundation of all arts and ſciences.

The ſubject of muſic is the tones of the human voice or of any muſical inſtrument, differing from one another in acuteneſs and gravity: Theſe are called tones and ſemitones in our ſcale of muſic, which make the different notes to the number of *ſeven*, riſing above one another in acuteneſs; and, with the addition of an eighth note, which is called the Octave, the ſcale of muſic, or the Gamut as we call it, is compleated. And here the progreſs of the tones of muſic ends; for if we have a mind to form an acuter ſound, we make a ſecond octave, of which the firſt octave is the fundamental; and ſo on from octave to octave, as far as the human voice or any inſtrument can go. But upon this ſubject I have ſpoken at ſome length in the IV. vol. of this work, (p. 258. and following), where I have ſhown that the Greeks, by dividing the *tone* not only into halves or ſemitones, but into the third and fourth parts of tones, made two other kinds of muſic: One of theſe they called the *Chromatic*, by which the note was divided into three parts; and the other they called the *Enharmonic*, by which the note was divided into four parts: Whereas by the *Diatonic* ſcale, which is the muſic we uſe, and which was the common muſic in Greece, the tone is only divided into halves or ſemitones. In the ſame paſſage I have alſo mentioned the great antiquity of muſic in Egypt, and ſhown that the Egyptians employed it for the two beſt purpoſes, devotion and the education of youth. (Ibid. p. 257. and 258.)

And thus I have explained how muſic is analized into its elemental ſounds, and how it riſes from the loweſt to the higheſt notes.

And here we are come to what is the greateſt and moſt wonderful part of the art of muſic, and that is, the applying of numbers to

the tones of the human voice or of any muſical inſtrument; and not only ſimple numbers, but numbers in geometrical ratio to one another, that is, containing or being contained in one another: For all the notes have that ratio to one another; and if we do not perceive the ratio, which a muſical note, that we hear, has to another note, we only hear a ſound, but do not perceive that it is a muſical note.

Thus it appears that muſic conſiſts of certain ſounds called Notes, differing from one another in acuteneſs or gravity; for it is the difference in that reſpect, which makes, as I have ſaid, the ſubject of muſic; ſo that all the notes have certain ratios of acuteneſs or gravity to one another: And we are now to inquire what theſe ratios are, and how they are connected with one another.

But before we proceed to that, we are to inquire what it is that makes acuteneſs or gravity in muſical ſounds. And I ſay it is the motion of the air, produced by the vibratory motion of any body; and the greater number of vibrations there is in the ſame time, the more acute is the ſound; and the fewer the vibrations, the more grave. This is beſt illuſtrated by a ſtring, of which a greater number of vibrations produces a more acute ſound than a leſſer number does in the ſame time; the conſequence of which is, that a ſhorter ſtring, when by impulſe made to vibrate, produces more vibrations in the ſame time than a longer ſtring.

And here we muſt diſtinguiſh betwixt the loudneſs of the ſound, and the acuteneſs or the gravity of it: If the ſtring be impelled by a great force, and conſequently make great vibrations, the ſound will be louder, but not more acute, unleſs the number of vibrations in the ſame time be increaſed. We muſt alſo diſtinguiſh betwixt the length of the note, that is the duration of the ſound, and its acuteneſs

acuteneſs or gravity, which alſo differs from the quickneſs or ſlowneſs of the ſound. Theſe make what the antients called the *rhythm* of their muſic, and what we call the *time*, but are quite different from the acuteneſs or gravity of the ſound.

Having thus ſhown what acuteneſs or gravity in muſical ſounds is, and how all the notes of muſic differ from one another as to acuteneſs and gravity, and have to one another certain ratios of that kind, we are now to conſider what theſe ratios are, and how they are connected with one another. And this inſtruction Pythagoras gave his countrymen by a ſingle ſtring, or *monochord* as he called it, which he divided into certain parts. The firſt and moſt natural diviſion of every thing is into two parts; and in that way Pythagoras made the firſt diviſion of the ſtring. By that diviſion he gave his countrymen the idea of the Octave; for as the greater or leſs acuteneſs of the note depends, as I have ſaid, upon the length or ſhortneſs of the ſtring, the note produced by the half of the ſtring, is twice as acute as the note produced by the whole ſtring; and this is the ratio of the *octave* to its *fundamental*. If a greater diviſion of the ſtring be taken than a half, ſuppoſe *two thirds*, then the note is what is called a *fifth*, being in the ratio, to the note produced by the whole ſtring, of *two* to *three*: but if *three fourths* of the ſtring be taken, then the ratio of that note to the note ſounded by the whole ſtring, is as *three* to *four*, and the note is called a *fourth*. And by dividing, in this way, the ſtring into parts, greater and leſſer, all the ſeveral notes, from the *fundamental tone*, with which the diatonic ſcale begins, up to the *octave*, with which it concludes, are performed.

From what is ſaid, it is evident that the Greeks had no ſcience of muſic, till Pythagoras brought to them, from Egypt, the octave, which ſets bounds to muſic, and conſequently makes a

ſcience

ſcience of it; and from the ſeveral diviſions of the ſtring was formed the *gamut* or *ſcale* of muſic: So that the whole ſyſtem of this fine art is comprehended in a ſingle ſtring and its ſeveral diviſions; which ſhows us, that from the meaneſt things, properly conſidered, the greateſt conſequences may be drawn and the fineſt arts produced. Before Pythagoras, the Greek muſic roſe no higher than the muſic of the Hurons, that is to a *fourth*, which was the muſic of their *tetrachord* or *four-ſtringed* lyre. It is true that before Pythagoras gave them the octave they had invented a *ſeven-ſtringed* lyre. But that only doubled the *fourth* of their four-ſtringed lyre, by making the fourth ſtring of their ſeven-ſtringed lyre, which concluded the firſt fourth upon that lyre, the fundamental of another fourth, which was concluded by the laſt ſtring of the ſeven-ſtringed lyre. But this, as I have ſaid, only gave them an additional *fourth*, but no *octave*.

And here it may be obſerved, as a peculiarity of the art of muſic, that none of the tones, of which it is compoſed, have an exiſtence by themſelves, as tones of muſic, but each of them exiſts by relation to ſome other tone. This is to be explained by the nature of the tones, which are all acute or grave. Now no tone is by itſelf acute, but only in reference to another tone, which is leſs acute: For every acute tone muſt be more acute than another tone; as otherwiſe it is impoſſible that it can be ſaid to be acute. And, with reſpect to grave tones, it is impoſſible to conceive any, but in reference to acute tones; for if there were no acute tones, there could be no grave tones: And the grave tones muſt differ from one another in the degree of gravity. Now every tone, that is acuter than another, muſt contain in it the tone leſs acute; and a graver tone muſt contain in it a tone leſs grave: And this accounts for all the muſical tones being geometrical ratios, that is, two numbers, of which the one contains the other.

Thus

Thus I think I have explained what may, at firſt ſight, appear very ſurpriſing, that Numbers ſhould be applied to the tones of the human voice and of inſtruments of muſic. And at the ſame time I have ſhown, I hope to the reader's ſatisfaction, what muſt, at firſt ſight, appear likewiſe very ſurpriſing, that a muſical note cannot exiſt by itſelf, but only in reference to other notes; ſo that all notes are ratios of different kinds. Now to apply numbers, and ſuch numbers as I have mentioned, to the tones of the human voice or of any muſical inſtrument, muſt appear to every man a moſt wonderful art; and it was an art which was unknown to the Greeks till Pythagoras brought from Egypt the knowledge of the octave, which is the foundation of the art of muſic. I think I have likewiſe given the reader the philoſophy of this art, and ſhown him the principles upon which it is founded, and by which it is formed into an art.

I will only further add upon this ſubject, that the two beſt kinds of the antient muſic, the chromatic and the enharmonic, muſt have been much finer muſic than any that we have; for the materials, which formed theſe two kinds of muſic, were more abundant and more various than the materials of our muſic, which conſiſts only of tones and ſemitones and different compoſitions of theſe: Whereas the two kinds of antient muſic I have mentioned were compoſed not only of tones and ſemitones, but of the third and fourth parts of tones: So that the ear would not be fatigued by the frequent returns of the ſame notes, and ſentiments and paſſions would be better expreſſed by ſuch a variety in their muſic. But what, I am perſuaded, diſtinguiſhed their muſic more than any thing elſe, was the rhythm of it; which they ſtudied ſo much, that it was a common ſaying among the Greeks, that *rhythm was every thing in muſic* *: And their writers upon muſic ſay, that it is the rhythm, which gives force and expreſſion to muſic; and that without rhythm the

* Παν παρα τοις Μουσικοις ὁ ρυθμος.

the mere melody or compoſition of notes is a thing lifeleſs and inanimate. And indeed a man, though not learned in muſic, if he attend to the tune he hears, will find himſelf much more moved by the *rhythm* or the *time*, as we call it, than by the notes, though compoſed and put together with the greateſt ſkill. So that what we hear of the great effects of the antient muſic upon the ſentiments and paſſions of men, was chiefly owing to the rhythm of it *.

Another advantage, which the antient Greeks had over our muſic, was that it was always accompanied with poetry: For the Greeks never ſeparated thoſe two ſiſter arts. Nor was ſuch an entertainment known among them, as our Concerts, in which there is nothing but muſic, without poetry or words conveying ſenſe and ſentiments: And it was poetry of a kind much more ſuitable to muſic than any poetry we have; for it had both melody and rhythm.

The

* If the reader would deſire to know more of rhythm, he may read a chapter which I have written upon the ſubject in vol. II. of the Origin and Progreſs of Language, p. 301. where I have explained, at conſiderable length, all the ſeveral kinds of rhythm, and have ſhewn the difference betwixt the rhythm of our verſe, and that of the antient Greek and Latin verſe; and among other rhythms I have obſerved that which is produced by the intervals betwixt the ſounds, p. 305. and 306. To what I have there obſerved I would add here, that the rhythm of our verſe is truly of that kind: For it is not a rhythm of long or ſhort ſyllables, like the rhythm of Greek or Latin verſe, nor is it a rhythm at all of ſounds, but of the intervals betwixt ſounds, that is, of the intervals betwixt our accented ſyllables, as we call them, and our unaccented. And this is different in different kinds of verſe; for there is ſometimes one unaccented ſyllable betwixt the accented, and ſometimes two. So that the rhythm of our verſe is truly the rhythm of a drum, in which there is no difference of length, or of acuteneſs or gravity in the ſtrokes, but only a difference of length betwixt them, and likewiſe of loudneſs. And in this reſpect too the rhythm of our verſe is perfectly ſimilar to the rhythm of a drum: For it is, by raiſing our voice more upon one ſyllable than another, and ſo making that ſyllable louder, that the ſyllables are marked, the intervals betwixt which, compared together, make, as I have ſaid, the intervals of our verſe.

The reader may think, that, in a metaphyſical work of this kind, I have ſaid more upon the art of muſic than was neceſſary or proper: But, as I hold that muſic muſt have been practiſed even before language, I think it was the firſt ſtep that man made in his progreſs from a quadruped, or a *mutum et turpe pecus*, ſuch as Horace ſays man was in his natural ſtate, to an animal that came at laſt to excel in ſo many arts and ſciences, and to be poſſeſſed of ſuch intelligence as to be worthy of being the governing animal here on earth. The beginning of ſuch a progreſs, the moſt wonderful progreſs of any animal we know, and I think the moſt wonderful thing on this earth, deſerves very well the attention of the philoſopher, and indeed of any man who deſires to know the hiſtory of his own ſpecies.

But not only did the Egyptians invent the neceſſary arts of life, and thoſe fine arts I have mentioned, particularly muſic, but they invented alſo ſciences; of one of which, I mean geometry, I have ſpoken in this volume*. But from the learning to be found at this day among the Bramins of India, where are preſerved the language and the ſciences, as well as the polity, of Egypt, we know that many other ſciences were invented by the Egyptians; and particularly logic, by which we are taught to know the operations of our own intellect, and what ſcience truly is: For the doctrine of the ſyllogiſm is perfectly well underſtood and practiſed by the Bramins; and Sir William Jones has told us, that they have ſeveral philoſophical ſchools, in which are taught all the metaphyſics of the Academy, of the Stoa, and of the Lycaeum; and as to arts he ſays, that they have many works upon grammar, logic, rhetoric, and muſic †. And there is a Jeſuit, Father Pons, a miſſionary in India, who ſays, that beſides other parts of philoſophy, they have a logic and the doctrine of the ſyllogiſm as perfect as is to be found in Ariſtotle: And he adds, that they have

* P. 177. † See Vol. IV. of the Work, p. 312.

as many ſubtile diſputes about the different kinds of ſyllogiſm, as we had in Europe 200 years ago *. But beſides the arts and ſciences that I have mentioned, the Egyptians made great progreſs in philoſophy, and even in the higheſt part of philoſophy, that is, theology; for it is certain that they knew the doctrine of the Trinity, which Plato learned in Egypt, and alſo his doctrine of Ideas. Now philoſophy is *the ſcience of ſciences:* For it contains the principles of all ſciences; and however learned a man may be in particular ſciences, if he be not a philoſopher, he cannot know the firſt principles of any ſcience. This I have elſewhere ſhown to be the caſe of two ſciences; I mean geometry and arithmetic, which are very accurately treated by Euclid, but of which, not being a philoſopher, he did not underſtand the principles, and did not even know what the ſubject of them was, viz. that *quantity* was the ſubject of both; *quantity continuous of geometry*, and *quantity diſcrete of arithmetic:* Nor did he know what the firſt principle of each of them was; I mean the *point* in *geometry*, and the *monad* in *number* †. And I think I have ſhown that Sir Iſaac Newton, though a great aſtronomer, yet, not being a philoſopher, did not know that great principle not only of natural philoſophy, but of theology, that mind is the author of all motions in the univerſe, and conſequently of the motion of the heavenly bodies.

This may ſuffice as to the invention of arts and ſciences in Egypt. With reſpect to the propagation of them to other countries, the Egyptians had the fineſt climate and ſoil, and a river, which once a year overflowed that ſoil, and renewed it annually by covering it with the beſt earth, I believe, in the world: I mean the earth of Ethiopia. The productions, therefore, of this land and river, joined with the beſt polity that ever was, made them multiply ſo faſt, that it was neceſſary for them to ſend colonies to very

* Preface to Vol. III. of this work, p. 59.

† P. 28. of this Vol.

very many different countries; for which purpoſe their country was very well ſituated, adjoining to two ſeas, the Red Sea and the Mediterranean, which gave them a communication with every country of the earth *. All theſe advantages that I have mentioned were ſuch as no other country enjoyed: And therefore it is not to be wondered that Egypt was deſtined by God and Nature to be the native country of all arts and ſciences, even of that art, which is the parent of all other arts and ſciences, I mean language; and alſo of that art by which arts and ſciences have come down to us from the remoteſt antiquity, and have been ſpread ſo much over the earth, I mean the writing art.

But I will ſay no more here upon this ſubject, though I think it a moſt important part of the hiſtory of man, having ſpoken ſo much of it in other parts of my writings.

When to this knowledge, that we acquire by the ſtudy of ourſelves, we add, what I have ſaid is to be learned from antient books, I think we may be able, if not to prevent, at leaſt to correct and amend all the evils of this life, proceeding from the two ſources I have mentioned §.

There is one evil not hitherto mentioned, which the ſtudy I recommend will certainly cure. The evil I mean, is that ſore diſeaſe which the French call *Ennui*. Of this I have ſpoken a good deal in other paſſages of my works, particularly in Vol. V. of this work †, and in Vol. III. of the Origin and Progreſs of Language ‡: But, I think, it is a thing of ſo much conſequence, that I will ſay here a good deal more upon the ſubject; for I hold it to be the ſource of a great part of the vices and follies of men, and, conſequently,

* See what I have ſaid on the ſubject of the tranſmiſſion of arts and ſciences from Egypt to other countries, in Vol. IV. Book III. Chap. I. &c.

† Pages 92. and 101. ‡ Page 450. § Pages 223. and 224. of this Vol.

ſequently, of their miſery. It is the abuſe of what ſhould be one of the greateſt advantages we enjoy in civil ſociety, that is leiſure, for which all men pray, as Horace tells us *; but, not being rightly uſed, it is the ſource of the greateſt miſery. As the great and rich have more leiſure than other men, and commonly do not employ it well, they are, therefore, more miſerable than other men; more miſerable than any of thoſe that work and labour for them. It was, therefore, not without reaſon that Madame Maintenon, who was the Miſtreſs of Lewis the 14th of France, and, conſequently, lived very much at Court, called the diſeaſe, *ce miſerable Ennui qui devore les grand.* It makes men take to any vice or folly that occurs to them; but when they are ſatiated with vice and folly, then this *miſerable ennui* recurs, and makes them more miſerable than they were before, as they find that their vices and follies cannot appeaſe this *foul fiend.* It is a diſeaſe not only among the rich and great but even among the vulgar, nor indeed is there any diſeaſe more common; for men do thouſands of things for no better reaſon than that they know not what elſe to do. For that reaſon they eat and drink, go to bed and lye in bed; and, when they get up, employ themſelves in the moſt frivolous amuſements. But if a man is poſſeſſed of a moderate fortune, and can employ his leiſure in the improvement of his mind by the cultivation of arts and ſciences, and if to that he add religion, of which I ſhall ſay more in the next chapter, he may be as happy as he can be in this life.

Our time is the moſt valuable thing we poſſeſs, as upon the right uſe of it muſt depend our happineſs both in this life and in the life to come; yet by many people it is conſidered as a great load upon them,

* Otium Divos rogat in patenti
Prenſus Ægaeo, &c.—— —— Lib. II. Ode 16.

And he ſays elſewhere, that he would not exchange the free and undiſturbed poſſeſſion of his time, for the wealth of Arabia:

——————————nec
Otia divitiis Arabum liberrima muto. Lib. I. Epiſt. 7.

See Vol. V. of this work, p. 90.

them, and as *an enemy:* And hence comes the common expreſſion of *killing time;* which is done by the moſt frivolous amuſements. One of theſe is, I think, very extraordinary, and yet none more common; and that is, the uſe of tobacco in *ſmoaking*, *ſnuffing*, and even *chewing*. This weed is known to be ſo very unwholeſome, that, when taken into the ſtomach or even when applied to the outſide of it, it is a powerful emetic; and I heard a famous phyſician, a countryman of mine, the late Sir John Pringle, ſay, he believed that it had done a great deal of miſchief: Yet it is ſurpriſing how many people uſe it, and in that way, particularly in ſmoaking, employ a great deal of their leiſure; and habit has made it to many men almoſt a neceſſary of life. It is, however, naturally, and at firſt, unpleaſant to every man; for, though I hold that the ſenſe of ſmell affords a great deal of pleaſure, as I have elſewhere ſaid*, yet the ſmell of tobacco is, to thoſe not accuſtomed to it, very diſagreeable; and, I think, it is a ſtink, when compared with the ſmell of roſes, which I enjoy while I write this. And I am perſuaded that Sir John Pringle was in the right, when he ſaid that it does a great deal of miſchief; for the frequent and conſtant uſe of a thing, naturally ſo unpleaſant, muſt, I think, neceſſarily have a bad effect upon the health.

Ennui is a diſeaſe not only well known among the civilized nations of Europe, but even among ſavages, particularly thoſe of North America, who, when they have done with hunting or fiſhing, or warlike occupations, ſpend their leiſure in lolling upon the ground, or in their wigwams, or in picking hairs out of their beards, but chiefly in ſmoaking tobacco, in which way only they uſe it, not in ſnuffing or chewing as we do: So that the uſe of this weed, as I have called it, appears to be univerſal among men. In Europe there is no herb ſo much uſed, except corn: But among the Indians of North America, it is, I believe, more uſed than even corn, as they live chiefly upon hunting and fiſhing. From what has been ſaid,

* P. 216.

ſaid, it appears that this diſeaſe of *ennui* is univerſal among men, and therefore muſt proceed from ſome cauſe that is congenial or eſſential to the ſpecies: And the queſtion is, what that cauſe is. One thing is evident, that the cauſe muſt be in the mind; for it is a diſeaſe, not of the body, but of the mind. The reader, therefore, muſt attend to the diſtinction which I have made in other parts of this work betwixt mind and body. Mind, I have ſaid, is the only active being in this earth or in the univerſe; and body is only paſſive, that is, a ſubject upon which mind acts; and it is altogether inactive, the *vis inertiae*, as it is called, being eſſential to it. Mind I have divided into two ſpecieſes; that which thinks and reaſons, and that which moves body and produces all thoſe motions by which the buſineſs of nature is carried on. I ſay, therefore, that as body by its nature is paſſive, ſo mind is by its nature active: Nor can we conceive mind to exiſt without acting; whereas we can conceive body perfectly at reſt, if it be not moved internally by mind or externally by the impulſe of other bodies. In our little world there are three minds, the animal, vegetable, and intellectual. The animal carries on all thoſe operations in our body, which are neceſſary for its economy and preſervation, by moving the fluids that are in it, and performing the other motions which are neceſſary to enable man to anſwer all the purpoſes for which he is deſtined in this life: The vegetable mind concocts and digeſts our victuals, and in that way nouriſhes us and makes us grow: Our intellectual mind directs, and as it were ſuperintends the operations of the other two minds, and ſees that they are properly carried on, and, where there is any thing wrong in thoſe operations, corrects and amends it. And not only does it in this way direct the operations of our other two minds, but it conducts other operations in nature, ſuch as are neceſſary for the ſupport of our animal life; by which I mean the neceſſary arts of life, as agriculture, metallurgy, and building, arts too of convenience, eaſe, and pleaſure: It conducts alſo the motions of bodies by which the fine arts are produced; and in ſhort there is no motion

tion of bodies by which any art, liberal or mechanical, is carried on, that is not directed and conducted by our intellectual mind. And this mind not only conducts thoſe arts and practices them after they are invented, but alſo invents them. So that to the intellectual mind we owe the invention and practice of all arts, liberal, mechanical, and neceſſary.

But there is one difference to be obſerved in the operation of the three ſeveral minds I have mentioned; that the operations of ſome of them are produced by our will. This is the caſe of all the operations of our intellectual mind, which cannot be without our Willing them. The ſame is the caſe of the motions of our limbs, which are produced by our animal mind: Whereas the motions of our vegetable mind go on without any act of our will. And the ſame is the caſe of our animal mind, when it conducts the fluids in our bodies, and in that way carries on the economy of our animal life. But all the three agree in this, that *acting* is eſſential to their nature; nor indeed can we have any idea of mind without conſidering Acting as eſſential to its nature. Now in the ſtate of *ennui* our intellectual mind is altogether inactive; for it is not employed in regulating the economy of our animal and vegetable lives, nor in conducting the motions of bodies in any art liberal or mechanical; neither is it employed in thinking or reaſoning upon any ſubject: So that it may be conſidered as in a ſtate of non-exiſtence. Now from what I have ſaid it is evident that this is a moſt unnatural ſtate, and very different from the ſtate of our other two minds, which are conſtantly employed in their ſeveral functions; whilſt our nobler mind is not employed as it ſhould be in making what progreſs it can in this life, towards repairing our loſs by the fall, and ſo preparing us for a better ſtate in the life to come, nor even in the common buſineſs of this life, but is altogether idle and unemployed. A man living in ſuch a ſtate muſt neceſſarily be a burthen upon himſelf. It is, therefore, not to be wondered that,

to

to get out of ſuch a ſtate, he takes to drinking, ſmoaking, ſnuffing, playing at cards and dice, or to what I hold to be a better amuſement than any of theſe, as it is ſome exerciſe to the body though very little to the mind; I mean that which Horace mentions, *riding on a long ſtick* *. And I think it is well if his pleaſures, which give him ſome relief from this miſerable diſeaſe, are only childiſh and fooliſh, but not vitious.

But the beſt way of employing his time is in arts and ſciences, and particularly in that moſt valuable of all ſciences, and which may be conſidered as the foundation of every other ſcience, the knowledge of his own nature, and of his intellectual mind itſelf and its operations, from which are derived logic, morals, metaphyſics, and theology †. If he find himſelf unfit for ſtudies of this kind, then he ſhould ſay with Virgil,

> Sin, has ne poſſim naturae accedere partes,
> Frigidus obſtiterit circum praecordia ſanguis;
> Rura mihi, et rigui placeant in vallibus amnes,
> Flumina amem ſylvaſque inglorius.———
>
> GEORGIC. Lib. II. v. 483.

Let him therefore take to the country, if he have an eſtate or farm there, where he will find an occupation which is not at all *inglorious*, but, on the contrary, I think, both honourable and profitable: I mean agriculture, by which he will not only very much improve the farm he cultivates, but, if he give ſuitable encouragement to his tenants to follow his example, his whole eſtate: And by his example and that of his tenants, the proprietors of other eſtates in his neighbourhood and their tenants, may alſo be excited and taught to improve their lands. It made a great part of the glory of the Romans, as I have

* ——Equitare in arundine longa. Sat. Lib. II. 3.

† See, upon this ſubject, what I have ſaid in this Vol. p. 222, 223, and other paſſages there referred to.

have elſewhere obſerved, (Vol. V. p. 30. and 31.) that they excelled not only in government, in the early ages of their ſtate, and in arms, but in agriculture, by which they were diſtinguiſhed from all thoſe famous ſtates of Greece, of which we hear ſo much: And there is a famous ſaying recorded of one of their great men, old Cato the Cenſor, "that agriculture was the next thing to philoſo-"phy *." I would therefore earneſtly recommend it to every gen-

* Cato's words were, *Agricultura eſt proxima ſapientiae*: By *ſapientia* here we are not to underſtand what is commonly called *wiſdom*, but *philoſophy*, which is no doubt very much connected with *wiſdom*; and it ſignifies what is expreſſed by the Greek word σοφια, which was the name for philoſophy, before Pythagoras gave it the modeſt name of φιλοσοφια. In this ſenſe Horace uſes the word *ſapere*, where he ſays,

Scribendi recte *ſapere* eſt et principium et fons;
De Arte Poet. v. 309.

Where by *ſapere* we are not to underſtand *having ſenſe*, or being a *ſenſible man*, in which ſignification I believe it is underſtood by moſt of the readers of Horace, but *to be learned in philoſophy*; which is evident from the following line,

Rem tibi *Socraticae* poterunt oſtendere *chartae*.

And indeed philoſophy contains the principles not only of good writing, but of all arts and ſciences, even of the firſt art we are taught, Grammar: For I deny that a man can be a compleat grammarian without being a philoſopher. Horace uſes the word in the ſame ſenſe in another paſſage, where he ſays,

Nimirum *ſapere* eſt abjectis utile nugis. Lib. II. Epiſt. II. v. 141.

Alſo

——————*Sapientia* prima
Stultitia caruiſſe—— Lib. I. Epiſt. I. v. 41.

And in the beginning of the Poem called Ciris, aſcribed to Virgil, we have both *ſophia* and *ſapientia* uſed for philoſophy.

It is ſingular in the hiſtory of this old Cato, that in his younger days he was a great enemy to the Greek learning and philoſophy, which, he ſaid, if they ſhould introduce into

tleman, who has not a genius for learning or philoſophy, or who has not an education proper to qualify him for that ſtudy, to apply to agriculture. He need not work with his own hands, as the great men of antient Rome did, ſuch as the Dictator Cincinatus, (though his time would not be ill employed in that way, as nothing would contribute more to his health; and even Horace tells us, that when he retired to his Sabine farm, he wrought, as I have elſewhere obſerved, with his own hands*, though his neighbours laughed at him, *glebas et ſaxa moventem)*, but he may content himſelf with giving directions, and ſuperintending the practice of it. I have elſewhere given an example of a gentleman, who employed his leiſure in that way, and thereby not only very much improved his own fortune, but ſet an example to the whole country where he lived, which has been followed with great ſucceſs†.

An idle life is, therefore, a moſt unnatural life, being directly contrary to the purpoſe for which God has placed us in this world. It is, therefore, no wonder that it ſhould be productive of ſo much evil. But, if we employ our leiſure in the ſtudy of thoſe arts and ſciences, which have come down to us from antient times, and of thoſe which have been diſcovered by the moderns, (of both which I have given ſome account), we ſhall improve our minds, and prepare ourſelves for

into Rome, they would ruin every thing. But in his old age he was quite reconciled to it, and quoted Homer, upon ſome occaſions, in his ſpeeches to the ſenate or people; and particularly he became an admirer of their philoſophy. He was always a great farmer, and practiſed it very much, both when he was young and old: And there is a ſaying of his recorded, upon the ſubject of farming, that the firſt precept of it was *bene arare*; the ſecond, *bene ſtercorare*. But after he became a philoſopher, he uſed the expreſſion above quoted, *that agriculture was only next to philoſophy*; and which I hold to be a very true ſaying, for (as I have ſaid, p. 240.) if a man cannot philoſophiſe, either through want of genius or of education, the next beſt thing he can do is, to apply himſelf to that moſt uſeful art, agriculture, and of all arts the moſt beneficial to health.

* Vol. V. p. 94. † Ibid. p. 309.

for the enjoyment of a better life in a future ſtate. And I ſay, that even in this life a man of a moderate fortune, wherewith he can furniſh himſelf not only with all the neceſſaries of life, but with all the eaſes, conveniences, and even pleaſures which a rational man ſhould deſire, he may be as happy in this life as he can be, if he be not afflicted by public calamities befalling the ſtate of which he is a member, by domeſtic loſſes of wife or children, or by the death of friends whom he loved and eſteemed. For theſe loſſes there is no other comfort but that which I ſhall mention in the next chapter. But if he is diſturbed by none of theſe misfortunes, he may live a life like that of a departed ſpirit, diſencumbered of his body and all the cares attending it, and enjoying the pure pleaſures of intellect; that is, the pleaſures which religion and philoſophy afford.

But ſuppoſe a man not capable of enjoying theſe pleaſures of the mind, I ſay that bodily labour will employ the mind ſo much, in directing it and carrying it on, that a man, who labours in that way, will not be liable to this diſeaſe of *ennui*, at leaſt while he continues to labour; and, accordingly, we ſee men carrying on labours, that appear to be very painful, with great chearfulneſs. But ſuppoſe him eaſed of ſuch labour, and having nothing elſe to do, I ſay the wealth of both Indies could not make him happy:—So neceſſary is occupation for the happineſs of man.

CHAP. XVIII.

Of Religion and its comforts.—The greateſt of theſe a proſpect of happineſs in a future ſtate.—The antient Philoſophers not agreed in this matter,—ſome holding the immortality of the intellectual mind, others denying it—even Plato's arguments not concluſive:—Its immortality inferred from its nature and operations—alſo from the nature of things.—The author's opinion with reſpect to our other two minds, the animal and vegetable. The belief of a future ſtate prevalent in all nations, barbarous and civilized;—abſurdity of doubting it, independent of the Chriſtian revelation.—By that revelation the defects of antient philoſophy ſupplied.—The Chriſtian Religion, not only theological, but philoſophical:—Of the conſolations to be derived from it both by young and old.—The pleaſures of a future ſtate purely intellectual.—Reaſons for doubting the eternity of the puniſhment of the wicked.—Every man as happy as his nature will admit, all evil being of his own creation.—The remedy for evil is the improvement of our intellect in arts, ſciences, and religion.—The providence of God not only general *but* ſpecial.—Tutelary geniuſes *not only of nations, but of families and particular perſons.—The ſyſtem in man evinces a ſyſtem in the univerſe.—His variety and progreſs moſt wonderful.—Recapitulation of his inventions and diſcoveries in arts and ſciences.—Of the pleaſure derived from the contemplation of* the Beautiful;—*this the foundation of virtue.—Agreement on this ſubject betwixt the doctrines of Ariſtotle, Pythagoras, and St Paul.*—Beauty *the principle alſo of religion.*

MEN in civil ſociety are liable to ſo many calamities, public, private, and domeſtic, and are ſo much affected by diſeaſes and weakneſſes, both of mind and body, and alſo by the vices and follies

follies of other men, that no learning or philoſophy can make ſuch men happy to any great degree, without the proſpect of greater happineſs in a life to come. But before we come to ſpeak of the happineſs which we may enjoy in a future life, it muſt be firſt proved that we are to live after death, and not to periſh with our bodies.

The Greek philoſophers, as I have ſaid elſewhere, maintained the immortality of our minds; but it appears, from a Dialogue of Plato, upon the ſubject of Mind, entitled Μενων η περι ψυχης, that the learned among them were not agreed upon the point; and that many of them believed that our minds periſh with our bodies: And, indeed, if there were no better arguments to be given for that immortality, than thoſe urged in that very long dialogue, I ſhould have a very great doubt in the matter. But, from the arguments I have uſed in the preceding part of this volume*, joined with what I ſhall here add, I hope I ſhall demonſtrate that our intellectual mind does not periſh with our bodies; for the queſtion here is only concerning that mind, not our animal or vegetable minds.

And, in the firſt place, I ſay that this intellectual mind is a being diſtinct by itſelf, and no part of the body, (though it be ſo much joined with the body, that it may be ſaid to dwell in it); for it acts by itſelf. Now what acts by itſelf, muſt exiſt by itſelf: And it is ſo far from being aſſiſted by the body in its operations, that it is impeded by it; and never acts ſo freely, as when it ſeparates itſelf from body as much as it can: And in this reſpect it is eſſentially different from both our animal and vegetable minds; for neither of theſe can act without body, or be conceived to exiſt without body. And I ſay further, it is not only a being different from body, but is of a nature quite different. This I infer from the operations of our intellectual mind, compared with thoſe of the body; for, as in this ſtate of

* P. 126. See alſo Vol. I. p. 196.

of our exiſtence we do not know the eſſence of things, we can only judge of their nature from their actions and operations. Now the operation of our intellectual mind is thinking and reaſoning; which it is impoſſible that we can conceive to be performed by body, by the animal mind which moves our bodies, or by the vegetable mind which digeſts and concocts our victuals and by which we grow and are nouriſhed. And there is another operation of our intellectual mind, and that is, governing our bodies, our animal and vegetable lives, and, in ſhort, all our little kingdom. Now it is impoſſible to conceive that this can be done by body, any more than thinking and reaſoning, with which it is intimately connected.

The operations of our intellectual mind are ſo eſſentially different from thoſe of body, that I have concluded, in that part of this volume to which I have referred, that it is a being of a quite different kind, not a material being, ſuch as the body in which it dwells, but an immaterial being. And if ſo, how can we ſuppoſe, that the extinction of our body ſhould carry with it the extinction likewiſe of our intellectual mind. It might be as well ſaid that the conſequence of a man's houſe falling muſt be the death of the man. If, indeed, it fell upon him, it might be his death: But it will not be ſaid that our intellectual mind can periſh in that way.

Beſides theſe arguments, from the nature of our intellectual mind and our body, there is one that I have mentioned from the nature of things, which I think is unanſwerable; and it is this, that there is no annihilation of any thing in the univerſe; nor indeed have we ſo much as the idea of any thing being reduced to nothing, any more than being made out of nothing. Neither are our bodies an exception to this general law of nature; for even they are not reduced to nothing when we die, but are only diſſolved and reduced to earth and

and the other elements of which they are compoſed. Now that way of periſhing, by diſſolution, can only apply to body, which has parts, but not to mind, which, being an immaterial ſubſtance, does not conſiſt of parts, and conſequently cannot periſh by diſſolution *.

And thus I think it proved, from incontravertible philoſophical principles, that our intellectual mind does not periſh with our bodies. What the caſe is of our other two minds, it is not my buſineſs here to inquire; though I incline to be of opinion, that, as even theſe minds are immaterial ſubſtances, and move body in ſuch a way as no material ſubſtance can move it, that is, not by external impulſe but by internal operations, they do not periſh any more than the intellectual mind: But, as they cannot exiſt by themſelves, any more than act by themſelves, like the intellectual mind, they are transferred to other bodies, upon which they operate, and are not annihilated; for I cannot conceive that any of the works of God can be annihilated.

The belief in a life after this has been prevalent in all nations, not only civilized, ſuch as the Greeks and Romans, but uncivilized; and at this day it is the belief of the moſt barbarous nations: So that one ſhould think it proceeded from inſtinct. But if it be the belief of ſuch nations, how can any man of good ſenſe among us, (ſuppoſe him not to be a believer in the Chriſtian revelation), believe that a wiſe and a good God ſhould deſtine the nobleſt animal upon this earth to be miſerable here for a few years and then to be annihilated. A man, who thinks ſo, does not know what he is, nor what his life is, when he reſtricts it to a few years in this world.

But it will be aſked, what is man to do in this future life? Is he to be made happy, or as miſerable or more miſerable than he is at preſent? And

* Upon this ſubject I have enlarged in Chap. I. of this volume.

And here, as I have obſerved *, the doctrine of the antient philoſophers, who maintained the immortality of the intellectual mind, was deficient; for it did not ſay that virtue was there to be rewarded: So that thoſe philoſophers did not furniſh to their ſcholars that great incitement to virtue, the reward given to it in a future life; for what we read in antient books of the Elyſian Fields and the Fortunate Iſlands, is nothing but the fictions of poets, not the doctrine of antient philoſophers. But this defect in that philoſophy the Chriſtian religion has amply ſupplied: For our Saviour not only *brought life and immortality to light*, and ſo confirmed what the antient philoſophers knew, that there was to be a life after this life, but has revealed to us, that if men live here as they ought to do, they will be very much happier in a future ſtate. For this reaſon, as I have ſaid in the paſſage above quoted, the doctrine of a future life, and the happineſs there promiſed, if we live here as we ought to do, ſhould be carefully inculcated into the lower ſort of people; who, though they cannot perceive the beauty of virtue and holineſs, may be prompted, by the hopes of reward in a future life, to live a virtuous life here; and may be deterred, by the threatenings of puniſhment in a future life, which the goſpel alſo threatens, from living vitiouſly and profligately. But I will ſay no more here in praiſe of the Chriſtian religion, which I have commended ſo much elſewhere†; having ſhown it not only to be the moſt philoſophical religion that ever exiſted, as it gives us the beſt ſyſtem both of theogony and coſmogony that can be imagined, but the beſt fitted for the people, by inculcating what ſhould be the principle of all religion, the love of God and of our fellow creatures.

That therefore the Chriſtian religion is the beſt popular religion that ever was, I think cannot be denied: But it will be ſaid, why ſhould it be ſo philoſophical a religion, as it is intended not for philoſophers only, but for the whole human ſpecies? To this I anſwer,

* Vol. IV. p. 387. † P. 52 of this Vol. and Vol. V. p. 189.

fwer, that the age in which this religion was revealed, that is, the age of Auguſtus, was a learned and philoſophical age; for there was a great deal of learning and philoſophy in the two principal nations then in the world, the Roman and the Greek. Accordingly St Paul tells the Athenians, "The times of ignorance were then paſſed *;" ſo that men were prepared for receiving a philoſophical religion, ſuch as the Chriſtian; and the Apoſtle adds, that they themſelves were ſo well prepared for receiving this true religion, that they had erected an altar *to the unknown God*, whom he had come to make known unto them †. It was, therefore, only a learned and philoſophical religion, that could be received in the two principal nations then on earth, one of them then the governing nation, without whoſe favour and countenance it never could have been propagated. Even, at this day, I maintain that people altogether ignorant and uninſtructed are not capable of being Chriſtians: Accordingly, the Moravian miſſionaries, as I have elſewhere obſerved ‡, were very unſucceſsful both in Greenland and in the country of Guinea; and even among us, a man, who has had no education, and is intirely uninſtructed, not having learned even the common art of reading, is hardly capable of being made a Chriſtian.

By this I would not be underſtood to mean that a man cannot be a Chriſtian unleſs he perfectly underſtand all the myſteries of this philoſophical religion, and particularly the doctrine of the Trinity, which he cannot thoroughly comprehend unleſs he be a philoſopher; and, accordingly, one of the moſt renowned fathers of the Chriſtian church, not being a philoſopher, as it would ſeem, did not, as I have elſewhere ſhown ‖, underſtand this doctrine. But my mean-

* *Acts of the Apoſtles*, chap. 17. v. 30.

† Ibid. v. 23.

‡ Vol. IV. of this work, p. 393.

‖ Ibid. p. 392. in the note, and Vol. V. p. 103.

ing is, that a man muſt have the uſe of intellect, not the capacity merely, which was all that man had, as I have ſhown, in his natural ſtate: And, therefore, I ſay, that a man ſuch as the Orang Outang, not having the uſe of intellect, cannot be a Chriſtian; and I further ſay, that a man not only muſt have the uſe of intellect in the common affairs of life, but he muſt have cultivated it to a certain degree, otherwiſe he cannot be capable of receiving ſo ſublime a religion, and which is truly divine. And it is for that reaſon that the ſavages I have mentioned, ſuch as the Greenlanders and the people of Guinea, though they lived in civil ſociety, and conſequently muſt have had the uſe of intellect to a certain degree, could not be converted to the Chriſtian religion by the labours of the miſſionaries among them. But, as I have ſaid in this volume *, if a man have improved his intellect to a certain degree, and believe that Jeſus Chriſt was the ſon of God, and that he came to this world and took upon him the human form in order to ſave man from his fallen ſtate, he is a Chriſtian, at leaſt in his faith; and alſo in practice, if he obey the precepts of the goſpel.

The Chriſtian religion is not only of the greateſt benefit to men, while they are young and in health, by enabling them to ſupport misfortunes and afflictions, from the hopes of being happier in a future life; but, when they become old, and are approaching to their end, it is the only conſolation they can have, and the only thing that can make them die with any eaſe or comfort; for in this world they can then have no comfort. But if they have lived as they ought to have done, they will have the proſpect of being happier in the next life than they could be in this with all the enjoyments that youth and wealth and all the gifts of fortune could furniſh them; and this will make a true Chriſtian not only die even a painful death with comfort, if he has lived as he ought to have done, but wiſh to die when

* P. 53

when God and Nature has appointed that he ſhould die. Whereas a man, who has no proſpect of happineſs in a future life, cannot leave this life, and the many good things he may enjoy in it, with any comfort or peace of mind, but muſt conſider himſelf as deprived of all happineſs: In ſhort, he muſt die a painful and miſerable death, eſpecially if he leave behind him relations and friends whom he loved, and in whoſe ſociety he had great pleaſure. The Chriſtian religion, therefore, not only enables us to ſupport the greateſt misfortunes while we live, but makes us die with the hope of being much happier in the life to come, than we can be in this.

Our future happineſs, however, cannot be that in which many people in this life make their happineſs to conſiſt; I mean ſenſual pleaſures, and thoſe of vanity and ambition: But it muſt be purely intellectual, produced by the contemplation of the wiſdom, the goodneſs, and the beauty of the works of God. Now in order to enjoy this higheſt pleaſure in a future life, a man muſt be prepared for it in this life: And it is not ſufficient that he is not vitious or wicked, but he muſt have cultivated his underſtanding by arts and ſciences, and by the other ſtudies I have mentioned, and ſo have prepared his mind for the more perfect knowledge which he will have in a future ſtate. In this way his mind will acquire the ſenſe of pleaſure, not ſenſual, but intellectual, and ſo be prepared for the enjoyment of that pleaſure in the next world: For it is a law of nature, and agreeable to the order of things in this univerſe, that no animal, and indeed I may ſay no thing, ſhould proceed from one ſtate to another immediately and directly, without being previouſly prepared for that other ſtate. Before, therefore, ſuch a man comes to enjoy that happineſs, which I have mentioned, in a future ſtate, he muſt firſt go to another ſtate, in which he is to prepare his mind in the way I have mentioned. But if he be wicked or vitious, he muſt go to a ſtate dif-

ferent from that I have now mentioned, in which he is to be punished for his wickedness and vices in this state, and in that way prepared to receive instruction in another: For, that he is to be eternally damned, I cannot believe; as I do not think it reconcileable with the goodness of God, that he should have produced any being that was destined, even through his own fault, to be eternally miserable: Nor do I think it reconcileable with the justice of God that any man, for all the offences he could commit in this short life on earth, should be condemned to eternal pain and misery. I therefore cannot believe in the duration of this punishment of man after death, any more than I can believe in the manner of it, by fire and brimstone, which I think cannot be conceived as the punishment of an unembodied mind. At the same time, I think it was not improper to terrify the vulgar (that is by far the greatest part of men) by threatening them with such a punishment, to frighten them from vice and wickedness. I hold it therefore, that after man is brought to a due sense of his transgressions in this life, he is to go to another, in order to prepare himself for a better life: And if he does not there prepare himself sufficiently, he must go on still to another state, till at last he be prepared to enjoy as much happiness as his nature is capable of. Now in passing through these several states, and undergoing pains in each of them, man, being an intelligent animal with consciousness and reflection, must at last be convinced of his folly and repent, and so be delivered from his misery, and made as happy as his nature will admit. For there is a great difference of natures in different individuals; and it would not be consistent with the order of things, and that variety, which we observe in nature, if all the individuals of the same species were equally capable of the same degree of happiness: But the wisdom and goodness of God have so ordered things, that every individual of the human species enjoys, sooner or later, all the happiness that his nature is capable of. And even in this life we may observe, that every man

man is as happy as by his nature he can be: For if a man indulge in bodily pleaſures, or in thoſe pleaſures of the mind, which vanity and ambition furniſh, he will enjoy the gratifications which thoſe pleaſures give him; ſo that he is not perfectly miſerable; for he enjoys pleaſure, and ſo is happy to a certain degree, though that pleaſure be ſo much overbalanced by pain, that upon the whole he cannot be ſaid to be happy even in this life, and will ſuffer much miſery in the life to come. Whereas if he practice virtue and religion, he will be as happy, even in this life, as his nature will admit. And thus I think I have explained, what I have advanced in a former part of this Volume*, and which no doubt would appear a very great paradox to moſt of my readers, that every man even in this life is as happy as his nature will admit: And indeed it will, upon due conſideration, appear to be no paradox, if we conſider that every man, by the exerciſe of his free will, has it in his power to form to himſelf what may be called a new nature. It was by the exerciſe of that faculty that man fell from his more perfect ſtate to the ſtate he is now in; and in this ſtate he continues ſtill to exerciſe that free will, and thus to make to himſelf a nature that takes delight in virtue and religion; and ſo he is as happy as he can be in this life. Whereas if by a wrong uſe of his free will he forms a habit and diſpoſition of mind, by which he makes his happineſs to conſiſt in ſenſual pleaſures, or thoſe of vanity and ambition, he is miſerable even in this life; and if he does not repent and change his courſe of life, he will be ſtill more miſerable in the life to come.

And thus I think I have proved that man is as happy as his nature will admit; that is, as happy as he could be, both in this life and in the life to come. And if he be miſerable in either of theſe two lives, it is by his own fault, that is, by the abuſe of his free will, which is eſſential to his nature as an intelligent creature, and which God could not have taken from him without annihilating him

* Pp. 131 and 200.

him as an intelligent creature. As to his misery in this life, it can endure no longer than this life lasts; and even while it lasts, if he bear it as he should do, and seek for consolation in the goodness and mercy of God, it will improve his mind and add to his religion: And as to his misery in a future life, I hope I have proved, to the satisfaction of the reader, that, though it may be very great in that life, it cannot be everlasting.

And here I conclude this long dissertation on the goodness of God and the grand question about the origin of evil; a question about which Plato was so much perplexed. And it was no wonder, as he maintained that the Deity was the το αγαθον, or *goodness itself*: And as that was the case, he could not conceive how there should be so much evil in the world which he had created here on earth, and governed. But Plato does not appear to have known the fall of man, though it was known to the Egyptians, and was, as I have elsewhere observed, part of the Eleusynian mysteries *. Now it is from man that all evil (properly so called on this earth), that is moral evil, proceeds †. And indeed if man had proceeded from his maker an animal such as we see him, I think it would have been impossible to have solved the difficulty concerning the origin of evil, or to have reconciled it with the goodness of God: For then he must have been answerable for all the evil produced by an animal of his own creation. The fall of man, therefore, I hold to be a fundamental doctrine of theology, as well as of the history and philosophy of man. And we are now to inquire whether or not all the evil here on earth is not the necessary consequence of that fall.

That the fall of man was an event which must have happened in the course of nature, I think I have proved ‡: For I have shown, that of a great number of beings of imperfect intellects, such as *man*, some must have fallen into great errors, and in that way lost the

* Vol. IV. p. 379. † Pp. 192 and 193 of this Vol. ‡ Ibid. p. 142.

the uſe of intellect, retaining ſtill the capacity of it. And ſuch was the ſtate of man when he firſt appeared on this earth; where his buſineſs is to recover from that fallen ſtate, or at leaſt to make ſome progreſs in that recovery, which I have ſhown can only be by the means of civil ſociety.

But civil ſociety, at the ſame time that it gives us the uſe of intellect, produces many more temptations to vice and folly than the natural ſtate; and by theſe temptations an animal of an imperfect intellect, ſuch as man, muſt, in the conduct of his life, be led into great errors, which of neceſſity muſt produce much evil in that ſtate. But the wiſdom and goodneſs of God has ſo ordered matters, that civil ſociety has likewiſe furniſhed a remedy, in ſome degree, for theſe evils; for, as the love of knowledge is eſſential to an intelligent animal, that love of knowledge has, by the means of civil ſociety, and that cloſe intercourſe and communication of men which it produces, invented and cultivated arts and ſciences, by which the defect of our intelligence, the cauſe of all our evils, is, as I have ſhown, in ſome degree remedied.

From the improvement of our intelligence there ariſes another remedy of evil; and that is, the belief in God, or in a Being, one or more, much ſuperior in wiſdom and in power to man, and who takes concern in his affairs, and rewards or puniſhes him according to his deſerts; a belief alſo in a future ſtate, which I have ſhown is univerſal among all civilized nations *. But as to religion, I have ſhown that the Chriſtian religion is the beſt religion that ever exiſted, or that can be conceived to exiſt, for making us as happy in this life, as we can be, and for ſecuring to us a much greater happineſs in the life to come. And it is this religion which makes the goodneſs of God to men as compleat as it is poſſible to conceive:

For

* P. 247 of this Vol.

For he ſent to this earth his only begotten ſon (that is in philoſophical language, the only immediate production from him), to aſſume the human form, and to let men know that the end of this world was approaching, and that, therefore, they ſhould prepare for it, by living in ſuch a way as to eſcape puniſhment, and to merit happineſs in a future life.

And thus I think *I have juſtified the ways of God to men* (to uſe the words of our great Poet), by ſhowing that he is the author of no evil among men, but that all evil ariſes from the neceſſity of nature. And, in the firſt place, it was neceſſary that there ſhould be intelligences in the univerſe more or leſs perfect; for if all intelligences had been equally perfect, there would not have been that variety in the univerſe, which ſo compleat a ſyſtem requires, and where nothing is wanting that can exiſt without inconſiſtence with the nature of things, or the attributes of God. Secondly, As man is an animal of an imperfect intelligence, it was neceſſary, according to the laws of Nature, that ſome ſhould fall from the ſtate in which they were created, and conſequently ſuffer much evil in the ſtate of trial and probation in which they are at preſent, before they can be reſtored to the happier ſtate from which they are fallen. What evil, therefore, man has ſuffered in his primitive ſtate, or does now ſuffer, ariſes from natural neceſſity; I mean thoſe laws of nature which are part of the conſtitution of the univerſe, which, as I have ſaid, God could not alter without altering his own nature: For though we commonly ſpeak of God and Nature as diſtinct Beings, they are truly but one Being; for what we call *Nature*, is truly nothing but God operating in the material world upon the elements, animals, bodies and minds there, by certain laws called *Laws of Nature*, of which if God ſhould prevent the operations, it would be contradicting himſelf, and altering his own nature.

What

What I have hitherto ſaid conſiders the goodneſs of God, as it reſpects the whole ſpecies. But his goodneſs is particularly exerted with reſpect to nations: For we are told in our ſcripture (*Deut.* Chap. 32. v. 8.) that when the Moſt High divided to the nations their inheritance, he ſet bounds to the nations *according to the number of his angels*:—So it is tranſlated in the *ſeptuagint*, as I have elſewhere obſerved*; and I can have no doubt but it is rightly tranſlated, and that it is a moſt groſs error of our tranſlators when they make it to be, *that he ſet the bounds of the people according to the number of the children of Iſrael*; which is both a groſs error in the tranſlation, and gives no meaning to the paſſage. For as God was to exert his providence and goodneſs with reſpect to particular nations, it was moſt natural that he ſhould give each of them a *tutelary angel*: And, accordingly, we read in Daniel of the *governors* and *princes* of different nations who appeared to Daniel in a viſion, and whom I underſtand to be the angels of theſe nations. Among thoſe is reckoned Michael, who gets the ſame name of αρχων which is given to the angels of the other kingdoms, but who certainly was not a prince, but a guardian angel, of the people of Iſrael: and the New Teſtament ſpeaks of *genii* or *ſpirits* preſiding over churches; and they are called there the *angels of churches* †.

And not only with reſpect to particular nations does the goodneſs of God exert itſelf, but alſo with reſpect to individuals of the ſeveral nations: For we are told in the 18th Chapter of St Matthew, v. 10. that the children have tutelary angels; and in the 12th Chapter and 15th verſe of the Acts of the Apoſtles we read of the *angel* of *Peter* the Apoſtle. And I think it is perfectly ſuitable to the goodneſs and providence of God, that he ſhould commit to the care of

* Vol. IV. p. 163.

† See Revelations, Chap. I. v. laſt.

his miniſters not only nations, but individuals. (See Vol. IV. pp. 162 and 163.)

Among the Greeks and Romans it was an univerſal belief, that, not only every nation had its tutelary god, but families had their *pocnates* and their *lares*. And further, they believed that every man had a Genius which attended him, whom Horace calls

——————natale comes, qui temperet aſtra,
Naturae Deus humanae————————

And there is a Greek Poet who ſays,

Παντι ανθρωπῳ Δαιμων συμπαριστατai,
Ευθυς γιγνομενῳ, μυσταγωγος του βιου *.

And to this Genius the Romans made oblations when they ate and drank.

The ſavage nations of North America believe that there is a ſpirit which takes care of them †; and, I think, it is very natural they ſhould have that belief, as they believe in a God, whom they call the *Great Spirit* and in whoſe name they make their treaties.

And thus much I think may ſuffice with reſpect to the goodneſs of God, ſo far as man is concerned: What reſpects his goodneſs as to other animals, will be conſidered in the next book.

And here I conclude the hiſtory and philoſophy of man, of which

I

* The reader here will obſerve the word μυσταγωγος, denoting that this Genius conducts our lives in a myſterious manner: And I am perſuaded that many things, which we do, proceed from the ſuggeſtion of this *ſpirit* which attends us.

† Long's Travels in North America, p. 86.

I have treated at great length, not only in this volume, but in other volumes of this work. The more I conſider man, the more I am convinced that he is not only the chief animal on this earth, but the moſt various and moſt wonderful animal here below; being ſo various in his compoſition, that he is an epitome of the whole univerſe, conſiſting of all the ſeveral kinds of minds in the univerſe, one of which is the governing mind, and of a body wonderfully ſuited to the operations of theſe ſeveral minds; and all theſe minds ſo joined together and ſo connected with the body, as to make but one ſyſtem, ſo admirable, that man, being himſelf a little world, is a ſufficient proof that the great world or univerſe is likewiſe one ſyſtem, formed by one being of ſupreme intelligence, and alſo, as I think I have proved, of infinite goodneſs; which, as I ſhall ſhow in the next book, is to be ſeen, not only with reſpect to man, but with reſpect to the other animals of this earth.

I would have thoſe, who are curious about animals and delight in hearing of ſtrange animals, conſider whether or not man is not the moſt wonderful animal on this earth, and ſuch that no other animal, like to him, is to be found here below. And as the ſtudy of man ſhould gratify their curioſity more than the ſtudy of any other animal, ſo it ſhould improve their underſtanding more: For in man, as I have ſhown elſewhere *, are to be found the materials of the moſt valuable knowledge and of the higheſt philoſophy, I mean theology.

When we add to the variety of his compoſition by nature his wonderful progreſs from the ſtate of a brute animal of the better kind, that is a *logical animal*, as Ariſtotle has defined him in the natural ſtate †, to a ſtate of civil ſociety, in which he is transformed

* Pp. 222 and 223 of this Vol.

† P. 144 of this Vol. and Chap. I. Vol. IV.

to an animal not only very different from man in his natural ſtate, but very various in himſelf, according to the difference of the ſocieties in which he lives, I hope the reader will not think that I have exaggerated, when I have ſaid that he is the moſt various and moſt wonderful animal of this earth.

If the reader deſires to know more of the wonderful variety of man, he may read what I have ſaid upon the ſubject in Vol. V. of this work, pp. 226. 322. and 323. where I have proved that man, in his natural ſtate, is not only a moſt various animal, more various than any other on this earth, but ſtill more various in his civilized ſtate, and indeed the moſt various animal that can be imagined; for, as Horace ſays, in that ſtate

——Quot capitum vivunt, totidem ſtudiorum
Millia——————————

To what I have ſaid here and in other paſſages referred to, upon the ſubject of the variety of man, I will add another variety in his nature, which appears more wonderful than any that I have yet mentioned;—that he is not only a land-animal, but a ſea-animal; and that there are *mermaids*, that is, *ſea women* and *ſea men*, who live as conſtantly in the ſea, as any fiſh that ſwims there. This I have proved in the 3d Vol. of this work, p. 254 and following, upon evidence that, I think, cannot be contraverted. Theſe animals appear to have lived not only conſtantly in the ſea, but to have been produced there. But what I think ſtill more extraordinary, I have proved in the 4th Vol. of this work (p. 36 and following), that a man, who has been born and educated upon the land, may take to the ſea, and live there, like the animals belonging to that element, for ſundry years. So that there is in the nature of man all the variety that can poſſibly be imagined in one animal.

Man

Man being by his nature ſo various and ſo wonderful an animal, his hiſtory is no leſs various and wonderful, as he has paſſed through ſo many different ſtates. He was created little inferior to the angels, as our ſcripture tells us, but with an intellect not perfect, any more than theirs: And, accordingly, ſome of his ſpecies fell, as well as ſome angels *. Thoſe of our ſpecies, who fell and who inhabit this earth, have fallen very low, both as to their bodies and their minds. As to their bodies, I think I have ſhown † that man in his original ſtate on this earth, had not even the erect form which he now enjoys, but was a quadruped, and walked upon all four. As to his mind, he had not the uſe of intellect, but only the capacity of acquiring it; the conſequence of which was, that he had none of the arts of life, not even the art of language, the foundation of all other arts. His progreſs from that ſtate, to the ſtate in which we now ſee him, makes his hiſtory moſt wonderful.

Of his progreſs in ſcience and philoſophy I have ſaid a good deal in a preceding part of this volume ‡: And I am here to ſpeak of his progreſs in arts, of which I have alſo ſaid ſomething in what I have mentioned concerning ſome modern diſcoveries that have been made of that kind ‖. But I will here ſay a good deal more, beginning with the common arts of life, of which the number and variety is ſo great, that he may be ſaid to have made a world of art, to which nothing can be compared but the great world of nature §. But theſe arts are now ſo common and ſo much practiſed, that we are diſpoſed to think that they were as eaſy in the invention as they are now in the practice. But a philoſopher, who goes beyond the practice of them, to the invention, knows that they could not have been

* See what I have ſaid upon the Fall of Man, pp. 142 and 143 of this Vol.

† P. 233 of this Vol. and Vol. III. p. 74. and Vol. IV. p. 22.

‡ P. 175 of this Vol.

‖ Chap. XIV. of this Book.

§ Vol. IV. p. 23.

been invented but by men who had the uſe of intellect in a very great degree: And he will be ſurpriſed when he conſiders how man has been able to uſe that dominion, which the Creator has beſtowed upon us, over this lower world. We have made the animal, the vegetable, and the mineral kingdoms, all ſubſervient to our uſes; and have employed all the powers of nature, that can be employed in this earth, firſt the earth itſelf, then the air, the water, and the fire, in forming this wonderful world of art.

I will here give ſome general account of the common arts of life invented by man, which I hold to be a neceſſary part of his hiſtory, as without theſe he could not have lived in civil ſociety.

The firſt and moſt neceſſary art, ſo neceſſary that without it no other art could have been invented, is language, of which I have ſaid a great deal in the courſe of this work *; where I have ſhown, that, though it be the moſt common art among men, it is a moſt wonderful art, (of which I think we need no other proof, than the compariſon of it with our animal cries, from which it is formed †), and of ſuch difficult invention, that it could not have been invented by man without ſupernatural aſſiſtance, which was given him by thoſe dæmon kings of Egypt, who were beings of intellect ſuperior to man; for it was in Egypt that an art of language was firſt invented, and it was from Egypt that other countries learned the art. By this I would not be underſtood to mean that, neither in other countries, before the art was invented in Egypt, nor even there before its invention, men had not the uſe of inarticulate cries, with a mixture of ſome articulate ſounds, which they may have formed by imitation of certain birds, ſuch as the cuckoo; but I ſay that in Egypt only language was firſt formed into an art. How difficult it was to do that,

* Vol. IV. p. 262, and p. 151 and following of this Vol.

† Ibidem.

that, we may judge from the invention of the alphabet, which is the foundation of the whole art, and which, as I have ſaid *, was invented in Egypt as well as the reſt of the art; for, though from its being the firſt thing that our children are taught, when they are incapable of learning any thing elſe, we may think it a very eaſy and obvious art, a philoſopher knows, that it was a great diſcovery, and a very wonderful work of analyſis, by which all the articulate ſounds, of which language is compoſed, ſo many and ſo various and mixed and joined together in ſo many ſyllables and words, are analyzed into the elemental ſounds of which they are compoſed. This analyſis was the more valuable, that without it another moſt curious and moſt uſeful art could not have been diſcovered; I mean the writing art, by which we make ſounds viſible, and ſpeak to the eyes as well as to the ears.—But of this art and of language I have ſaid enough in other parts of this work: I will therefore proceed to other arts of life, beginning with agriculture, which is ſo neceſſary an art for the conſtitution of civil ſociety, that it muſt have been the beginning of all ſociety of that kind; for civil ſociety muſt have been formed by a number of men living together in a ſettled ſtate of life and in cloſe intercourſe; and it is only by agriculture that men can ſubſiſt in that way. It is true however, as I have elſewhere obſerved, that men can ſubſiſt upon the natural fruits of the earth, but not in any great numbers; ſo that it would be impoſſible that a country could be well inhabited, where the people had no other means of ſubſiſting. In Egypt, the moſt fruitful country I believe in the world, wheat and barley grew naturally, as I have elſewhere obſerved †; and even a finer grain than either of theſe, called by the Greeks *zea*, and which was the *far* of the Romans, as I have alſo obſerved ‡: And yet upon theſe, and what other fruits the country

* Vol. IV. p. 262.

† Ibid. p. 139.

‡ Ibid. p. 140.

try may have produced, I think it was impoſſible that Egypt could have maintained ſuch a number of inhabitants as made it the beſt peopled country, I believe, for its extent that ever was in the world, and, at the ſame time, have enabled the Egyptians to ſend colonies to ſo many different countries, ſome of them very remote, ſuch as India, and in that way to people a conſiderable part of the earth. Even in Egypt, therefore, it was neceſſary to ſtir the earth by ploughing and harrowing, and ſo raiſe it up, expoſe it to the air, and pulveriſe it to a certain degree, and at the ſame time enrich it with dung or with an addition of pulveriſed earth. And if it was neceſſary in Egypt, with ſuch a ſoil, ſuch a climate, and ſuch a river, how much more neceſſary muſt it be in other countries of this earth—So that without agriculture, the earth could not have been peopled, nor civil ſociety of any value formed. It is true that man may live by hunting and by paſturage; and in that way the Tartars live, and ſome other nations: But among them there is not what can properly be called civil ſociety, nor any regular government; ſo that it is impoſſible that among them any arts or ſciences could be invented. Agriculture, therefore, may be ſaid to be the parent of civil ſociety: And accordingly Ceres was worſhipped among the antients, not only as the goddeſs of agriculture, but of laws and government.

There is another art invented by man, and which was of abſolute neceſſity for carrying on the buſineſs of civil life: The art I mean is arithmetic, or the art of numbers. Of this I have ſpoken in p. 171 and 172 of this volume; to which I will only add here, that as *number* is a *multitude*, conſiſting of an infinite number of *monads*, without any bounds ſet to them by nature, it was a work, I think, of great art, to ſet bounds to this infinity, and to make what the Greeks called πληθος ωρισμενον, without which numbers could have been of no uſe. That this was a matter of difficulty, is, I think, evident from the nature of the thing: But it is likewiſe proved from fact, by

by the different practices of nations, which I have mentioned in the paſſage above referred to, ſetting different bounds to this infinity, till at laſt they fixed that boundary, which is now uſed by all civilized nations, and even by the Hurons, a barbarous people in North America; I mean the number *ten*; for all the arithmetic of civilized nations conſiſts of that number, multiplied by the units of which it conſiſts and by itſelf: And theſe multiplications, with the addition of the units under *ten*, make all the variety of number that can be conceived. But all this is no more than the Notation of numbers: For the operations upon theſe numbers thus formed make a very valuable ſcience that we call *arithmetic*; which is of the greateſt uſe in all arts and ſciences, and of abſolute neceſſity in the common affairs of life.

But it is not the purpoſe of this work to give a particular account of any ſcience, but only to explain, in general, the nature of them, and to ſhow their uſe. I will, therefore, proceed to ſpeak of arts invented by men, beginning with thoſe arts, which may be called Mechanical; and though they may be thought mean arts, they are of abſolute neceſſity for carrying on the buſineſs of civil life. And firſt I will mention the grand art of Metallurgy, ſo neceſſary, that it is the foundation of all thoſe other arts I am now to mention, and of one art that I have already mentioned, and a moſt neceſſary art, I mean Agriculture, which could not be carried on to any purpoſe without inſtruments made of metal.

For the diſcovery of this art of metallurgy, it was neceſſary that the inventive genius of man, not content with what he could find in the air, in the water, or on the ſurface of the earth, ſhould dig into the bowels of the earth, and from thence bring out metals, and particularly iron, which is of more uſe in the practice of all the neceſſary arts of life, and particularly in agriculture, than all the other

arts beſides. And there is another neceſſary art of life, for the practice of which iron is likewiſe neceſſary: The art I mean is that of Building, which we not only have employed for the neceſſary uſes of life, but have made it an art of great ornament, ſo great, that it may be called one of the *fine arts*. The uſe of this metal of iron in human life is ſo great, that ſome of the nations, we call *barbarous*, hold it of more value than either gold or ſilver.

But the art of man does not end with digging this metal out of the earth; but after it is ſo dug, which is commonly with great expence of labour, and with the uſe of that art, which is called *mining*, it is further neceſſary, in order to make it fit for the uſes of life, that it ſhould go through the fire, and be prepared by it for theſe uſes. And here we may obſerve another proof of the inventive genius of man, who has applied the element of fire to this and to ſo many other uſes, that without it civil life could not be carried on.

The uſe of metals appears to be ſo neceſſary for carrying on the buſineſs of civil life, that the barbarous nations, who have not the uſe of them, are obliged to employ in their place flints and other ſtones and even bones, ſo that the want of metallurgy makes one of the chief differences betwixt the life of thoſe barbarous nations and that of the civilized nations of Europe; and it appears to us wonderful how they can carry on the civil life at all, without the uſe of metals. And there is another thing they want, which makes it ſtill more wonderful that they ſhould be able to live in the civilized ſtate, and that is, the want of animals tamed and domeſticated, who among us do a great part of the buſineſs by which we ſupply the wants of that life, and particularly the buſineſs of the chief art of civil life, agriculture.

And

And this leads me to ſpeak of the uſe we have made of that dominion, which it has pleaſed God to give us over the animals of this earth, as well as over the fiſh of the ſea. As to the animals of the earth, we have not only ſubdued and tamed the ox, and made him moſt uſeful to us both in the practice of the neceſſary art of agriculture, and for the purpoſe of food, but alſo the horſe, the fineſt animal that we have in Europe, both for uſe and for ſhew; ſo that I do not wonder that Homer has dignified his heroes with the title of ἱπποδαμος, or *horſe-ſubduer*. Antient hiſtory informs us, that horſes were firſt employed only to draw the chariots in which men fought: But afterwards they were mounted; and in that way was formed the greateſt military force, that ever was employed by men, when to the ſwiftneſs of the horſe they could join the uſe of the bow, of the ſpear, and of the ſword. Of this kind were the armies of the Parthians, ſo formidable to the Romans; and in later times thoſe of Genchis Chan and Tamerlane, by which they overran and ſubdued ſuch vaſt tracks of country.

But not only have we tamed and domeſticated the horſe, and made him of the greateſt uſe as well as ornament to us, but we have alſo ſubdued and tamed the largeſt animal of the earth, exceeding every other of the brute kind, not only in ſize and ſtrength, but in ſagacity; I mean the elephant; and have made him uſeful, not only in war, but in domeſtic offices: Of him however I ſhall ſpeak at more length in the next Book. And as God has given us dominion over the fiſh of the ſea, as well as over the animals of the earth *, the whale, the largeſt animal in the water, we have contrived to kill, and have made his carcaſe uſeful for certain purpoſes. The fiſh both in the ſeas and rivers we have invented ſeveral ways of catching; ſo that they make a conſiderable part of our food in Europe, and I think the fineſt of our food; and there are ſome barbarous nations that

* Geneſis, Chap. I. v. 28.

live almoſt entirely by fiſh *. The ſea itſelf, which is the receptacle of all the rivers, and produces more fiſh than all of them, we may be ſaid to have ſubdued; and to have triumphed over the winds and waves in machines of ſuch enormous bulk, vomiting fire and ſmoke, and making ſuch havoc and deſtruction at ſuch a diſtance, that to a man uninſtructed in our arts it would appear abſolutely incredible that ſuch machines, though they might have been invented by us, could have been governed by animals of ſuch ſmall ſize and ſtrength as we are. The other inferior arts of life, though they do not ſtrike us with ſo much aſtoniſhment as theſe I have mentioned, yet to a philoſopher muſt appear very wonderful: For by theſe arts we have metamorphoſed the things of nature, that they are not to be known except by thoſe who are acquainted with our arts. Thus for example, the *fine linen of Egypt* (as it is very properly called in our ſacred books), which now is become the common wear of all the inhabitants of Europe, who could imagine to be made of a coarſe vegetable ſuch as *flax*? Or that the cotton manufacture was the growth of a tree? Who could divine that the cloaths, we wear, were originally the covering of ſheep; or that the ſilk, with which our ladies are adorned, was produced and ſpun into very fine threads by a worm? Who, uninſtructed, as I have ſaid, in our arts, could imagine that the beer we drink was made of a vegetable, ſuch as barley, which muſt be firſt *malted*, by which operation the grain may be ſaid to be *putrified*, ſo that the Romans called beer, *vinum ex corruptis frugibus* †; or the wine, of a plant, ſuch as the vine? Or that either of theſe liquors could be exalted to a ſpirit producing ſuch effects upon the animal body, as what is produced by rum, brandy, aquavitae, and gin? Which, though they have been of no uſe to us, but, on the contrary, have done, and are ſtill doing, a great deal of miſchief, yet do honour to

* See what I have ſaid upon this ſubject in Vol. III. of this work, p. 49.

† See p. 142 of Vol. IV. of this work.

to the genius of men, and to modern times, by the invention; for ſpirits were altogether unkwown to the antients. Theſe conſiderations ſhow what a wonderful world of art we live in, which may be ſaid to be created by man; for he has in himſelf ſo much *divinae particula aurae*, that he is a creator not only of the works of the *fine arts*, but of thoſe mechanical productions, which I have mentioned. And it is by ſuch operations that he has exerciſed and improved his intellectual faculty, and prepared himſelf for a ſtate of greater perfection in the world to come. For if by inſtinct he could have provided himſelf with every thing he wanted in this world, as other animals do, he never could have cultivated his intellect ſo much as to make it fit for the liberal arts, ſciences, and philoſophy, by which, and which only, his intellectual part could be ſo much improved and exalted in this world, as to make him fit for a better.

And the mention, I have made, of the liberal arts, leads me to ſpeak of them. The ſubjects of the arts of life, or mechanical arts, as they may be called, are natural things, which we have changed in a wonderful way, and adapted to the purpoſes of civil life. But though they are moſt uſeful, and ſhow a great deal of ſagacity and natural parts in thoſe who invented them, they have not the beauty of the fine arts. Of one of theſe arts, I mean muſic, I have ſpoken already; and I will only mention another, which I hold to be the fineſt of all the fine arts; and that is poetry, the ſubject of which is man himſelf. For he has not only employed his genius upon the works of nature, but alſo upon his own; producing ſuch works of art as epic poetry, in which concur all the beauties that can be imagined; firſt of the *fable*, as it is called, that is the *ſtory*, which is the ſubject of the piece, and which is carried on through a ſeries of events, all tending, more or leſs, to bring on the cataſtrophe or concluſion; next it abounds with variety of characters, manners, and ſentiments, ſo as to be as inſtructive as it is entertaining; and it is adorned, at the ſame time,

time, with verſification and every ornament of ſtile, eſpecially if it be in ſuch a language as the Greek, which, beſides the beauty of the numbers that make the verſe, is compoſed of words, which have in themſelves, without the aid of verſification, both melody and rhythm: For the compoſition of long and ſhort ſyllables, makes the rhythm of the language; and its accents are muſical tones. Now, as all muſic conſiſts of melody and rhythm, the Greek verſe, which, from its rhythm being meaſured and governed by certain rules, is called μετρον, may be ſaid to join together muſic and poetry, the two fineſt of the fine arts.

In a work of this kind, it would be improper to ſpeak of other kinds of poetry, ſuch as the tragic or the comic. As to the tragic, I will only obſerve, that the choruſes of the Greek tragedy preſented the fineſt ſcenes of the imitative kind that can be imagined: For there were there joined three imitative arts, all operating at the ſame time; poetry, muſic, and that art, by which actions, paſſions, and ſentiments were repreſented by the motions of the body to muſic. This laſt kind of imitation the Romans adopted, and were extremely fond of it: But they ſeparated from it muſic and poetry; ſo that they made it an exhibition much inferior to the chorus of the Greek tragedy, which affected the ſpectators ſo much. I will only ſay further of the three kinds of poetry I have mentioned, that in the compoſition of them the genius of man has improved upon nature; for no events of human life, that have actually happened, would make a good epic poem, a tragedy, or a comedy, if the inventive genius of man did not arrange the events in a manner different from that in which they actually exiſted, and, at the ſame time, take from them many circumſtances, and add others, by which they adorned them very much. Upon the ſubject of the fine arts I will add, that there is another in which we likewiſe make improvements upon nature: The art I mean is painting, and particularly

larly hiſtorical painting, in which we make finer figures of men and other animals, than are to be found in nature. And even in landſcape painting, I was told by a famous landſcape painter in London, Mr Lambert in Covent Garden, that he had often tried to copy from nature landſcapes that he thought exceedingly fine; but they did not anſwer in the piece, without conſiderable alterations that he made upon them.

I will conclude this hiſtory of man, and of the arts he has invented, with a ſhort recapitulation of what has happened to him upon earth ſince his fall. When he firſt appeared here below, he was, as Ariſtotle tells us, only a better kind of animal, which he calls a *logical animal*, that is, an animal which can compare its ſenſations, and diſtinguiſh one from another. In this ſtate, as the ſame author tells us, he had not intellect, but only the capacity of acquiring intellect and ſcience*: But he never would have acquired either, except, as I have ſhown †, by the means of civil ſociety. By the cloſe communication of men in a ſociety of that kind he firſt acquired the uſe of intellect; and then he improved it very much by the invention and the practice of the neceſſary arts of life, of thoſe of eaſe and convenience, and, laſtly, of the liberal arts; of all which I have ſpoken at ſome length.

Having in this manner acquired and improved the uſe of intellect, he alſo improved his ſenſe of the *beautiful*, which is as natural to man as intellect. This ſenſe induced men to ſtudy thoſe fine arts which I have ſpoken of; for theſe arts we do not cultivate for their utility, as we do thoſe common arts of life which I have alſo mentioned. And this leads me to ſpeak of *beauty*, of which

* See what I have ſaid upon this admirable definition of man in his natural ſtate, which I have made the foundation of my whole philoſophy of man, Vol. IV. p. 12 and following.

† P. 146 and following of this Vol.

which I have ſaid a good deal in other parts of this work *. But I think it deſerves further conſideration; for, as it conſiſts in the perception of the order and regularity of things, ſuch as make them a *whole*, or *ſyſtem*, which is the definition of the *beautiful* that I have given elſewhere †, it can only be perceived by the intellect, and it muſt be ſo perceived: For it is ſo congenial to intellect, that we cannot conceive any animal having the uſe of intellect, and not perceiving ſuch order and regularity in things. It is univerſal in nature: For I think I have ſhown that there is in the univerſe an order, regularity, and connection of the ſeveral parts of it, ſuch as make it a ſyſtem of wonderful beauty as well as grandeur and extent; and I have ſhown alſo, that even parts of it conſidered ſeparately, ſuch as animals and plants, are each in themſelves ſyſtems.

It is predominant alſo in our ſentiments, paſſions, and actions, and forms what we call the characters of men; by which they are objects of love and eſteem, or of hatred and contempt. It alſo makes the only happineſs of the intellectual mind: For we cannot conceive that mind to be happy otherwiſe than by the contemplation of the fair and the beautiful, either in itſelf or in other things.

As to man, it is the ſource of love and friendſhip, and makes him enjoy, what, I think, is the greateſt bleſſing in this life, that of loving and of being loved. It gives him the enjoyment, as I have ſaid, of the fine arts, and indeed of all arts and ſciences: For it is the beauty as well as the utility of arts and ſciences, which makes us apply to them; and a man, who does not perceive the beauty of them, is deficient in genius, and never will make any great proficiency in them.

As

* P. 196 of this Vol. Vol. V. pp. 118, 125, 156, and 217, and Vol. II. p. 105, &c.

† See this definition in Vol. II. p. 120.

As Beauty is perceived by the intellect only, and not by the ſenſes, it does not belong to objects of ſenſe conſidered only as ſuch, that is, as perceived by the ſenſes. In the taſte therefore of ſuch objects, in their ſmell, their feeling, their colour, or in the ſound they produce, there is no beauty; and theſe are the only things which the ſenſes perceive in ſuch objects. Theſe indeed may give us pleaſure, and often give us a great deal of pleaſure: But it is of the ſenſual kind, not of the intellectual; of which kind only is the pleaſure of Beauty. When we perceive therefore that any thing has a fine taſte, a fine ſmell, a fine feeling, a fine colour, or a fine ſound, if we mean that it is beautiful, we ſpeak improperly; for all theſe are only perceptions of ſenſe, which, as I have ſaid, may give us a great deal of pleaſure, but are not beautiful, becauſe they affect only the ſenſes and not the intellect. Of theſe perceptions, Colour is what ſtrikes our ſenſe of ſeeing; and, if it be very bright, or if there be a great many bright objects together, they make a very ſplendid ſhow and affect our ſenſes in a very lively manner. The ſame is true of Sound, which, if it be fine and delicate, ſoothes the ſenſe very agreeably; and, if it be loud or ſtrong, it ſurpriſes us, and in that way gives us a certain pleaſure, but has nothing of the beautiful in it. Of theſe objects that I have mentioned, thoſe that are perceived by the ſenſes of Seeing and Hearing may have a certain order and arrangement, and be ſo connected with one another, that the mind will perceive beauty in them: But this cannot be the caſe of the other objects of ſenſe that I have mentioned, ſuch as Smelling, Taſting, or Feeling; which it is impoſſible to conceive to be ſo ordered and arranged, as to give us any idea of beauty. And thus I think I have very clearly ſhown, that no perceptions of ſenſe can give us the idea of beauty, though the objects which produce thoſe ſenſations may be ſo ordered and arranged, and made to operate in ſuch a way, as to give us that idea. From what I have hitherto ſaid of the beautiful, I think I have proved, not only that it gives us the higheſt pleaſure,

and the only pleaſure that the intellectual mind enjoys, but that it is of the greateſt uſe in human life. But there are other two things, which I have not yet mentioned, and theſe of very much greater importance in human life; I mean virtue and religion, with which Beauty is eſſentially connected.

From Ariſtotle I have learned that Beauty is the principle of virtue *; for he has defined virtue to be Ὀρμη προς το καλον, that is, a *natural*, or *inſtinctive*, as it may be called, propenſity towards *the beautiful;* but he has added very properly to the definition, μετα λογου, that is, *with reaſon*, or *guided by reaſon*. And accordingly I have ſhown in a preceding chapter †, that the ſenſe of the beautiful, if not governed and conducted by reaſon, leads to very great vices, follies, and crimes; whereas, if it be properly conducted, it makes men not only virtuous, but alſo religious, (as I ſhall ſhow in the ſequel), and conſequently happy.

With Ariſtotle's philoſophy as to virtue the philoſophy of the Pythagorean ſchool perfectly agrees. This ſchool was the moſt antient and the beſt ſchool of philoſophy that ever was in Greece: For Pythagoras was twenty two years in Egypt, the parent country of philoſophy and all the other ſciences; from which country he firſt imported philoſophy into Italy, and thence it was brought into Greece ‡. The teſtimony of Pythagoras in ſupport of this doctrine of Ariſtotle I have elſewhere quoted §; and Plato has told us, from the mouth of Socrates, that to know perfectly what Beauty is, or the αυτο το καλον, is the greateſt wiſdom and the greateſt happineſs of men ‖. And

* Vol. V. p. 125. † P. 221.

‡ See what I have ſaid of this extraordinary man in the Preface to the 3d Vol. of this work, p. 14. and following.

§ Ibid. p. 34.

‖ Vol. V. of this work, p. 122. See alſo p. 197 of this Vol.

And not only is this doctrine of Ariſtotle, concerning the Beautiful, ſupported by the opinion of ſo great philoſophers as Pythagoras and Plato, but by a ſtill greater authority, as appears from what I have ſaid in Volume V. of this work, (p. 128.) and Volume IV. of Origin of Language, (pp. 368. and 369.) where I have ſhown that the Apoſtle Paul, in his 1ſt Epiſtle to the Theſſalonians, ſums up the whole duty of a Chriſtian with theſe words, παντα δοκιμαζετε, το καλον κατεχετε; which I think is plainly ſaying, "That "of all the things belonging to Chriſtianity, the το καλον is, upon "conſideration, that which is principal, and therefore we ſhould "*hold it faſt;*" and ſo the word κατεχετε is tranſlated, and properly tranſlated, in our bible. But the το καλον we have tranſlated improperly, when we have made it to be *that which is good:* For the καλον and the αγαθον are diſtinguiſhed in ſcripture, as well as in other Greek writings. In theſe they are expreſſed in one word, καλοσκαγαθος: But in our ſcripture they are diſtinguiſhed by different words, connected by the conjunction και*; which demonſtrates, that, though they may be united together, they denote different things.

I will now proceed to ſhow that Beauty is the principle of religion as well as of virtue. In another part of this work I have ſhown that the *love* both of God and of our fellow creatures, is the great principle of the Chriſtian religion. The love of God is delivered with greater copiouſneſs of expreſſion than any other duty of the Chriſtian religion; for we are required to love God "with all our "heart, and with all our ſoul, with all our ſtrength, and with all our "mind†." Now the object of Love is Beauty; and though we could ſuppoſe a being that had the greateſt power, and could inflict the

 ſevereſt

* In the Parable of the *Sower*, (Luke, Chap. VIII. v. 15.); where the expreſſion is uſed, Εν καλη και αγαθη καρδια.

† Vol. IV. p. 391.

ſevereſt puniſhments upon thoſe who offended him, yet, if he had no beauty, he could not *be loved*, though he would be feared. But God is a being of ſupreme intelligence and ſupreme goodneſs; which two qualities together muſt make him the moſt amiable of beings, who therefore muſt be loved by every man who knows him: And though he be likewiſe an object of fear, yet our ſcripture tells us, that our love of God "muſt not be mixed with fear *."

The reader may be ſurpriſed that I have written ſo much upon the ſubject of Beauty in this volume and in other parts of this work. But he ſhould conſider that Beauty, as I have ſaid, is univerſal in nature, and of much greater influence than any other thing in human life, not only being, as I have ſhown, the principle of virtue, of religion, and of honour †, but alſo having a connection, more or leſs, with almoſt every action of our life; and that Plato, as I have obſerved before, from the mouth of Socrates, has told us, that to know perfectly what Beauty is, or the αυτο το καλον, is the greateſt wiſdom and the greateſt happineſs of men.

I will only ſay further upon this ſubject, that thoſe, who deny that Beauty has a real exiſtence in nature and hold that it exiſts only in the imaginations of men, deny at the ſame time that the intellectual mind enjoys any real pleaſure. That it does not enjoy ſenſual pleaſures, every body muſt allow: But I ſay further, that even wealth and power give no pleaſure to the intellectual mind, except by affording it the means of enjoying the pleaſure of doing good, by relieving the diſtreſſes of the poor, rewarding the virtuous, and ſerving the public. Such perſons therefore muſt alſo deny that virtue gives any pleaſure to the intellectual mind; and that the beauty of holineſs, and the contemplation of the wiſdom and goodneſs of God give pleaſure

* See p. 391 of Vol. IV.

† Vol. V. p. 125.

pleaſure to that mind: Neither can they admit that the fine arts give any pleaſure to our intellect, or any arts or ſciences; for I ſay that it is the beauty, which we diſcover in ſcience, that gives us the pleaſure it affords:—In ſhort they muſt deny that our intellectual mind enjoys any pleaſure; and muſt maintain that our whole happineſs conſiſts in the pleaſures of the animal life, which the brutes enjoy.

I will conclude this long diſſertation upon the Beautiful, by referring to a paſſage in a preceding part of this Vol. (pp. 189 and 190), where I have ſaid that the wiſdom and goodneſs of God are manifeſted by his making the ſenſe of the beautiful ſo congenial to our nature as intelligent beings, that we cannot have the leaſt degree of intelligence without ſome ſenſe of it; and that, as it is the foundation both of virtue and religion, we appear to be "formed by Nature "for both." To which I will add, that the goodneſs of God is manifeſted, not only by giving an inſtinct to our animal nature, by which we and other animals are directed to do what is neceſſary for its preſervation, but alſo by giving an inſtinctive tendency to our intellectual mind, by which it is prompted both to virtue and religion, which muſt make its greateſt happineſs.

Thus I hope the reader will think I have ſaid enough to prove the goodneſs, as well as the wiſdom of God, towards man: For I have ſhown that, according to the order of nature, it was of neceſſity that ſome of the ſpecies ſhould fall; and, in conſequence of that fall, loſe the uſe of intellect, retaining only the capacity of it;—That, for being reſtored to the uſe of intellect, civil ſociety was abſolutely neceſſary; and accordingly by civil ſociety we have recovered the uſe of intellect, all men more or leſs;—That though civil ſociety muſt neceſſarily produce, among men of weak and imperfect intellects, many vices and follies,

follies, which muſt make the greater part of them not happy in this life, the goodneſs of God has ſo ordered matters, that, by the cultivation of arts and ſciences, and eſpecially by religion, we may correct thoſe vices and follies, and improve our intellect ſo much, as to make us fit for a better and happier ſtate in the life to come: Or if we ſhould not do that, that we muſt go to another life of ſeverer trial and probation; and ſo on from one ſtate to another, till at laſt every one of us ſhall attain to all the happineſs that his nature is capable of.

And this much, I hope, will ſatisfy the reader, that the goodneſs of God, with reſpect to man, is as great as it could be in conſiſtence with the general laws of nature, which, as they are parts of the nature of God, could not be altered: For, as I have ſhown, what we call Nature*, is nothing elſe but God operating in this material world.

I am next to ſpeak of the goodneſs of God with reſpect to the other animals of this earth, which will be the ſubject of the following Book. But before I conclude this Book I muſt add to what I have ſaid of the goodneſs of God to man, that I ſhould think myſelf wanting in the duty I owe to God, if I did not acknowledge his goodneſs in enabling me, old and infirm as I am, to enjoy the greateſt happineſs that man can enjoy in this life, by which at the ſame time he is prepared for the enjoyment of that happineſs in a much greater degree in the life to come: The happineſs I mean, is the contemplation of the wiſdom and goodneſs of God.

BOOK

* Vol. II. p. 360.

BOOK IV.

The Goodneſs of God manifeſted in the Economy of the Brute Creation.

CHAP. I.

The happineſs enjoyed by Brutes, *compared with that of* Man.—*The diſtinction betwixt Man and Brute to be accurately made.—Mind the origin of all the Motions in Nature.—Enumeration of the different kinds of Mind:—1ſt, The Supreme Mind and the two Principles of Intelligence and Vitality, compoſing the Trinity; 2d, Inferior Intelligences, ſuch as Man; 3d, The Animal Mind; 4th, The Vegetable; and 5th, The Elemental Mind.—Difference betwixt the Animal and Vegetable Minds.—The Animal much more various in its ſtructure and operations.—The Brute held to be a* mere machine *by Buffon.—This Opinion rejected by the Author, and by Mr Smellie in his Philoſophy of Natural Hiſtory.—Motions of the Brute produced by the Mind of Brute.—Inquiry into the Nature of that Mind.—Is it Animal or Intellectual?—According to Mr Smellie it is Intellectual, but of an inferior kind to that of Man, called by him* Inſtinct.—*The Author's opinion, that the Brute has not Intel-*

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lect, and therefore acts neceſſarily, not having will *or* free will.—*Arguments in ſupport of the Author's opinion.—The Inſtinct of the Brutes explained.—The Brute wants Conſciouſneſs.—Inſtinct not confined to the Brutes, but alſo a part of the Nature of Man.—Approximation of different Natures exemplified in Zoophytes—in the Flying Fiſh—and of Inſtinct and Intellect in the Elephant—Extraordinary inſtances of his Sagacity, and of that of the Dog, from Mr Smellie's Book.—Theſe Brutes may almoſt be ſaid to have Ideas;—They cannot however diſcover* the one *in* the many, *nor diſtinguiſh things into* genuſes *and* ſpecieſes:—*This the eſſential difference betwixt Man and Brute.—Ariſtotle's diſtinction betwixt* Logical *or* Rational *and* Intellectual, *explained.—The Brute* Reaſons *or* Compares *by means of his* Phantaſia.—*Difference betwixt the objects of Man's Compariſon and thoſe of the Brutes.*

HITHERTO I have ſpoken of an animal who is not ſuch as he came out of the hands of his Creator, and who may be ſaid to have made himſelf: But I come now to ſpeak of animals, who have not changed their ſtate, but are ſtill ſuch as they came out of the hands of their Creator; I mean the Brute Creation here on earth; and I will ſhow that, though they be not capable of near ſo much happineſs as man is, yet they enjoy much more than by far the greater part of men do in this life. But before I come to treat of this ſubject, I think it is proper to ſay ſomething of the brute nature as diſtinguiſhed from the nature of man, and to inquire what it is in the brute that produces ſo many various actions; whether it be his body only, or his mind? and if it be his mind, whether it be what I call the animal mind, or the intellectual, ſuch as is in man.

To diſtinguiſh accurately and philoſophically betwixt the mind of man

man and that of the brute, is a thing not without difficulty, but I think of importance, as every thing relating to mind is; for it is mind that has produced this univerſe, and formed it into a ſyſtem. And as the ſyſtem of the univerſe was formed by mind, ſo every part of it is executed by mind; for it is by motion that all the operations of nature in this univerſe are performed. Now I hope I have proved, to the reader's ſatisfaction, that all the motions of the univerſe proceed originally from mind; for, though motion be no doubt produced by one body acting upon another by pulſion, truſion, or by drawing it, yet the body, which in this manner acts upon another and puts it in motion, muſt itſelf be firſt moved; and that can only be by mind.

And here the reader may obſerve, in paſſing, the different ways in which body and mind move bodies. Body, as I have ſaid, moves another body by pulſion, truſion, or by drawing it; but in none of theſe ways can we conceive mind moving body. It cannot therefore move body by any outward application to the body, but muſt move it by acting upon it inwardly, and not upon the ſurface of it, as body acts upon body. Now I think this ſhows an eſſential difference betwixt mind and body; for we cannot conceive body entering into body without making a breach in the body. And if we could conceive it entering the body in this way, how can we conceive it moving the body from within, and not one part of the body but the whole body, ſo as to make it go from place to place, and to move in every direction, up or down, from one ſide to another, and in a ſtraight or a curve line. And this, as I have obſerved already *, may give the moſt vulgar man an idea of an immaterial ſubſtance, which otherwiſe he cannot eaſily conceive, and of which it does not appear that even the Greeks had any conception till Pythagoras came among them, and brought philoſophy

* Pp. 23 and 24 of this Vol.

loſophy from Egypt. As therefore mind has not only produced the univerſe and formed a ſyſtem of it, but alſo performs every thing in that ſyſtem (a ſyſtem which is always in motion), it muſt be of the greateſt importance, both in the philoſophy of nature and in theology, to know perfectly the nature of a being which produces ſuch wonderful effects. Upon this ſubject I have ſaid a great deal in different parts of this work, of which I am perſuaded the reader will not be diſpleaſed that I give here a ſhort ſummary, enumerating all the various kinds of mind in the univerſe, and mentioning what operations they perform.

The firſt and principal mind, from which all the others proceed, is the Supreme Mind, that is God. His nature I have endeavoured to explain, having ſhown that he conſiſts of three ſubſtances, in the ſame manner as man does, who is the image of God here below, and who conſiſts of the intellectual, the animal, and the vegetable minds, making all three but one Being. The ſupreme mind in like manner conſiſts of three ſubſtances, or Perſons as they are called, God the Father, from whom has proceeded God the Son, that is the principle of intelligence, and who is ſaid in the language of our ſcripture to be *the only begotten of the father*, or, in the language of philoſophy, the only immediate production from the father or firſt cauſe of all things, and by whom the whole ſyſtem of the univerſe was formed; and from him, that is from intelligence, was produced *the Holy Spirit*, or *third perſon* of the Trinity. From the firſt perſon therefore every thing in the univerſe proceeds; firſt Intelligence, by which every thing in the univerſe has been formed into a ſyſtem of the greateſt perfection that it is poſſible to imagine; and from intelligence the *Holy Spirit*, which has given life and animation to the whole ſyſtem. From the principle of intelligence, the ſecond perſon of the trinity, have proceeded all the intelligences of the univerſe, ſome of greater excellency, ſome of leſs; and among

theſe

theſe laſt is *man*, who appears to be the loweſt of intellectual beings, but is the chief animal of this earth, being there the only intellectual being. From the third perſon of the trinity, the Holy Spirit, proceed all the other minds in this univerſe, and particularly the minds which animate bodies on this earth, and give them motion and action: Of theſe bodies ſome are organized and ſome not organized. By organized bodies I mean bodies that have parts called organs, which perform certain motions by themſelves, that are uſeful to the whole body; and this is the caſe of animals and plants: Whereas unorganized bodies have no ſuch organs, and therefore are moved altogether and directly and immediately by the mind in them; and that is the caſe of minerals, ſuch as earth, ſtones, and metals.

But there is one mind which moves equally without diſtinction all bodies, organized and unorganized; and it is a mind, which gives life and animation to all nature, and therefore I think may not improperly be called the *anima mundi*. This mind I call the *elemental mind*, as it moves, among other things, the elements; but it is called by Ariſtotle, not improperly, *nature*, being the principle of motion in all natural bodies *.

The minds I am now to ſpeak of are not univerſal, ſuch as the elemental mind, but belong only to particular ſubjects; I mean bodies organized, ſuch as vegetables and animals †. The vegetable has in it a mind which moves different organs or members of it, ſuch as its roots, branches, and leaves; by which motion the vegetable is nouriſhed, grows, and propagates its kind. Our modern philoſophers I know will be ſurpriſed that I ſhould give a mind to a vegetable. If I gave it an intellectual or even an animal mind, that is

* See Vol. II. of this work, p. 360.

† Of the different kinds of Mind, ſee p. 34, &c. of this Vol.

a mind which has perceptions by the ſenſes, and conſequently is capable of pleaſure and pain, they would have good reaſon to be ſurpriſed. But the mind I give to the vegetable, is only a mind that moves the ſeveral parts of it, by which, as I have ſaid, it is nouriſhed, grows, and propagates its kind. Now a man, who believes that all the various operations of the vegetable, by which it grows and is nouriſhed, puts forth leaves, flowers, and fruits, are all performed by mere matter and mechaniſm, without the operation of mind, may alſo believe, as I have ſaid elſewhere *, that all the operations of nature are performed by matter or body without mind: And he muſt likewiſe believe that he himſelf has not a vegetable mind, and conſequently has not that trinity in his nature, which makes him the image of God here on earth.

I come next to ſpeak of the other organized bodies I have mentioned, I mean *animals*, whoſe ſtructure is much more various than that of vegetables, and conſequently their operations are ſo alſo. And I will begin with the brute animals, which will lead me directly to the ſubject I am now to conſider, viz. the difference betwixt man and brute. But before I come to ſpeak of that, I think it will be proper to explain how theſe different forms of bodies, by which ſome are organized ſome not organized, are produced, and likewiſe the great difference which we obſerve in the organized bodies from one another, and alſo in the unorganized bodies ſuch as minerals; in ſhort to give ſome account of the production of all the various forms of bodies.

To ſay that matter of itſelf, by a *vis inſita*, as Sir Iſaac Newton expreſſes it, has produced all theſe forms, would I think be downright materialiſm; for it would be giving to matter a power by which the whole material world has been formed.

* Vol. V. of this work, p. 215.

formed. But there is an antient piece of philoſophy preſerved to us, (the moſt antient I believe that is extant), by which this doctrine is explained, and the whole ſyſtem of the material world put in the cleareſt light. The work I mean is that of Timaeus the Locrian, *De Anima Mundi*, where he tells us that all bodies are formed of *matter*, or *the materia prima*, as we call it, and of *idea*; ſo that every Body is compoſed of a certain quantity of *matter*, which he conſiders as the *mother* of the body, and of an *idea*, which he conſiders as the *father*. In this way every Body here on earth is formed: For the *idea*, that is the mind which is in it, both gives it its form and motion, and produces all its different qualities. In this way we have every thing in body, all its different forms, its movements and its qualities, accounted for upon ſound principles of theiſm, without the leaſt mixture of materialiſm; which makes this work of Timaeus a moſt valuable piece of philoſophy, being the beſt account that is given of the production of the ſeveral forms and motions of bodies here on earth, and their different qualities.

I now return to ſpeak of the difference betwixt man and brute. That the brute is not a mere machine, as M. de Buffon, would make him to be, but that he has a mind by which he is prompted to act in different manners, cannot be doubted of by any man, who knows what mind is, and that there is an animal mind, which he himſelf has, as well as an intellectual mind: And it is from the different operations of this animal mind of the brute that we are to diſtinguiſh it from the intellectual mind of man.

There is a book written by a Scotchman of the name of William Smellie, entitled *The Philoſophy of Natural Hiſtory*, and which I believe is one of the beſt collections extant of the hiſtory of the brute animals. He mentions this queſtion concerning the cauſe which produces

produces ſo many various operations of the brute; and he tells us that the opinion of M. de Buffon is, that the Brute is a mere machine, and that all his operations, even the operations of the bee, which are ſo various and appear to be ſo ingenious, are only reſults of pure mechaniſm *. But this opinion Mr Smellie rejects, and ſays that the notion that animals are mere machines is too abſurd to merit refutation †. And, indeed, if the operations of ſuch an animal as the bee, ſo various and ſo connected together as to make a ſyſtem, or polity, more perfect, as I ſhall ſhow in the ſequel, than any to be found among men, be the reſult of mere mechaniſm, the whole ſyſtem of the univerſe may be ſaid to be nothing but mechaniſm alſo, that is the operation of body upon body. If however I could believe, as Sir Iſaac Newton did, that body being once put in motion, could continue to move itſelf, and in a regular and orderly way;—and that the bodies of brutes were moved, as he ſays our bodies are, by aethers and ſubtile fluids;—I ſhould be diſpoſed to agree with M. de Buffon, and to ſuppoſe that all the motions of the brutes, many and various as they are, were nothing but mere mechaniſm.

The only other opinion that can be upon this ſubject, is, that the motions of the brute are produced by the mind of the brute; and then the queſtion will be, as I have ſaid, whether it be his animal mind that produces theſe operations, or whether he has not an intellectual mind as well as man? Now the opinion of Mr Smellie is, that he has ſuch a mind, not ſo perfect indeed as the intellectual mind of man, but ſuch an intellect as is ſufficient to acconnt for all his operations. And this is the idea he gives of what he calls the *inſtincts of brutes* ‡.

But

* Smellie, Vol. I. p. 336.

† Ibid. p. 156.

‡ Ibid.

But my opinion is, that the inſtinct of the brute is of a nature altogether different from intellect; and that, as I have elſewhere ſaid *, it is nothing elſe but a determination of the mind of the brute, which the wiſdom and goodneſs of God has beſtowed upon it, to act in a certain manner on certain occaſions and in certain circumſtances, without knowing any thing of the reaſons for which it acts, or having any thing like what we call *will* or *free-will* in man, which is intirely the reſult of intellect. For, in the firſt place, the man who determines to act, muſt have an idea of the action that he is to perform: And, 2dly, He muſt have formed an opinion that the action, if he performs it, will be productive of *good* to him; and when he has formed that opinion, then he *wills* to perform the action. Now to maintain that brutes form opinions concerning what is *good* or *ill*, and act in conſequence of thoſe opinions, is to deny that there is any diſtinction betwixt man and brute, and to hold that man is not the only animal of intelligence upon this earth, nor is thereby diſtinguiſhed from all the other animals of the earth: And particularly it is his operation of *willing*, which makes him ſo different from other animals, and is ſo eſſential to his nature, that, as I have ſaid elſewhere, if God were to take from him that faculty, it would be in effect to annihilate him as an intelligent animal; for he would be no longer a man but a brute.

And in this manner I think I have demonſtrated, that as the brute does not form opinions of what is *good* or *ill*, as man does, he is not therefore guided by intellect as man is, but by what is called inſtinct; which directs him to do what is beſt for him, but without his knowing for what end or purpoſe he acts.

As the brute has not intelligence, he wants alſo another thing, which,

* In Vol. II. Book IV. Chap. VI.

which, as I have obſerved elſewhere *, belongs to man, and is the foundation of all his knowledge, even of the knowledge of his own exiſtence: And that is *conſciouſneſs* of what he does; by which Des Cartes knew that he exiſted; "For," ſays he, "I think: Therefore "I am †."—Now the brute, wanting that conſciouſneſs, does not know that he, himſelf, exiſts.

By what I have ſaid of the brutes acting only by inſtinct, while man acts by intelligence, I muſt not be underſtood to mean, that man does not likewiſe act by inſtinct upon certain occaſions; or in other words, that he does not act, on ſuch occaſions, without forming any opinion concerning the action, whether it be good or ill. For man after his fall was no more than a mere animal, with ſenſations only, but without intellect, which he acquires, as I have ſhown, by the means of civil ſociety. But even after that acquiſition, he is ſtill an animal, and therefore it is natural, and indeed neceſſary, that he ſhould, upon certain occaſions, act as a mere animal, that is be moved only by inſtinct, without deliberating or forming any opinion whether what he is to do be good or ill. In this way he eats when he is hungry, drinks when he is thirſty, reſts when he is weary, and avoids any imminent danger from fire, water, or precipices: And as in many ſuch caſes there is no time for any deliberation, it ſhows the wiſdom and goodneſs of God, that he has ſo framed man, that he can act by inſtinct as other animals do, without forming any opinion of what is *good* or *ill.*

Thus I think I have ſhown that there is an eſſential difference betwixt intellect and inſtinct; and that man, though he have inſtinct as well as the brute, is nevertheleſs the only animal of intelligence on this earth.

But

* Vol. II. p 97.

† See pp. 108 and 115 of this Vol.

But things are ſo connected together and the univerſe is ſo perfect a ſyſtem, that there is no gap or interval in it, things running into one another, like ſhades of different colours. Even things the moſt different in their nature, are in this way connected together: Thus animals and vegetables run together, and make what is called a zoophyte, of which we have an example, as I have obſerved*, in the coral, which is mixed of the animal and vegetable. And there are two kinds of animals, which we ſhould think ſo diſtinct and ſo different altogether from one another, that it could hardly be conceived how they ſhould be joined together; I mean the fiſh that ſwims and lives in the water, and the bird which flies and lives in the air or on the earth: And yet they are joined together in the *flying-fiſh*. In the ſame manner intellect and inſtinct are joined together, as we have ſeen in man; and in ſome of the brute animals they run together and are ſo joined, that, though their intellect be far from being perfect, yet it is a great deal more than common inſtinct. Of this kind of animal is the elephant, who in every reſpect is the firſt of the brute-kind; for in ſize and ſtrength of body he far exceeds all the other animals on this earth, and alſo in the qualities of the mind, and particularly in ſagacity and what may be called natural parts. Upon the ſubject of the elephant Mr Smellie has ſaid a great deal, beginning with p. 441; and I think he has proved him to be a moſt extraordinary brute. In India he is very often domeſticated, and is truly a ſervant to the family, performing the moſt laborious offices, and carrying the greateſt weights, not only by land, but by water; for he can ſwim as well as walk. He appears to have what may be called ideas of particular objects, which, as I have elſewhere ſaid, were the firſt ideas that men formed: And therefore he readily diſtinguiſhes one man from another, and any particular piece of work, that he is enjoined to perform, from any other: For, like any other ſervant, he gets orders to perform ſuch a

* See p. 113 of this Vol.

piece of work; and theſe orders he underſtands, partly by ſigns, or by words, which he has been accuſtomed to hear, as applied to particular works. And if the work is of great exertion, they promiſe him a certain quantity of ſpirits, as a reward for his labour: For the Indians underſtand diſtillation as well as we do, and I believe had the practice of it before us, as well as of many other arts. But they make a much better uſe of ſpirits than we do; for they do not drink them, nor indeed any other ſtrong liquors, but give them to their elephants, to encourage them to work; and if they promiſe them to an elephant, and do not give them, they are in great hazard from his reſentment.

And thus I think it may be ſaid, that the elephant has ſome degree of intelligence, which enables him to perform the duty of a common ſervant. And not only has he ſo much of the intelligence of man, but he has the diſpoſitions, the affections, and the paſſions of men: For he has great love and affection for his keeper, who furniſhes him all the neceſſaries of life; and if any other perſon, though not belonging to the family, do him any good office, he is ſenſible of it, and may be ſaid to have gratitude for it; and it is obſerved, that, if he has been well treated in any houſe, he will, in paſſing the houſe *, bow his head as an acknowledgment of the favour he has received. He has alſo, as I have obſerved, reſentment of any injury that is done him, ſuch as breaking a promiſe made to him.

We have in this country a domeſticated animal, which, for his ſagacity and his attachment to his maſter, Mr Smellie conſiders as the next animal to the elephant; I mean the dog †. He is ſo well known, that I think it is needleſs to ſay any thing of him here, as

* Vol. I. p. 449.

† Ibid. p. 450.

as Mr Smellie has told ſome ſurpriſing ſtories of him. I will only add to what he has ſaid, that, if he were not ſo common an animal among us, and were but newly brought to this country, we ſhould think him a moſt extraordinary animal: He has a great attachment to our ſpecies; ſo great, that he may be ſaid to be our friend and companion; nor is there any example of ſo great an attachment betwixt two animals of ſpecieſes ſo different. Our favourite dog loves us ſo much, that he is jealous of any other dog whom we ſeem to favour, and for no other reaſon will fall upon him and bite him. I cannot however think that he has near ſo much either of the intelligence of man, or of his diſpoſitions and affections, as the elephant.

Thus it appears that ſome of the brute animals, ſuch as elephants and dogs, have perceptions of particular objects of ſenſe, ſo diſtinct, that they may be ſaid to have ſomething like ideas of them, but not ſuch ideas as we form: For theſe ideas, as I have deſcribed them in a preceding volume, are truly, as I have ſaid in more than one place, ſyſtems, even our ideas of particular things; for in forming theſe ideas, we diſtinguiſh what is principal in the thing, and ſeparate it from what it has in common with other things. But what chiefly diſtinguiſhes the operations of the mind of the brute from thoſe of the intellectual mind of man, is, that the brute has only ideas (if we will call them ſo) of particular objects of ſenſe, but no general ideas. He has therefore no knowledge of *the one* in *the many;* which is the proper definition of a general idea, by which the mind forms *one* idea of many things agreeing together in one eſſential quality however they may differ in other things. In this way he arranges things in different ſyſtems or claſſes, which we call genuſes or ſpecieſes: And it is in this way that intellect is eſſentially diſtinguiſhed from the ſenſes; for theſe perceive only particular objects, whereas the intellect, and the intellect only, com-

pares theſe objects, finds out that they agree in one principal thing, of that forms the general idea, and perceives *the one* in *the many*. Now of this the brute is abſolutely incapable; and any uſe, that he can be ſaid to have of intellect, is confined intirely to particular objects of ſenſe: And even of theſe he cannot, as I have ſhown, form what can be truly called an idea; but by his ſenſes he gets a very accurate and diſtinct perception of them, which is abundantly ſufficient for the purpoſes of his animal life, and makes him at the ſame time very uſeful to man, who by that means reaps great profit from the dominion which God has been pleaſed to give him over the animals of this earth. How much he profits by that dominion, is evident from the example of theſe barbarous nations, ſuch as the ſavages of North America, who, though they kill and feed upon many animals, make no uſe of them in the operations they carry on.

Of the progreſs of man in forming general ideas, and how he proceeds from the leſs general to the more general, till at laſt he perceives not only *the one in the many* and *in very many*, but the *one in all*, that is God, the author of all, I have ſpoken elſewhere at ſome length. Here it will be ſufficient to obſerve, that as the brute cannot form general ideas, he is quite incapable of ſcience, which is founded upon general ideas and cannot exiſt without them. He is alſo incapable even of arts; for, though ſome brutes, ſuch as the bees, practice wonderful arts, of ſome of which I ſhall ſpeak in the ſequel, yet as they have no general ideas, they can have no knowledge of the principles of the art, nor indeed know what art is. They may indeed be taught ſome arts by man, and by aſſiduous practice form them into habit; but ſtill they do not know what that art, or what any art, is.

Thus I think I have ſhown the diſtinction betwixt intelligence and

and inſtinct, and conſequently the diſtinction betwixt man and brute; and that, though the inſtinct of ſome brutes be ſo perfect that it produces the effects of intelligence, yet it is truly not intelligence but a principle of action quite different, yet ſo reſembling the operations of intelligence, that it is no wonder that Mr Smellie has confounded it with intelligence.

Before I leave this ſubject I think it is proper to obſerve that Ariſtotle appears to give intelligence to the brute, when he defines man to be, in his natural ſtate, ζωον λογικον, νου και επιστημης δεκτικον: So that, according to Ariſtotle, man is a *logical* animal before he is in poſſeſſion of intellect and ſcience and when he has only the capacity of acquiring them. But we muſt diſtinguiſh betwixt *logical* and *intellectual*; a diſtinction, which is not commonly made even by philoſophers in this age; for they ſay that man is a *rational* animal, meaning that he is an *intellectual* animal. But thoſe two are very different; and accordingly the brute (at leaſt the better kinds of them) is a *rational* animal but not *intellectual*; and this is a diſtinction which requires to be explained to thoſe who have not ſtudied the antient philoſophy.

Λογος in Greek and *ratio* in Latin, which denote the ſame thing, are never applied to *one* thing only, but to *two* or *more* things, agreeing or differing in certain qualities; which when the mind perceives, it knows the Λογος or *ratio* that thoſe things have to one another: And the animal who is capable of that perception, is ſaid to be a *logical* or *rational* animal. And ſuch was man before he acquired the uſe of intellect; and ſuch at this day are all the better kinds of brutes: For a brute of that kind could not carry on the buſineſs of his life, if he did not perceive the different qualities of objects, and in that way diſtinguiſh things that had certain qualities from other things that had them not or had different qualities. An animal,

animal, if he wanted that diſcernment, could not diſtinguiſh what was proper for his nouriſhment, or for his eaſe and convenience, from what was not proper; but being taught by inſtinct to know that, by his logical or rational faculties he diſtinguiſhes the things that have thoſe qualities from thoſe that have them not: So that, unleſs he were a rational or logical animal having the faculty of compariſon, he could not ſubſiſt. And it may be obſerved not only that the brute perceives this likeneſs or difference of two or more objects when they are preſent to the ſenſes; but when only one of them is preſent he can compare that one with the perception or ſenſation of the other that he has retained in his phantaſia, a faculty, which preſerves the object in his mind; ſo that he perceives it as if it were actually preſent *.

It may be aſked, in what then conſiſts the difference betwixt the logical or rational animal and the intellectual? And I ſay it is in this, that the *rational* animal only perceives the likeneſſes or difference of things; but what makes them *alike* or different, he does not perceive: Whereas the intellect perceives thoſe qualities, which make the things agree or differ from one another. In ſhort the intellect perceives the nature of the things, ſuch as is contained in the definition that we give of any thing.

And thus I hope I have ſhown to the ſatisfaction of the reader the difference betwixt the intelligence of man and that rational faculty of the brute, by which he compares things together and diſcovers their likeneſſes or difference, without which the economy of his life could not be carried on; for, if he had only the ſimple perception of objects by his ſenſes, without being able to compare them, and without perceiving their likeneſſes and differences, he could

* On the ſubject of the phantaſia, and the great utility of it in the economy of the animal life, ſee Vols. I. p. 90. and II. p. 232. of this work.

could not ſubſiſt. And if the brute have not that intelligence which diſcovers to man the nature of the thing, and ſo enables him to form the idea of any thing, much leſs has he the faculty of ſcience, by which ideas are compared together; ſo that the way in which Ariſtotle has diſtinguiſhed a logical animal, ſuch as he ſays man is, by *the capacity of intellect and ſcience*, is perfectly juſt, and ſhows that he underſtood compleatly the difference betwixt man even in his natural ſtate and the other animals of this earth.

The reader may be ſurpriſed that I ſhould have detained him ſo long here upon the difference betwixt man and brute, when I have ſaid ſo much upon that ſubject in the IV. Vol. of this work, p. 14 and following, and more ſtill in the V. Vol. Book III. Chap. XV. But he ſhould conſider that no perſon can know what man is, that is what he himſelf is, if he do not know the difference betwixt man and brute, and what diſtinguiſhes the governing animal on this earth from any other animal. The accurate knowledge therefore of this difference I think is a principal part of the knowledge of man. By what I have added here to the paſſages above quoted I hope I have ſaid enough to correct the common error, that intelligence and rationality are the ſame, and that, becauſe the brute is not an intelligent animal, therefore he is not rational.

CHAP.

CHAP. II.

Of the Brute Nature, and its Variety:—He is Solitary, Gregarious, and Political.—Comparison of the Life of the Brute with that of Man in Civil Society.—Vindication of Providence with respect to the destruction of Brute Animals by one another.—Vegetables the first food of Man—Then their Fruits, such as Barley and Wheat:—These first discovered and cultivated in Egypt,—and the art of Cultivating them carried to other countries.—Next came the Flesh diet—first those animals caught by hunting; then tamed and domesticated animals.—Agreement of the Author's Opinion with that of Porphyry and Moses.—Animal Food necessary from the Multiplication of Men.—The Vegetable diet more wholesome.—Water the natural drink of all Animals—but, as the drink of Man in Civil Society, it is improved by a mixture of Wine, in the opinion of Solomon.—The Flesh diet less hurtful by being mixed with Vegetables.

HAVING shown the difference betwixt Man and Brute, I proceed now to treat of Brutes in particular, to show their various natures, and how they differ from one another as well as from Man.

The brutes may be said to live in all the three different ways in which men live; for they live either solitary, as the wild beasts or beasts of prey do; or they live in herds, as sheep, oxen, deer, and horses do in their natural state, in which state the last are in the plains

plains of Tartary; or, laſtly, they live in a political ſtate, which may be called their civil ſociety: And it is in this laſt way that Bees, Ants, and Beavers live*. But in whichever of theſe ways the brute lives, he lives in the way that God and Nature has appointed he ſhould live;—a way very different from that in which men in civil ſociety live; for, as man has made for himſelf a new nature, different from that which God beſtowed upon him, ſo he has alſo made to himſelf a new way of living, different from that in which he was deſtined by God and Nature to live and in which the antedeluvians lived, who lived each of them ſeveral hundred years without being liable to any diſeaſe as far as we know, and different likewiſe from the manner of life of the ſavage nations at this day. The unnatural life I mean the reader will underſtand to be that in which houſes and clothes are uſed;—for food, fiſh and fleſh;—and for drink, wine and ſtrong liquors of different kinds and even ſpirits. Such a life, ſo different from the natural life of man, muſt neceſſarily produce many diſeaſes and much weakneſs and ſhortneſs of life: And, as theſe are increaſing in every generation, I am more and more convinced of what I have maintained in a preceding volume of this work †, that there will be an end of the human ſpecies in the civilized nations of Europe in not very many generations; and indeed it would be contrary to Nature and to the order of things in the univerſe, if, in a way of living ſo different from that which God and Nature has appointed, the race of man ſhould laſt for any very long time.

How different the life of the brutes is, who live in the natural ſtate and not houſed nor under the dominion of men, is well known. There is one race of them who live upon fleſh, I mean the beaſts of prey; which, we ſhould think, was an objection to the goodneſs of God, who has produced animals that cannot live with-

* Of the polity of the Beaver, ſee Vol. III. p. 54.

† Vol. V. Chap. laſt.

out the deſtruction of other animals. But we ſhould conſider that a ſyſtem, ſo perfect as that of the univerſe, muſt be compleat, and have every thing in it that is poſſible to exiſt but which does not tend to the deſtruction of the ſyſtem. Now, if there had not been animals that fed upon the fleſh of other animals as well as upon the fruits of the earth, the ſyſtem would have been defective, and wanting that variety (which muſt be in every perfect ſyſtem) of animals feeding upon the fleſh of other animals, as well of thoſe that feed upon the fruits of the earth. And I ſay further, that as the increaſe of animals on this earth is ſo great that all the fruits of the earth could not maintain them, it is proper that theſe other animals ſhould die before their time; and it is better that by their death they ſhould ſupport other animals, than that they ſhould die of old age or accidents. If indeed all the animals, that are deſtined for the food of other animals, were to be thereby deſtroyed, and the ſpecies of them annihilated, it would certainly be an imperfection in the ſyſtem. But that is not the caſe: For the beaſts of prey are but few in number; whereas the animals, they feed upon, are very numerous, and, I am perſuaded, would multiply too faſt if they were not fed upon by the wild beaſts. The country of India is a proof that the ſpecieſes of beaſts, which the carnivorous animals feed upon, are not thereby annihilated nor even decreaſed in number more than in other countries: There the animals live more in the natural ſtate than in any country in Europe; for the Indians neither hunt, nor eat fleſh, nor kill any animals except a few kids for ſacrifice. And in Britain there is one animal which is not only the prey of carnivorous animals, ſuch as the fox, but of man, more than any other wild animal; I mean the hare: And yet the race of hares does not appear to be in any hazard of being extinguiſhed; though ſo many ways are uſed by men to deſtroy them, that they are taken under the protection of the law.

But

But the greateſt deſtruction of the brute creation on this earth is by man for food; and this leads me to ſpeak at ſome length of the food of man, which is very different in the different ſtates through which he has paſſed. In his firſt ſtate upon this earth, when he was a quadruped and walked upon *all-four*, (the ſtate in which Peter the *wild boy* was found in the woods of Hanover, the moſt curious diſcovery, as to the human race, that has been made in this age *), it was of abſolute neceſſity, as I have obſerved elſewhere †, that he ſhould feed upon the herbs and roots which the earth produced, and not upon the fruits of trees. That was firſt practiſed by the Arcadians, who were a moſt antient people, ſo antient that they ſaid they were more antient than the moon, being προσεληνοι, as they called themſelves; for they were taught, by their king Pelaſgus, to feed upon acorns. This is a curious fact in the hiſtory of man, which Pauſanias has preſerved to us, (Lib. VIII. Cap. I.); and it is a ſtep in the human progreſs, the memory of which appears to have been preſerved only among theſe very antient people ‡.

Before the invention of corn, Diodorus Siculus tells us, that the Egyptians ate graſs and roots that grew in the rivers and marſhes, particularly an herb called *agroſtis*, with which they fattened cattle in later times; and that they continued to feed in that way till Iſis taught them the uſe of a better herb for food, I mean the *lotus*, which grows in the river. Diodorus adds, that even in his own time, the children in Egypt fed upon reeds and other aquatic plants which grew in the river and marſhes ‖:

* See upon this ſubject of *Peter the wild boy*, at great length, Vol. III. of this work, p. 57 and following.

† Vol. IV. p. 39.

‡ See Vol. IV. of this work, p. 39.

‖ Vol. III. of this Work, p. 375.

Arrian informs us, that the Indians, before they were civilized and taught arts by Oſiris, or Bacchus as the Greeks called him, fed upon the barks of trees*: We are informed by Captain King †, that the natives of Kamſchatka do at this day make food of the bark of the *birch tree* ‡: Appian in his Lybian Hiſtory relates that the Numidians fed upon graſs, when they could get nothing elſe: And Herodotus ſays, that thoſe of Xerxes's army, who eſcaped out of Greece, in their way through Thrace, fed upon graſs.

It is therefore I think evident that the firſt food of men upon this earth was wild herbs and their roots, then the fruits of trees, and particularly acorns.

But the wild herbs that grow commonly in the fields, though they be a very proper nouriſhment for brute animals, are not a proper nouriſhment for the chief animal on this earth, man; nor, if they were, is there a ſufficient quantity of them for maintaining man and the other animals of this earth: For men in the firſt ages of ſociety increaſed ſo much, that, as I have elſewhere obſerved §, almoſt the whole hiſtory of man in thoſe firſt ages conſiſts of his migrations from countries, the produce of which could not maintain him, to other countries where he could ſubſiſt; and even in later times that famous migration of the Teutons and Cimbers from the northern parts of Europe and Aſia into the Roman empire, and, in later times ſtill, that of the Goths and Vandals, were both cauſed, as I have elſewhere obſerved ‖, by theſe nations not being able to live upon the fruits which their own country produced.

* Vol. III. of this work, p. 375.

† Vol. III. of Cooke's laſt voyage, p. 333.

‡ Vol. III. of Antient Metaphyſics, p. 376.

§ Vol. V. p. 243.

‖ Ibid. p. 245. and Origin and Progreſs of Language, Vol. V. p. 93.

duced. Things therefore were come to the ſituation mentioned by Virgil,

> ——————— cum jam glandes atque arbuta ſacrae
> Deficerent ſylvae, et victum Dodona negaret.
> GEORGIC. Lib. I. v. 148.

And it was then proper that ſome herbs of a better kind ſhould be diſcovered, upon the ſeeds of which men might live.

This diſcovery was made in Egypt, which, as it enjoys ſuch advantages of climate, ſoil, and ſo fine a river, is, by its nature, the moſt fruitful country, I believe, in the world. Of the herbs diſcovered in Egypt I have ſpoken at ſome length in Vol. IV. of this work *, where I have ſhown that the Egyptians not only diſcovered and cultivated wheat and barley, but a finer grain than either, which they called *zea*, and the Greeks ὀλυρα. It was a grain ſo much finer than either wheat or barley, that the better ſort of people would eat the bread made of it only. Theſe plants muſt have been the natural growth of the country, and for any thing we know, of that country only: So that to Egypt we not only owe the art of agriculture, but the materials which it employs: For I have ſhown, in the paſſage above quoted, that the ſeeds of theſe plants were brought from Egypt to other countries; firſt to Greece, and then to other parts of the world, and particularly to Italy, where the Egyptian *zea* was cultivated, and produced that grain which the Romans called *far*. And the Egyptians, as I have ſaid, taught us not only to make *food* of the grains I have mentioned, but alſo *drink* of them as well as of the juice of the grape: So that the Egyptians invented not only the art of agriculture, and of making bread, but alſo the art of *fermentation*, and likewiſe of *malting*, by which they made *ale* or *beer* of their grain.

But

* Book II. Chap. IV.

But after agriculture was invented in Egypt, it muſt have been a long time before the art was propagated to the many different nations of the earth; while in the meantime it was neceſſary that men ſhould have ſome other way of living than upon the natural fruits of the earth. Now this could only be by the fleſh of animals, which they killed by hunting: And accordingly we are aſſured that many nations in antient times ſubſiſted in that way; and ſeveral do ſo at preſent, ſuch as the Indians of North America, who practice very little agriculture, but live almoſt intirely by hunting and fiſhing.

The firſt animals, that men fed upon, were thoſe they killed in theſe ways: For at firſt I am perſuaded they did not feed upon animals that they houſed, nor collect them for the purpoſe of making food of them. Even at this day the Tartars, who live intirely by hunting, uſe, for food, no animals which they have tamed or domeſticated: For they ſay it would be contrary to the laws of hoſpitality, to kill an animal for food which you have taken under your roof; and, though they ſometimes eat their horſes, it is nothing but extreme neceſſity which makes them do ſo.

Thus I think I have proved, that it was neceſſity that drove men to uſe the unnatural food of fleſh; and it was the failure of the natural fruits of the earth, which, by the great multiplication of men, became not able to ſupport them and the other animals of this earth: For though in Egypt the invention of corn and of the art of agriculture did ſupply men with proviſions, yet as that art could only be ſlowly propagated to other countries, it is evident that thoſe other countries muſt have been obliged to ſupply the want of food by killing animals and eating them, till they had learned the art of agriculture. In this opinion I am glad to be ſupported by ſo eminent a philoſopher of the Alexandrian ſchool as Porphyry, in his learned work *De Abſtinentia*. It was the ſame neceſſity that made the

the Greeks uſe a food, which appears ſtill more unnatural, as it comes not from the earth, but from another element; I mean *fiſh*, which Homer tells us *, the crew of Ulyſſes's ſhip were obliged to kill and eat for want of other food.

And this neceſſity of eating fleſh may ſerve to explain to us what we read in ſcripture. When man was created, though he got dominion over all the animals in the ſea, in the air, and on the earth, we are told that he got for food only the herbs bearing ſeed and the fruit of trees, (Gen. Chap. I. v. 28 and 29); while in the next verſe God gives to the beaſts of the earth and the fowls of the air every green herb for meat: So that here a difference is made betwixt the food of man and of brutes; for man gets for food every herb bearing ſeed and every tree of which the fruit yields ſeed; whereas the beaſts get for food only green herbs. But after the flood God gives to Noah and his family for food every moving thing that liveth; *even as the green herb, have I given you all things* †. And, as in the preceding verſe, he had given into their hands not only the beaſts of the earth and the fowls of the air, but the fiſhes of the ſea, I think it is evident that he gave them for food *fiſh* as well as *fleſh*; only the *blood*, which, it is ſaid, is the *life* of the animal, they are forbidden to eat ‡. Now it appears that immediately after the flood, when by it the natural fruits of the earth were deſtroyed, and when there was no time for raiſing corn by cultivation, it was neceſſary that man ſhould be ſupported by eating both fleſh and fiſh. And in this way I think the difference, betwixt the diet preſcribed to man after his creation and that now allowed him after the flood, may be accounted for.

But even after agriculture was invented and practiſed by many nations,

* Odyſſey XII. v. 331.

† Geneſis, Chap. IX. v. 3.

‡ Ibid. v. 4.

nations, men multiplied ſo very faſt, that they could not be maintained, neither by the natural fruits of the earth nor by thoſe which agriculture produced, without the uſe of both fleſh and fiſh. In Egypt I think it was impoſſible that the wonderful numbers of men there could have been maintained, even in that moſt fruitful country upon the grain produced in it by agriculture, without uſing for food both the fiſh that the river afforded and the land animals. Even in later times, when we hear of men multiplying ſo faſt in ſome nations, particularly in Latium, where the Romans, before their ſtate was 500 years old, ſent out 30 colonies*, I think the people muſt have fed, not only upon corn, but upon the animals which their country and its rivers produced: And in general the multiplication of men in thoſe firſt ages of civil ſociety was ſo great, that the fruits of the earth could not ſupport them without feeding upon animals.

By what I have ſaid here I do not mean to retract what I have elſewhere maintained, that the natural food of man, and conſequently the moſt wholeſome, is the fruits of the earth not fleſh or fiſh: And I think a demonſtrative proof of this is, that we recover our health by the vegetable diet, which we could not have done, if we had continued to feed upon fleſh. Now what will recover health, when it is loſt, is certainly more proper for preſerving it than any other diet.

And here an objection may be made to the wiſdom and goodneſs of God, That man, the nobleſt animal, and the governing animal, on this earth, ſhould be reduced to the neceſſity of eating a food, which is not natural to him and which of conſequence muſt be hurtful to his health and muſt tend to ſhorten his life. But to this I anſwer, that, the firſt commandment given to man was to increaſe and multi-

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* Vol. V. p. 266.

ply; and accordingly he has increaſed and multiplied ſo much, that we do not hear of any part of the earth, not even an iſland in the great ocean, of any ſize, that is not more or leſs peopled. In Europe we have an iſland, I mean Iceland, and a great country, viz. Greenland, which is ſtill more than Iceland, *extra armi foliſque viar;* and yet both are peopled. And indeed it appears evidently to be the deſign of Providence, that every part of the earth ſhould be peopled, and that men ſhould have an opportunity every where of forming themſelves into ſocieties, and thereby acquiring the uſe of intellect, and ſo making ſome progreſs towards regaining their prior ſtate. But without altering the nature of things, which, as I have ſaid in more than one place, it is impoſſible that even God can do, the earth could not have produced in every country, which men were to inhabit, the moſt natural and beſt food for men: So that it was of abſolute neceſſity that they ſhould have ſuch food only as the country afforded; and, where it could not give them the beſt food, ſuch as corn, that they ſhould be contented to eat fleſh or fiſh, or what elſe the country produced that man can live upon; and, even in Egypt, where corn was raiſed in the greateſt plenty, yet, as I have ſhown, men multiplied ſo much, that they were obliged to eat both fiſh and fleſh, and, beſides, to bring up their children upon the reeds which grew in the river.

I continue therefore ſtill of opinion that the moſt natural and the beſt food of man is the herbs, and the ſeeds of herbs, produced by the earth; and that in every country, where that food can be got, it ſhould be uſed and only uſed by man. As to drink, the natural drink of man, and of all other animals, is water. I hold, however, that water without wine is not good, nor wine without water; an opinion, in which I am ſupported, if not by canonical Scripture, at leaſt by Apocrypha *: For a mixture of wine certainly cures the raw-

* II Maccabees, v. laſt.

neſs of water, and makes it more agreeable both to the taſte and to the ſtomach. But the quantity of wine mixed with water ſhould be ſmall, not above a third or a fourth of the water if the wine be ſtrong: And if wine cannot be got, I think the Egyptian drink, Beer, is neither an unwholeſome nor an unpleaſant drink; but it ſhould be ſmall beer, which, if it be good, is, I think, the beſt of all malt liquors. And thus far as to his drink I think a man may comply with the common faſhion of living. If he has a mind to carry his compliance with that faſhion further, ſo as to eat fleſh or fiſh, it ſhould be in great moderation: And he ſhould always eat fleſh with vegetables, ſo as to uſe the fleſh for the purpoſe only, as I have ſaid elſewhere, of giving them a reliſh; and the more vegetables he eats with his fleſh, ſo much the better. In this reſpect Scotch broth I hold to be the beſt way of eating fleſh; for with the juice of beef or mutton, which is boiled in the broth, you eat barley, turnips, carrots, and onions, to which you may add alſo greens. And therefore I hold that this broth is the beſt way of eating fleſh, much better than in *ſoup*: For in ſoup you have the juice of the fleſh; and if it be what is commonly called *ſtrong ſoup*, that is ſtrong of the fleſh, you eat in it more fleſh, than when you eat fleſh boiled or roaſted. Your fiſh alſo will be much the better and more wholeſome, if you eat them with vegetables likewiſe.

CHAP.

CHAP. III.

Comparifon of the Happineſs of Man and Brute.—Man, in the Civilized Life, liable to many Diſeaſes and Weakneſſes:—Theſe the Brute free of.—He enjoys the Pleaſures of Senſe in a higher degree; and alſo certain Pleaſures of Mind.—The Imperfection of our Intellect the Cauſe of our Miſery:—The Brute, guided by Inſtinct, as happy as his Nature will admit.—Man, by a proper uſe of his Intellect, may enjoy much greater Happineſs than the Brute.—The Inſtinct of the Political Animals, wonderful—ſuch as the Bee.—*Account of the Polity of the* Bee, *from Xenophon—and of the* Ants *and* Swallows *from Simplicius.—Reaſon for the Political Life of theſe Animals.—Of the Pairing of Birds, particularly Swallows.—Inſtances of the Inſtinct of Dogs, and of their care of their Offspring.—The Increaſe of the Number of Fiſhes by propagation, aſtoniſhing.—Concluſion, that the Animal Life of the Brute is much happier than the Animal Life of Man.—Praiſe of Derham's Phyſico-Theology, in inſiſting ſo much on Final Cauſes, and thereby demonſtrating the Goodneſs of God.*

HAVING ſaid ſo much of the natures of men and brutes and of their different ways of living, I think it will be proper to compare them in point of happineſs.

The conſequence of our unnatural way of living is, that we are liable to many diſeaſes and weakneſſes, which are daily increaſing,

and conſuming the ſpecies: And theſe diſeaſes and weakneſſes go to our children, and deſtroy ſo many of them, when they are infants and could not have acquired any diſeaſes themſelves, that I do not believe a fourth part, of thoſe that are born, live to be men and women; though I hold that man, as he is ſuperior to other animals of this earth in many reſpects, is ſo alſo in ſtrength of conſtitution, of which I have given (Vol. IV. p. 52.) a proof that is not commonly attended to. There however I have only ſpoken of the life of the rich and luxurious in towns; but the way of living of all the people in Europe, rich and poor, ſhows a ſtrength of conſtitution much ſuperior to that of the brute, though it has not been attended to. What I mean is the cloaths we wear, by which we are deprived of the free uſe of the air, the element in which we live, and without which we could not live a few minutes: For other things, ſuch as meat and drink, we uſe only occaſionally and at certain times. but, we live in the air, as fiſh do in the water; we muſt therefore uſe it conſtantly and in every way in which by nature it can be uſed. Now a man, that is cloathed, takes in the air only by his mouth and noſtrils; but nature has appointed that he ſhould take it in alſo by the abſorbing veſſels of his ſkin: This however is prevented by his cloaths; by which not only the pure air of the atmoſphere is hindered from being taken in by the ſkin, but the filth of his own body, thrown out by perſpiration, and which is more than what he throws out by ſtool or urine, is kept about him; ſo that he lives in the filth of his own body, and muſt neceſſarily take in again a great part of it. But of this I have ſpoken at great length in other parts of this work*. I will only add here, that the life of the brute, in his natural ſtate, is in this reſpect altogether different: For, not being cloathed nor even houſed, he takes in not only by his mouth and noſtrils, but by his ſkin, the pure atmoſphere; and the filth, which he throws out from his ſkin by his perſpiring veſſels, is carried

* Vol. V. p. 19.

carried off by the wind or the air. Now this makes ſuch a difference in the way of living of theſe two animals, that man, who can live for any number of years in ſo unnatural a way, muſt have a ſtrength of conſtitution very much ſuperior to the brute.

As to the brutes, who live in the natural ſtate and not under the dominion of men, they are not I believe liable to any diſeaſes, not even to thoſe peſtilential diſeaſes which we call *Plagues*, that deſtroy ſo many men. Under the reign of Juſtinian the Emperor there were ſo many plagues, that it was ſaid they deſtroyed one half of the human ſpecies in the countries where they raged; yet we do not hear of any of the brutes dying of them*. It is evident therefore that the brutes, which are in the natural ſtate, enjoy that greateſt bleſſing of our life in this world and the foundation of every other, I mean health, much more than we do.

As to the pleaſures of ſenſe, ſuch as eating, drinking, and coition, the brutes in the natural ſtate enjoy them more than we do, becauſe they enjoy them in a more natural way. Nor do they want the pleaſures of the mind: For they have great pleaſure in nurſing and rearing their offspring; and the herding animals, beſides the delight they have in living with their herds, have certain attachments to particular animals, which give them a great deal of pleaſure. The dog, beſides the natural attachment he has to his own ſpecies, has an attachment to man, ſuch as is not to be found betwixt any other animals of ſpecieſes ſo different as thoſe of man and dog: And he is moſt uſeful to us; for he is the guardian of our houſe, and of our flocks and herds: And he may be called our companion; nor do I think it is improperly ſaid by Homer, "that Telemachus "was not alone; for he had two dogs with him †."

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* See Vol. III. of this work, p. 185, &c.

† Odyſſ. II. v. 11.

It may ſeem ſurpriſing that we, who not only have the uſe of all the ſenſes that the brutes have, but have intellect beſides, which they have not, and likewiſe the enjoyment of every thing that the earth produces, and dominion over all the other animals of this earth, ſhould not be happier than thoſe other animals; and particularly that we ſhould not enjoy health, the greateſt bleſſing, as I have ſaid, here below, and the foundation of every other. But intellect, which one ſhould think ſo great an advantage that we have over other animals, is the reaſon why we are leſs happy: For our intellect, being imperfect, forms falſe judgments concerning happineſs; and it is by intellect that we are governed, as it is eſſential to man, as an intelligent creature, that he ſhould be ſo governed. Now, as I have already obſerved *, his intellect operates by what is called his *will*; and he wills a thing, becauſe he has formed an opinion that it is good. But in this opinion he is very often deceived; for he imagines a thing to be good, becauſe it gives him pleaſure: Whereas, if his intellect were more perfect, he would know that it is not pleaſure that makes a thing good; but, on the contrary, that a thing may give pleaſure for the preſent, which, ſo far from being good, produces a great deal of evil: For pleaſure is not the end, but only the means, which providence employs to excite us to purſue what is good. Now there is nothing good with reſpect to animals, but what conduces to the well-being of the individual and to the continuation of the race; and it is to our energies, for thoſe two purpoſes, that the wiſdom and goodneſs of God has annexed pleaſure. But by a wrong uſe of our intellect we form an opinion that pleaſures of ſenſe are our good: And accordingly the uſe, we make of our ſenſes, is to enjoy as much ſenſual pleaſure as we poſſibly can, without regard to the end for which thoſe pleaſures are intended, that is, as I have ſaid, the well-being of the individual and the continuation of the race. Now the brute, as he has

* P. 287.

has not intellect, and conſequently no ideas of what is good or ill, has no opinions of any kind, but is guided, in all his actions and purſuits, by what is called *inſtinct*: And that, as I have ſhown in the preceding chapter, is a propenſity, which the wiſdom and goodneſs of God have given to his mind, by which he is excited to do every thing that is proper for the preſervation of the individual and the continuation of the race; for which purpoſes ſome of the brutes perform wonderful works of art, of which I ſhall ſpeak in the ſequel. The difference therefore betwixt man and brute comes to this, that man is guided by his own imperfect intelligence, while the brute is guided by Divine wiſdom and goodneſs, which have ſo formed his mind, that upon every occaſion it acts for the two purpoſes above mentioned: For I am not of opinion that the brute is immediately and directly moved, by the Deity, to perform what we ſee him do; but I hold that his mind is ſo formed that it moves him to do all thoſe things that we admire ſo much, when it is proper he ſhould do them, and ſo to make himſelf as happy as his nature will admit.

In this way therefore I think I have accounted how ſenſual pleaſures make the brute ſo much happier than man; though even in theſe a man might excel the brute, having ſo much more power, if he made a proper uſe of his intellect: And when to that we join the pleaſures which intellect affords, by the means of arts, ſciences, and philoſophy, I think we may pronounce with great certainty, that even on this earth God has given the chief animal here below the power of making himſelf very much happier than any brute. And if to arts, ſciences, and philoſophy he joins religion, (without which there can be no perfect philoſophy), which aſſures him that if he lives as he ought to do in this life, he will be much happier in the next, he may be ſaid to be as happy as an animal

mal of an imperfect intellect, in this ſtate of trial and probation, can poſſibly be.

With reſpect to the brute, as he has no intellect, his chief enjoyment muſt be the pleaſures of ſenſe. But as he enjoys them in a more natural way than we do, they have not that effect upon his health which they have upon ours. The rich among us provoke their appetites to eat by *high ſauces* and *made diſhes:* And even the pooreſt among us uſe one of the *irritamenta gulae*, I mean *ſalt*, which makes men both eat and drink more than they would otherwiſe do; for which reaſon I think it is very properly not uſed by the North American Indians, who aſcribe to the uſe of it many diſeaſes that we are liable to.

As eating is one of the chief pleaſures the brute enjoys, Nature has ſo ordered it, that with him it is a pleaſure that laſts very long; for he conſumes a great deal of time in the enjoyment of it. The animals we uſe, ſuch as horſes and oxen, may be ſaid to ſpend all their time in eating, drinking, and ſleeping, except when we make them work for us; and thoſe, who live in the natural ſtate, and not under our government, appear to do nothing but to eat, drink, and ſleep, except what time they may employ in begetting and rearing their young. And, as I have elſewhere obſerved*, beſides the pleaſures of ſenſe, which the brutes enjoy, the herding animals among them have likewiſe a pleaſure in ſociety, which is the natural conſequence of their being gregarious.

But, though the brute have commonly more enjoyment of the pleaſures of ſenſe than we have, he has not intelligence, which, if rightly uſed, gives us pleaſure much ſuperior to any that the brute can enjoy. And even the pleaſures of ſenſe, if properly conducted by

* P. 305.

by intelligence, will give us greater happineſs than they can give the brute: And they may make even the evils of this life an advantage to us; for, as our life here is a life of trial and probation, it is liable to many evils, ſome natural, ſuch as earthquakes, inundations, eruptions of burning mountains, peſtilential diſeaſes and famine, and many more ariſing from the crimes, the vices, and the follies of the men with whom we live. But even theſe will improve our intellect, if we bear them as we ought to do: And our own vices and follies, if we ſincerely repent of them, will improve our underſtanding, by convincing us that there can be no happineſs without virtue and religion; ſo that even theſe laſt mentioned evils, the greateſt that can befall us in this life, have a tendency to improve our minds, and to prepare us for enjoying happineſs in the life to come. Even the arts which we have invented and practiſed for gratifying thoſe vices and follies, are an exerciſe to the intellect; which is of ſome conſequence to an animal, who had loſt the uſe of that faculty, and can only acquire it, as I have ſhown, by exerciſe and practice. Upon the whole, therefore, I think the civilized life, with all the evils which accompany it, is the beſt life that could be deviſed for enabling us to make ſome progreſs towards regaining our former ſtate.

And thus much may ſuffice in a work of this kind, with reſpect to the two firſt claſſes of brute animals I mentioned, the ſolitary and the gregarious. I come now to treat of the laſt claſs and the moſt wonderful of any, thoſe I call *political*, as living in a polity governed by certain laws. In them that grand principle of the brute creation, which we call inſtinct, and which, as I have ſaid, is the governing principle in brutes, as intellect is in us, ſhows itſelf moſt wonderfully. The only animals of this kind that I ſhall mention are the Bees, the Ants, and the Swallows. The bees are not only a moſt wonderful animal, though ſo common among us that they are

to be ſeen almoſt in every garden, but at the ſame time a moſt uſeful animal; for the honey they produce,

——Aërii mellis cœleſtia dona,

as Virgil calls it, is a moſt delicious *ſweetmeat*, and when joined with the milk of the cow made into butter, is in my opinion the fineſt of all human food; ſo fine, that the Prophet Iſaiah could deviſe nothing finer for the food of the Meſſiah; and accordingly he has prophecied, '*That butter and honey he ſhall eat.*' Nor do I think that there could be a greater praiſe of a country, as abounding with the fineſt food for man, than what was ſaid of the land of Canaan, 'that it flowed with milk and honey.' What the bees extract from the flower of the plant muſt be ſomething much finer than either its ſtem or even its ſeed, and may be ſaid to be its *quinteſſence*. Upon this the bees not only feed during the ſummer, but collect it and lay it up in ſtore for the winter; and for that purpoſe they muſt make certain ſtore-houſes that we call *combs*, the materials of which, that is *wax*, they collect, as well as the honey, from plants. The combs are divided into ſmall cells of an hexagonal figure, which join together ſo exactly that they make but one piece of comb, and are ſo contrived, that with the ſmalleſt expence of wax the greateſt quantity poſſible of honey is contained. Both the honey and the wax come, as I have ſaid, from the garden and the field: But the combs are laid up in trunks of hollow trees or holes of the earth or of rocks where the bees lodge, or in thoſe houſes we have made for them, which we call *hives*. Here then is the greateſt buſineſs carried on, both within doors and without, of which Xenophon has given us a very accurate, and I think a very curious, account *. And from what he has ſaid of it, I am perſuaded that no polity in Europe is ſo well governed. They have a queen he ſays, who conducts the whole buſineſs of the ſtate: She always

* Lib. 5. Memorab. De Adminiſtratione Domeſtica, p. 839. Ed. *Lunclavii.*

always remains in the hive, and takes care that all her ſubjects be properly employed, ſending ſo many of them out, to get proviſions; and what they bring in, ſhe receives, and lays up till it be proper to uſe it; and when that time comes, ſhe divides it, and gives to every one a ſhare. As to the work within doors of making combs, ſhe takes care alſo that it be properly executed; and accordingly it is executed, as I have ſaid, in the beſt manner poſſible. She likewiſe takes care of the progeny, that it be properly nouriſhed and brought up; when that is done, and the young are fit for work, ſhe ſends out a colony of them, under a leader whom ſhe appoints. This government, ſays the pious author, is from God. And indeed it is evident that the inſtinct by which the bees produce works of ſuch art and carry on ſuch a government, muſt be from God.

As to the other political animal I mentioned, namely the ants, there is a commentator upon Ariſtotle's Phyſics, Simplicius by name, who (in p. 86.) has told us that the ants in their neſts have three apartments; in one of which they live and feed, in another they lay up their proviſions, and in the third they bury their dead. In carrying their proviſions to their neſts, they uſe wonderful ways for drawing what with reſpect to them are great weights: And when their proviſions become wet, they take them out and expoſe them to the ſun, and in that way dry them; and they make all their movements with great order and regularity.

The ſame author in the ſame part of his works, ſays further, that the ſwallows and nightingales, in building their neſts, uſe clay ſo well wrought and ſo dry, that the phyſicians make uſe of it, when they have occaſion, for phyſical purpoſes, to uſe the beſt kind of clay: And this clay theſe birds mix with ſtraw, and ſo make a kind of cement of it, of which they make their neſts of ſize ſufficient, and very firm and ſtrong.

What makes ſo regular an economy neceſſary in the bees and ants, is that thoſe animals cannot find proviſions in the winter, and therefore they muſt lay up ſtores for that ſeaſon, during the ſummer. But all the brutes of every kind are by their inſtinct directed to do every thing that is neceſſary for the preſervation of the individual and the continuation of the kind. For theſe purpoſes they live in the way moſt proper, and the beſt ſuited to their nature and to the climate and country in which they are placed: And I have never heard of any man, who pretended to deviſe a more proper way, in which they could live and bring up their young.

This laſt thing that I have mentioned is particularly to be attended to in the operations of the brute, as by it the continuation of the ſpecies, which is a moſt important article in the animal ſyſtem, is provided for. It is moſt remarkable in the birds, and is to be ſeen by us, while we ſit in our rooms, where we obſerve in our windows the ſwallows building their neſts and bringing forth and rearing their offſpring. For this purpoſe they couple, and by their joint labours bring up their young: It is a kind of marriage for a ſeaſon, and ſerves the purpoſe wonderfully well of bringing up the offſpring; for which end the couple co-operate moſt perfectly with each other, ſome of them ſitting alternately upon the eggs, the male ſometimes in place of the female, for ſome reaſon no doubt, though we know it not; but we know certainly that nothing in nature happens without a reaſon. In this way the eggs are hatched; and while the one bird ſits upon the eggs, the other brings it food.

Such is the manner in which the birds, that is the animals who live in the air, propagate their kind. As to the beaſts who inhabit this earth, they take the ſame care of the propagation of their race. I ſhall mention only one ſpecies of them, and it is that ſpecies with which we are better acquainted than with any other; I mean the dogs whom we

we have domeſticated, and with whom we may be ſaid to live. The care they take of their young is really wonderful. I have heard a ſtory, that was very well vouched, of a bitch, who not having milk for her puppies, ſwallowed herbs which made her vomit; and ſo ſhe fed her puppies with what ſhe had taken to feed herſelf. I have been told another ſtory, which I likewiſe believe, of a bitch in the ſame ſituation, who did ſtill better than eating the victuals herſelf, and then vomiting them; for ſhe carried them in the veſſel, which was ſet down to her, to her puppies at the diſtance of a mile. And I had a grey-hound bitch of my own, who, when her milk for her puppies failed, went out and catched young hares, and brought them to her puppies to eat.

In this way propagation goes on among the brutes who inhabit the earth and air. As to the inhabitants of the water, and particularly that great collection of water we call the ſea, the propagation among them is moſt wonderful, eſpecially among the herrings. The hiſtorians of the North tell us, that in their ſeas the propagation of them, ſome centuries ago, was ſo great (and I ſuppoſe it ſtill continues to be very great), that the men took them with their hands; and there were ſuch numbers of them, that they hindered the boats from ſailing ſo faſt as they would otherwiſe have done.

Thus we ſee that the preſervation of the races of animals, which is the chief thing in the animal ſyſtem, and of much greater conſequence than the preſervation of individuals, is wonderfully provided for. And even as to the individuals of the ſeveral ſpecieſes, thoſe which live in the ſtate of nature, are as happy, I believe, as any animals can be that are only ſenſitive, but not intelligent: For they enjoy all the pleaſures of ſenſe, and better than we do, as they enjoy them in a more natural way; and they are liable to no diſeaſes, which make the great miſery of our lives, nor to any calamities, except

cept thoſe which muſt happen according to the general laws of nature, ſuch as earthquakes, eruptions of burning mountains, and inundations.

In ſhort, I think that the animal life of the brute is much happier than our animal life (for I do not ſpeak of our intellectual life); and the reaſon is plain, their animal life is governed, as I have ſaid, by the wiſdom of God, operating by what we call *inſtinct*, whereas our animal life is governed by our imperfect intellect. And here I think we may practiſe the advice which Job gives us: "To aſk the "beaſts, and they ſhall teach us; and the fowls of the air, and they "ſhall tell us: Or ſpeak to the earth, and it ſhall teach us; and the "fiſhes of the ſea ſhall declare unto us. Who knoweth not that in "all theſe the hand of the Lord hath wrought this? In whoſe hand "is the ſoul of every living thing, and the breath of all mankind *."

To thoſe, who would deſire to have more information concerning the brute animals on this earth, I recommend an excellent book, before referred to, written upon the ſubject, Dr Derham's *Phyſico-Theology*, wherein he has given wonderful examples of the wiſdom and goodneſs of God, in providing for the wants of the brute creation, even of the meaneſt of them, and which we would call the vileſt. There is there to be found the beſt proof which has hitherto been publiſhed, that what we call *the world of Nature*, has been framed and is governed by a wiſe and a good God: And natural philoſophy in that work is, I think, treated in the beſt manner: For the author does not enquire, as our naturaliſts at preſent do, concerning the *efficient*, and what may be called the *mechanical* cauſe, of natural operations, but concerning the *final* cauſe of them, by which only the goodneſs of God can be proved: And indeed a man, who ſtudies only the mechaniſm of nature, I compare to a man who ſtudies only the motions

* Job, Chap. XII. v. 7, 8, 9, 10.

tions of a watch or a clock, and can give a very accurate account how they are produced, and how they are connected with one another, but knows nothing of the purpoſe for which a clock or watch is intended: Yet our naturaliſts reprobate an enquiry into final cauſes, as having nothing to do with natural philoſophy. But this is not the opinion of Derham, who inſiſts very much upon the final cauſes of things in this our earth; and, as by them the wiſdom and goodneſs of God are chiefly ſhown, I think his work is very properly entitled *Phyſico-Theology*.

As the doctrine of final cauſes, and the wiſdom and goodneſs of God, are beſt illuſtrated by the ſtate of animals upon this earth, this moſt valuable work of Derham is chiefly employed in ſhewing that things are ſo ordered here below, and the animal race ſo provided for, that they are as happy as by their nature they can be: And as animals are the only ſenſitive beings in the creation, that is, beings who have the ſenſe of pleaſure and pain, and conſequently are capable of happineſs or miſery, they are no doubt the proper ſubjects for ſhowing the goodneſs of God; for as Supreme Intelligence is an eſſential attribute, as we have ſhown, of the Divine Nature, it is neceſſary that it ſhould have ſome end in view in all its operations. Now a good God can have no other end in view but the happineſs of his creatures; and indeed to ſuppoſe otherwiſe, would be inconſiſtent with his intelligence, as well as his goodneſs: For he muſt have known that the ſyſtem would contribute either to the happineſs or miſery of the animals in it. But that Supreme Intelligence ſhould have preferred the miſery of the animals to their happineſs, is altogether inconceivable; and that the ſyſtem ſhould be ſo very defective as to have no animals in it, is equally inconceivable.

In this important view of the ſubject our author has gone through all the animals of this earth, quadrupeds, fowls, and fiſh, not forgetting

getting the nobleſt animal of this earth, man: From him he has deſcended to the meaneſt animals, ſuch as flies and reptiles, the greateſt part of them contemptible, not only for their ſize, but a great part of them bred in filth, corruption, and even dung. Yet he has ſhown, that even to theſe extends the care of Providence, which has provided every thing neceſſary for their preſervation and maintenance; ſo that not only the race is continued, but the individuals made as happy as their natures will permit, in conformity, however, to the general laws of Nature, to which they and every other animal muſt ſubmit.

In his account of inſects I think there is nothing more curious than what he tells us of the *culex* or *gnat*, which paſſes through three ſtates: *firſt* it comes from the egg a worm; then it is what he calls an *aurelia*; and laſt of all it becomes a *gnat*. In its firſt two ſtates it is a water animal, and in its laſt it is a fly or animal of the air *. The body of the *gnat*, ſays he, is many times leſs than a ſmall grain of ſand, ſo that the leaſt drop of water can contain many of them; and yet its body is perfectly formed, containing every part belonging to any animal; and he ſays it is ornamented too †. The author adds that he has counted 100 of them friſking about in a drop of the green ſcum of water, not bigger than a pin's head ‡.—Such wonderful diſcoveries we have made in Nature by our microſcopes on earth, as well as by our teleſcopes in the heavens.

The antients knew no more of the ſyſtem of the univerſe than what their naked eye could diſcover in the heavens and earth; whereas we, by the aſſiſtance of our glaſſes, may be ſaid to have diſcovered a new world in both. In the heavens, by means of the teleſcope, we have diſcovered ſo many new ſtars, as muſt give us an idea of the extent of the univerſe, ſuch as the antients could not have had; and

* P. 383 & 384. † P. 367 & 368. ‡ P. 368.

and by our microſcopes we have diſcovered an infinite number of ſmall animals, altogether inviſible to the naked eye, and ſuch as we could not have believed poſſible to exiſt if we had not ſeen them; and which confirms what Ariſtotle has told us, that *whatever is poſſible to exiſt, does actually exiſt.* At the ſame time thoſe animals, miſerable and contemptible as we ſhould think them, are ſo amply provided with every thing neceſſary for their ſubſiſtence, that they are as happy as their nature or the order and ſubordination of things in the univerſe will admit; ſo that they furniſh a proof of the goodneſs, as well as of the power and intelligence of God. The antients thought that an atheiſt among them was a man void of all underſtanding; but how much more muſt he be ſo now, when ſuch new ſcenes of Nature's works are opened to him? Indeed I think a man, who cannot diſcover, in ſo enlarged a proſpect of the works of God, the marks of ſupreme intelligence and goodneſs, muſt not have in his nature either intelligence or goodneſs, and conſequently is not a man.

It is with the greateſt propriety of language therefore that Derham has entitled this work *Phyſico-Theology*, as it is no leſs an excellent *phyſical* work, than an admirable work of theology, wherein he has demonſtrated that prime attribute of God, his goodneſs, ſo eſſential to his nature that Plato calls him the το αγαθον, or *goodneſs itſelf*, which Derham ſhows extends to every animal, even to thoſe, as I have ſaid, that we ſhould think the moſt contemptible and moſt miſerable.

Upon the whole, I hope I have ſhown that all the animals of this earth are as happy as by their nature they can be, without excepting even man. This I know will appear to many of my readers a very extraordinary propoſition. But they ſhould conſider that man by his fall has made to himſelf a new nature, very much leſs perfect

than his original nature; ſo imperfect that he cannot in this life be ſo happy as he was in his former ſtate. But even in this life, by the exerciſe of his free will, which, as I have ſhown, is eſſential to his nature, he contrives to make to himſelf different natures. Thus he may make himſelf a fooliſh, vitious, or wicked man: But even when he does ſo, he is not abſolutely miſerable, but enjoys as much pleaſure, for the preſent, as his nature is capable of, though it be much overbalanced by the pains he muſt ſooner or later ſuffer from his folly, vices, or wickedneſs. That the fooliſh man enjoys ſome pleaſure from his follies, the vitious man from his vices, and the wicked man from accompliſhing his wicked purpoſes, cannot be denied; and therefore he is ſo far happy, as far as the nature he has given to himſelf will admit: But if he make himſelf a wiſe, virtuous, and religious man, he will be as happy as he can be in this life, and will ſecure to himſelf very much greater happineſs in the life to come.

And thus I think I have *juſtified the ways of God to man*, and ſhown that his goodneſs extends not only to *man*, but to all the animal creation here below, where I have proved that every animal is as happy, even in this life, as he can be by the general laws of nature, which being part of the *Divine Nature*, even God himſelf cannot alter; and that the principal animal in this earth is deſtined, ſooner or later, in ſome future life, to enjoy the greateſt happineſs that his nature is capable of, when it is improved as much as by its nature it can be.

CHAP.

CHAP. IV.

Only One Supreme Being conceivable :—His Perfections demonſtrated from the Perfection of the Univerſe :—Explanation of his Omni-preſence.—The Contemplation of the Works of Creation, the greateſt happineſs the human mind can enjoy.—The Author's reaſon for collecting ſo many Facts, and inſiſting ſo much on them, in a Theological work.—Science founded on the Nature of Things and their Connection of Whole *and* Part, *not on the conceptions of our minds.*

THE only other thing that remains to be proved concerning the Divine Nature, is that there is but one God ; that is but one Being, all wiſe, all good, and all powerful. And upon this ſubject I ſhall be very ſhort ; for in the firſt place, to have many, or even ſeveral ſuch beings, would be altogether unneceſſary and ſuperfluous, ſince one being of that kind is ſufficient. Now, as there is every thing in Nature that is ſufficient and proper for anſwering all the purpoſes of Nature, ſo there is nothing unneceſſary or redundant ; for otherwiſe the ſyſtem of the Univerſe would not be ſo perfect a ſyſtem as I think I have ſhown it to be. But, 2dly, I do not think that we can conceive any more than one Supreme Being : For, if there were two or more, I do not think that any of them could be called Supreme, *ſupreme* implying a ſuperiority or excellence, ſuch as there is nothing that can be compared to it. But the Supreme Deity muſt have very many miniſters under him, by whom all the various buſineſs of nature is performed. And it is in this way that I

underſtand the omnipreſence of God: For that one and the ſame Being ſhould exiſt every where, and ſhould be ſpread and diffuſed through all ſpace, is what I cannot conceive; nor do I think that it is reconcileable to that Unity which we muſt ſuppoſe in the Divine Nature. But he is preſent every where by what proceeds from him. And in this reſpect the Sun is, of all corporeal things, the beſt image of Divinity: For he is every where preſent here below by his rays and by the light which theſe gives us; but he himſelf is in the heavens, and at a prodigious diſtance from us.

And in this way I think may be illuſtrated the operations of our animal minds, which move at once ſeveral parts of our bodies and in different ways. Now we have but one animal mind; and that mind cannot be divided any more than any other immaterial ſubſtance: But there is nothing to hinder the influence from it to proceed at once to different parts of our bodies. So that here, as in other things, our *little world* reſembles *the great*.

But beſides that proceſſion from Divinity, which I have compared to the light of the ſun, he has undoubtedly proceeding from him many immaterial beings, of intelligence no doubt greater or leſs and ſubordinate to one another, ſuch as angels and arch-angels; the angels of nations, of which Daniel ſpeaks; alſo the angels of churches, of which we hear in the revelations; and likewiſe, as I have ſhown, the angels who have the care of individuals. Of intelligent beings, however, I am not to ſpeak at preſent, but only of thoſe minds which move the bodies of this earth, not only animated bodies, but thoſe that are called inanimate, ſuch as earths, ſtones, metals, and minerals. To ſay that they are all moved by a preſent Deity, I think would be impious; becauſe it would be ſuppoſing that the Deity is embodied with them, that being the only way in which mind can move body. At the ſame time they cannot, as I have ſhown,

ſhown, be moved without mind. But we can conceive them to be moved by an infinite number of inferior minds, proceeding all from the third perſon of the Divinity, that is the Holy Spirit, or Principle of Life and Animation in the Univerſe.

In this ſenſe, therefore, it is true what Virgil ſays,

> Principio caelum ac terras, campoſque liquentes,
> Lucentemque globum Lunae, Titaniaque aſtra,
> Spiritus intus alit, totamque infuſa per artus
> Mens agitat molem, et magno ſe corpore miſcet.
>
> ÆN. Lib. VI. v. 724.

And alſo what he ſays in another paſſage,

> ——————— Deum namque ire per omnes
> Terraſque, tractuſque maris, coelumque profundum.
>
> GEORG. Lib. IV. v. 221.

And indeed I think I ſee every where a preſent Deity, not only in the heavens above me, which are no doubt the moſt magnificent exhibition of his wiſdom, goodneſs, and power, and therefore are ſaid in our ſcripture, *to declare the glory of the Lord*, but in every thing I ſee here on earth, and particularly in the actions of the brute animals, which are directed, not as ours are by our weak intelligences, but by Divine Wiſdom, which has formed their minds ſo, that upon every occaſion they do what is beſt for the preſervation of the individual and the continuation of the ſpecies; and indeed the operations of ſome animals are ſo directed and guided by their inſtinct, not in one operation only, but in a ſucceſſion of operations, all for the two purpoſes above mentioned, as to exceed any thing that man's intelligence, aſſiſted by the organs of our bodies, ſuch as our hands, or by any inſtruments of art, could perform. In the economy of animals I ſee a preſent Deity, more than in the motions

motions of bodies; for I think both the wiſdom and the goodneſs of God, governing and directing the minds of thoſe animals, are more manifeſted than in the motions of bodies, however regular and orderly they be; as it is the operations of the minds of animals, which produce either their happineſs or miſery. Now, as the ſenſitive life is that which is of greateſt conſequence in the univerſe, we muſt ſuppoſe that a wiſe and good God, in forming the ſyſtem of the univerſe, has had that principally in view.

And here ends my ſyſtem of theology, in which I hope I have proved to the ſatisfaction of the reader, that there is one Being, which is all-wiſe, all-powerful, and all-good; whoſe nature conſiſts of three ſubſtances, all making but one Being; that, by the neceſſity of nature, there muſt be in his Being a trinity in unity; and that this Being has produced and preſerves every thing in the univerſe.

Whether I have ſucceeded in this great work, does not belong to me to judge; but this I can ſay, with truth, that my intention at leaſt in the work, is good, which is to preſent to the reader and to myſelf a ſubject of the moſt pleaſant contemplation that the human mind can enjoy; that is, the contemplation of the wiſdom, goodneſs, and beauty which appear in the works of Creation. The Deity, when he produced this world, and ſaw that it was good *, or *beautiful*, as it is tranſlated in the ſeptuagint, was pleaſed: And no doubt his pleaſure was infinitely greater than ours can be, as the works, of which he ſaw the goodneſs and beauty, were his own works. And in this we ſhould endeavour to enjoy, as much as we can, the pleaſure ariſing from the contemplation of our own works.

In this volume the reader will obſerve, that though it be of the theological

* Geneſis, Chap. I. 7.

theological kind, I have ſaid a great deal of man; and indeed it may be ſaid to be a hiſtory of man in all the various ſtates through which he has paſſed down to his preſent ſtate in this earth. But the reader will conſider, that man is the only intelligent animal here below; that it is only by the ſtudy of him that we can have any idea of intelligence, without the knowledge of which it is impoſſible that we can know any thing of the Divine Nature; and that in acquiring this knowledge we are aſſiſted, as I have ſhown, more than in acquiring any other knowledge, by the ſtudy of ourſelves, which gives us the moſt certain of all knowledge and the moſt convincing, being founded upon conſciouſneſs. And, as it is the moſt certain of all knowledge, ſo it is the moſt valuable; for it not only leads us, as I have ſaid, up to the knowledge of Divinity, which is the ſummit of human knowledge, but it directs us in all the duties of life, and makes us fit not only for the economy and government of a family, but for the government of a ſtate, and for every duty of ſocial life. It is therefore not to be wondered that the inſcription upon the gate of the Temple of *Delphi*, which recommends that ſtudy, was the reſult of the wiſdom of the ſeven wiſe men of Greece; nor do I think that, if there had been ſeven times ſeven of them, they could have given a better advice to their countrymen, and, I may ſay, to all mankind.

There is one thing the reader will obſerve in this work, that there are more facts related in it than I believe are to be found in any theological work. Theſe facts are collected both from antient and modern books, and from information that I have had from men of learning and obſervation that I have had occaſion to know, and ſome of them from my own obſervation. But the reader will obſerve, that this work is not only, as I have ſaid, a work that may be ſaid to be a hiſtory of man, but alſo a proof, by facts, of the wiſdom and goodneſs of God. And there is particularly one fact that I have

have mentioned, which I think deſerves the attention of the reader: And it is what I have obſerved of that wonderful union of things in the ſyſtem of the univerſe, by which every thing in it is made to contain, or to be contained in ſome other thing; ſo that every one thing in the univerſe is connected with ſome other thing, and that by the moſt intimate connection poſſible, that of *whole* and *part*. In this way I have proved, what I think is a truth of great conſequence, that all our knowledge and ſcience is founded in the nature of things, not merely in the operations of our minds, as has been endeavoured to be proved in ſome works lately publiſhed; for I have ſhown that all, which we call *learning* or *ſcience*, is nothing but the knowledge of what things contain or are contained in other things: And indeed it was moſt natural, that, as all our ideas are derived from Nature, we ſhould in our reaſoning connect them together in the ſame way that they are connected in Nature; ſo that every propoſition affirms or denies that one idea contains, or is contained in another.

APPEN-

APPENDIX.

CHAP. I.

The World is a Syſtem, having all its parts moſt intimately connected together:—It conſiſts of all things material and immaterial, which if not divided into Claſſes, would have been infinite as to us.—Theſe Claſſes conſiſt of Genuſes, Specieſes, *and* Individuals, *all* containing *and* being contained.—*Things not only* contained in *one another, but* derived from *one another; the Species from the Genus, and the Individual from the Species.—Every Thing in the Univerſe comprehended in the Categories:—Theſe diſcovered by Archytas; a very great diſcovery, leading us up to the Supreme Cauſe.*—All Things in God, *and God* in all Things.—*The queſtion of the Separate Exiſtence of General Ideas conſidered.—Reaſons for the Author's Opinion that they do exiſt in that manner.—The Cauſes of Things in the Univerſe, not unneceſſarily multiplied by the Author.—A Subordination of Cauſes, from the Supreme Cauſe to the Second Perſon of the Trinity, from the Second to the Third, from the Trinity to the Categories, and from them to Genuſes, Specieſes, and Individuals, neceſſary.—All theſe Cauſes Immaterial Subſtances.—A moſt intimate Connection betwixt the Doctrine of the Trinity and Plato's Doctrine of Ideas.—Both Doctrines originally from Egypt, where Plato learned them.*

IN the courſe of this Volume I have mentioned ſeveral Syſtems which are contained in the Great Syſtem of the Univerſe: And indeed, as it is the production of Supreme Intelligence, there can be

nothing in it without Syſtem; for which reaſon I have ſaid that it is a Syſtem of Syſtems *. In this Appendix I will endeavour to explain the nature of this wonderful Syſtem containing ſo many other Syſtems, and to ſhow that it is ONE Syſtem, of which all the ſeveral parts are wonderfully connected together.

The extent and the variety of this ſyſtem is wonderful; for it comprehends all ſubſtances material and immaterial, and all their qualities. As to immaterial ſubſtances, it comprehends all the minds that can be conceived to exiſt: Firſt minds intellectual, at the head of which is the Supreme Mind, the author of the whole ſyſtem; 2dly, Intellectual minds of an inferior degree; 3dly, Animal minds; 4thly, Vegetable minds; and, laſtly, thoſe minds which move unorganized bodies. It contains alſo all the bodies upon which thoſe minds operate, ſuch as the elements of earth, air, fire, and water; all the bodies of animals and vegetables, and all the bodies unorganized as well as organized; in ſhort, all the minds and all the bodies any where exiſting, or that can be conceived to exiſt.

Such a prodigious number of things, (which might be called *infinite*, if there could be any thing infinite in a ſyſtem, ſuch as that of the univerſe, or indeed in any ſyſtem), and ſo various in their natures, would have made a maſs of things and a perfect chaos, if they had not been arranged and divided into certain claſſes; which is done by the diviſion of things into genuſes, ſpecieſes, and individuals. This diviſion therefore is univerſal; and accordingly there is nothing in nature that is not either a genus, a ſpecies, or an individual of ſome ſpecies.

At firſt ſight this diviſion of things would appear to make the univerſe not *one*, but *many* different things. But I ſhall ſhow that it

* P. 79.

it has a quite different effect, and that it makes the univerſe *one* as much as it is poſſible to conceive a ſubject conſiſting of ſuch a prodigeous number of various things, or indeed any ſubject conſiſting of different things. I have already ſhown * that every thing in the univerſe *contains* or *is contained* in ſome other thing; and I have added † that ſome things both contain and are contained in other things: But I will here make the propoſition univerſal, and ſhow that all things contain and are contained in other things in this manner: For all things are divided into genuſes, ſpecieſes, and individuals. Now every genus contains under it ſpecieſes, otherwiſe it would be no genus; each of theſe ſpecieſes contains the genus to which they belong, otherwiſe they would not be of that genus; and every individual is contained in the ſpecies to which it belongs, and likewiſe contains that ſpecies, otherwiſe it would not be of that ſpecies.

To illuſtrate this by an example: The genus *animal* contains all the animals on this earth; which muſt be contained in that genus, otherwiſe they would not be animals, that is, beings ſenſitive: This genus contains many ſpecieſes; each of which not only is contained in the genus *animal*, but alſo contains that genus, otherwiſe it would not be a ſpecies of it: Again, every one of theſe ſpecieſes contains individuals, and every individual contains the *ſpecies* of which it is an individual; ſo that *man* contains both the genus *animal* and the ſpecies of *animal intelligent*, and is contained in the genus *animal* and in that ſpecies of it. Now it is impoſſible to conceive a cloſer union of things than that by which they both contain and are contained in one another; an union ſo cloſe, that it would not be intelligible without the diſtinction, as I have elſewhere ſaid ‡, of *containing*

* Pp. 88 & 96 of this Vol.

† Ibid. p. 90.

‡ Ibid. p. 81.

taining virtually and *actually*;—a diſtinction, which I have elſewhere explained at ſome length *.

But beſides this cloſe union of things, which the diviſion into genuſes, ſpecieſes, and individuals, ſhows, we diſcover a connection of things, whereby one thing is derived from another, without which it could not exiſt; a connection which naturally leads us up to the knowledge of the firſt cauſe, without which nothing could exiſt. Thus, for example, we know that the genus *animal*, that is, *Being ſenſitive*, leads us to inquire what ſuch a being is; and we diſcover that it is a mind, which perceives things that give it pleaſure or pain. And this leads us to inquire what *mind* is? And we find it is that which animates *body*; ſo that the genus *animal* is a ſpecies of *animated body*: And if we carry our inquiry farther, we diſcover that there are ſuperior minds, which are unimbodied, and conſequently more excellent, as having nothing of the contagion of matter. And thus we riſe to the Supreme Mind, from which all other minds are derived, not only minds intelligent, but minds that only move matter, and give to body all its qualities and all its operations.

Thus it appears that the genus is that without which none of the ſpecieſes of that genus, nor of the individuals under thoſe ſpecieſes, could exiſt, and which therefore may be ſaid to be the cauſe producing all thoſe ſpecieſes and individuals; and by the ſtudy of this cauſe we are led up to the diſcovery of the firſt cauſe of all things.

But before we come to that cauſe, there is another ſtep to be made, and that a very great one. The ſtep I mean is from the lower genuſes to the higher and to the higheſt of all; for the genuſes riſe above one another, ſo that the lower genus is a ſpecies of the higher; and

* P. 62 of this Vol.

and ſo we go on, till we come to the higheſt genuſes of all, of which all the other are but ſpecieſes, and therefore are comprehended in thoſe higheſt genuſes which comprehend all things in the univerſe. The diſcovery therefore of theſe genuſes was the greateſt diſcovery in ſcience that ever was made by mortal man, and is contained in what is called the Categories. It was made by Archytas, a Pythagorean philoſopher: But I will ſay no more of it here, as I have treated of it in other parts of this work *.

This laſt diſcovery leads us directly to the firſt cauſe of all things, that is the Supreme Intelligence, who has produced every thing in the univerſe; for betwixt him and thoſe higheſt genuſes, which comprehend all things in the univerſe, we cannot imagine any intermediate cauſe. We have therefore here a progreſſion of cauſes, which is really wonderful, from individuals to the lower ſpecieſes,—from the lower ſpecieſes to the lower genuſes,—from theſe to higher genuſes,—from the higher to the higheſt of all, the categories,—and from theſe to the Supreme Being, the author of all things in the univerſe.

And here we may obſerve that the general principle, which goes through all nature, does not fail with reſpect to the Supreme Being, and the univerſe which he has produced. The principle I mean is, that all things, which contain other things, are alſo contained in them. This makes a wonderful union of things in the univerſe; and it holds not only in the lower cauſes, which contain other things that are produced out of them, but in the firſt cauſe, that is the cauſe of all things: For this cauſe contains every thing in the univerſe, and every thing contains it, there being nothing, not even an individual, in which the firſt cauſe is not to be found: So true it is, what our ſcripture tells us, that *all is in God*, and *God is in all*.

That

* Pp. 80 & 111 of this Vol.

That all is in God is evident; for otherwiſe all things could not have been produced out of him: And that he is in all, is evident from the wonderful order and arrangement of things in the univerſe, which could not have been without Supreme Intelligence. And our ſcripture ſays, with reſpect to the nobleſt animal on this earth, that is man, *that in God we live, are moved, and have our* BEING.

And this compleats that wonderful union of things in the univerſe, by which every thing contains ſome other thing, and is contained in it; for it appears that the firſt cauſe contains every thing in the univerſe, and is contained in every thing.

But many of the philoſophers of this age (I believe I may ſay all of them) are of opinion that what we call genuſes and ſpecieſes, by which I have ſhown the wonderful union of things in the univerſe, have no exiſtence in nature, and are not the works of God, but the works of man, who, from the conformity that he has obſerved betwixt the different individual ſubjects, has formed the ideas of genuſes and ſpecieſes, and in that way has ordered and arranged the ſeveral beings in the heavens and earth, that have fallen under his obſervation. What I have ſaid, therefore, of the genuſes being ſeparate beings, which have produced the ſpecieſes, and of the ſpecieſes being alſo ſeparate beings, producing in like manner the individuals of the ſpecieſes, is all mere imagination, and aſcribing preſumptuouſly to God and Nature the imaginations of our minds. At the ſame time they do not deny that thoſe qualities of things, which we ſay conſtitute genuſes and ſpecieſes, really exiſt in the ſeveral things from which we have collected them; nor do they deny that there is an idea in every one of thoſe particular ſubjects, which makes them what they are, and gives them all their different qualities: But Nature, they ſay, has made no collection of them, ſuch as form

form a genus or a ſpecies, this collection and arrangement of them being all the work of man, for the purpoſe of his more eaſily apprehending them and retaining them in his memory. In ſhort, they ſay that though there be a particular idea, that is an immaterial ſubſtance, which exiſts in every particular ſubject, and makes it what it is, yet there is not any collection of thoſe ideas, making what we call a general idea, ſuch as that of genus or ſpecies.

But though it may ſeem ſufficient that thoſe likeneſſes and differences of things, from which we form the general idea of genuſes and ſpecieſes, do actually exiſt in particular ſubjects, and though in that way things be connected together in the univerſe, yet the ſyſtem is more uniform, if we can diſcover that, as all things proceed from one Being actually exiſting, and are not a fiction merely of our minds, ſo there are under him, and in ſubordination to him, other individual beings, from which other things proceed, and that in this way the ſyſtem of the univerſe is formed. That theſe ſubordinate beings muſt be ideas, that is immaterial ſubſtances, which can only be ſuppoſed productive of ſo many things, is evident; and the only queſtion is, whether ſuch general ideas have any real exiſtence, or are no more than the creatures of our mind. And this leads to the famous controverſy betwixt Plato and Ariſtotle concerning ideas, of which I have ſaid a good deal elſewhere *, but to which I will add ſomething here, as it is a moſt important queſtion with reſpect to the conſtitution and ſyſtem of the univerſe.

That there are particular ideas which animate the bodies here below, not only animals and vegetables, but bodies unorganized, from which proceed all their qualities, and among others their motions up or down, to or from one another, every man muſt admit who is

* Vol. V. p. 187.

is not a materialiſt, and does not maintain that body can move itſelf and produce all thoſe different qualities which we ſee in different bodies: But the queſtion is, firſt, Whether theſe ideas have any exiſtence by themſelves out of body; and, 2dly, Whether they are only particular ideas, moving particular bodies, but not general ideas producing particular ideas.

That they are immaterial beings, exiſting by themſelves, was the opinion of Plato, who called them *ideas;* and held, that by being incorporated with matter, they produced all the beings that we ſee in the heavens and earth, compoſing the various ſyſtems in nature: Whereas Ariſtotle maintained, that though all the bodies, that we ſee, have a mind in them, which gives them motion and all their other qualities, and which therefore we call the *idea* of the thing, yet ſuch ideas have no exiſtence by themſelves, nor do they form any ſyſtems of things.

But to this I anſwer, that I think it is impoſſible to conceive an immaterial being neceſſarily exiſting in matter and not exiſting otherwiſe: For in that caſe I ſhould conſider ſuch beings as not immaterial but material, ſince they could not exiſt without matter; though they may exiſt joined with matter, as our intellectual minds exiſt joined with our bodies: But no man, if he be not an abſolute materialiſt, will for that reaſon maintain, that our intellectual mind is not an immaterial being, which can exiſt by itſelf without being incorporated with matter. Thoſe ideas or minds, therefore, which inhabit bodies organized or unorganized here below, as they are immaterial beings, can exiſt without matter, and did ſo exiſt in the mind of the Deity, before they came down to this earth; and in that ſtate ſome of them were more perfect than others, and were what we call *general ideas*, comprehending in their nature ſeveral other ideas, ſuch as the idea of *genus*, which is one idea, but comprehending

prehending in its nature other ideas, ſuch as thoſe of ſpecieſes; and in the ſame manner the idea of a ſpecies comprehends the ideas of all the individuals contained in that ſpecies. To ſuppoſe otherwiſe, would be to maintain that there are no ſuch things exiſting as genus, or ſpecies, or individuals; for, if the ſpecies could exiſt without the genus and the individual without the ſpecies, then there would be an end of that moſt important order of things in the univerſe, without which we could not conceive it to be a ſyſtem. Now as genuſes, ſpecieſes, and individuals are thus ſo neceſſarily connected that they cannot be ſeparated, we muſt ſuppoſe that they all form one general idea, which is ſo much more comprehenſive than the particular idea, that all the particular ideas are derived from it; for there is nothing in the univerſe that is not either genus, ſpecies, or individual. Of theſe three the genus is the moſt comprehenſive, and therefore comprehends the ſpecieſes; and, as the ſpecies is likewiſe a general idea, though not ſo general as the genus, it comprehends only individuals: And, as the genus comprehends the ſpecieſes, we muſt ſuppoſe them to be derived from the ſpecieſes; and, as the ſpecieſes comprehend the individuals, we muſt ſuppoſe in like manner that the individuals are derived from the ſpecieſes. In the ſame manner we muſt conceive genuſes, ſpecieſes, and individuals in minerals, though they run together ſo much, that the genuſes and ſpecieſes of them are not ſo eaſily diſtinguiſhed.

Thus I think I have proved that the ideas of Plato have a real exiſtence, and that, by being incorporated with matter, they have produced the material world; for the production of which they are ſo neceſſary, that even Body could not exiſt without them, as Timaeus the Locrian informs us, who has given us the firſt ſtep of coſmogony, by telling us that out of the *materia prima*, which has of itſelf no form or dimenſions nor any thing that can be apprehended even by the ſenſes, Body is formed, by an *idea* being incor-

porated with *the matter*. And I think I have alſo proved, that not only ideas of particular things exiſt, but alſo general ideas, from which, as it is moſt natural, particular ideas are derived: And in this way I have accounted for the origin of that diviſion of things, which is univerſal in nature, into genuſes, ſpecieſes, and individuals, and ſo have proved the univerſe to be a compleat ſyſtem proceeding from one firſt cauſe, and other cauſes ſubordinate to that in a regular progreſſion, down to the individual things exiſting in the univerſe; ſo that there is not any one thing in it, for the origin of which we cannot account, as every thing is derived from ſome other thing, which is prior to it in the order of nature and has produced it. And all things are ſo connected in nature, that, as I have elſewhere ſaid*, there is nothing exiſting, that does not contain or is not contained in ſome other thing; and what makes ſtill a more wonderful connection is, that every thing both contains, and is contained, in ſome other thing.

It may ſeem ſurpriſing to many of my readers that I ſhould multiply ſo much the cauſes of things in the univerſe, and divide them into cauſes principal and ſubordinate, when we may ſuppoſe the firſt cauſe producing every thing immediately by a *fiat*. But we ſhould conſider that the firſt cauſe is ſupreme not only in power but in intelligence, which is ſo eſſential to his nature that we cannot conceive a Supreme Being without intelligence. Now intelligence muſt act regularly and in order, and proceed from one thing to another; and accordingly God has not produced every thing immediately from himſelf, but by the intervention of the other two perſons of the Trinity, the Son and the Holy Spirit. By the firſt of theſe he has produced that intelligence, which we ſee is predominant in the univerſe, and all the inferior intelligences in it; and among other things that are derived from this principle of intelligence, I reckon that diviſion of things into genuſes and ſpecieſes, without

* See p 331.

without which there would be no order or regularity in the univerſe, and nothing but a chaos or a confuſed maſs of things. From the third perſon of the Trinity, or the Holy Spirit, proceed thoſe minds, which animate and give life and action to all things in the univerſe, to animals, vegetables, and to bodies unorganized, ſuch as minerals, and even to the elements, the earth, air, fire, and water. For this reaſon I call it the elemental life; and it may be called the univerſal life, ſince all bodies of every kind, organized and not organized, are moved by it, either up or down or in the direction in which they are impelled; for I hold there is no ſuch thing in nature as body either beginning motion, or continuing it by a *vis inſita* in matter. Now as all the ideas of Plato are immaterial ſubſtances, or minds, and produce every thing in nature, giving to body not only motion but form and all its qualities, it would be moſt extraordinary if theſe minds ſhould have no exiſtence by themſelves, when even Body, which is only the ſubject upon which mind operates, exiſts by itſelf. And as they all proceeded from the Deity, it muſt have been in the moſt orderly and regular manner, that is in general ideas, which are the ideas the moſt excellent, and from which all other ideas are produced in regular order; firſt the moſt general ideas, then the leſs general produced from them, and ſo on down to the leaſt general of all, producing nothing but particular ideas, ſuch as animal, the loweſt ſpecieſes, and the individuals under them; ſo that every thing from the firſt cauſe is both produced, and produces;—all except individuals, which are produced but do not produce, except in a way different from the productions I have mentioned. Nothing therefore can be conceived more regular or orderly than this progreſſion of cauſes and the productions from theſe cauſes, or more cloſely joined together, every thing *being produced* and *producing*.

The firſt production from the third perſon of the Trinity, the

principle, as I have ſaid, of all life and animation in the creation, is that mind, which animates all bodies organized and unorganized, and even the elements; and this may be reckoned the higheſt genus of this kind of being. The next moſt general idea of this claſs, is that which animates only bodies organized, ſuch as vegetables, which may be ſaid to conſtitute another general idea, but leſs general than the firſt I have mentioned. The third general idea is that, from which proceed the ſeveral minds that animate ſenſitive beings ſuch as animals.

Of the animal and vegetable minds, there are many different genuſes and ſpecieſes, which are well known to naturaliſts: And all I ſhall ſay of them here, is, that every genus of animal or vegetable, is a general idea, comprehending under it all the ſeveral ſpecieſes of animal or vegetable; and theſe ſpecieſes are likewiſe ideas, but leſs general, containing only individuals of the animal or vegetable kind. But as nothing in nature can exiſt without mind, not even individuals, all the genuſes and ſpecieſes of animals and vegetables are general ideas, or minds, producing more particular ideas of ſpecieſes or individuals.

And in this way I think I have ſhown, that the univerſe, beſides the particular ſyſtems which it contains, is in itſelf the moſt compleat ſyſtem that can be imagined, proceeding altogether, as we muſt ſuppoſe the univerſe and every thing in it to proceed, from minds, that is from ideas more or leſs general or particular. And in this way I think, that, with what I have ſaid in the preceding volume above referred to, I have proved that Plato's ſyſtem of ideas is the true ſyſtem of the univerſe, by which every thing is derived from the firſt cauſe in the moſt regular order, beginning with ideas or minds, which are the moſt natural production from mind; nor indeed can we ſuppoſe any other immediate production from the Supreme

preme Mind: And the moſt excellent ideas, that is the moſt general ideas, we muſt ſuppoſe proceeding firſt from that mind, and theſe producing the leſs general, till at laſt they deſcend to particular ideas, forming and animating only particular objects.

Without ſuch a ſubordination of cauſes in the univerſe, we muſt ſuppoſe that the whole univerſe proceeded immediately and directly from the firſt cauſe, who could not properly in that caſe be called the *cauſe of cauſes*, as Plato calls him, nor would there be that order and regularity in the univerſe, which muſt be in the production of Supreme Intelligence, but every thing might be ſaid to have been the production, as I have obſerved, of the Supreme Being by one *fiat*. But that ſuch is not the caſe, is evident from the firſt production of the Supreme Cauſe, I mean the Trinity, which proceeds in regular order;—firſt the Son from the Supreme God or Father, and then from the Son the Holy Spirit; that is, in ſubordination, the Son to the Father from whom he is produced, and the Holy Spirit to the Son which produces him. Now I ſay, that this orderly production muſt go on through the whole univerſe; and that, as the Son and Holy Spirit proceed regularly and with due ſubordination from the Firſt Cauſe, and are the firſt ſubordinate cauſes, the Son to the Father or Supreme God, and the third perſon to the ſecond perſon of the Trinity and proceeding from him,—if all the things in the univerſe were not to proceed from cauſes ſubordinate to the Son and Holy Spirit, then there would be an end of that ſubordination which we ſee in the cauſes of things, and conſequently in the order and ſyſtem of the univerſe: And therefore I think that the progreſſion, which I have ſhown, of all the things in the univerſe in ſubordination to the ſecond and third perſons of the Trinity, is, I may ſay, demonſtration, to thoſe who believe that a Firſt Cauſe exiſts, and that from that cauſe proceed two other cauſes, intelligence and the principle

ciple of vitality, that from theſe two cauſes all the other cauſes of things in the univerſe proceed in due ſubordination one to another.

This ſubordination therefore of cauſes in the univerſe, I think, is eſſentially connected with the doctrine of the Trinity; and theſe ſubordinate cauſes we muſt neceſſarily ſuppoſe to be immaterial ſubſtances, ſuch as the *ideas of Plato*; for we can have no conception of material ſubſtances producing all this variety of minds and bodies, and all the things we ſee in the univerſe.

I have ſaid a good deal in the preceding part of this work of the connection betwixt the doctrine of the Trinity and the ideas of Plato: But what I have ſaid here ſhows that the connection is moſt intimate, ſo intimate, that theſe ideas are all contained in the perſons of the Trinity, and from them diffuſed over the whole univerſe, and forming every thing in it. The Firſt Perſon of the Trinity, or the Supreme God, as all things proceed from him, muſt neceſſarily contain all the ideas which conſtitute the univerſe. Of theſe ideas he has communicated to his Son, the ſecond perſon, all the ideas of intelligence; and a moſt general idea this is, as there is nothing in the univerſe that is formed without intelligence; which we are told in ſcripture, in terms the moſt explicit, where it is ſaid, that every thing was made by the Son or ſecond perſon of the Trinity, that is the principle of intelligence, and nothing without intelligence. To the third perſon of the Trinity he aſſigned thoſe ideas, which give life and action to all the beings of the univerſe, not only to animals and plants and other bodies organized, but to bodies unorganized; and in this way he gives life and animation to all things in the univerſe, ſo that every thing in it is in action, and operating for ſome end or purpoſe, directed by intelligence. Now where a whole ſyſtem is the production of intelligence, and is alſo moved by mind conducted by intelligence, that ſyſtem muſt be the moſt perfect

fect that can be imagined. It is therefore not to be wondered that in Egypt, the parent country of all arts and ſciences, thoſe ideas, which we call *the ideas of Plato*, were truly the ideas of the Egyptians, and were part of their religion and philoſophy, as well as the doctrine of the Trinity; and accordingly Plato learned them both in Egypt; nor indeed, without both, is it poſſible to make a ſyſtem of the univerſe, in which all things do not proceed immediately from the firſt cauſe, but from cauſes ſubordinate to that cauſe. The firſt of theſe are the ſecond and third perſons of the Trinity, and from them all the inferior ſubordinate cauſes, which I have mentioned, producing every thing in the univerſe: So that all things in it are either producing or produced, that is *containing* or *being contained*, than which a greater order or connection of things cannot be imagined.

CHAP.

CHAP. II.

Objection to the Impoſſibility of our Comprehending the Syſtem of the Univerſe, anſwered.—We have two Faculties, by the firſt of which we perceive Individuals; and by the ſecond Generals *or* Syſtems.—*Our Progreſs from Particular to General Ideas.—Difference betwixt our* Ideas *and our* Perceptions of Senſe.—*The Progreſs of the Mind of Man in this Earth wonderful—Not ſufficiently attended to:—From a Brute of the better kind, perceiving only Objects of Senſe, to an Intellectual Being, comprehending the Syſtem of the Univerſe, conſiſting of Genuſes, Specieſes, and Individuals, and all their Connections and Dependencies.—Science and Truth, founded on the Perception of the* one *in the* many.—*The Wonderful Connection of all Things in the Univerſe, the foundation of all our knowledge, even of our knowledge of the Supreme Being, the firſt perſon of the Trinity.—The Various Changes of Man not to end with this Life.—The Goodneſs of God Manifeſted in the Faculties he has beſtowed upon us.*

IT may be objected to this Syſtem which I have given of the Univerſe, that, though it may be a true ſyſtem, it is impoſſible that an animal of ſo limited a capacity as man can comprehend it; and that, therefore, we ſhould not pretend to make a ſyſtem of what is ſo much above our capacity. And indeed that he ſhould comprehend every particular of ſuch a ſyſtem is impoſſible: But he may form ſome general idea of the whole of it, and diſcover the relations of

of the ſeveral things to one another, together with the union of the whole in a ſyſtem. For this purpoſe it has pleaſed God to beſtow upon man a faculty, which apprehends things only as they are connected with other things. For Heaven has given us two faculties of perception; the one, by which we perceive ſingle things exiſting by themſelves, without relation to any other thing, in the ſame manner as the brutes perceive things, and that is our ſenſes; the other is a much higher faculty, ſo high, that we may be ſaid by it to participate of Divinity, and accordingly are ſaid to be made after the image of God, or, as the Latins expreſs it, to have in us *Divinae particula aurae.* By this laſt faculty we do not perceive things ſingly and by themſelves, as we do by our ſenſes, but all in relation or connection with other things; and ſuch is the connection as to make a *whole*, or *one*, of ſeveral things. In this way we perceive things ſo connected together as to make *one* genus or *one* ſpecies: And even individuals we perceive in the ſame way; for we perceive in them a relation of their parts, and that thoſe qualities, which conſtitute their nature, are ſo connected as to make *one* ſubſtance of the whole. In this way therefore we perceive the *one* in genuſes, ſpecieſes, and individuals; and, as every thing in nature is genus, ſpecies, or individual, by this faculty of intellect we perceive the *one* in the *many* in all things exiſting which fall under our obſervation *. And this is what makes truth or ſcience; for, as our ideas are the foundation of all our ſcience, we perceive the *one* in ſeveral things, without which perception we could not be ſaid to have the idea of any thing; becauſe, if we did not perceive that the ſeveral things, which form the idea, were ſo connected together as to make one thing, the idea even of a particular object could not exiſt. Even in particular ſubjects therefore we find the *one* in the *many*, which, as I have ſaid, is eſſential to truth and ſcience: For the intellect, in conſidering

* See what I have further ſaid upon the difference betwixt the perceptions of ſenſe and thoſe of intellect, in p. 198 of this Vol.

ſidering any particular object, diſcovers in it ſeveral qualities, of which it forms *one* idea, comprehending them all and diſtinguiſhing that particular object from other objects of a different kind; and then, as I have ſhown elſewhere *, it proceeds to make the particular idea, thus formed, a general idea.—So that it is by our ideas that we know the nature of all things, both particular and general.

And here we may obſerve the difference betwixt our ideas and the perceptions of ſenſe, which are common to us with the brutes. By theſe we learn to know that theſe perceptions are either the ſame or different, and conſequently that the objects perceived are the ſame or different: Now this knowledge the brutes have as well as we; for if they could not in this way diſtinguiſh the objects of their perceptions, they could not carry on the economy of their lives. But what makes this ſameneſs or difference we do not, nor cannot know by our ſenſes, but it muſt be by our intellect, which perceives the nature of the things, and in this way accounts for their ſameneſs or difference, and this is done by forming *ideas* of the thing †.

The wonderful progreſs of the mind of man in his ſtate on this earth, I think has not been ſufficiently attended to by the philoſophers of this age, though it be a thing that they may ſee in the progreſs of every child from his birth to his manhood. When in his mere natural ſtate, without any education, he is, as Ariſtotle has told us, a mere brute animal, of the better kind, which he expreſſes by calling him a *logical* animal, that is an animal who has the faculty

* Vol. V. p. 168 and following.

† Who would deſire to know more particularly what man is, and the difference betwixt him and the brute, may read what I have ſaid at ſome length in Vol. I. of this work, p. 134 and following; as I think it a moſt important part of our knowledge, to know what we ourſelves are, and how we are diſtinguiſhed from other animals which are ſenſitive as well as we.

culty of comparing his ſenſations*: And he adds, what diſtinguiſhes him from other animals of this earth, even in his natural ſtate, "That he has the capacity of intellect and ſcience," which I think, as I have ſaid elſewhere, is ſo compleat a definition of man in his natural ſtate, that I have made it the foundation of my whole philoſophy of man†; and in the courſe of this work I have endeavoured to explain how this wonderful change was made from a brute of the better kind to an animal of intellect and ſcience, not in capacity only but in actuality. As this change muſt appear to the philoſopher one of the moſt wonderful things in this earth, I will here ſay ſomething more upon the ſubject.

I will begin with the firſt exerciſe of our intellect, which muſt be upon objects of ſenſe; for, as our ſenſes are the firſt inlets of all our knowledge in this ſtate of our exiſtence, our intellect muſt begin with conſidering the objects which they preſent to us: And theſe muſt be conſidered at firſt each ſeparately, and ſo a particular idea formed of them; for I think I have ſhown, that we can have no general ideas without having firſt ideas of particular things‡; and indeed it appears to me a thing inconceivable, that we can form any general idea without having particular ideas of which the *general* idea conſiſts; though Mr Locke has made no ſuch diſtinction. Now we can form no idea of any particular object of ſenſe, except by conſidering the ſeveral qualities, which our ſenſes perceive in the object. Theſe the brute perceives as well as we; and it is in that way that he knows the object to be the ſame that he had perceived before, or different. But he perceives them altogether, and as it were in a lump without making any diſtinction betwixt the ſeveral qualities: Whereas man firſt analyſes them, then puts them toge-

* P. 292 and following of this Vol.

† P. 144 of this Vol.

‡ Vol. V. p. 168.

ther and ſo conſiders them as making altogether *one thing;* and in this way he forms an idea of a particular object perceived by his ſenſes: But this he could not do without firſt analyſing and conſidering ſeparately the ſeveral qualities of the object; for, as analyſis is the beginning of all ſcience, ſo it is alſo that, by which our ideas are formed, from whence all ſcience is derived. In this way he makes *one* of the *many*, which is the work of intellect and of intellect only; for, as Ariſtotle has told us, Νους ἐστι το ἐν ποιουν. And it is by this operation of intellect, that all ſcience, as I ſhall ſhow, is formed.

The intellect, having thus made *one* of the *many* of particular objects of ſenſe, proceeds to make *one* of *ſeveral* objects; for it diſcovers, as I have ſhown, that there are other objects having the ſame qualities, which make them *one*, as well as the object firſt perceived; and in that way we perceive the *one* in the *many* objects which conſtitute the *ſpecies;* in the ſame way we go on, till we find the one in many more objects, which conſtitute a *genus*; and ſo on from a lower genus to a higher genus, till we come to the higheſt genuſes of all, that is the categories.

And here the reader may obſerve that the *one*, which we diſcover not in one thing only but in many things, ſuch as thoſe which compoſe ſpecieſes and genuſes, ariſes from that wonderful union which I have obſerved in things, whereby every thing in the univerſe contains, or is contained, in ſome thing elſe *. Now when things are ſo connected, that the one is part of the other, then they neceſſarily make one thing. In this way the ſeveral individuals of a ſpecies, being neceſſarily contained in the ſpecies, are *one* with the ſpecies; and in the ſame manner the different ſpecieſes of any genus, being contained in the genus, make *one* with the genus: In this way every propoſition, by which the praedicate is ſaid to contain

* See p. 331 of this Vol.

tain the ſubject, makes *one* of both praedicate and ſubject; and the ſame is the caſe whether the propoſition be ſelf-evident or demonſtrated. In the ſyllogiſm, by which the propoſition is demonſtrated, we make a *greater one;* for of the two firſt propoſitions we make *one* in the Concluſion. *The one* therefore *in the many* is what makes all ſcience: And it is likewiſe the foundation of our ideas, from which all ſcience is derived; for every idea makes *one*, as I have ſaid, of the ſeveral things which compoſe it.

This connection of things with one another, by which every thing, even an individual thing, is *one* of ſeveral things, is ſo univerſal in nature, that our intellect can form no idea, but of things ſo connected. We cannot form what can be called an idea of any thing on this earth, without referring it to ſome genus or ſpecies: We cannot, for example, form what can be called an idea of *man*, or of any *other animal*, without referring it to the genus *animal*, or ſome *ſpecies* of that genus; for if we cannot do that, we have only a perception of the particular animal, ſuch as the brute has, that is, we perceive certain qualities in the animal which diſtinguiſh it from other animals; and this the brute does as well as we; but unleſs we can refer it to ſome genus or ſpecies, we have no idea of it. Our ideas therefore are ſo neceſſarily connected with other things with which the idea has a connection, that we can form no idea without conſidering that connection, and ſo perceiving that the object of the idea is *one of many:* Nor can we otherwiſe form an idea of the firſt perſon of the Trinity, from whom all things in the univerſe proceed, without taking into our conſideration the other two perſons of the Trinity, with which he is neceſſarily connected, ſo that he is neceſſarily *one* of *three;* and all the three are ſo neceſſarily connected as to make *one* Being *. And the reaſon why we cannot form any idea otherwiſe than by conceiving it as *one* of ſeveral things, is this, that our intelligence, from which all our ideas proceed, perceives nothing ſimply

* See what I have ſaid upon this ſubject in p. 46 of this Vol.

ſimply and abſolutely in itſelf, as our ſenſes do, but in relation to other things and as *one* of ſeveral things. This diſtinction betwixt intellect and ſenſe I have elſewhere explained *: And it ſhows clearly that it is only by intellect that we are enabled to form any idea of the ſyſtem of the univerſe, or of any other ſyſtem; and, unleſs we can perceive a *ſyſtem*, or a *whole*, in things, we cannot, as I have elſewhere ſhown †, have any idea of the *beautiful*, the ſource, as I have ſaid ‡, both of virtue and religion.

And thus it appears that the operations of our intellect, in perceiving *the one* in *the many*, are perfectly ſuitable to the nature of things, ſince nothing exiſts but as *one* of *ſeveral* or *many* things. And this operation of our intellect naturally leads us to inquire, Whether there be not, not only *one in the many*, but *one in all*, that is the Supreme Being? and Whether the univerſe, which he has produced, be not a ſyſtem of very many things, all connected together, as things muſt be in every ſyſtem, ſo that the univerſe is *one in the many* as well as its great Author? And, as our intellect naturally leads to theſe ſublime ſpeculations, which if well conducted, muſt make the greateſt happineſs of an intellectual being, we ſhould be very thankful to God, for having beſtowed upon us ſuch a faculty.

I will conclude this long work by adding to it, by way of epilogue, an apology, which many of my readers may think neceſſary, for the faults I have found with the philoſophy of Mr Locke in his Eſſay on the Human Underſtanding, which is the only ſyſtem of logic we have in Engliſh, and with the philoſophy of a much greater author, Sir Iſaac Newton, where he ſays, that body being once put in

* P. 345 of this Vol.

† Ibid. p. 272.

‡ Ibid. p. 274 and following.

in motion, continues to move itſelf by a *vis inſita*, that is by a power eſſential to its nature: Whereas I maintain that body, when it is not acted upon by another body, can of itſelf neither begin nor continue its motion, but muſt both begin to be moved, and continue in motion, by mind. Now this is a moſt important point in philoſophy and theology; for, to maintain that motion, which is the grand agent in all the operations of Nature, is begun, or carried on, by body or matter, and not by the Supreme Mind, through the intervention of inferior minds proceeding from him, is abſolute materialiſm *.

The apology, which I make for my cenſure of Mr Locke and Sir Iſaac Newton, is, that I have derived from Greek authors the philoſophy which the Greeks learned from the Egyptians, in whoſe *wiſdom* (or *philoſophy*, which is the proper tranſlation of the Greek word σοφια in the Septuagint) Moſes was inſtructed. Now theſe Greek authors it does not appear that either Mr Locke or Sir Iſaac ever ſtudied; otherwiſe, I am perſuaded we ſhould have had from them a philoſophy very different from what they have given us: For Mr Locke would have been taught to diſtinguiſh betwixt ſenſations and ideas, and how to give a logical definition of *truth*; and Sir Iſaac would have learned that the Greeks knew that body, if it was not moved by the impulſe of ſome other body, could not begin motion, nor, when ſo impelled, continue it after the impulſe had ceaſed; in ſhort, that body can be moved by mind only: For, that mind moves body the antient philoſophers thought they knew by the moſt certain of all knowledge, conſciouſneſs, which informed them that their own bodies were not moved by ethers and ſubtile fluids, as Sir Iſaac ſuppoſes, but by their own minds. So that my apology comes to this, that I do not pretend to excel theſe two authors in genius or invention, but have only copied from Greek authors, whom they had not read, and who got their learning from Egypt, the parent country of all arts and ſciences.

* See what I have ſaid upon this ſubject, p. 22 & 23 of this Vol.

FINIS.