Théorie de la Terre
par Barré Gves
The Sacred Theory of the Earth.
THE SACRED THEORY OF THE EARTH:
Containing an Account of the Original of the Earth,
And of all the General Changes which it hath already undergone, or is to undergo, till the Consummation of all Things.

In Two Volumes.

The Two First Books Concerning the Deluge, and Concerning Paradise.
The Two Last Books Concerning the Burning of the World, and Concerning the New Heavens and New Earth.

With a Review of the Theory, and of its Proofs; especially in reference to Scripture.

The Fourth Edition,

In which is added, The Author's Defence of the Work, from the Exceptions of Mr. Warren, and An Ode to the Author by Mr. Addison.

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Ad Insignissimum Virum

D. THO. BURNETTUM,
Sacrae Theoriae Telluris Autorem.

ON usitatum carminis alitem,
BURNETTE, poscis, non humiles modos:
Vulgare pletrum, languidæque
Respuisse officium camoena,
Tu mixta rerum semina conscius,
Molœmque cernis disociabilem,
Terramque concretam, & latentem
Oceanum gremio capaci:
Dum veritatem quœrere pertinax
Ignota pandis, solicitus parum
Utcunque stet commune vulgi
Arbitrium & popularis error.
Auditur ingens continuo fragor,
Illapla tellus lubrica deserit
Fundamina, & compage fracta
Suppositas gravis urget undas.

A * Impulsi
Ad Insignissimum Virum

Impulsus erumpit medius liquor,
Terras aquarium effusa licentia
Claudit vicissim; has inter orbis
Reliquiae fluitant prioris.
Nunc & recluso carceri lucidam
Balæna spectat folis imaginem,
Stellisque miratur natastes,
Et tremula simulacra lunæ.
Quæ pompa vocum non imitabilis!
Qualis caelestis spiritus ingenii!
Ut tollis undas! ut frementem
Diluvii reprimis tumultum!
Quis tam valenti pectore ferreus
Ut non tremiscens & timido pede
Incedat, orbis dum dolosi
Detegis instabiles ruinas?
Quin hæc cadentum fragminâ montium
Natura vultum fumere simplicem
Coget refingens, in priorem
Mox iterum reeditura formam:
Nimbis rubentem sulphureis Jovem
Cernas; ut udis sævit atrox Hyemis
Incendiis, commune mundo
Et populis meditata Bußtum!
Nudus liquentes plorat Athos nives;
Et mox liquelescens ipse adamantinum
Fundit cacumen, dum per imas
Saxa fluunt resoluta valles.

Jamque

Jamque alta coeli moenia corruunt,
Et vestra tandem pagina (proh nefas!)
Burnette, vestra augebit ignes,
Heu socio peritura mundo.

Mox aequa tellus, mox subitus viror
Ubique rident : En teretem Globum!

En laxa vernantis Favoni
Flamina, perpetuosque flores!

O pectus ingens! O animum gravem,
Mundi capacit! si bonus auguror,

Te, nostra quo tellus superbit,
Accipiet renovata civem.

AN ODE
To the Learned
Dr. Thomas Burnet,
AUTHOR of The Sacred Theory of the Earth.

I.

No common Height the Muse must soar,
That wou'd thy Fame in Numbers try;
Nor dare in humble Verse adore,
But rise with Thee above the Sky:
You ask a bold and lofty strain,
And what we meanly sing, disdain.

II. You
An ODE to Dr. Burnet.

II.

You Nature's early Birth explore;
Her disunited Frame disclose,
From what mix'd Cause, and jarring Power,
The Infant Earth to Being rose:
How, in her circling Bosom sleep
Th' imprisoned Seas, and bounded Deep.

III.

Resolv'd great hidden Truths to trace;
Each learned Fable you despise;
And, pleas'd, enjoy the fam'd Disgrace;
To think, and reason, singly wise:
Each Tale reject by Time allow'd,
And nobly leave the erring Crowd.

IV.

Hark! from her weak Foundations tore,
The bursting Earth asunder flies,
And, prop'd by yielding Seas no more,
The dreadful Crack alarms the Skies:
Whose Arches rent, their Weight forego,
And plunge in opening Gulphs below.

V.

Now rushing from their watry Bed,
The driving Waves disdain a Shore;
And with resistless Force o'erspread
That Orb, which check'd their Rage before;
While scatter'd o're the foamy Tide,
All Nature's floating Ruins ride.

A 4  VI. New
New Heavens disclos'd, the Silver Train
The Sun beneath their Waves admire;
And gliding thro' the enlight'ned Main,
Gaze at each Star's diminish'd Fire.
Well pleas'd, the Moon's bright Orb survey;
Trembling along their Azure Play.

How strong each Line, each Thought how great,
With what an Energy you rise!
How shines each Fancy? with what Heat
Does every glowing Page surprize?
While spouting Oceans upward flow,
Or sink again to Caves below.

As Nature's Doom you thus impart,
The moving Scene we scarce endure;
But, shrinking, ask our anxious Heart,
If on our Earth we tread secure?
Whose Fate, unmov'd, as you persue,
We start and tremble but to view,

Yet these Remains we now behold,
Which Tow'ring once in Hills arose;
Shall from a new and fairer Mould
A new and fairer Earth compose:
Which to her Fate shall Owe her Bloom,
And rise more lovely from her Tomb,

IX.
An ODE to Dr. Burnet.

X.
Yet see This beauteous Fabrick end,
This Second Pride of Fate expire;
While gushing from the Clouds descend
The Burning Storm, the Liquid Fire;
Where Worlds and Men consuming lie;
And in One bright Confusion Die.

XI.
Their naked Tops the Hills admire,
No longer white with fleecy Dew;
And as they moan the spreading Fire,
Add to the Flames dissolving too:
While Rocks from melting Mountains flow,
And roll in Streams thro' Vales below.

XII.
And now the Kindling Orbs on high
All Nature's mournful End proclaim;
When thy great Work, (Alas!) must die,
And feed the rich victorious Flame:
Give Vigour to the wasting Fire,
And with the World too soon expire:

XIII.
Once more her Bloom the Earth renews,
Smooth'd into Green, eternal Vales;
Her Glebe still moist with fragrant Dews,
Her Air still rich with balmy Gales:
No Change her Flowry Seasons breed,
But Springs retire, and Springs succeed.

XIV. Oh
Oh say, Thou Great, Thou Sacred Name;
What Scenes Thy thoughtful Breast employ,
Capacious as that mighty Frame
You raise with Ease, with Ease destroy?
Each World shall boast thy Fame; and You,
Who charm'd the Old, should grace the New.
TO THE

KING's

MOST

Excellent Majesty.

SIR,

N E W-found Lands and Countries accres to the Prince whose Subject makes the first Discovery; and having retriev'd a World that had been lost for some thou-
The Epistle Dedicatory.

thousands of Years, out of the Memory of Man, and the Records of Time, I thought it my Duty to lay it at your Majesty's Feet. 'Twill not enlarge your Dominions, 'tis past and gone; nor dare I say it will enlarge your Thoughts; but I hope it may gratify your Princely Curiosity to read the Description of it, and see the Fate that attended it.

We have still the broken Materials of that first World, and walk upon its Ruins; while it stood, there was the Seat of Paradise, and the Scenes of the Golden Age; when it fell, it made the Deluge; and this unshapen Earth we now inhabit, is the Form it was found in when the Waters had retir'd, and the dry Land appear'd. These things, Sir, I propose
The Epistle Dedicatory.

pose and presume to prove in the following Treatise, which I willingly submit to your Majesty's Judgment and Censure; being very well satisfied, that if I had fought a Patron in all the List of Kings, your Contemporaries, or in the Roll of your Nobles of either Order, I could not have found a more competent Judge in a Speculation of this Nature. Your Majesty's Sagacity, and happy Genius for natural History, for Observations and Remarks upon the Earth, the Heavens, and the Sea, is a better Preparation for Inquiries of this kind, than all the dead Learning of the Schools.

Sir, This Theory, in the full Extent of it, is to reach to the last Period of the Earth, and the End of all
The Epistle Dedicatory.

all Things; but this first Volume takes in only so much as is already past, from the Origin of the Earth, to this present Time and State of Nature. To describe in like manner the Changes and Revolutions of Nature that are to come, and see thorough all succeeding Ages, will require a steady and attentive Eye, and a Retreat from the Noise of the World; especially so to connect the Parts, and present them all under one View, that we may see, as in a Mirror, the several Faces of Nature, from first to last, throughout all the Circle of Successions.

Your Majesty having been pleas'd to give Encouragement to this Translation, I humbly present it to your gracious Acceptance. And 'tis our
The Epistle Dedicatory.

Interest, as well as Duty, in Disquisitions of this Nature, to address our selves to your Majesty, as the Defender of our Philosophick Liberties, against those that would usurp upon the fundamental Privilege and Birth-right of Mankind, The free Use of Reason. Your Majesty hath always appear'd the Royal Patron of Learning and the Sciences; and 'tis suitable to the Greatness of a princely Spirit to favour and promote whatsoever tends to the Enlargement of humane Knowledge, and the Improvement of humane Nature. To be Good and Gracious, and a Lover of Knowledge, are, methinks, two of the most amiable Things in this World: And that your Majesty may always bear that Character in present and future Ages; and after a long and
The Epistle Dedicatory.

and prosperous Reign enjoy a blessed Immortality, is the constant Prayer of

Your Majesty's

Most Humble and most Obedient Subject,

Thomas Burnet.
Preface to the Reader.

Having given an Account of this whole Work in the first Chapter, and of the Method of either Book, whereof this Volume consists, in their proper Places, there remains not much to be said here to the Reader. This Theory of the Earth may be call'd Sacred, because it is not the common Physiologoy of the Earth, or of the Bodies that compose it, but respects only the great Turns of Fate, and the Revolutions of our natural World; such as are taken notice of in the Sacred Writings, and are truly the Hinges upon which the Providence of this Earth moves; or whereby it opens and shuts the several successive Scenes whereof it is made up. This English Edition is the same.
The Preface.

fame in Substance with the Latin, though, I confess, 'tis not so properly a Translation, as a new Composition upon the same Ground, there being several additional Chapters in it, and several new-moulded.

As every Science requires a peculiar Genius, so likewise there is a Genius peculiarly improper for every one: And as to Philosophy, which is the Contemplation of the Works of Nature, and the Providence that governs them, there is no Temper or Genius, in my Mind, so improper for it, as that which we call a mean and narrow Spirit; and which the Greeks call Littleness of Soul. This is a Defect in the first Make of some Mens Minds, which can scarce ever be corrected afterwards, either by Learning or Age. And as Souls that are made little and incapacious cannot enlarge their Thoughts to take in any great Compaß of Times or Things; so what is beyond their Compaß, or above their Reach, they are apt to look upon as fantastical, or at least would willingly have it pass for such in the World. Now as there is nothing so great, so large, so immense, as the Works of Nature, and the Methods of Providence, Men of this Complexion must needs be very unfit for the Contemplation of them. Who would set a purblind Man at the Top of the Maßt to discover Land? Or upon an high Tower to draw a Landscape of the Country round about? For the same Reason, short-sighted Minds are unfit to make Philosophers, whose proper Busi-
The PREFACE.

nefs it is to discover and describe in comprehensive Theories the Phenomena of the World, and the Causes of them.

This Original Disease of the Mind is seldom cur'd by Learning, which cures many others; like a Fault in the first Stamina of the Body, it cannot easily be rectified afterwards. 'Tis a great Mistake to think that every sort of Learning makes a Man a competent Judge of Natural Speculations: We see unhappy Examples to the contrary amongst the Christian Fathers, and particularly in St. Austin, who was unquestionably a Man of Parts and Learning; but interposing in a Controversy where his Talent did not lie, shew'd his Zeal against the Antipodes to very ill purpose, though he drew his Reasons partly from Scripture. And if within a few Years, or in the next Generation, it should prove as certain and demonstrable, that the Earth is mov'd, as it is now, that there are Antipodes; those that have been zealous against it, and engag'd the Scripture in the Controversy, would have the same Reason to repent of their Forwardness, that St. Austin would have now, if he was alive. 'Tis a dangerous thing to engage the Authority of Scripture in Disputes about the Natural World, in Opposition to Reason; left Time, which brings all Things to Light, should discover that to be evidently false which we had made Scripture to assert: And I remember St. Austin, in his Exposition upon Genesis, hath laid down a Rule to this very purpose, though he had the
Unhappiness, it seems, not to follow it always himself. The Reason also, which he gives there for his Rule, is very good and substantial: For, faith he *, if the Unbelievers or Philosophers shall certainly know us to be mistaken, and to err in those things that concern the Natural World, and see that we alledge our (Sacred) Books for such vain Opinions, how shall they believe those same Books when they tell them of the RESURRECTION of the Dead, and the World to come, if they find them to be fallaciously writ in such things as lie within their certain Knowledge?

We are not to suppose that any Truth concerning the Natural World can be an Enemy to Religion; for Truth cannot be an Enemy to Truth, God is not divided against himself; and therefore we ought not upon that Account to condemn or censor what we have not examin'd or cannot disprove; as those that are of this narrow Spirit we are speaking of, are very apt to do. Let every thing be try'd and examin'd in the first Place, whether it be True or False; and if it be found false, 'tis then to be consider'd, whether it be such a Falsity

* Gen. ad lit. lib. 1. c. 19. Plurumque accidit ut aliquid de Terrâ, de Cælo, de ceteris hujus mundi elementis, &c. Cum enim quenamn Christianorum in ea re quam optimum norum, errare deprehenderint, & quam sententiam suaam ex nostris libris asseveraverint, quo paolo illis libris crediturum sunt de Resurrectione Mortuorum, & spe vitæ aeterna regnoque coelorum, quando de his verissimis spectari vel indubitatis numeris peripere putaverunt, fallaciter putaverint esse conscriptos?
a Falsity as is prejudicial to Religion or no. But for every new Theory that is propos'd, to be alarm'd, as if all Religion was falling about our Ears, is to make the World suspect that we are very ill assured of the Foundation it stands upon. Besides, do not all Men complain, even these as well as others, of the great Ignorance of Mankind? how little we know, and how much is still unknown? and can we ever know more, unless something new be discover'd? It cannot be old when it comes first to light, when first invented, and first propos'd. If a Prince should complain of the Poorness of his Exchequer, and the Scarcity of Money in his Kingdom, would he be angry with his Merchants, if they brought him home a Cargo of good Bullion, or a Mass of Gold out of a foreign Country? and give this Reason only for it, He would have no new Silver; neither should any be current in his Dominions but what had his own Stamp and Image upon it: How should this Prince or his People grow rich? To complain of Want, and yet refuse all Offers of a Supply, looks very sullen, or very fantastical.

I might mention also upon this Occasion another Genius and Disposition in Men, which often makes them improper for philosophical Contemplations; not so much, it may be, from the Narrowness of their Spirit and Understanding, as because they will not take time to extend them. I mean Men of Wit and Parts, but of short Thoughts and little Meditation,
and that are apt to distrust every Thing for a
Fancy or Fiction that is not the Dictate of
Sense, or made out immediately to their Sen-
ses. Men of this Humour and Character call
such Theories as these philosophick Romances,
and think themselves witty in the Expression;
they allow them to be pretty Amusements of
the Mind, but without Truth or Reality. I
am afraid if an Angel should write the Theo-
ry of the Earth, they would pass the same
Judgment upon it; where there is Variety of
Parts in a due Contexture, with something of
surprising Aptness in the Harmony and Cor-
respondency of them, this they call a Ro-
mance; but such Romances must all Theo-
ries of Nature and of Providence be, and must
have every Part of that Character with Ad-
vantage, if they be well represented. There
is in them, as I may so say, a Plot or Mystery
pursued thro' the whole Work, and certain
grand Issues or Events upon which the rest de-
pend, or to which they are subordinate; but
these Things we do not make or contrive our
selves, but find and discover them, being made
already by the great Author and Governor of
the Universe: And when they are clearly dis-
cover'd, well digested, and well reason'd in
every Part, there is, methinks, more of Beau-
ty in such a Theory, at least a more mascu-
line Beauty, than in any Poem or Romance;
and that solid Truth that is at the Bottom,
gives a Satisfaction to the Mind, that it can ne-
ever have from any Fiction, how artificial so-
ever it be.
To enter no further upon this Matter, 'tis enough to observe, that when we make Judgments and Censures upon general Presumptions and Prejudices, they are made rather from the Temper and Model of our own Spirits, than from Reason; and therefore, if we would neither impose upon our selves, nor others, we must lay aside that lazy and fallacious Method of cenfuring by the Lump, and must bring things close to the Test of True or False, to explicit Proof and Evidence; and whosoever makes such Objections against an Hypothesis, hath a Right to be heard, let his Temper and Genius be what it will. Neither do we intend that any thing we have said here should be understood in another Sense.

To conclude, This Theory being writ with a sincere Intention to justify the Doctrines of the Universal Deluge, and of a Paradisiacal State, and protect them from the Cavils of those that are no Well-wishers to sacred History, upon that Account it may reasonably expect fair Usage and Acceptance with all that are well-dispos'd; and it will also be, I think, a great Satisfaction to them to see those Pieces of most ancient History, which have been chiefly preserv'd in Scripture, confirm'd a-new, and by another Light, that of Nature and Philosophy; and also freed from those Misconceptions or Misrepresentations, which made them fit uneasily upon the Spirits even of the best Men that took Time to think. Lastly, In things purely speculative, as these are, and no
Ingredients of our Faith, it is free to differ from one another in our Opinions and Sentiments; and so I remember St. Austin hath observ'd upon this very Subject of Paradise; wherefore as we desire to give no Offence ourselves, so neither shall we take any at the Difference of Judgment in others; provided this Liberty be mutual, and that we all agree to study Peace, Truth, and a good Life.
CONTENTS
OF THE
CHAPTERS.

The FIRST BOOK.

CHAP. I.

THE Introduction: An Account of the whole Work, of the Extent and general Order of it.

CHAP. II.

A general Account of Noah's Flood. A Computation what Quantity of Water would be necessary for the making of it; That the common Opinion and Explication of that Flood is not intelligible.
CHAP. III.

All Evasions concerning the Flood answer'd; That there was no Creation of Waters at the Deluge and that it was not particular or national, but extended throughout the whole Earth. A Prelude and Preparation to the true Account and Explication of it. The Method of the first Book. Page 25

CHAP. IV.

That the Earth and Mankind had an Original, and were not from Eternity; prov'd against Aristotle. The first Proposition of our Theory laid down, viz. That the antediluvian Earth was of a different Form and Construction from the present. This is prov'd from divine Authority, and from the Nature and Form of the Chaos, out of which the Earth was made.

CHAP. V.

The second Proposition is laid down, viz. That the Face of the Earth before the Deluge was smooth, regular and uniform; without Mountains, and without a Sea. The Chaos out of which the World rose is fully examin'd, and all its Motions observ'd, and by what Steps it wrought itself into an habitable World. Some things in Antiquity relating to the first State of the Earth are interpreted, and
The CONTENTS. xxvii
and some things in the sacred Writings. The divine Art and Geometry in the Construction of the first Earth is observed and celebrated. Page 72

CHAP. VI.

The Dissolution of the first Earth: The Deluge ensuing thereupon. And the Form of the present Earth rising from the Rains of the first.

CHAP. VII.

That the Explication we have given of an universal Deluge is not an IDEA only, but an Account of what really came to pass in the Earth, and the true Explication of Noah's Flood. An Examination of Tehom-Rabba, or the great Abyss, and that by it the Sea cannot be understood, nor the subterraneous Waters as they are at present. What the true Notion and Form of it was, collected from Moses and other sacred Writers. Observations on Deucalion's Deluge.

CHAP. VIII.

The particular History of Noah's Flood is explain'd in all the material Parts and Circumstances of it, according to the preceding Theory. Any seeming Difficulties remov'd, and the whole Section concluded with a Discourse how far the Deluge may be lookt upon as the Effect
The CONTENTS.

feet of an ordinary Providence, and how far of an extraordinary. Page 131

CHAP. IX.

The second Part of this Discourse, proving the same Theory from the Effects and the present Form of the Earth. First, by a general Scheme of what is most remarkable in this Globe, and then by a more particular Induction; beginning with an Account of subterraneous Cavities and subterraneous Waters. 148

CHAP. X.

Concerning the Channel of the Sea, and the Original of it; The Causes of its irregular Form and unequal Depths: As also of the Original of Islands, their Situation and other Properties. 175

CHAP. XI.

Concerning the Mountains of the Earth, their Greatness and irregular Form, their Situation, Causes and Origin. 191

CHAP. XII.

A short Review of what hath been already treated of, and in what manner. All Methods, whether philosophical or theological, that have been offer'd by others for the Explication of the Form of the Earth, are examin'd and refuted. A Con-
The Second Book.

CHAP. I.


CHAP. II.

The great Change of the World since the Flood, from what it was in the first Ages. The Earth under its present Form could not be Paradisical, nor any Part of it.

CHAP. III.

The Original Differences of the Primitive Earth from the Present or Postdiluvian. The three Characters of Paradise, and the Golden Age, found in the Primitive Earth. A particular Explication of each Character.
The CONTENTS.

CHAP. IV.

A Digression, concerning the Natural Causes of Longevity. That the Machine of an Animal consists of Springs, and which are the two principal. The Age of the Antediluvians to be computed by Solar, not Lunar Years. 279.

CHAP. V.

Concerning the Waters of the Primitive Earth: What the State of the Regions of the Air was then, and how all Waters proceeded from them. How the Rivers arose, what was their Course, and how they ended. Several things in Sacred Writ that confirm this Hydrography of the first Earth, especially the Postdiluvian Origin of the Rainbow. 309.

CHAP. VI.

A Recollection and Review of what hath been said concerning the Primitive Earth, with a more full Survey of the State of the First World, Natural and Civil, and the Comparison of it with the present World. 331.

CHAP. VII.

Concerning the Place of Paradise; It cannot be determin'd from the Theory only, nor from Scripture only; What the Sense of Antiquity was
The CONTENTS. was concerning it, as to the Jews and Heathens, and especially as to the Christian Fathers, That they generally plac’d it out of this Continent, in the Southern Hemisphere. 347.

CHAP. VIII.

The Uses of this Theory for the Illustration of Antiquity; The Chaos of the Ancients explain’d; The Inhabitability of the Torrid Zone; The Change of the Poles of the World; The Doctrine of the Mundane Egg; How America was first peopled; How Paradise within the Circle of the Moon. 365

CHAP. IX.

A general Objection against this Theory, viz. That if there had been such a Primitive Earth, as we pretend, the Fame of it would have sounded throughout all Antiquity. The Eastern and Western Learning consider’d, the most considerable Records of both are lost; what Footsteps remain relating to this Subject. The Jewish and Christian Learning consider’d, how far lost as to this Argument, and what Notes or Traditions remain. Lastly, How far the Sacred Writings bear witness to it. The Providential Conduct of Knowledge in the World. A Recapitulation and State of the Theory. 381.
The CONTENTS.

CHAP. X.

Concerning the AUTHOR of NATURE.

Page 403

CHAP. XI.

Concerning NATURAL PROVIDENCE.


434
THE

THEORY

OF THE

EARTH.

Book I.

Concerning the Deluge, and the Dissolution of the Earth.

CHAP. I.

The Introduction.

An Account of the whole Work; of the Extent and general Order of it.

SINCE I was first inclin'd to the Contemplation of Nature, and took Pleasure to trace out the Causes of Effects, and the Dependance of one thing upon another in the visible Creation, I had...
had always, methought, a particular Curiosity to look back into the Sources and ORIGINAL of Things; and to view in my Mind, so far as I was able, the Beginning and Progress of a RISING WORLD.

And after some Essays of this Nature, and, as I thought, not unsuccessful, I carried on my Enquiries further, to try whether this Rising World, when form'd and finish'd, would continue always the same; in the same Form, Structure, and Consistency; or what Changes it would successively undergo, by the continued Action of the same Causes that first produc'd it; and, lastly, what would be its final Period and Consummation. This whole Series and Compass of Things taken together, I call'd a COURSE OF NATURE, or a SYSTEM OF NATURAL PROVIDENCE; and thought there was nothing belonging to the External World more fit, or more worthy our Study and Meditation, nor any Thing that would conduce more to discover the ways of Divine Providence, and to shew us the Grounds of all true Knowledge concerning Nature. And therefore to clear up the several parts of this Theory, I was willing to lay aside a great many other Speculations, and all those dry Subtilties with which the Schools, and the Books of Philosophers are usually fill'd.

But when we speak of a Rising World, and the Contemplation of it, we do not mean this of the Great Universe; for who can describe the Original of that vast Frame? But we speak of
of the Sublunary World, This Earth and its Dependencies, which rose out of a Chaos about Six Thousand Years ago; and seeing it hath fallen to our Lot to act upon this Stage, to have our present Home and Residence here, it seems most reasonable, and the Place design'd by Providence, where we should first employ our Thoughts to understand the Works of God and Nature. We have accordingly therefore design'd in this Work to give an Account of the Original of the Earth, and of all the great and general Changes that it hath already undergone, or is hence forwards to undergo, till the Consummation of all Things. For if from those Principles we have here taken, and that Theory we have begun in these two first Books, we can deduce with Success and Clearness the Origin of the Earth, and those States of it that are already past; following the same Thread, and by the Conduct of the same Theory, we will pursue its Fate and History thro' future Ages, and mark all the great Changes and Conversions that attend it while Day and Night shall last; that is, so long as it continues an Earth.

By the States of the Earth that are already past, we understand chiefly Paradise and the Deluge; Names well known, and as little known in their Nature. By the future States we understand the Conflagration, and what new Order of Nature may follow upon that, till the whole Circle of Time and Providence be completed. As to the first and past States of the Earth, we shall have little help from the Ancients,
The Theory of the Earth:
cients, or from any of the Philosophers, for the Discovery or Description of them; We must often tread unbeatert Paths, and make a Way where we do not find one; but it shall be always with a Light in our Hand, that we may see our Steps, and that those that follow us may not follow us blindly. There is no Sect of Philosophers that I know of, that ever gave an Account of the Universal Deluge, or discover'd, from the Contemplation of the Earth, that there had been such a Thing already in Nature. 'Tis true, they often talk of an Alternation of Deluges and Conflagrations in this Earth, but they speak of them as Things to come; at least they give no Proof or Argument of any that hath already destroyed the World. As to Paradise, it seems to be represented to us by the Golden Age; whereof the Ancients tell many Stories, sometimes very Luxuriant, and sometimes very Defective: For they did not so well understand the difference betwixt the new-made Earth and the present, as to see what were the just Grounds of the Golden Age, or of Paradise: Tho' they had many broken Notions concerning those Things, as to the Conflagration in particular. This hath always been reckon'd one amongst the Opinions or Dogmata of the Stoicks, That the World was to be destroyed by Fire, and their Books are full of this Notion; but yet they do not tell us the Causes of the Conflagration, nor what Preparations there are in Nature, or will be, towards that great Change. And we may generally observe this of the Ancients, that
The Deluge and Dissolution of the Earth.

that their Learning or Philosophy consisted more in Conclusions, than in Demonstrations; they had many Truths among them, whereof they did not know themselves the Premises or the Proofs: Which is an Argument to me, that the Knowledge they had, was not a Thing of their own Invention, or which they came to by fair Reasoning and Observations upon Nature, but was delivered to them from others by Tradition and ancient Fame, sometimes more publick, sometimes more secret: These Conclusions they kept in Mind, and communicated to those of their School, or Sect, or Posterity, without knowing, for the most part, the just Grounds and Reasons of them.

'Tis the Sacred Writings of Scripture that are the best Monuments of Antiquity, and to those we are chiefly beholden for the History of the first Ages, whether Natural History or Civil. 'Tis true, the Poets, who were the most Ancient Writers amongst the Greeks, and serv'd them both for Historians, Divines, and Philosophers, have deliver'd some Things concerning the first Ages of the World, that have a fair resemblance of Truth, and some Affinity with those Accounts that are given of the same Things by Sacred Authors, and these may be of use in due Time and Place; but yet, left any thing fabulous should be mixt with them, as commonly there is, we will never depend wholly upon their Credit, nor assert any Thing upon the Authority of the Ancients which is not first prov'd by natural Reason, or warranted by Scripture.
It seems to me very reasonable to believe, that besides the Precepts of Religion, which are the principal Subject and Design of the Books of Holy Scripture, there may be providentially conserv'd in them the Memory of Things and Times so remote, as could not be retriev'd, either by History, or by the Light of Nature; and yet were of great Importance to be known, both for their own Excellency, and also to rectify the Knowledge of Men in other Things consequent to them: Such Points may be, *Our great Epocha* or the Age of the Earth, The Origination of Mankind, The First and Paradisical State, The Destruction of the old World by an Universal Deluge, The Longevity of its Inhabitants, The manner of their Preservation, and of their Peopling the second Earth; and lastly, the Fate and Changes it is to undergo. These I always look'd upon as the Seeds of great Knowledge, or Heads of Theories fixt on purpose to give us Aim and Direction how to pursue the rest that depend upon them. But these Heads, you see, are of a mixt Order, and we propose to our selves in this Work only such as belong to the natural World; upon which I believe the Trains of Providence are generally laid; and we must first consider how God hath order'd Nature, and then how the Oeconomy of the Intellectual World is adapted to it; for of these two parts consist the full System of Providence. In the mean time, what Subject can be more worthy the Thoughts of any serious Person, than to view and consider the Rise
The Deluge and Dissolution of the Earth.

Rise and Fall, and all the Revolutions, not of a Monarchy or an Empire, of the Grecian or Roman State, but of an entire World?

The Obscurity of these Things, and their Remotenes from common Knowledge, will be made an Argument by some, why we should not undertake them; and by others, it may be, the very same thing will be made an Argument why we should. For my part I think There is nothing so secret that shall not be brought to Light, within the compass of Our World; for we are not to understand that of the whole Universe, nor of all Eternity, our Capacities do not extend so far; but whatsoever concerns this Sublunary World in the whole extent of its Duration, from the Chaos to the last Period, this I believe Providence hath made us capable to understand, and will in its due time make it known. All I say, betwixt the first Chaos and the last Completion of Time and all Things temporary, this was given to the Disquisitions of Men; On either hand is Eternity, before the World and after, which is without our reach: But that little spot of Ground that lies betwixt those two great Oceans, this we are to cultivate, this we are Masters of, herein we are to exercise our Thoughts, to understand and lay open the Treasures of the Divine Wisdom and Goodness hid in this part of Nature and of Providence.

As for the Difficulty or Obscurity of an Argument, that does but add to the Pleasure of contesting with it, when there are hopes
of Victory; and Success does more than recompence all the Pains. For there is no sort of Joy more grateful to the Mind of Man, than that which ariseth from the Invention of Truth; especially when 'tis hard to come by. Every Man hath a Delight suited to his Genius, and as there is Pleasure in the right exercise of any Faculty, so especially in that of Right-reasoning; which is still the greater, by how much the Consequences are more clear, and the Chains of them more long: There is no Chance so pleasant, methinks, as to drive a Thought, by good Conduct, from one end of the World to the other; and never to lose sight of it till it fall into Eternity, where all things are lost as to our Knowledge.

This Theory being chiefly Philosophical, Reason is to be our first Guide; and where that falls short, or any other just Occasion offers it self, we may receive further Light and Confirmation from the Sacred Writings. Both these are to be lookt upon as of Divine Original, God is the Author of both; he that made the Scripture made also our Faculties, and twere a Reflection upon the Divine Veracity for the one or the other to be false when rightly us'd. We must therefore be careful and tender of opposing these to one another, because that is, in effect, to oppose God to himself. As for Antiquity and the Testimonies of the Ancients, we only make general Reflections upon them, for Illustration rather than Proof of what we propose; not thinking it pro-

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The Deluge and Dissolution of the Earth. I
per for an English Treatise to multiply Citations out of Greek or Latin Authors.

I am very sensible it will be much our Interest, that the Reader of this Theory should be of an ingenuous and unprejudic'd Temper; neither does it so much require Book-learning and Scholarship, as good natural Sense to distinguish True and False, and to discern what is well prov'd, and what is not. It often happens that Scholastic Education, like a Trade, does so fix a Man in a particular way, that he is not fit to judge of any thing that lies out of that way; and so his Learning becomes a Clog to his natural Parts, and makes him more indocile, and more incapable of new Thoughts and new Improvements, than those that have only the Talents of Nature. As Masters of Exercise had rather take a Scholar that never learn'd before, than one that hath had a bad Master; so generally one would rather choose a Reader without Art, than one ill instructed, with Learning, but opinionative and without Judgment; yet it is not necessary they should want either, and Learning well plac'd strengthens all the Powers of the Mind. To conclude, just Reasoning and a generous Love of Truth, whether with or without Erudition, is that which makes us most competent Judges what is true. And further than this, in the Perusal and Examination of this Work, as to the Author, as much Candor as you please; but as to the Theory, we require nothing but Attention and Impartiality.

CHAP. II.
CHAP. II.

A general Account of Noah's Flood; a Computation what Quantity of Water would be necessary for the making of it; that the common Opinion and Explication of that Flood is not intelligible.

TIS now more than Five Thousand Years since our World was made, and tho' it would be a great Pleasure to the Mind, to recollect and view at this Distance those first Scenes of Nature; what the Face of the Earth was when fresh and new, and how things differ'd from the State we now find them in, the Speculation is so remote, that it seems to be hopeless, and beyond the reach of Humane Wit. We are almost the last Posterity of the first Men, and fallen into the dying Age of the World; by what Footsteps, or by what Guide, can we trace back our Way to those first Ages, and the first Order of Things? And yet, methinks, it is reasonable to believe, that Divine Providence, which sees at once throughout all the Ages and Orders of the World, should not be willing to keep Mankind finally and fatally ignorant of that part of Nature and of the Universe, which is properly their Task and Province to manage and understand. We are the Inhabitants of the Earth, the Lords and Masters of it; and we are endow'd with Reason and Understanding; doth it not then properly belong to
The Deluge and Dissolution of the Earth.

to us to examine and unfold the Works of God in this part of the Universe, which is fahn to our Lot, which is our Heritage and Habitation? And it will be found, it may be, upon a stricter Enquiry, that in the present Form and Constitution of the Earth there are certain Marks and Indications of its first State; with which if we compare those things that are recorded in Sacred History, concerning the first Chaos, Paradise, and an Universal Deluge, we may discover, by the help of those Lights, what the Earth was in its first Original, and what Changes have since succeeded in it.

And tho' we shall give a full Account of the Origin of the Earth in this Treatise, yet that which we have propos'd particularly for the Title and Subject of it, is to give an Account of the primæval Paradise, and of the Universal Deluge, those being the two most important things that are explain'd by the Theory we propose. And I must beg leave in treating of these two, to change the Order, and treat first of the Deluge, and then of Paradise: For though the State of Paradise doth precede that of the Flood in Sacred History, and in the nature of the thing, yet the Explication of both will be more sensible, and more effectual, if we begin with the Deluge; there being more Observations and Effects, and those better known to us, that may be refer'd to this, than to the other; and the Deluge being once truly explain'd, we shall from thence know the Form and Quality of the Ante-diluvian Earth. Let us
us then proceed to the Explication of that great and fatal Inundation, whose History is well known; and according to Moses, the best of Historians, in a few words is this—

Sixteen Hundred and odd Years after the Earth was made, and inhabited, it was overflow'd, and destroy'd in a Deluge of Water. Not a Deluge that was National only, or overrun some particular Country or Region, as Judea or Greece, or any other, but it overspread the Face of the whole Earth, from Pole to Pole, and from East to West, and that in such Excess, that the Floods over-reacht the Tops of the highest Mountains; the Rains descending after an unusual manner, and the Fountains of the Great Deep being broke open; so as a general Destruction and Devastation was brought upon the Earth, and all Things in it, Mankind and other living Creatures; excepting only Noah and his Family, who by a special Providence of God was preserv'd in a certain Ark, or Vessel made like a Ship, and such kinds of living Creatures as he took in to him. After these Waters had rag'd for some time on the Earth, they began to lessen and shrink, and the great Waves and Fluctuations of this Deep or Abyss being quieted by degrees, the Waters retir'd into their Channels and Caverns within the Earth; and the Mountains and Fields began to appear, and the whole habitable Earth in that Form and Shape wherein we now see it. Then the World began again, and from that little Remnant preserv'd in the Ark, the present Race of Mankind, and of Animals,
Animals, in the known parts of the Earth, were propagated. Thus perish'd the Old World, and the present arose from the Ruins and Remains of it.

This is a short Story of the greatest Thing that ever yet hapned in the World, the greatest Revolution and the greatest Change in Nature; and if we come to reflect seriously upon it, we shall find it extreamly difficult, if not impossible, to give an Account of the Waters that compos'd this Deluge, whence they came or whither they went. If it had been only the Inundation of a Country, or of a Province, or of the greatest part of a Continent, some proportionable Causes perhaps might have been found out; but a Deluge overflowing the whole Earth, the whole Circuit and whole Extent of it, burying all in Water, even the greatest Mountains in any known parts of the Universe, to find Water sufficient for this Effect, as it is generally explained and understood, I think is impossible. And that we may the better judge of the whole matter, let us first compute how much Water would be requisite for such a Deluge; or to lay the Earth, consider'd in its present Form, and the highest Mountains, under Water. Then let's consider whether such a quantity of Water can be had out of all the Stores that we know in Nature: And from these two we will take our Ground and Rise, and begin to reflect, whether the World hath not been hitherto mistaken in the common Opinion and Explication of the general Deluge.
The Theory of the Earth.

To discover how much Water would be requisite to make this Deluge, we must first suppose enough to cover the plain Surface of the Earth, the Fields and lower Grounds; then we must heap up so much more upon this, as will reach above the tops of the highest Mountains; so as drawing a Circle over the tops of the highest Mountains quite round the Earth, suppose from Pole to Pole, and another to meet it round the middle of the Earth, all that Space or Capacity contain’d within these Circles is to be fill’d up with Water. This I confess will make a prodigious mass of Water, and it looks frightfully to the Imagination; 'tis huge and great, but 'tis extravagantly so, as a great Monster: It doth not look like the Work of God or Nature: However, let's compute a little more particularly how much this will amount to, or how many Oceans of Water would be necessary to compose this great Ocean rowling in the Air, without Bounds or Banks.

If all the Mountains were pared off the Earth, and so the Surface of it lay even, or in an equal Convexity every where with the Surface of the Sea, from this Surface of the Sea, let us suppose that the height of the Mountains may be a Mile and a half; or that we may not seem at all to favour our own Opinion or Calculation, let us take a Mile only for the perpendicular height of the Mountains. Let us on the other side suppose the Sea to cover half the Earth, as 'tis generally believ'd to do; and the common depth of it, taking one
The Deluge and Dissolution of the Earth.

one Place with another, to be about a quarter of a Mile, or 250 Paces. I say, taking one Place with another, for though the middle Channel of the great Ocean be far deeper, we may observe, that there is commonly a Descent or Declivity from the Shore to the middle part of the Channel, so that one comes by Degrees into the depth of it; and those Shory Parts are generally but some Fathoms deep. Besides, in Arms of the Sea, in Straits and among Islands, there is commonly no great depth, and some Places are plain Shallows. So as upon a moderate Computation, one Place compar'd with another, we may take a quarter of a Mile, or about an hundred Fathoms, for the common measure of the depth of the Sea, if we were cast into a Channel of an equal depth every where. This being suppos'd, there would need four Oceans to lie upon this Ocean, to raise it up to the top of the Mountains, or so high as the Waters of the Deluge rise; then four Oceans more to lie upon the Land, that the Water there might swell to the same height; which together make eight Oceans for the proportion of the Water requir'd in the Deluge.

'Tis true, there would not be altogether so much Water requir'd for the Land as for the Sea, to raise them to an equal height; because Mountains and Hills would fill up part of that space upon the Land, and so make less Water requisite. But to compensate this, and confirm our Computation, we must consider in the first place, that we have taken a much less height
The height of the Mountains than is requisite, if we respect the Mediterranean Mountains, or those that are at a great distance from the Sea; for their height above the Surface of the Sea, computing the Declivity of the Land all along from the Mountains to the Sea-side (and that there is such a Declivity, is manifest from the Course and Descent of the Rivers) is far greater than the Proportion we have taken: The height of Mountains is usually taken from the Foot of them, or from the next Plain, which if it be far from the Sea, we may reasonably allow as much for the Declension of the Land from that place to the Sea, as for the immediate height of the Mountain: So, for instance, the Mountains of the Moon in Africa, whence the Nile flows, and after a long Course falls into the Mediterranean Sea by Egypt, are so much higher than the Surface of that Sea, first, as the Ascent of the Land is from the Sea to the Foot of the Mountains, and then as the height of the Mountains is from the bottom to the top: For both these are to be computed when you measure the height of a Mountain, or of a mountainous Land, in respect of the Sea: And the height of Mountains to the Sea being thus computed, there would be need of six or eight Oceans to raise the Sea alone as high as the highest Inland Mountains: And this is more than enough to compensate the less quantity of Water that would be requisite upon the Land. Besides, we must consider the Regions of the Air upwards to be more capacious than a Region of the same Thickness.
The Deluge and Dissolution of the Earth.

Thickness in or near the Earth, so as if an Ocean pour'd upon the Surface of the dry Land, supposing it were all smooth, would rise to the height of half a quarter of a Mile every where; the like quantity of Water pour'd again at the height of the Mountains, would not have altogether the same effect, or would not there raise the Mafs half a quarter of a Mile higher; for the Surfaces of a Globe, the farther they are from their Center, are the greater: and so accordingly the Regions that belong to them. And, lastly, we must consider that there are some Countries or Valleys very low, and also many Caverns or Cavities within the Earth, all which in this Case were to be first fill'd with Water. These things being compar'd and estimated, we shall find that notwithstanding the Room that Hills and Mountains take up on the dry Land, there would be at least eight Oceans requir'd, or a Quantity of Water eight times as great as the Ocean, to bring an Universal Deluge upon the Earth, as that Deluge is ordinarily understood and explained.

The Proportion of Water for the Deluge being thus stated, the next thing to be done, is to enquire where this Water is to be found; if any part of the Sublunary World will afford us so much: Eight Oceans floating in the Air, make a great bulk of Water, I do not know what possible Sources to draw it from. There are the Clouds above, and the Deeps below, and in the Bowels of the Earth; and these are all the Stores we have for Water; and Book I. Moses
Moses directs us to no other for the Causes of the Deluge. The Fountains (he faith) of the great Abyss were broken up, or burst asunder, and the Rain descended for forty Days, the Cataracts or Floodgates of Heaven being opened. And in these two, no doubt, are contain’d the Causes of the great Deluge, as according to Moses, so also according to Reason and Necessity; for our World affords no other Treasures of Water. Let us therefore consider how much this Rain of Forty Days might amount to, and how much might flow out of the Abyss, that so we may judge whether these two in conjunction would make up the Eight Oceans which we want.

As for the Rains, they would not afford us one Ocean, nor half an Ocean, nor the tenth part of an Ocean, if we may trust to the Observations made by others concerning the Quantity of Water that falls in Rain. Merc. sennus gives us this Account of it, Cog. Phys. Mech. p. 221. "It appears by our Observations, that a Cubical Vessel of Brass, whereof we made use, is fill’d an Inch and an half in half an Hour’s Time; but because that sucks up nothing of the Moisture as the Earth doth, let us take an Inch for half an Hour’s Rain; whence it follows, that in the space of Forty Days and Nights Rain, the Waters in the Deluge would rise, at four Feet in 24 Hours, 160 Feet, if the Rains were constant and equal to ours, and that it rain’d at once throughout the Face of the whole Earth." But the Rain of the Deluge,
faith he, should have been 90 times greater than this, to cover, for Instance, the Mountains of Armenia, or to reach 15 Cubits above them. So that according to his Computation, the Forty Days Rain would supply little more than the hundredth part of the Water requisite to make the Deluge. 'Tis true, he makes the height of the Mountains higher than we do; but, however, if you temper the Calculation on all Sides as much as you please, the Water that came by this Rain would be a very inconsiderable part of what was necessary for a Deluge. If it rain'd Forty Days and Forty Nights throughout the Face of the whole Earth, in the Northern and Southern Hemisphere all at once, it might be sufficient to lay all the lower Grounds under Water, but it would signify very little as to the overflowing of the Mountains. Whence another Author upon the same occasion hath this Passage, Act. cat. in Gen. 7. 4. "If the Deluge had been made by Rains only, there would not have needed Forty Days, but Forty Years Rain to have brought it to pass." And if we should suppose the whole middle Region condens'd into Water, it would not at all have been sufficient for this Effect, according to that Proportion some make betwixt Air and Water; for they say, Air turn'd into Water, takes up a hundred times less room than it did before. The Truth is, we may reasonably suppose, that all the Vapours of the middle Region were turn'd into Water in this Forty Days and Forty Nights Rain, if we admit,
admit, that this Rain was throughout the whole Earth at once, in either Hemisphere, in every Zone, in every Climate, in every Country, in every Province, in every Field; and yet we see what a small Proportion all this would amount to.

Having done then with these Superiour Regions, we are next to examine the Inferiour, and the Treasures of Water that may be had there. Moses tells us, that the Fountains of the great Abyss were broke open, or clove asunder, as the Word there us'd doth imply; and no doubt in this lay the great Mystery of the Deluge, as will appear when it comes to be rightly understood and explain'd; but we are here to consider what is generally understood by the great Abyss, in the common Explication of the Deluge; and 'tis commonly interpreted either to be the Sea, or Subterraneous Waters hid in the Bowels of the Earth: These, they say, broke forth and rais'd the Waters, caus'd by the Rain, to such an height, that together they overflowed the highest Mountains. But whether or how this could be, deserves to be a little examin'd.

And in the first Place; the Sea is not higher than the Land, as some have formerly imagin'd; fancying the Sea stood, as it were, upon a heap, higher than the Shore; and at the Deluge a Relaxation being made, it overflow'd the Land. But this Conceit is so gross, and so much against Reason and Experience, that none I think of late have ventur'd to make use of it. And yet on the other hand,
The Deluge and Dissolution of the Earth.

if the Sea lie in an equal Convexity with the Land, or lower generally than the Shore, and much more than the Midland, as it is certainly known to do, what could the Sea contribute to the Deluge? It would keep its Channel, as it doth now; and take up the same Place. And so also the Subterraneous Waters would lie quiet in their Cells. Whatsoever Fountains or Passages you suppose, these would not issue out upon the Earth, for Water doth not ascend, unless by Force. But let’s imagine then that Force us’d and apply’d, and the Waters both of the Sea and Caverns under Ground drawn out upon the Surface of the Earth, we shall not be any whit the nearer for this; for if you take these Waters out of their Places, those Places must be fill’d again with other Waters in the Deluge; so as this turns to no Account upon the whole. If you have two Vessels to fill, and you empty one to fill the other, you gain nothing by that, there still remains one Vessel empty, you cannot have these Waters both in the Sea and on the Land, both above Ground and under; nor can you suppose the Channel of the Sea would stand gaping without Water, when all the Earth was overflow’d, and the tops of the Mountains cover’d. And so for Subterraneous Cavities, if you suppose the Water pump’d out, they would suck it in again when the Earth came to be laid under Water; so that upon the whole, if you thus understand the Abyss or great Deep, and the breaking open its Fountains in this manner, it doth us no Ser-
The Theory of the Earth.

vice as to the Deluge, and where we expected the greatest Supply, there we find none at all. What shall we do then? Whither shall we go to find more than seven Oceans of Water that we still want? We have been above and below; we have drain'd the whole middle Region, and we have examin'd the Deeps of the Earth; they must want for themselves, they say, if they give us any; and, besides, if the Earth should disgorge all the Water that it hath in its Bowels, it would not amount to above half an Ocean, which would not at all answer our Occasions. Must we not then conclude, that the common Explication of the Deluge makes it impossible? there being no such Quantity of Water in Nature as they make requisite for an universal Deluge. Yet to give them all fair Play, having examin'd the Waters above the Earth or in the Air, the Waters upon the Earth, and the Waters under the Earth; let us also consider if there be not Waters above the Heavens, and if those might not be drawn down for the Deluge. Moses speaks of Waters above the Firmament, which though it be generally understood of the middle Region of the Air, yet some have thought those to be Waters plac'd above the highest Heavens, or Super-celestial Waters; and have been willing to make use of them for a Supply, when they could not find Materials enough under the Heavensto make up the great Mafs of the Deluge. But the Heavens above, where these Waters lay, are either solid, or fluid; if solid, as Glass or Crystal, how could the
The Deluge and Dissolution of the Earth.

The Waters get through them to descend upon the Earth? If fluid as the Air or Æther, how could the Waters rest upon them? for Water is heavier than Air or Æther; so that I am afraid those pure Regions will prove no fit Place for that Element, upon any account. But supposing these Waters there, how imaginary soever, and that they were brought down to drown the World in that vast Quantity that would be necessary, what became of them, when the Deluge ceas’d? Seven or eight Oceans of Water, with the Earth wrapt up in the middle of them, how did it ever get quit of them? How could they be dispos’d of when the Earth was to be dry’d, and the World renew’d? It would be a hard Task to lift them up again among the Spheres, and we have no room for them here below. The Truth is, I mention this Opinion of the Heavenly Waters, because I would omit none that had ever been made use of to make good the common Explication of the Deluge; but otherwise, I think, since the System of the World hath been better known, and the Nature of the Heavens, there are none that would seriously assert these Super-celestial Waters, or, at least, make use of them so extravagantly, as to bring them down hither for Causes of the Deluge.

We have now employ’d our last and utmost Endeavours to find out Waters for the vulgar Deluge, or for the Deluge as commonly understood; and you see with how little Success; we have left no Corner unsought, where there was any Appearance or Report of Water to be
be found, and yet we have not been able to
collect the eighth part of what was necessary
upon a moderate Account. May we not then
with Assurance conclude, that the World hath
taken wrong Measures hitherto in their No-
tion and Explication of the general Deluge?
They make it impossible and unintelligible up-
on a double Account, both in requiring more
Water than can be found, and more than can
be dispos'd of, if it was found; or could any
way be withdrawn from the Earth when the
Deluge should cease. For if the Earth was
encompass'd with eight Oceans of Water heapt
one upon another, how these should retire in-
to any Channels, or be drain'd off, or the
Earth any way disengag'd from them, is not
intelligible; and that in so short a Time as
some Months: For the Violence of the De-
lude lasted but four or five Months, and in as
many Months after the Earth was dry and ha-itable. So as upon the whole Enquiry, we
can neither find Source nor Issue, Beginning
nor Ending, for such an excessive Mass of Wa-
ters as the vulgar Deluge requir'd; neither
where to have them, nor if we had them, how
to get quit of them. And I think Men can-
not do a greater Injury or Injustice to Sacred
History, than to give such Representations of
things recorded there, as make them unintel-
ligible and incredible; and on the other hand,
we cannot deserve better of Religion and Pro-
vidence, than by giving such fair Accounts of
all things propos'd by them, or belonging to
them, as may silence the Cavils of Atheists, sa-
tisy
The Deluge and Dissolution of the Earth. 25

tisfy the Inquisitive, and recommend them to the Belief and Acceptance of all reasonable Persons.

CHAP. III.

All Evasions answered; That there was no new Creation of Waters at the Deluge: And that it was not Particular or National, but extended throughout the whole Earth. A Prelude and Preparation to the true Account and Explanation of it: The method of the first Book.

Though in the preceding Chapter we may seem to have given a fair Trial to the common Opinion concerning the state of the Deluge, and might now proceed to Sentence of Condemnation: yet having heard of another Plea, which some have us'd in its behalf, and another way found out by recourse to the Supream Power, to supply all defects, and to make the whole matter intelligible, we will proceed no further till that be consider'd; being very willing to examine whatsoever may be offer'd, in that or any other way; for resolvesing that great Difficulty which we have propos'd, concerning the Quantity of Water requisite for such a Deluge. And to this they say in short, that God Almighty created Waters on purpose to make the Deluge, and then annihilated them again when the Deluge was to cease; and this, in a few Words, is the whole Account of the Business. This is to cut the Knot when we cannot loose it; they shew us the naked

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Arm of Omnipotency; such Arguments as these come like Lightning, one doth not know what Armour to put on against them, for they pierce the more, the more they are resisted: We will not therefore oppose any thing to them that is hard and stubborn, but by a soft Answer deaden their Force by degrees.

And I desire to mind those Persons in the first Place of what St. Austin hath said upon a like Occasion, speaking concerning those that dispro'y'd the Opinion of Waters above the Heavens (which we mention'd before) by natural Reasons. " We are not, faith he, to refute those Persons, by saying, that according to the Omnipotence of God, to whom all things are possible, we ought to believe there are Waters there as heavy as we know and feel them here below; for our Business is now to enquire according to his Scripture, how God hath constituted the Nature of things, and not what he could do or work in these things by a Miracle of Omnipotency." I desire them to apply this to the present Argument for the first Answer.

Secondly, let them consider, that Moses hath assign'd Causes of the Deluge; Forty Days Rain, and the Disruption of the Abyss; and speaks nothing of a new Creation of Water upon that Occasion. Those were Causes in Nature which Providence had then dispos'd for this extraordinary effect, and those the Divine Historian refers us to, and not to any Productions out of nothing. Besides, Moses makes
The Deluge and Dissolution of the Earth.

makes the Deluge increase by degrees with the Rain, and accordingly makes it cease by degrees, and that the Waters going and returning, as the Waves and great Commotions of the Sea use to do, retir'd leisurely from the Face of the Earth, and settled at length in their Channels. Now this manner of the Beginning or Ceasing of the Deluge doth not at all agree with the instantaneous Actions of Creation and Annihilation.

Thirdly, let them consider, that St. Peter hath also assign'd Causes of the Deluge, 2 Pet. 3. 6. namely the particular Constitution of the Earth and Heavens before the Flood; by reason whereof, he faith, the World that was then, perished in a Deluge of Water. And not by reason of a new Creation of Water. His Words are these: "The Heavens and the Earth were of old, consisting of Water, and by Water; whereby, or by reason whereof, the World that then was, being overflowed with Water, perished."

Fourthly, they are to consider, that as we are not rashly to have recourse to the Divine Omnipotence upon any Account, so especially not for new Creations; and least of all for the Creation of new Matter. The Matter of the Universe was created many Ages before the Flood, and the Universe being full, if any more was created, then there must be as much annihilated at the same time to make room for it; for Bodies cannot penetrate one another's Dimensions, nor be two or more within one and the same Space. Then on the other
other hand, when the Deluge ceas'd, and these Waters were annihilated, so much other Matter must be created again to take up their Places: And methinks they make very bold with the Deity, when they make him do and undo, go forward and backwards by such Countermarches and Retractions, as we do not willingly impute to the Wisdom of God Almighty.

Lastly, I shall not think my Labour lost, if it be but acknowledg'd, that we have so far clear'd the Way in this Controversy, as to have brought it to this Issue; that either there must be new Waters created on purpose to make a Deluge, or there could be no Deluge, as 'tis vulgarly explain'd; there not being Water sufficient in Nature to make a Deluge of that kind. This, I say, is a great step, and, I think, will satisfy all Parties, at least all that are considerable; for those that have recourse to a new Creation of Waters, are of two sorts, either such as do it out of Laziness and Ignorance, or such as do it out of Necessity, seeing they cannot be had otherwise; as for the first, they are not to be valu'd or gratify'd; and as for the second, I shall do a thing very acceptable to them, if I free them and the Argument from that Necessity; and shew a way of making the Deluge fairly intelligible, and accountable without the Creation of new Waters; which is the Design of this Treatise. For we do not tie this Knot with an Intention to puzzle and perplex the Argument finally with it; but the harder it is ty'd, we shall feel the
The Deluge and Dissolution of the Earth.

the Pleasure more sensibly when we come to loose it.

It may be when they are beaten from this new Creation of Water, they will say the Element of Air was chang'd into Water, and that was the great Store-house for the Deluge. Forty Days Rain we allow, as Moses does, but if they suppose any other Transelementation, it neither agrees with Moses's Philosophy, nor St. Peter's; for then the opening of the Abyss was needless, and the Form and Constitution of the Antediluvian Heavens and Earth, which St. Peter refers the Deluge to, bore no part in the Work; it might have been made, in that way, indifferently under any Heavens, or Earth. Besides, they offend against St. Austin's Rule in this Method too; for I look upon it as no less a Miracle to turn Air into Water, than to turn Water into Wine. Air, I say, for Vapours indeed are but Water made volatile; but pure Air is a Body of another Species, and cannot by any Compression or Condensation, so far as is yet known, be chang'd into Water. And lastly, if the whole Atmosphere was turn'd into Water, 'tis very probable it would make no more than 34 foot or thereabouts; for so much Air or Vapours as is of the same weight with any certain Quantity of Water, 'tis likely, if it was chang'd into Water, would also be of the same Bulk with it, or not much more: Now according to the Doctrine of the Gravitation of the Atmosphere, 'tis found that 34 foot of Water does counterbalance a proportionable Cylinder
order of Air reaching to the top of the Atmosphere; and consequently, if the whole Atmosphere was converted into Water, it would make no more than eleven or twelve Yards Water about the Earth; which the Cavities of the Earth would be able in a good measure to suck up, at least this is very inconsiderable as to our eight Oceans. And if you would change the higher Regions into Water too, what must supply the Place of that Air which you transform into Water, and bring down upon the Earth? There would be little left but Fire and Æther betwixt us and the Moon, and I am afraid it would endanger to suck down the Moon too after it. In a word, such an Explanation as this, is both purely imaginary, and also very operose, and would affect a great part of the Universe; and after all, they would be as hard put to it to get rid of this Water, when the Deluge was to cease, as they were at first to procure it.

Having now examin'd and answered all the Pleas, from first to last, for the vulgar Deluge, or the old way of explaining it, we should proceed immediately to propose another Method, and another Ground for an universal Deluge, were it not that an Opinion hath been started by some of late, that would in effect supplant both these Methods, old and new, and take away in a great measure the Subject of the Question. Some modern Authors observing what straits they have been put to in all Ages, to find out Water enough for Noah's Flood, have ventur'd upon an Expedient more brisk.
brisk and bold than any of the Ancients durst venture upon: They say, Noah's Flood was not Universal, but a National Inundation, confin'd to Judea, and those Countries thereabouts; and consequently, there would not be so much Water necessary for the Cause of it, as we have prov'd to be necessary for an Universal Deluge of that kind. Their Inference is very true, they have avoided that Rock, but they run upon another no less dangerous; to avoid an Objection from Reason they deny matter of Fact, and such matter of Fact as is well attested by History, both Sacred and Prophane. I believe the Authors that set up this Opinion, were not themselves satisfied with it: but seeing insuperable Difficulties in the old Way, they are the more excusable in chusing, as they thought, of two evils the less.

But the Choice, methinks, is as bad on this hand, if all things be consider'd; Moses represents the Flood of Noah as an Overthrow and Destruction of the whole Earth; and who can imagine, that in sixteen or seventeen hundred Years time (taking the lower Chronology) that the Earth had then flood, Mankind should be propagated no further than Judea, or some neighbouring Countries thereabouts? After the Flood, when the World was renew'd again by eight Persons, they had made a far greater Progress in Asia, Europe, and Africa, within the same space of Years, and yet 'tis likely they were more fruitful in the first Ages of the World, than after the Flood; and they liv'd
liv'd six, seven, eight, nine hundred Years a piece, getting Sons and Daughters. Which Longevity of the first Inhabitants of the Earth seems to have been providentially design'd for the quicker Multiplication and Propagation of Mankind; and Mankind thereby would become so numerous within sixteen hundred Years, that there seems to me to be a greater Difficulty from the multitude of the People that would be before the Flood, than from the want of People. For if we allow the first Couple at the end of one hundred Years, or of the first Century, to have left ten pair of Breeders, which is no hard Supposition, there would arise from these, in fifteen hundred Years, a greater number than the Earth was capable of; allowing every Pair to multiply in the same decuple Proportion the first Pair did. But because this would rise far beyond the Capacities of this Earth, let us suppose them to increase, in the following Centuries, in a quintuple Proportion only, or, if you will, only in a quadruple; and then the Table of the Multiplication of Mankind, from the Creation to the Flood, would stand thus:

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This Product is too excessive high, if compared with the present number of Men upon the face of the Earth, which I think is commonly estimated to be betwixt three and four hundred Millions; and yet this Proportion of their Increase seems to be low enough, if we take one Proportion for all the Centuries; for, in reality, the same measure cannot run equally thro' all the Ages; but we have taken this as moderate and reasonable betwixt the highest and the lowest; but if we had taken only a triple Proportion, it would have been sufficient (all things consider'd) for the purpose. There are several other ways of computing this number, and some more particular and exact than this is, but which way soever you try, you shall find the Product great enough for the Extent of this Earth; and if you follow the Septuagint Chronology, it will still be far higher. I have met with three or four different Calculations, in several Authors, of the number of Mankind before the Flood, and never met with any yet, but what exceeded the number of the People that are at present upon the face of the Earth. So as it seems to me a very groundless and forc'd Conceit to imagine, that Judea only, and some parts about it in Asia, were stor'd with People when the Deluge was brought upon the old World. Besides, if the Deluge was confin'd to those Countries, I do not see but the Borderers might have escap'd, shifting a little into the adjoining Places where the Deluge did not reach. But especially what need-ed so much ado to build an Ark to save Noah

Book I. D and
and his Family, if he might have sav'd himself and them, only by retiring into some neighbouring Country; as Lot and his Family sav'd themselves, by withdrawing from Sodom when the City was to be destroyed: Had not this been a far easier thing, and more compendious, than the great Preparations he made of a large Vessel, with Rooms for the Reception and Accommodation of Beasts and Birds? And now I mention Birds, why could not they at least have flown into the next dry Country? they might have pearch'd upon the Trees, and the tops of the Mountains by the way to have rested themselves if they were weary, for the Waters did not all of a sudden rise to the Mountains tops.

I cannot but look upon the Deluge as a much more considerable thing than these Authors would represent it, and as a kind of Dissolution of Nature. Moses calls it a destroying of the Earth, as well as of Mankind, Gen. 6. 13. And the Bow was set in the Cloud to seal the Covenant, that he would destroy the Earth no more, Gen. 9. 11. or that there should be no more a Flood to destroy the Earth. And 'tis said, verse 13. that the Covenant was made between God and the Earth, or this Frame of Nature, that it should perish no more by Water. And the Rain-bow, which was a Token and Pledge of this Covenant, appears not only in Judea, or some other Asiatick Provinces, but to all the Regions of the Earth, who had an equal Share and Concern in it. Moses faith also the Fountains
of the great Abysses were burst asunder to make the Deluge, and what means this Abyss and the bursting of it, if restrain'd to Judea, or some adjacent Countries? What Appearance is there of this Disruption there, more than in other Places? Furthermore, St. Peter plainly implies, 2 Epist. c. 5. 6. that the Antediluvian Heavens and Earth perished in the Deluge; and opposeth the present Earth and Heavens to them, as different and of another Constitution; and faith, that these shall perish by Fire, as the other perish'd by Water. So he compares the Conflagration with the Deluge, as two general Dissolutions of Nature, and one may as well say, that the Conflagration shall be only National, and but two or three Countries burnt in that last Fire, as to say that the Deluge was so. I confess that Discourse of St. Peter, concerning the several States of the World, would sufficiently convince me, if there was nothing else, That the Deluge was not a particular or National Inundation, but a mundane Change, that extended to the whole Earth, and both to the (lower) Heavens and Earth.

All Antiquity, we know, hath spoke of these Mundane Revolutions or Periods, that the World should be successively destroy'd by Water and Fire; and I do not doubt but that this Deluge of Noah's, which Moses describes, was the first and leading Instance of this kind; and accordingly we see that after this Period, and after the Flood, the Blessing for Multiplication, and for replenishing the Earth with Inhabitants,
habitants, was as solemnly pronounc’d by God Almighty, as at the first Creation of Man, Gen. 9. 1. with Gen. 1. 28. These Considerations, I think, might be sufficient to give us Assurance from Divine Writ of the Universality of the Deluge, and yet Moses affords us another Argument as demonstrative as any, when in the History of the Deluge, he faith, Gen. 7. 19. The Waters exceedingly prevail’d upon the Earth, and all the high Hills that were under the whole Heavens were covered. All the high Hills, he faith, under the whole Heavens, then quite round the Earth; and if the Mountains were cover’d quite round the Earth, sure the Plains could not scape. But to argue with them upon their own Grounds: Let us suppose only the Asiatick and Armenian Mountains covered with these Waters, this they cannot deny; then unless there was a Miracle to keep these Waters upon heaps, they would flow throughout the Earth; for these Mountains are high enough to make them fall every way, and make them join with our Seas that environ the Continent. We cannot imagine Hills and Mountains of Water to have hung about Judea, as if they were congeal’d, or a Mass of Water to have stood upon the middle of the Earth like one great Drop, or a trembling Jelly, and all the Places about it dry and untouch’d. All liquid Bodies are diffusive; for their parts being in motion have no Tie or Connexion one with another, but glide and fall off any way, as Gravity and the Air pres-seth them; so the Surface of Water doth always conform into a Spherical Convexity with the
The Deluge and Dissolution of the Earth.

The rest of the Globe of the Earth, and every part of it falls as near to the Center as it can; wherefore when these Waters began to rise at first, long before they could swell to the height of the Mountains, they would diffuse themselves every way, and thereupon all the Valleys and Plains, and lower parts of the Earth would be filled throughout the whole Earth, before they could rise to the tops of the Mountains in any part of it: And the Sea would be all raised to a considerable heighth before the Mountains could be covered. For let's suppose, as they do, that this Water fell not throughout the whole Earth, but in some particular Country, and there made first a great Lake; this Lake when it begun to swell would every way discharge itself by any Descents or Declivities of the Ground, and these Issues and Derivations being once made, and supplied with new Waters pushing them forwards, would continue their Course till they arriv'd at the Sea; just as other Rivers do, for these would be but so many Rivers rising out of this Lake, and would not be considerably deeper and higher at the Fountain than in their Progress or at the Sea. We may as well then expect that the Leman Lake, for Instance, out of which the Rhone runs, should swell to the tops of the Alpes on the one hand, and the Mountains of Switzerland and Burgundy on the other, and then stop, without overflowing the plainer Countries that lie beyond them; as to suppose that this Diluvian Lake should rise to the Mountains tops in one Place, and not diffuse
Thus much for Sacred History. The Universality of the Deluge is also attested by profane History; for the Fame of it is gone through the Earth, and there are Records or Traditions concerning it, in all parts of this and the new-found World. The Americans do acknowledge and speak of it in their Continent, as Acosta witnesseth, and Laet in their Histories of them. Mart. The Chinese have the Tradition of it, which is the farthest part of our Continent; and the nearer and Western parts of Asia is acknowledg'd the proper Seat of it. Not to mention Deucalion's Deluge in the European parts, which seems to be the same under a disguise: So as you may trace the Deluge quite round the Globe in profane History; and which is remarkable, every one of these People have a Tale to tell, some one way, some another, concerning the Restauration of Mankind; which is an Argument that they thought all Mankind destroy'd by that Deluge. In the old Dispute between the Scythians and the Egyptians for Antiquity, which Justin mentions, they refer to a former Destruction of the World by Water or Fire, and argue whether Nation first rose again, and was original to the other. So the Babylonians, Assyrians, Phanicians and others, mention the Deluge in their Stories. And we cannot without offering Violence to all Records and Authority, Divine and Humane, deny that there hath
The Deluge and Dissolution of the Earth.

There has been an universal Deluge upon the Earth; and if there was an universal Deluge, no question it was that of Noah's, and that which Moses describ'd, and that which we treat of at present.

These Considerations, I think, are abundantly sufficient to silence that Opinion, concerning the Limitation and Restriction of the Deluge to a particular Country or Countries. It ought rather to be lookt upon as an Evasion indeed than Opinion, seeing the Authors do not offer any positive Argument for the Proof of it, but depend only upon that negative Argument, That an universal Deluge is a thing unintelligible. This stumbling-stone we hope to take away for the future, and that Men shall not be put to that unhappy Choice, either to deny Matter of Fact well attested, or admit an Effect, whereof they cannot see any possible Causes. And so having stated and propos'd the whole Difficulty, and try'd all ways offer'd by others, and found them ineffectual; let us now apply our selves by degrees to untie the Knot.

The excessive Quantity of Water is the great Difficulty, and the Removal of it afterwards. Those eight Oceans lay heavy upon my Thoughts, and I cast about every way to find an Expedient, or to find some way whereby the same Effect might be brought to pass with less Water, and in such a manner, that that Water might afterwards conveniently be discharg'd. The first Thought that came into my Mind upon that Occasion, was concerning the Form of the Earth, which I imagin'd...
might possibly at that time be different from what it is at present, and come nearer to Plainness and Equality in the Surface of it, and so might the more easily be overflow'd, and the Deluge perform'd with less Water. This Opinion concerning the Plainness of the first Earth, I also found in Antiquity, mention'd and refer'd to by several Interpreters in their Commentaries upon Genesis, either upon Occasion of the Deluge, or of that Fountain which is said, Gen. 2. 6, to have watered the Face of the whole Earth: And a late eminent Person, the Honour of his Profession for Integrity and Learning, in his Discourse concerning the Original of Mankind, hath made a like Judgment of the State of the Earth before the Deluge, that the Face of it was more smooth and and regular than it is now. But yet upon second Thoughts, I easily see that this alone would not be sufficient to explain the Deluge, nor to give an Account of the present Form of the Earth, unequal and mountainous as it is. 'Tis true this would give a great Advantage to the Waters, and the Rains that fell for Forty Days together would have a great Power over the Earth, being plain and smooth; but how would these Waters be dispos'd of when the Deluge ceas'd? or how could it ever cease? Besides, what means the Disruption of the great Deep, or the great Abyss, or what answers to it upon this Supposition? This was assuredly of no less Consideration than the Rains, nay, I believe, the Rains were but preparatory in some measure, and that the Violence and Consummation of the Deluge depended
The Deluge and Dissolution of the Earth. Therefore I saw it necessary, to my first Thought, concerning the Smoothness and Plainness of the Antediluvian Earth, to add a second, concerning the Disruption and Dissolution of it; for as it often happens in Earthquakes, when the exterior Earth is burst asunder, and a great Flood of Waters issues out, according to the Quantity and Force of them, an Inundation is made in those parts, more or less; so I thought, if that Abyss lay under Ground and round the Earth, and we should suppose the Earth in this manner to be broken in several Places at once, and as it were a general Dissolution made, we might suppose that to make a general Deluge, as well as a particular Dissolution often makes a particular. But I will not anticipate here the Explication we intend to give of the universal Deluge in the following Chapters; only by this previous Intimation we may gather some Hopes, it may be, that the Matter is not so desperate as the former Representation might possibly make us fancy it.

Give me leave to add farther in this Place, that it hath been observ'd by several, from the Contemplation of Mountains and Rocks and Precipices, of the Channel of the Sea, and of Islands, and of Subterraneous Caverns, that the Surface of the Earth, or the exterior Region which we inhabit, hath been broke, and the parts of it dislocated: And one might instance more particularly in several Parcels of Nature, that retain still the evident Marks of Fracture and Ruin; and by their present Form
Form and Posture show, that they have been once in another State and Situation one to another. We shall have occasion hereafter to give an Account of these Phenomena, from which several have rightly argued and concluded some general Rupture or Ruin in the superficial parts of the Earth. But this Ruin, it is true, they have imagin'd and explain'd several ways, some thinking that it was made the third Day after the Foundation of the Earth; when they suppose the Channel of the Sea to have been form'd, and Mountains and Caverns at the same time, by a violent Deprefion of some parts of the Earth, and an Extrusion and Elevation of others to make them room. Others suppose it to have come not all at once, but by degrees, at several times, and in several Ages, from particular and accidental Causes, as the Earth falling in upon Fires under Ground, or Water eating away the lower Parts, or Vapours and Exhalations breaking out, and tearing the Earth. 'Tis true, I am not of their Opinion in either of these Explications; and we shall show at large hereafter, when we have propos'd and stated our own Theory, how incompetent such Causes are, to bring the Earth into that Form and Condition we now find it in. But in the mean time, we may so far make use of these Opinions in general, as not to be startle at this Doctrine, concerning the Breaking or Dissolution of the exterior Earth; for in all Ages the Face of Nature hath provok'd Men to think of and observe such a thing: And who can
The Deluge and Dissolution of the Earth.

can do otherwise, to see the Elements displac'd and disorder'd, as they seem to lie at present; the heaviest and grossest Bodies in the highest Places, and the liquid and volatile kept below; an huge Mass of Stone or Rock rear'd into the Air, and the Water creeping at its Feet; whereas this is the more light and active body, and by the Law of Nature should take place of Rocks and Stones? So we see, by the like disorder, the Air thrown down into Dungeons of the Earth, and the Earth got up among the Clouds; for there are the tops of the Mountains, and under their roots in Holes and Caverns the Air is often detain'd. By what regular Action of Nature can we suppose things first produc'd in this Posture and Form? Not to mention how broke and torn the inward Substance of the Earth is, which of it self is an uniform Mass, close and compact: but in the Condition we see it, it lies hollow in many places, with great Vacuities intercepted betwixt the Portions of it; a thing which we see happens in all Ruins more or less, especially when the parts of the Ruins are great and inflexible. Then what can have more the Figure and Mien of a Ruin, than Crags and Rocks and Cliffs, whether upon the Sea shore, or upon the Sides of Mountains? what can be more apparently broke, than they are? and those lesser Rocks, or great bulky Stones that lie often scatter'd near the Feet of the other, whether in the Sea, or upon the Land, are they not manifest Fragments, and Pieces of those greater Masses? Besides, the Posture
Posture of these Rocks, which is often leaning or recumbent, or prostrate, shows to the Eye, that they have had a Fall, or some kind of Dislocation from their natural Site. And the same thing may be observ'd in the Tracks and Regions of the Earth, which very seldom for 10 Miles together have any regular Surface or Continuity one with another, but lie high and low, and are variously inclin'd sometimes one way, sometimes another, without any Rule or Order. Whereas I see no Reason but the Surface of the Land should be as regular as that of the Water in the first Production of it; and the Strata or Beds within lie as even. This I am sure of, that this Disposition of the Elements, and the parts of the Earth, outward and inward, hath something irregular and unnatural in it, and manifestly shews us the Marks or Footsteps of some kind of Ruin and Dissolution; which we shall shew you, in its due place, happen'd in such a way, that at the same time a general Flood of Waters would necessarily over-run the Face of the whole Earth. And by the same fatal blow, the Earth fell out of that regular Form, wherein it was produc'd at first, into all these Irregularities which we see in its present Form and Composition; so that we shall give thereby a double Satisfaction to the Mind, both to shew it a fair and intelligible account of the general Deluge, how the Waters came upon the Earth, and how they return'd into their Channels again, and left the Earth habitable; and likewise to shew it how the Mountains were
The Deluge and Dissolution of the Earth.

were brought forth, and the Channel of the Sea discover'd: How all those Inequalities came in the Body or Face of the Earth, and those empty Vaults and Caverns in its Bowels; which things are no less matter of Admiration than the Flood itself.

But I must beg leave to draw a Curtain before the Work for a while, and to keep your Patience a little in suspense, till Materials are prepar'd, and all things ready to represent and explain what we have propos'd. Yet I hope in the mean time to entertain the Mind with Scenes no less pleasing, though of quite another Face and Order: for we must now return to the beginning of the World, and look upon the first Rudiments of Nature, and that dark but fruitful Womb, out of which all things sprang, I mean the Chaos: For this is the matter which we must next work upon; and it will be no unpleasing thing to observe, how that rude Mass will shoot itself into several Forms, one after another, till it comes at length to make an habitable World. The steady Hand of Providence, which keeps all things in Weight and Measure, being the invisible Guide of all its Motions. These Motions we must examine from first to last, to find out what was the Form of the Earth, and what was the Place or Situation of the Ocean, or the great Abyss, in that first State of Nature: Which two things being determin'd, we shall be able to make a certain Judgment, what kind of Dissolution that Earth was capable of, and whether from that Dissolution an Universal
The Theory of the Earth.

In the meantime, for the Ease and Satisfaction of the Reader, we will here mark the Order and Distribution of the first Book, which we divide into three Sections; whereof the first is these three Chapters past: in the second Section we will shew, that the Earth before the Deluge was of a different Frame and Form from the present Earth; and particularly of such a Form as made it subject to a Dissolution: And to such a Dissolution, as did necessarily expose it to an universal Deluge. And in this place we shall apply our Discourse particularly to the Explication of Noah's Flood, and that under all its Conditions, of the heighth of the Waters, of their Universality, of the DeSTRUCTION of the World by them, and of their retiring afterwards from the Earth; and this Section will consist of the Fourth, Fifth, Sixth, Seventh and Eighth Chapters. In the Third Section we prove the same Dissolution from the Effects and Consequences of it, or from the Contemplation of the present Face of the Earth: And here an account is given of the Origin of Mountains, of Subterraneous Waters and Caverns, of the great Channel of the Sea, and of the first Production of Islands; and those things are the Contents of the Ninth, Tenth and Eleventh Chapters. Then, in the last Chapter, we make a general Review of the whole Work, and a general Review of Nature; that by comparing them together, their full Agreement and Correspondency may appear.
The Deluge and Dissolution of the Earth. 

Here several collateral Arguments are given for Confirmation of the preceding Theory, and some Reflections are made upon the state of the other Planets compar'd with the Earth. And lastly, what Accounts for ever have been given by others of the present Form and Irregularities of the Earth, are examin'd and shew'd insufficient. And this seemeth to be all that is requisite upon this Subject.

**Chap. IV.**

That the Earth and Mankind had an Original, and were not from Eternity: Prove'd against Aristotle. The first Proposition of our Theory laid down, viz. That the Antediluvian Earth was of a different Form and Constitution from the present. This is prove'd by Divine Authority, and from the Nature and Form of the Chaos, out of which the Earth was made.

We are now to enquire into the Original of the Earth, and in what Form it was built at first, that we may lay our Foundation for the following Theory deep and sure. It hath been the general Opinion and Consent of the Learned of all Nations, that the Earth arose from a Chaos. This is attested by History, both Sacred and Profane; only Aristotle, whom so great a part of the Christian World have made their Oracle or Idol, hath maintain'd the Eternity of the Earth; and the Eternity of Mankind; that the Earth
and the World were from Everlasting, and in that very Form they are in now, with Men and Women and all living Creatures, Trees and Fruit, Metals and Minerals, and whatsoever is of natural Production. We say all these things arose and had their first Existence or Production not six thousand Years ago: He faith, they have subsisted thus for ever, thro' an infinite Series of past Generations, and shall continue as long, without first or last: And if so, there was neither Chaos, nor any other beginning to the Earth. This takes away the Subject of our Discourse, and therefore we must first remove this Stone out of the Way, and prove that the Earth had an Original, and that from a Chaos, before we shew how it arose from a Chaos, and what was the first habitable Form that it settled into.

We are assur'd by Divine Authority, that the Earth and Mankind had a beginning; Moses faith, In the beginning God made the Heavens and the Earth. Speaking it as of a certain Period or Term from whence he counts the Age of the World. And the same Moses tells us, that Adam was the first Man, and Eve the first Woman, from whom sprung the Race of Mankind; and this within the Compass of six thousand Years. We are also assured from the Prophets, and our Christian Records, that the World shall have an End, and that by a general Conflagration, when all Mankind shall be destroy'd, with the Form and all the Furniture of the Earth. And as this proves the second part of Aristotle's Doctrine to be false immediately,
The Deluge and Dissolution of the Earth.

Immediately, so doth it the first, by a true Consequence; for what hath an end had a beginning, what is not Immortal, was not Eternal; That which exists by the strength of its own Nature at first, the same Nature will enable to exist for ever; and indeed what exists of itself, exists necessarily; and what exists necessarily, exists eternally.

Having this infallible Assurance of the Origin of the Earth and of Mankind from Scripture, we proceed to refute the same Doctrine of Aristotle's by natural Reason. And we will first consider the Form of the Earth, and then Mankind; and shew from plain Evidence and Observation, neither of them to have been Eternal. 'Tis natural to the Mind of Man to consider that which is compound, as having been once more simple; whether that Composition be a Mixture of many Ingredients, as most Terrestrial Bodies are, or whether it be Organical; but especially if it be Organical: For a thing that consists of a multitude of Pieces aptly join'd, we cannot but conceive to have had those Pieces, at one time or another, put together. 'Twere hard to conceive an eternal Watch, whose Pieces were never separate one from another, nor ever in any other Form than that of a Watch. Or an eternal House, whose Materials were never asunder, but always in the form of an House. And 'tis as hard to conceive an Eternal Earth, or an Eternal World: These are made up of more various Substances, more Ingredients, and into a far greater Composition; and the living Book I. E part
part of the World, Plants and Animals, have much more variety of parts and multifarious Construction, than any House, or any other artificial Thing: So that we are led as much by Nature and Necessity to conceive this great Machine of the World, or of the Earth, to have been once in a state of greater Simplicity than now it is, as to conceive a Watch, an House, or any other Structure, to have been once in its first and simple Materials. This I speak without Reference to immediate Creation, for Aristotle did not own any such thing, and therefore the Argument stands good against him, upon those Grounds and Notions that he goes; yet I guess what Answer would be made by him or his Followers to this Argumentation; They would say there is not the same Reason for Natural Things, as for Artificial, though equally compounded. Artificial things could not be from Eternity, because they suppose Man, by whose Art they were made, pre-existent to them; the Workman must be before the Work, and whatsoever hath any thing before it, is not Eternal. But may not the same thing be said of Natural things? Do not most of them require the Action of the Sun, and the Influence of the Heavens for their Production, and longer Preparations than any Artificial things do? Some Years or Ages would be necessary for the Concoction and Maturation of Metals and Minerals; Stones themselves, at least some sorts of them, were once Liquors or fluid Masses; and all vegetable Productions require the Heat of
of the Sun, to predispose and excite the Earth, and the Seeds. Nay, according to Aristotle, 'tis not Man by himself that begets a Man, but the Sun is his Coadjutor. You see then 'twas as necessary that the Sun, that great Workman of Nature, should pre-exist to Natural things, produc'd in or upon the Earth, as that Man should pre-exist to Artificial. So that the Earth under that Form and Constitution it now hath, could no more be Eternal, than a Statue or Temple, or any work of Art.

Besides, that Form, which the Earth is under at present, is in some sort preter-natural, like a Statue made and broken again; and so hath still the less Appearance or Pretence of being Eternal. If the Elements had lain in that Order to one another, as Aristotle hath dispos'd them, and as seems to be their first Disposition; the Earth altogether in a Mafs in the middle, or towards the Centre; then the Water in a Spherical Mafs about that; the Air above the Water; and then a Sphere of Fire, as he fancied, in the highest Circle of the Air: If they had lain, I say, in this Posture, there might have been some Pretence that they had been Eternally so; because that might seem to be their Original Posture, in which Nature had first plac'd them. But the Form and Posture we find them in at present is very different, and according to his Doctrine must be look'd upon as unnatural and violent; and no violent State, by his own Maxim, can be perpetual, or can have been so.

But
The Theory of the Earth.

But there is still a more pressing Consideration against this Opinion. If this present State and Form of the Earth had been from Eternity, it would have long e'er this destroy'd it self, and chang'd it self: The Mountains sinking by degrees into the Valleys, and into the Sea, and the Waters rising above the Earth; which Form it would certainly have come into sooner or later, and in it continu'd drowned and uninhabitable, for all succeeding Generations. For 'tis certain, that the Mountains and higher parts of the Earth grow lesser and lesser from Age to Age; and that from many Causes, sometimes the Roots of them are weaken'd and eaten by Subterraneous Fires, and sometimes they are torn and tumbled down by Earthquakes, and fall into those Caverns that are under them; and tho' those violent Causes are not constant, or universal, yet if the Earth had stood from Eternity, there is not a Mountain would have escap'd this Fate in one Age or other. The Course of these Exhalations or Fires would have reach'd them all sooner or later, if through infinite Ages they had stood expos'd to them. But there are also other Causes that consume them insensibly, and make them sink by degrees; and those are chiefly the Winds, Rains, and Storms, and Heat of the Sun without; and within, the soaking of Water and Springs, with Streams and Currents in their Veins and Crannies. These two sorts of Causes would certainly reduce all the Mountains of the Earth, in tract of time, to Equality; or rather
The Deluge and Dissolution of the Earth.

ther lay them all under Water: For whatsoever moulders or is washed away from them, is carried down into the lower Grounds, and into the Sea, and nothing is ever brought back again by any Circulation: Their Losses are not repair'd, nor any proportionable Recruits made from any other parts of Nature. So as the higher parts of the Earth being continually spending, and the lower continually gaining, they must of necessity at length come to an Equality; and the Waters that lie in the lower parts and in the Channels, those Channels and Valleys being fill'd up with Earth, would be thrust out and rise every where upon the Surface of the Earth; which new Post when they had once seiz'd on, they would never quit it, nor would any thing be able to dispossess them; for 'tis their natural Place and Situation which they always tend to, and from which there is no Progress nor Regress in a Course of Nature. So that the Earth would have been, both now, and from innumerable Generations before this, all under Water and uninhabitable; if it had stood from Everlasting, and this Form of it had been its first original Form.

Nor can he doubt of this Argumentation, that considers the Coherence of it, and will allow time enough for the effect. I do not say the Earth would be reduc'd to this uninhabitable Form in ten thousand Years time, though I believe it would: but take twenty, if you please, take an hundred thousand, take a million, 'tis all one, for you may take the
The Theory of the Earth.

one as easily as the other out of Eternity; and they make both equally against their Supposition. Nor is it any matter how little you suppose the Mountains to decrease, 'tis but taking more time, and the same effect still follows. Let them but waste as much as a grain of Mustardseed every day, or a Foot in an Age, this would be more than enough in ten thousand Ages to consume the tallest Mountain upon Earth. The Air alone, and the little drops of Rain have defac'd the strongest and the proudest Monuments of the Greeks and Romans; and allow them but time enough, and they will of themselves beat down the Rocks into the Sea, and the Hills into the Valleys. But if we add to these all those other foremention'd Causes that work with more Violence, and the weight of the Mountains themselves, which, upon any occasion offer'd, is ready to sink them lower, we shall shorten the time, and make the effect more sure.

We need add no more here in particular against this Aristotelian Doctrine, that makes the present Form of the Earth to have been from Eternity; for the Truth is, this whole Book is one continued Argument against that Opinion; shewing that it hath de facto chang'd its Form; both in that we have prov'd that it was not capable of an universal Deluge in this Form, and consequently was once under another; and also in that we shall prove at large hereafter throughout the Third and Fourth Sections, that it hath been broken and dissolv'd.
The Deluge and Dissolution of the Earth.

dissolv'd. We might also add one Consideration more, that if it had stood always under this Form, it would have been under Fire, if it had not been under Water; and the Conflagration, which it is to undergo, would have overtaken it long e'er this. For St. Peter faith, the Heavens and the Earth that are now, as oppos'd to the Ante-diluvian, and considered in their present Form and Constitution, are fitted to be consumed by Fire. And whosoever understands the Progress and Revolutions of Nature, will see that neither the present Form of the Earth, nor its first Form, were permanent and immutable Forms, but transient and temporary by their own Frame and Constitution; which the Author of Nature, after certain Periods of time, had design'd for Change and for Destruction.

Thus much for the body of the Earth, that it could not have been from Eternity, as Aristo]le pretended, in the Form it hath. Now let's consider the Origination of Mankind; and that we shall find could much less be Eternal than the other; for whatsoever destroy'd the Form of the Earth, would also destroy Mankind; and besides, there are many particular Marks and Arguments, that the Generations of Men have not been from Everlasting. All History, and all Monuments of Antiquity of what kind soever, are but of a few thousand of Years date; we have still the Memory of the golden Age, of the first State of Nature, and how Mortals liv'd then in Innocency and Simplicity. The Invention of Arts, even
even those that are necessary or useful to Humane Life, hath been within the Knowledge of Men: How imperfect was the Geography of the Ancients, how imperfect their Knowledge of the Earth, how imperfect their Navigation? Can we imagine, if there had been Men from Everlasting, a Sea as now, and all Materials for Shipping as much as we have, that Men could have been so ignorant, both of the Land and of the Sea, as 'tis manifest they have been till of late Ages? They had very different Fancies concerning the Figure of the Earth. They knew no Land beyond our Continent, and that very imperfectly too; and the Torrid Zone they thought utterly uninhabitable. We think it strange, taking that short date of the World, which we give it, that Men should not have made more Progress in the Knowledge of these things; but how impossible is it then, if you suppose them to have been from Everlasting? They had the same Wit and Passions that we have, the same Motives that we have, can we then imagine, that neither the Ambition of Princes, nor Interest or Gain in private Persons, nor Curiosity and the Desire of Knowledge, nor the Glory of Discoveries, nor any other Passion or Consideration could ever move them in that endless time, to try their Fortunes upon the Sea, and know something more of the World they inhabited? Though you should suppose them generally stupid, which there is no reason to do, yet in a Course of infinite Generations, there would be some great Genii, some
The Deluge and Dissolution of the Earth.

Some extraordinary Persons that would attempt Things above the rest. We have done more within the compass of our little World, which we can but count (as to this) from the general Deluge, than those Eternal Men had done in their innumerable Ages foregoing.

You will say it may be, they had not the Advantages and Opportunities for Navigation as we have, and for Discoveries; because the use of the Loadstone, and the Mariners Needle was not then known. But that's the wonder, that either that Invention, or any other should not be brought to light till t'other Day, if the World had flood from Eternity. I say this or any other practical Invention; for such things, when they are once found out and known, are not easily lost again, because they are of daily Use. And 'tis in most other practical Arts as in Navigation, we generally know their Original and History: who the Inventors, and by what degrees improv'd, and how few of them brought to any Perfection till of late Ages. All the Artificial and Mechanical World is, in a manner, new; and what you may call the Civil World too is in a great measure so. What relates to Government, and Laws; to Wars and Discipline; we can trace these things to their Origin, or very near it. The Use of Money and of Coins, nay the Use of the very Elements; for they tell us of the first Invention of Fire by Prometheus, and the employing of Wind or Water to turn the Mills and grind their Corn was scarce known before the Romans, Plin. l. 7. c. 56. And that we may
The Theory of the Earth.

may think nothing Eternal here, they tell us the Ages and Genealogies of their very Gods. The measures of Time for the common uses of Life, the dividing it into Hours, with the Instruments for those Purposes, are not of an unknown Date: Even the Arts for preparing Food and Cloathing, Medicines and Medica-ments, Building, Civil and Military, Letters and Writing, which are the Foundations of the World Civil: These, with all their Reti-nue of lesser Arts and Trades that belong to them, History and Tradition tell us, when they had their beginning, or were very im-perfect; and how many of their Inventors and Inventresses were deify'd. The World hath not flood so long but we can still run it up to those Artless Ages, when Mortals liv'd by plain Nature; when there was but one Trade in the World, one Calling, to look to their Flocks; and afterwards to Till the Ground, when Nature grew less liberal: And may we not reasonably think this the beginning of Mankind, or very near it? If Man be a Cre-ature both naturally sagacious to find out its own Conveniencies, and naturally sociable and inclin'd to live in a Community, a little time would make them find out and furnish them-selves with what was necessary in these two Kinds, for the Conveniencies of single Life, and the Conveniencies of Societies; they would not have liv'd infinite Ages unprovided of them. If you say Neceffity is the Mother of Arts and Inventions, and there was no Neceffity be-fore, and therefore these Things were so slow-
ly invented; this is a good Answer upon our Supposition, that the World began but some Ages before these were found out, and was abundant with all Things at first; and Men not very numerous, and therefore were not put so much to the use of their Wits, to find out Ways for living commodiously. But this is no Answer upon their Supposition; for if the World was Eternal and Men too, there were no first Ages, no new and fresh Earth; Men were never less numerous, nor the Earth more fruitful; and consequently there was never less Necessity at any time than is now. This also brings to mind another Argument against this Opinion (viz.) from the gradual Increase of Mankind. 'Tis certain the World was not so populous one or two Thousand Years since, as it is now, seeing 'tis observ'd in particular Nations, that within the space of two or three Hundred Years, notwithstanding all Casualties, the number of Men doubles. If then the Earth had stood from Everlasting, it had been overstockt long e'er this, and would not have been capable to contain its Inhabitants many Ages and Millions of Ages ago. Whereas we find the Earth is not yet sufficiently Inhabited, and there is still room for some Millions. And we must not fly to universal Deluges and Conflagrations to destroy Mankind; for besides that the Earth was not capable of a Deluge in this present Form, nor would have been in this Form after a Conflagration, Aristotle doth not admit of these universal Changes, nor any that hold the Form of
The Theory of the Earth.

the Earth to be Eternal. But to return to our Arts and Inventions.

We have spoken of practical Arts and Inventions useful in humane Life; then for Theoretical Learning and Sciences, there is nothing yet finish'd or compleat in these; and what is known hath been chiefly the Production of latter Ages. How little hath been discovered till of late, either of our own Bodies, or of the Body of the Earth, and of the Functions or Motions of Nature in either? What more obvious, one would think, than the Circulation of the Blood? What can more excite our Curiosity than the flowing and ebbing of the Sea? Than the Nature of Metals and Minerals? These are either yet unknown, or were so at least till this last Age; which seems to me to have made a greater Progress than all Ages before put together, since the beginning of the World. How unlikely is it then that these Ages were Eternal? That the Eternal Studies of our Forefathers could not effect so much as a few Years have done of late? And the whole Mass of Knowledge in this Earth doth not seem to be so great, but that a few Ages more, with two or three happy Genius's in them, may bring to light all that we are capable to understand in this state of Mortality.

To these Arguments concerning the Novelty of the Earth, and the Origin of Mankind, I know there are some shuffling Excuses made, but they can have little effect upon those Instances we have chosen. And I would ask
those Eternalists one fair Question, What Mark is there that they could expect or desire of the Novelty of a World, that is not found in this? Or what Mark is there of Eternity that is found in this? If then their Opinion be without any positive Argument, and against all Appearances in Nature, it may be justly rejected as unreasonable upon all Accounts. 'Tis not the bold asserting of a Thing that makes it true, or that makes it credible against Evidence. If one should assert that such an one had liv'd from all Eternity, and I could bring Witnesses that knew him a Sucking Child, and others that remembred him a School-boy, I think it would be a fair Proof, that the Man was not Eternal. So if there be Evidence, either in Reason or History, that it is not very many Ages since Nature was in her Minority, as appears by all those Instances we have given above; some whereof trace her down to her very Infancy: This, I think, may be taken for a good Proof that she is not Eternal. And I do not doubt, but if the History of the World was writ Philosophically, giving an Account of the several States of Mankind in several Ages, and by what Steps or Degrees they came from their first Rudeness or Simplicity to that Order of Things, both Intellectual and Civil, which the World is advanc'd to at present, That alone would be a full Conviction, that the Earth and Mankind had a beginning. As the Story of Rome, how it rose from a mean Original, by what degrees it increas'd, and
and how it chang'd its Form and Government
till it came to its Greatness, doth satisfy us ve-
ry well, that the *Roman* Empire was not Eter-
nal.

Thus much concerning the Temporal Ori-
ginal of the Earth. We are now to consider
the manner of it, and to shew how it rose
from a Chaos. I do not remember that any
of the Ancients that acknowledge the Earth
to have had an Original, did deny that Origi-
nal to have been from a Chaos. We are af-
sur'd of both from the Authority of Mojes,
who faith, that in the beginning the Earth
was *Tohu Bohu*, without Form and Void; a
fluid, dark, confus'd Mass, without Distinc-
tion of Elements; and made up of all Variety
of Parts, but without Order, or any determinate
Form; which is the true Description of a
Chaos: And so it is understood by the gene-
ral Consent of Interpreters, both Hebrew and
Christian. We need not therefore spend any-
time here to prove, that the Origin of the
Earth was from a Chaos, seeing that is agreed
on by all that give it any Origin. But we will
proceed immediately to examine into what
Form it firft rose when it came out of that
Chaos; or what was the primæval Form of
the Earth, that continued till the Deluge, and
how the Deluge depended upon it, and up-
on its Dissolution.

And that we may proceed in this Enquiry
by such easy steps as any one may readily fol-
low, we will divide it into Three Propositions,
whereof the firft is this in general; *that the*

*Form*
The Deluge and Dissolution of the Earth. 63

Form of the Antediluvian Earth, or of the Earth that rose first from the Chaos, was different from the Form of the present Earth. I say different in general, without specifying yet what its particular Form was, which shall be express'd in the following Proposition.

This first Proposition we have in effect prov'd in the Second Chapter; where we have shewn, that if the Earth had been always in this Form, it would not have been capable of a Deluge; seeing that could not have been effect'd without such an infinite Mass of Water as could neither be brought upon the Earth, nor afterward any way removed from it. But we will not content our selves with that Proof only, but will prove it also from the Nature of the Chaos, and the manifest Consequences of it. And because this is a leading Proposition, we think it not improper to prove it also from Divine Authority, there being a pregnant Passage to this Purpose in the Writings of St. Peter. Where treating of this very Subject, the Deluge, he manifestly puts a difference between the Antediluvian Earth and the present Earth, as to their Form and Constitution. The Discourse is in the Second Epistle of St. Peter, the third Chapter, where certain Deists, as they seem to have been, laught at the Prophecy of the Day of Judgment, and of the Conflagration of the World, using this Argument against it, That since the Fathers fell asleep, all things have continued as they were from the beginning. All External Nature hath continued the same without any remark-
able Change or Alteration, and why should we believe (say they) there will be any? What Appearance or what Foundation is there of such a Revolution, that all Nature will be dissolved, and the Heavens and the Earth consumed with Fire, as your Prophecies pretend? So from the Permanency and Immutability of Nature hitherto, they argued its Permanency and Immutability for the future. To this the Apostle answers, that they are willing to forget that the Heavens and the Earth of old had a particular Form and Constitution as to Water, by reason whereof the World that then was, perished by a Deluge. And the Heavens and the Earth that are now, or since the Deluge, have a particular Constitution in reference to Fire, by reason whereof they are exposed to another sort of Destruction or Dissolution, namely by Fire, or by an universal Conflagration. The Words of the Apostle, Chap. 3. verse 5, 6, 7. are these; For this they are willingly ignorant of, that by the Word of God the Heavens were of old, and the Earth, consisting of Water, and by Water; or (as we render it) standing out of the Water, and in the Water: whereby the World that then was, being overflowed with Water, perished. But the Heavens and the Earth that are now, by the same Word are kept in store, reserved unto Fire against the Day of Judgment. We shall have occasion, it may be, hereafter to give a full Illustration of these Words; but at present we shall only take notice of this in general, that the Apostle here doth plainly intimate some difference
difference that was between the old World and the present World, in their Form and Constitution; or betwixt the Antediluvian and the present Earth, by reason of which difference, that was subject to perish by a Deluge, as this is subject to perish by Conflagration. And as this is the general Air and Importance of this Discourse of the Apostle's, which every one at first sight would discover; so we may in several particular ways prove from it our first Proposition, which now we must return to; (viz.) That the Form and Constitution of the Antediluvian Earth was different from that of the present Earth. This may be infer'd from the Apostle's Discourse, first, because he makes an opposition betwixt these two Earths, or these two natural Worlds; and that not only in respect of their Fate, the one perishing by Water, as the other will perish by Fire, but also in respect of their different Disposition and Constitution leading to this different Fate; for otherwise his fifth verse is superfluous, and his Inference in the sixth ungrounded; you see he premiseth in the fifth verse as the ground of his Discourse, what the Constitution of the Antediluvian Heavens and Earth was, and then infers from it in the sixth verse, that they therefore perish in a Deluge of Water. Now if they had been the same with ours, there had neither been any ground for making an Opposition betwixt them, nor any ground of making a contrary Inference as to their Fate. Besides, in that he implies that the Constitution of the Antediluvian Earth was such, as made it subject to a Deluge; he shews

Book I.
that it was different from the Constitution of the present Earth; for the Form of that is such, as makes it rather incapable of a Deluge, as we have shewn in the second Chapter. Then we are to observe further, that when he faith (verse 6.) that the first World perish’d in a Deluge, or was destroy’d by it; this is not to be understood of the Animate World only, Men and living Creatures, but of the Natural World, and the Frame of it; for he had describ’d it before by the Heavens and the Earth, which make the Natural World. And the Objection of the Atheists, or Deists rather, which he was to answer, proceeded upon the Natural World. And lastly, this perishing of the World in a Deluge, is set against, or compar’d with the perishing of the World in the Conflagration, when the Frame of Nature will be dissolv’d. We must therefore, according to the Tenor of the Apostle’s arguing, suppose, that the Natural World was destroy’d or perish’d in the Deluge; and seeing it did not perish as to Matter and Substance, it must be as to the Form, Frame and Composition of it, that it perish’d; and consequently, the present Earth is of another Form and Frame from what it had before the Deluge; which was the thing to be proved.

Lastly, Let us consider what it is the Apostle tells these Scoffers that they were ignorant of: Not that there was a Deluge, they could not be ignorant of that; nor doth he tell them that they were. But he tells them that they were ignorant that the Heavens and
The Deluge and Dissolution of the Earth. 67

The Earth of old were so and so constituted, after a different manner than they are now, and that the State of Nature was chang'd at the Deluge; if they had known or attended to this, they had made no such Objection, nor us'd any such Argument as they did against the future Conflagration of the World. They pretended that there had been no Change in Nature since the beginning, and the Apostle in answer tells them, that they are willingly ignorant of the first Constitution of the Heavens, and the Earth, and of that Change and Dissolution that happen'd to them in the Deluge; and how, the present Heavens and Earth have another Constitution, whereby in like manner they are expos'd, in God's due time, to be consum'd or dissolv'd by Fire. This is the plain, easy and natural Import of the Apostle's Discourse; thus all the parts of it are coherent, and the Sense genuine and apposite, and this is a full Confirmation of our first and general Assertion, That the Antediluvian Earth was of another Form from the present Earth. This hath been observ'd formerly by some of the Ancients from this Text, but that it hath not been generally observ'd, was partly because they had no Theory to back such an Interpretation, and make it intelligible; and partly because they did not observe, that the Apostle's Discourse here was an Argumentation, and not a bare Affirmation, or simple Contradiction to those that rais'd the Scruple; 'tis an Answer upon a Ground taken, he premiseth, and then infers,
in the fifth and sixth Verses, concerning the Deluge; and in the seventh, concerning the Conflagration. And when I had discover'd in my Thoughts from the Consideration of the Deluge, and other natural Reasons, that the Earth was certainly once in another Form, it was a great Assurance and Confirmation to me, when I reflected on this place of St. Peter's; which seems to be so much directed and intended for the same Purpose, or to teach us the same Conclusion, that though I design'd chiefly a Philosophical Theory of these things, yet I should not have thought we had been just to Providence, if we had neglected to take Notice of this Passage and Sacred Evidence; which seems to have been left us on purpose to excite our Enquiries, and strengthen our Reasonings, concerning the first State of things. Thus much from Divine Authority: We proceed now to prove the same Proposition from Reason and Philosophy, and the Contemplation of the Chaos, from whence the first Earth arose.

We need not upon this Occasion make a particular Description of the Chaos, but only consider it as a fluid Mass, or a Mass of all sorts of little Parts and Particles of Matter mixt together, and floating in Confusion, one with another. 'Tis impossible that the Surface of this Mass should be of such a Form and Figure, as the Surface of our present Earth is. Or that any Concretion or consistent State which this Mass could flow into immediately, or first settle in, could be of such a Form
Form and Figure as our present Earth. The first of these Assertions is of easy proof; for a fluid Body, we know, whether it be Water or any other Liquor, always casts itself into a smooth and spherical Surface; and if any Parts, by Chance, or by some Agitation, become higher than the rest, they do not continue so, but glide down again every way into the lower Places, till they all come to make a Surface of the same height, and of the same distance every where from the Center of their Gravity. A Mountain of Water is a thing impossible in Nature, and where there are no Mountains there are no Valleys. So also a Den or Cave within the Water, that hath no Walls but the liquid Element, is a Structure unknown to Art or Nature; all things there must be full within, and even and level without, unless some External Force keep them by Violence in another Posture. But is this the Form of our Earth, which is neither regularly made within nor without? The Surface and exterior Parts are broken into all sorts of Inequalities, Hills and Dales, Mountains and Valleys; and the plainer Tracks of it lie generally inclin’d or bending one way or other, sometimes upon an easy Descent, and other times with a more sensible and uneasy Steepness; and though the great Mountains of the Earth were taken all away, the remaining parts would be more unequal than the roughest Sea; whereas the Face of the Earth should resemble the Face of the calmest Sea, if it was still in the Form of its first Mass. But
The Theory of the Earth.

But what shall we say then to the huge Mountains of the Earth, which lie sometimes in Lumps or Clusters heapt up by one another, sometimes extended in long Ridges or Chains for many hundred Miles in length? And 'tis remarkable, that in every Continent, and in every ancient and original Island, there is either such a Cluster, or such a Chain of Mountains. And can there be any more palpable Demonstrations than these are, that the Surface of the Earth is not in the same Form that the Surface of the Chaos was, or that any fluid Mass can stand or hold it self in?

Then for the Form of the Earth within or under its Surface, 'tis no less impossible for the Chaos to imitate that; for 'tis full of Cavities and empty Places, of Dens and broken Holes, whereof some are open to the Air, and others cover'd and enclosed wholly within the Ground. These are both of them unimitable in any liquid Substance, whose Parts will necessarily flow together into one continued Mass, and cannot be divided into Apartments and separate Rooms, nor have Vaults or Caverns made within it; the Walls would sink, and the Roof fall in: For liquid Bodies have nothing to sustain their Parts, nor any thing to cement them; they are all loose and incoherent, and in a perpetual Flux: Even an heap of Sand or fine Powder will suffer no Hollowness within them, though they be dry Substances, and though the Parts of them being rough, will hang together a little, and stand a little upon an heap; but the Parts of Liquors
Liquors being glib, and continually in motion, they fall off from one another, which way soever Gravity inclines them, and can neither have any Hills or Eminencies on their Surface, nor any Hollowness within their Substance.

You will acknowledge, it may be, that this is true, and that a liquid Mass or Chaos, while it was liquid, was incapable of either the outward or inward Form of the Earth; but when it came to a Concretion, to a state of Consistency and Firmness, then it might go, you'll say, into any Form. No, not in its first Concretion, nor in its first State of Consistence; for that would be of the same Form that the Surface of it was when it was liquid, as Water when it congeals, the Surface of the Ice is smooth and level, as the Surface of the Water was before; so Metals, or any other Substances melted, or Liquors that of themselves grow stiff and harden, always settle into the same Form which they had when they were last liquid, and are always solid within, and smooth without, unless they be cast in a Mould, that hinders the Motion and Flux of the Parts. So that the first concrete State or consistent Surface of the Chaos, must be of the same Form or Figure with the last liquid State it was in; for that is the Mould, as it were, upon which it is cast; as the Shell of an Egg is of a like Form with the Surface of the Liquor it lies upon. And therefore by Analogy with all other Liquors and Concretions, the Form of the Chaos, whether liquid or
or concrete, could not be the same with that of the present Earth, or like it: And consequently, that Form of the first or primigenial Earth which rose immediately out of the Chaos, was not the same, nor like to that of the present Earth. Which was the first and preparatory Proposition we laid down to be prov'd. And this being prov'd by the Authority both of our Reason and our Religion, we will now proceed to the second which is more particular.

**CHAP. V.**

The Second Proposition is laid down, viz. That the Face of the Earth before the Deluge was smooth, regular and uniform; without Mountains, and without a Sea. The Chaos out of which the World rose is fully examin'd, and all its Motions observ'd, and by what steps it wrought it self into an habitable World. Some things in Antiquity relating to the first State of the Earth are interpreted, and some things in the Sacred Writings. The Divine Art and Geometry in the Construction of the first Earth is observ'd and celebrated.

We have seen it prov'd, in the foregoing Chapter, That the Form of the first or Antediluvian Earth was not the same, nor like the Form of the present Earth. This is our first Discovery at a distance, but 'tis only general and negative, tells us what the Form of that Earth was not, but tells us not expressly what it was; that must be our next
next Enquiry, and advancing one step further in our Theory, we lay down this second Proposition: That the Face of the Earth before the Deluge was smooth, regular and uniform; without Mountains, and without a Sea. This is a bold step, and carries us into another World, which we have never seen, nor ever yet heard any relation of: and a World, it seems, of very different Scenes and Prospects from ours, or from any thing we have yet known. An Earth without a Sea, and plain as the Elysian Fields; if you travel it all over, you will not meet with a Mountain or a Rock, yet well provided of all requisite things for an habitable World; and the same indeed with the Earth we still inhabit, only under another Form. And this is the great thing that now comes into debate, the great Paradox which we offer to be examin'd, and which we affirm, That the Earth, in its first Rise and Formation from a Chaos, was of the Form here describ'd, and so continu'd for many hundreds of Years.

To examine and prove this, we must return to the beginning of the World, and to that Chaos out of which the Earth and all Sublunary things arose: 'Tis the Motions and Progress of this which we must now consider, and what Form it settled into when it first became an habitable World.

Neither is it perhaps such an intricate thing as we imagine at first sight, to trace a Chaos into an habitable World; at least there is a particular Pleasure to see things in their Origin, and by what degrees and successive Changes
Changes they rise into that Order and State we see them in afterwards, when compleated. I am sure, if ever we would view the Paths of Divine Wisdom, in the Works and in the Conduct of Nature, we must not only consider how things are, but how they came to be so. 'Tis pleasant to look upon a Tree in the Summer, cover'd with its green Leaves, deck'd with Blossoms, or laden with Fruit, and casting a pleasing shade under its spreading Boughs; but to consider how this Tree, with all its Furniture, sprang from a little Seed; how Nature shap'd it, and fed it, in its Infancy and Growth; added new Parts, and still advance'd it by little and little, till it came to this Greatness and Perfection: This, methinks, is another sort of Pleasure, more rational, less common, and which is properly the Contemplation of Divine Wisdom in the Works of Nature. So to view this Earth, and this Sublunary World, as it is now compleat, distinguished into the several Orders of Bodies of which it consists, every one perfect and admirable in its kind; this is truly delightful, and a very good Entertainment of the Mind; But to see all these in their first Seeds, as I may so say; to take in pieces this Frame of Nature, and melt it down into its first Principles; and, then to observe how the Divine Wisdom wrought all these things out of Confusion into Order, and out of Simplicity into that beautiful Composition we now see them in; this, methinks, is another kind of Joy, which pierceth the Mind more deep, and is more satisfactory. And to give our selves and others this Satisfaction, we will
The Deluge and Dissolution of the Earth. 75

will first make a short Representation of the Chaos, and then shew, how, according to Laws establisht in Nature by the Divine Power and Wisdom, it was wrought by degrees from one Form into another, till it settled at length into an habitable Earth; and that of such a Frame and Structure, as we have describ'd in this second Proposition.

By the Chaos I understand the Matter of the Earth and Heavens, without Form or Order; reduc'd into a fluid Mass, wherein are the Materials and Ingredients of all Bodies, but mingled in Confusion one with another. As if you should suppose all sorts of Metals, Gold, Silver, Lead, &c. melted down together in a common Mass, and so mingled, that the parts of no one Metal could be discern'd as distinct from the rest, this would be a little Metallick Chaos; Suppose then the Elements thus mingled, Air, Water and Earth, which are the Principles of all Terrestrial Bodies; mingled, I say, without any Order of higher or lower, heavier or lighter, solid or volatile, in such a kind of confus'd Mass as is here represented in the first Scheme.

Let this then represent to us the Chaos; in which the first Change that we should imagine to happen would be this, that the heaviest and grossest parts would sink down towards the middle of it, (for there we suppose the Center of its Gravity) and the rest would float above. These grosser parts thus sunk down and compress'd more and more, would harden by degrees, and constitute the interior parts of the Earth. The rest of the Mass, which swims
swims above, would be also divided by the same Principle of Gravity into two Orders of Bodies, the one liquid like Water, the other volatile like Air. For the more fine and active Parts disentangling themselves by degrees from the rest, would mount above them; and having Motion enough to keep them upon the Wing, would play in those open Places where they constitute that Body we call Air. The other Parts being grosser than these, and having a more languid Motion, could not fly up separate from one another, as these did, but settled in a Mass together, under the Air, upon the Body of the Earth, composing not only Water strictly so called, but the whole Mass of Liquors, or liquid Bodies, belonging to the Earth. And these first Separations being thus made, the Body of the Chaos would stand in that Form which it is here represented in by the second Scheme.

The liquid Mass which encircled the Earth, was not, as I noted before, the mere Element of Water, but a Collection of all Liquors that belong to the Earth. I mean of all that do originally belong to it. Now seeing there are two chief kinds of Terrestrial Liquors, those that are fat, oily and light; and those that are lean and more earthy, like common Water; which two are generally found in compound Liquors; we cannot doubt but there were of both sorts in this common Mass of Liquids. And it being well known, that these two kinds mixt together, if left to themselves and the general Action of Nature, separate one from another when they come to settle,
The Deluge and Dissolution of the Earth.

The settle, as in Cream and thin Milk, Oil and Water, and such like; we cannot but conclude, that the same Effect would follow here, and the more oily and light part of this Mass would get above the other, and swim upon it. The whole Mass being divided into two lesser Masses, and so the Globe would stand as we see it in the third Figure.

Hitherto the Changes of the Chaos are easy and unquestionable, and would be dispatcht in a short time; we must now look over again these two great Masses of the Air and Water, and consider how their Impurities or grosser Parts would be dispos'd of; for we cannot imagine but they were both at first very muddy and impure: And as the Water would have its sediment, which we are not here concern'd to look after, so the great Regions of the Air would certainly have their sediment too; for the Air was as yet thick, gross and dark, there being an abundance of little Terrestrial Particles swimming in it still, after the grossest were sunk down; which, by their Heaviness and lumpish Figure, made their way more easily and speedily. The lessor and lighter which remain'd, would sink too, but more slowly, and in a longer time: so as in their Descent they would meet with that oily Liquor upon the Face of the Deep, or upon the watery Mass, which would entangle and stop them from passing any further; whereupon mixing there with that unctious Substance, they compos'd a certain slime, or fat, soft, and light Earth, spread upon the Face of the Waters; as 'tis represented in the fourth Figure.

This
This thin and tender Orb of Earth increas'd still more and more, as the little earthy Parts that were detain'd in the Air could make their way to it. Some having a long Journey from the upper Regions, and others being very light would float up and down a good while, before they could wholly disengage themselves and descend. But this was the general Rendezvous, which sooner or later they all got to, and mingling more and more with that oily Liquor, they fuckt it all up at length, and were wholly incorporate together, and so began to grow more stiff and firm, making both but one Substance, which was the first Concretion, or firm and consistent Substance that rose upon the Face of the Chaos. And the whole Globe stood in this Posture, as in Figure the fifth.
The Deluge and Dissolution of the Earth.

It may be, you will say, we take our Liberty, and our own time for the Separation of these two Liquors, the oily and the earthy, the lighter and the heavier; and suppose that done before the Air was clear'd of Earthy Particles, that so they might be catch'd and stop'd there in their Descent. Whereas if all these Particles were fallen out of the Air before that Separation was made in the liquid Mass, they would fall down through the Water, as the first did, and so no Concretion would be made, nor any earthy Crust form'd upon the Face of the Waters, as we here suppose there was. 'Tis true, there could be no such Orb of Earth form'd there, if the Air was wholly purg'd of all its earthy Parts before the Mass of Liquids began to purify itself, and to separate the oily Parts from the more heavy: But this is an unreasonable and incredible Supposition, if we consider, the Mass of the Air was many thousand times greater than the Water, and would in Proportion require a greater time to be purified; the Particles that were in the Regions of the Air having a long way to come before they reacht the Watery Mass, and far longer than the oily Particles had to rise from any part of that Mass to the Surface of it. Besides, we may suppose a great many degrees of Littleness and Lightness in these earthy Particles, so as many of them might float in the Air a good while, like Exhalations, before they fell down. And lastly, We do not suppose the Separation of these two Liquors wholly made and finish'd before the Purgation
Purgation of the Air began, though we represent them so for Distinction sake; Let them begin to purify at the same time, if you please, these parts rising upwards, and those falling downwards, they will meet in the middle, and unite and grow into one Body, as we have describ'd. And this Body or new Concretion would be increas'd daily, being fed and supply'd both from above and below; and having done growing, it would become more dry by degrees, and of a Temper of greater Consistency and Firmness, so as truly to resemble and be fit to make an habitable Earth, such as Nature intended it for.

But you will further object, it may be, that such an Effect as this would indeed be necessary in some Degree and Proportion, but not in such a Proportion, and in such Quantity as would be sufficient to make this Crust or Concre'te Orb an habitable Earth. This I confess appear'd to me at first a real Difficulty, till I consider'd better the great Disproportion there is betwixt the Regions of the Air and the Circumference of the Earth, or of that exterior Orb of the Earth, we are now a making; which being many thousand times less in Depth and Extent than the Regions of the Air, taken as high as the Moon, though these earthy Particles we speak of were very thinly dispers'd through those vast Tracks of the Air, when they came to be collected and amassed together upon the Surface of a far lesser Sphere, they would constitute a Body of a very considerable Thickness and Solidity.
We see the Earth sometimes covered with Snow two or three Feet deep, made up only of little Flakes or Pieces of Ice, which falling from the middle Region of the Air, and meeting with the Earth in their Descent, are there flopt and heapt up one upon another. But if we should suppose little Particles of Earth to shower down, not only from the middle Region, but from the whole Capacity and Extent of those vast Spaces that are betwixt us and the Moon, we could not imagine but these would constitute an Orb of Earth some thousands of times deeper than the greatest Snow; which being increas’d and swoln by that oily Liquor it fell into, and incorporated with; it would be thick, strong, and great eno Kylie in all respects to render it an habitable Earth.

We cannot doubt therefore but such a Body as this would be form’d, and would be sufficient in Quantity for an habitable Earth. Then for the Quality of it, it will answer all the Purposes of a Rising World. What can be a more proper Seminary for Plants and Animals, than a Soil of this Temper and Composition? A finer and lighter sort of Earth, mixt with a benign Juice, easy and obedient to the Action of the Sun, or of what other Causes were employ’d by the Author of Nature, for the Production of things in the new-made Earth. What sort or disposition of matter could be more fit and ready to catch Life from Heaven, and to be drawn into all Forms that the Rudiments of Life, or the Bodies of
living Creatures would require? What Soil more proper for Vegetation than this warm Moisture, which could have no Fault, unless it was too Fertile and Luxuriant? And that is no Fault neither at the beginning of a World. This I am sure of, that the Learned amongst the Ancients, both Greeks, Ægyptians, Phœnicians, and others, have describ'd the primigenial Soil, ἵππος πρωτογενῆς, or the Temper of the Earth, that was the first Subject for the Generation and Origin of Plants and Animals, after such a manner, as is truly express'd, and I think with advantage, by this Draught of the Primigenial Earth.

Thus much concerning the matter of the first Earth. Let us reflect a little upon the Form of it also, whether External or Internal, both whereof do manifestly shew themselves from the manner of its Production or Formation. As to the External Form, you see it is according to the Proposition we were to prove, smooth, regular and uniform, without Mountains, and without a Sea. And the Proof we have given of it is very easy; The Globe of the Earth could not possibly rise immediately from a Chaos into the irregular Form in which it is at present. The Chaos being a fluid Mass, which we know doth necessarily fall into a Spherical Surface, whose Parts are equi-distant from the Center, and consequently in an equal and even Convexity one with another. And seeing upon the Distinction of a Chaos and Separation into several Elementary Masses, the Water would naturally
turally have a superior Place to the Earth, 'tis manifest, that there could be no habitable Earth form'd out of the Chaos, unless by some Concretion upon the Face of the Water. Then lastly; seeing this concrete Orb of Earth upon the Face of the Water would be of the same Form with the Surface of the Water it was spread upon, there being no Causes, that we know of, to make any Inequality in it, we must conclude it equal and uniform, and without Mountains, as also without a Sea; for the Sea and all the Mass of Waters was enclos'd within this exterior Earth, which had no other Basis or Foundation to rest upon.

The Contemplation of these things, and of this Posture of the Earth upon the Waters, doth so strongly bring to Mind certain Passages of Scripture, (which will recur in another Place) that we cannot, without Injury to Truth, pass them by here in silence. Passages that have such a manifest Resemblance and Agreement to this Form and Situation of the Earth, that they seem visibly to point at it: Such are those Expressions of the Psalmist, *God hath founded the Earth upon the Seas.* And in another Psalm, speaking of the Wisdom and Power of God in the Creation, he faith, *To him who alone doth great Wonders; to him that by Wisdom made the Heavens; to him that extended or stretched out the Earth above the Waters.* What can be more plain or proper to denote that Form of the Earth that we have describ'd, and to express particularly the Inclosure of the Waters within the Earth, as
The Theory of the Earth:

we have represented them? He faith in another Place; By the Word of the Lord were the Heavens made; he shut up the Waters of the Sea as in Bags, (for so the Word is to be render'd, and is render'd by all, except the English) and laid up the Abyss as in Store-houses. This, you see, is very conformable to that System of the Earth and Sea, which we have propos'd here. Yet there is something more express than all this in that remarkable place in the Proverbs of Solomon, where Wisdom declaring her Antiquity and Existence before the Foundation of the Earth, amongst other things faith, Prov. 8. 27. 

When he prepared the Heavens, I was there; When he drew an Orb over the Surface of the Abyss; or when he set an Orb upon the Face of the Abyss. We render it in the English a Compass, or Circle, but 'tis more truly render'd an Orb or Sphere; and what Orb or Spherical Body was this, which at the Formation of the Earth was built and plac'd round about the Abyss; but that wonderful Arch, whose Form and Production we have describ'd, encompassing the Mass of Waters, which in Scripture is often call'd the Abyss or Deep? [See Fig. 5. p. 78. This Orb is represented by the Circle 1. and the Abyss by the Region 2.]

Lastly, This Scheme of the first Earth gives Light to that Place we mention'd before of St. Peter's, where the first Earth is said to consist of Water, and by Water; and by reason thereof was obnoxious to a Deluge. The first Part of this Character is plain from the Description now given: and the second will appear
appear in the following Chapter. In the meantime, concerning these Passages of Scripture, which we have cited, we may truly and modestly say, that though they would not, it may be, without a Theory premis'd, have been taken or interpreted in this Sense; yet this Theory being premis'd, I dare appeal to any unprejudic'd Person, if they have not a fairer and easier, a more full and more emphatical Sense, when apply'd to that Form of the Earth and Sea, we are now speaking of, than to their present Form, or to any other we can imagine.

Thus much concerning the external Form of the first Earth. Let us now reflect a little upon the internal Form of it, which consists of several Regions, involving one another like Orbs about the same Center, or of the several Elements cast circularly about each other; as it appears in the Fourth and Fifth Figure. And as we have noted the External Form of this primæval Earth, to have been markt and celebrated in the Sacred Writings; so likewise in the Philosophy and Learning of the Ancients, there are several Remains and Indications of this Internal Form and Composition of it. For 'tis observable, that the Ancients in treating of the Chaos, and in raising the World out of it, rang'd it into several Regions or Masses, as we have done; and in that Order successively, rising one from another, as if it was a Pedegree or Genealogy. And those Parts and Regions of Nature, into which the Chaos was by degrees divided, they signified commonly by dark and obscure Names, as the Night, Tartarus, Oceanus, and such like, which
which we have express'd in their plain and proper Terms. And whereas the Chaos, when it was first set on work, ran all into Divisions, and Separations of one Element from another, which afterwards were all in some Measure united and associated in this Primigenial Earth; the Ancients accordingly made Contention the Principle that reign'd in the Chaos at first, and then Love: The one to express the Divisions, and the other the Union of all Parties in this middle and common Bond. These, and such like Notions which we find in the Writings of the Ancients figuratively and darkly deliver'd, receive a clearer Light, when compar'd with this Theory of the Chaos; which representing every thing plainly, and in its natural Colours, is a Key to their Thoughts, and an Illustration of their obscurer Philosophy, concerning the Original of the World; as we have shewn at large in the Latin Treatise, Lib. 2. chap. 7.

There is another thing in Antiquity, relating to the Form and Construction of the Earth, which is very remarkable, and hath obtain'd throughout all learned Nations and Ages. And that is the Comparison or Resemblance of the Earth to an Egg. And this is not so much for its External Figure, though that be true too, as for the inward Composition of it; consisting of several Orbs, one including another, and in that Order, as to answer the several Elementary Regions, of which the new made Earth was constituted. For if we admit for the Yolk a Central Fire (which
The Deluge and Dissolution of the Earth. (which though very reasonable, we had no occasion to take Notice of in our Theory of the Chaos) and suppose the Figure of the Earth Oval, and a little extended towards the Poles, (as probably it was, seeing the Vortex that contains it is so) those two Bodies do very naturally represent one another, as in this Scheme, which represents the Interior Faces of both, a divided Egg, or Earth. Where,

Fig. 6.

as the two inmost Regions (A, B) represent the Yolk and the Membrane that lies next above it; so the Exteriour Region of the Earth (D) is as the Shell of the Egg, and the Abyss (C) under it as the White that lies under the Shell. And considering that this Notion of the Mundane Egg, or that the World was Oviform,
The Theory of the Earth.

Oviform, hath been the Sense and Language of all Antiquity, Latins, Greeks, Persians, Egyptians, and others, as we have shew'd else-where, [Tell. Theor. Sac. lib. 2. c. 10.] I thought it worthy our Notice in this Place; seeing it receives such a clear and easy Explication from that Origin and Fabrick we have given to the first Earth, and also reflects Light upon the Theory it self, and confirms it to be no Fiction: This Notion, which is a kind of Epitome or Image of it, having been conserv'd in the most Ancient Learning.

Thus much concerning the first Earth, its Production and Form; and concerning our second Proposition relating to it: Which being prov'd by Reason, the Laws of Nature, and the Motions of the Chaos; then attested by Antiquity, both as to the Matter and Form of it; and confirm'd by Sacred Writers, we may take it now for a well establisht Truth, and proceed upon this Supposition, That the Antediluvian Earth was Smooth and Uniform, without Mountains or Sea, to the Explication of the universal Deluge.

Give me leave only before we proceed any further, to annex here a short Advertisement, concerning the Causes of this wonderful Structure of the first Earth. 'Tis true, we have propos'd the natural Causes of it, and I do not know wherein our Explication is false or defective; but in things of this kind we may easily be too credulous. And this Structure is so marvellous, that it ought rather to be consider'd as a particular Effect of the Divine Arc than
The Deluge and Dissolution of the Earth. The whole Globe of the Water vaulted over, and the Exterior Earth hanging above the Deep, sustains' by nothing but its own Measures and Manner of Construction: A Building without Foundation or Corner-stone. This seems to be a piece of Divine Geometry or Architecture; and to this, I think, is to be refer'd that magnificent Challenge which God Almighty made to Job, Job 38. 4, 5, 6, 7, &c. Where wast thou when I laid the Foundations of the Earth? Declare if thou hast Understanding. Who hath laid the Measures thereof, if thou knowest? Or who hath stretched the Line upon it? Whereupon are the Foundations thereof fastned? Or who laid the Corner-stone thereof? When the Morning Stars sang together, and all the Sons of God shouted for Joy. Moses also, when he had describ'd the Chaos, faith, The Spirit of God mov'd upon, or sat brooding upon, the Face of the Waters; without all doubt to produce some Effects there. And St. Peter, when he speaks of the Form of the Antediluvian Earth, how it stood in reference to the Waters, adds, By the Word of God, καὶ ὁ πλατύς ἔτες, or by the Wisdom of God it was made so. And this same Wisdom of God, in the Proverbs, as we observed before, takes Notice of this very piece of Work in the Formation of the Earth. When he set an Orb over the Face of the Deep I was there. And lastly, the Ancient Philosophers, or at least the best of them, to give them their due, always brought in Mens or Amor, Αἰωνος και Ἐρως, as a Supernatural Princi-
people to unite and consociate the parts of the Chaos; which was first done in the Composition of this wonderful Arch of the Earth. Wherefore to the great Architect, who made the boundless Universe out of nothing, and form'd the Earth out of a Chaos, let the Praise of the whole Work, and particularly of this Master-piece, for ever with all Honour be given.

CHAP. VI.

The Dissolution of the first Earth: The Deluge ensuing thereupon. And the Form of the present Earth rising from the Ruins of the First.

We have now brought to light the Antediluvian Earth out of the dark Mafs of the Chaos; and not only described the Surface of it, [See Fig. 5. & 6. pag. 78. & 87.] but laid open the inward parts, to shew in what Order its Regions lay. Let us now close it up, and represent the Earth entire, and in larger Proportions, more like an habitable World; as in this Figure, where you see the smooth Convex of the Earth, and may imagine the great Abyss spread under it; As at the aperture a a. which two are to be the only Subject of our further Contemplation.

In this smooth Earth were the first Scenes of the World, and the first Generations of Mankind; it had the Beauty of Youth and blooming Nature, fresh and fruitful, and not a Wrinkle, Scar or Fracture in all its Body; no Rocks
The Deluge and Dissolution of the Earth.

Rocks nor Mountains, nor hollow Caves, nor gaping Channels, but even and uniform all over. And the Smoothness of the Earth made the Face of the Heavens so too; the Air was Calm and Serene; none of those tumultuary Motions and Conflicts of Vapours, which the Mountains and the Winds cause in ours; 'Twas suited to a golden Age, and to the first Innocency of Nature.

All this you'll say is well, we are got into a pleasant World indeed, but what's this to the Purpose? what Appearance of a Deluge here, where there is not so much as a Sea, nor half so much Water as we have in this Earth? or what Appearance of Mountains, or Caverns, or other Irregularities of the Earth, where all is level and united: So that instead of loosing the Knot, this ties it the harder. You pretend to shew us how the Deluge was made, and you lock up all the Waters within the Womb of the Earth, and set Bars and Doors, and a Wall of impenetrable Strength and Thickness to keep them there. And you pretend to shew us the Original of Rocks and Mountains, and Caverns of the Earth, and bring us to a wide and endless Plain, smooth as the calm Sea.

This is all true, and yet we are not so far from the Sight and Discovery of those things as you imagine; draw but the Curtain, and these Scenes will appear, or something very like 'em. We must remember that St. Peter told us, that the Antediluvian Earth perish'd, or was demolish'd; and Moses faith, the great Abyss was
was broken open at the Deluge. Let us then suppose, that at a time appointed by Divine Providence, and from Causes made ready to do that great Execution upon a sinful World, that this Abyss was open’d, or that the Frame of the Earth broke and fell down into the great Abyss. At this one stroke all Nature would be chang’d, and this single Action would have two great and visible Effects. The one Transient, and the other Permanent. First, an Universal Deluge would overflow all the Parts and Regions of the broken Earth, during the great Commotion and Agitation of the Abyss, by the violent Fall of the Earth into it. This would be the first and unquestionable Effect of this Dissolution, and all that World would be destroy’d. Then when the Agitation of the Abyss was asswag’d, and the Waters by degrees were retir’d into their Channels, and the dry Land appear’d, you would see the true Image of the present Earth in the Ruins of the first. The Surface of the Globe would be divided into Land and Sea; the Land would consist of Plains and Valleys and Mountains, according as the Pieces of this Ruin were plac’d and dispos’d; Upon the Banks of the Sea would stand the Rocks, and near the Shore would be Islands, or lesser Fragments of Earth compass’d round by Water. Then as to Subterraneous Waters, and all Subterraneous Caverns and Hollownesses, upon this Supposition those things could not be otherwise; for the Parts would fall hollow in many Places in this, as in all other Ruins:

And
And seeing the Earth fell into this Abyss, the Waters at a certain height would flow into all those hollow Places and Cavities; and would also sink and insinuate into many Parts of the solid Earth. And though these Subterraneous Vaults or Holes, whether dry or full of Water, would be more or less in all Places, where the Parts fell hollow; yet they would be found especially about the Roots of the Mountains, and the higher Parts of the Earth; for there the sides bearing up one against the other, they could not lie so close at the bottoms, but many Vacuities would be intercepted. Nor are there any other Inequalities or Irregularities observable in the present Form of the Earth; whether in the Surface of it, or interior Construction, whereof this Hypothesis doth give a ready, fair, and intelligible Account; and doth at one view represent them all to us, with their Causes, as in a Glass: And whether that Glass be true, and the Image answer to the Original, if you doubt of it, we will hereafter examine them Piece by Piece. But in the first Place, we must consider the general Deluge, how easily and truly this Supposition represents and explains it, and answers all the Properties and Conditions of it.

I think it will be easily allow'd, that such a Dissolution of the Earth as we have propos'd, and Fall of it into the Abyss, would certainly make an Universal Deluge; and effectually destroy the old World, which perish'd in it. But we have not yet particularly prov'd this Dissolution,
The Theory of the Earth.

Dissolution, and in what manner the Deluge follow'd upon it: And to assert things in gross never makes that firm Impression upon our Understandings, and upon our Belief, as to see them deduc'd with their Causes and Circumstances; and therefore we must endeavour to shew what Preparations there were in Nature for this great Dissolution, and after what manner it came to pass, and the Deluge in consequence of it.

We have noted before, that Moses imputed the Deluge to the Disruption of the Abyss; and St. Peter, to the particular Constitution of that Earth, which made it obnoxious to be absorpt in Water, so that our Explication so far is justified. But it was below the Dignity of those Sacred Pen-men, or the Spirit of God that directed them, to shew us the Causes of this Disruption, or of this Absorption; this is left to the Enquiries of Men. For it was never the Design of Providence, to give such particular Explications of natural Things, as should make us idle, or the Use of Reason unnecessary; but on the contrary, by delivering great Conclusions to us, to excite our Curiosity and Inquisitiveness after the Methods, by which such things were brought to pass: And it may be there is no greater Trial or Instance of natural Wisdom, than to find out the Channel, in which these great Revolutions of Nature, which we treat on, flow and succeed one another.

Let us therefore resume that System of the Antediluvian Earth, which we have deduc'd from
from the Chaos, and which we find to answer St. Peter's Description, and Moses's Account of the Deluge. This Earth could not be obnoxious to a Deluge, as the Apostle supposeth it to have been, but by a Dissolution; for the Abyss was enclos'd within its Bowels. And Moses doth in effect tell us, there was such a Dissolution; when he saith, The Fountains of the great Abyss were broken open. For Fountains are broken open no otherwise than by breaking up the Ground that covers them. We must therefore here enquire in what Order, and from what Causes the Frame of this exterior Earth was dissolv'd, and then we shall soon see how, upon that Dissolution, the Deluge immediately prevail'd and overflow'd all the Parts of it.

I do not think it in the power of humane Wit to determine how long this Frame would stand, how many Years, or how many Ages; but one would soon imagine, that this kind of Structure would not be perpetual, nor last indeed many thousands of Years, if one consider the Effect that the Heat of the Sun would have upon it and the Waters under it; drying and parching the one, and rarefying the other into Vapours. For we must consider, that the Course of the Sun at that time, or the Posture of the Earth to the Sun, was such, that there was no Diversity or Alteration of Seasons in the Year, as there is now; by reason of which Alteration, our Earth is kept in an Equality of Temper, the contrary Seasons balancing one another; so as what Moisture the
The Heat of the Summer sucks out of the Earth, 'tis repaid in the Rains of the next Winter; and what Chaps were made in it, are fill'd up again, and the Earth reduc'd to its former Constitution. But if we should imagine a continual Summer, the Earth would proceed in Drinels still more and more, and the Cracks would be wider and pierce deeper into the Substance of it; And such a continual Summer there was, at least an Equality of Seasons in the Antediluvian Earth, as shall be prov'd in the following Book, concerning Paradise. In the mean time, this being suppos'd, let us consider what Effect it would have upon this Arch of the exterior Earth, and the Waters under it.

We cannot believe, but that the Heat of the Sun, within the Space of some hundreds of Years, would have reduc'd this Earth to a considerable degree of Drinesis in certain Parts; and also have much rarefied and exhal'd the Waters beneath it: And considering the Structure of that Globe, the exterior Crust, and the Waters lying round under it, both expos'd to the Sun, we may fitly compare it to an Æolipile, or an hollow Sphere with Water in it, which the Heat of the Fire rarefies and turns into Vapours and Wind. The Sun here is as the Fire, and the exterior Earth is as the Shell of the Æolipile, and the Abyss as the Water within it; now when the Heat of the Sun had pierced through the Shell and reach'd the Waters, it began to rarefy them, and raise them into Vapours; which Rarefaction made them
The Deluge and Dissolution of the Earth. 97

them require more Space and Room than they needed before, while they lay close and quiet. And finding themselves pent in by the exterior Earth, they press'd with Violence against that Arch, to make it yield and give way to their Dilatation and Eruption. So we see all Vapours and Exhalations inclos'd within the Earth, and agitated there, strive to break out, and often shake the Ground with their Attempts to get loose. And in the Comparison we us'd of an Aeolipyle, if the Mouth of it be stop'd that gives the Vent, the Water rarefied will burst the Vessel with its Force. And the Resemblance of the Earth to an Egg, which we us'd before, holds also in this respect; for when it heats before the Fire, the Moisture and Air within being rarefied, makes it often burst the Shell. And I do the more willingly mention this last Comparison, because I observe that some of the Ancients, when they speak of the Doctrine of the Mundane Egg, say, that after a certain Period of Time it was broken.

But there is yet another Thing to be considered in this Case; for as the Heat of the Sun gave Force to these Vapours more and more, and made them more strong and violent; so on the other hand, it also weaken'd more and more the Arch of the Earth, that was to resist them; sucking out the Moisture that was the Cement of its parts, drying it immediately, and chapping it in sundry Places. And there being no Winter then to close up and unite its Parts, and restore the Earth to its Book I.
The Theory of the Earth.

former Strength and Compactness, it grew more and more dispos'd to a Dissolution. And at length, these Preparations in Nature being made on either side, the Force of the Vapours increas'd, and the Walls weaken'd which should have kept them in, when the appointed time was come, that All-wise Providence had design'd for the Punishment of a sinful World, the whole Fabric brake, and the Frame of the Earth was torn in Pieces, as by an Earthquake; and those great Portions or Fragments, into which it was divided, fell down into the Abyss, some in one Posture, and some in another.

This is a short and general Account how we may conceive the Dissolution of the first Earth, and an Universal Deluge arising upon it. And this manner of Dissolution hath so many Examples in Nature every Age, that we need not insist farther upon the Explication of it. The generality of Earthquakes arise from like Causes, and often end in a like Effect, a partial Deluge, or Inundation of the Place or Country where they happen; and of these we have seen some Instances even in our own Times: But whenever it so happens that the Vapours and Exhalations shut up in the Caverns of the Earth, by Rarefaction or Compression come to be straitned, they strive every way to set themselves at Liberty, and often break their Prison, or the Cover of the Earth that kept them in; which Earth upon that Disruption falls into the Subterraneous Caverns that lie under it: And if it so happens that those Caverns are full
full of Water, as generally they are, if they be great or deep, that City or Tract of Land is drown'd. And also the Fall of such a Masa of Earth, with its Weight and Bulk, doth often force out the Water so impetuously, as to throw it upon all the Country round about. There are innumerable Examples in History (whereof we shall mention some hereafter) of Cities and Countries thus swallow'd up, or overflow'd, by an Earthquake, and an Inundation arising upon it. And according to the manner of their Fall or Ruin, they either remain'd wholly under Water, and perpetually drown'd, as Sodom and Gomorrâh, Plato's Atlantis, Bura and Helice, and other Cities and Regions in Greece and Asia; or they partly emerg'd, and became dry Land again; when (their Situation being pretty high) the Waters, after their violent Agitation was abated, retir'd into the lower Places, and into their Channels.

Now if we compare these partial Dissolutions of the Earth with an universal Dissolution, we may as easily conceive an universal Deluge from an universal Dissolution, as a partial Deluge from a partial. If we can conceive a City, a Country, an Island, a Continent thus absorpt and overflow'd; if we do but enlarge our Thought and Imagination a little, we may conceive it as well of the whole Earth. And it seems strange to me, that none of the Ancients should hit upon this way of explaining the Universal Deluge; there being such frequent Instances in all Ages and Coun-

tries
tries of Inundations made in this manner, and never of any great Inundation made otherwise, unless in maritime Countries, by the Irrup-
tion of the Sea into Grounds that lie low. 'Tis true, they would not so easily imagine this Dissolution, because they did not understand the true Form of the Antediluvian Earth; but methinks, the Examination of the Deluge should have led them to the Discovery of that: For observing the Difficulty, or Impos-
sibility of an Universal Deluge, without the Dissolution of the Earth; as also frequent In-
stances of these Dissolutions accompanied with Deluges, where the Ground was hollow, and had Subterraneous Waters; this, methinks, should have prompted them to imagine, that those Subterraneous Waters were Universal at that time, or extended quite round the Earth; so as a Dissolution of the exterior Earth could not be made any where but it would fall into Waters, and be more or less overflow'd. And when they had once reacht this Thought, they might conclude both what the Form of the Antediluvian Earth was, and that the Deluge came to pass by the Dissolution of it. But we reason with ease about the finding out of things, when they are once found out; and there is but a thin Paper-wall sometimes between the great Discoveries and a perfect Ignorance of them. Let us proceed now to consider, whether this Supposition will answer all the Conditions of an Universal Deluge, and supply all the Defects which we found in other Explications.
The Deluge and Dissolution of the Earth.

The great difficulty propos'd, was to find Water sufficient to make an Universal Deluge, reaching to the tops of the Mountains; and yet that this Water should be transient, and after some time should return into its Channels, that the dry Land would appear, and the Earth become again habitable. There was that double Impossibility in the common Opinion, that the Quantity of Water necessary for such a Deluge was no where to be found, or could no way be brought upon the Earth; and then if it was brought, could no way be remover'd again. Our Explication quite takes off the edge of this Objection; for, performing the same Effect with a far less Quantity of Water, 'tis both easy to be found, and easily remover'd when the Work is done. When the exterior Earth was broke, and fell into the Abyss, a good part of it was cover'd with Water by the meer depth of the Abyss it fell into, and those Parts of it that were higher than the Abyss was deep, and consequently would stand above it in a calm Water, were notwithstanding reach'd and overtopper'd by the Waves, during the Agitation and violent Commotion of the Abyss. For it is not imaginnable what the Commotion of the Abyss would be upon this Dissolution of the Earth, nor to what height its Waves would be thrown, when those prodigious Fragments were tumbled down into it. Suppose a Stone of ten thousand Weight taken up into the Air a Mile or two, and then let fall into the middle of the Ocean, I do not believe but that
The Theory of the Earth.

The dashing of the Water upon that Impression would rise as high as a Mountain. But suppose a mighty Rock or heap of Rocks to fall from that height, or a great Island, or a Continent; these would expel the Waters out of their Places with such a Force and Violence, as to fling them among the highest Clouds:

'Tis incredible to what height sometimes great Stones and Cinders will be thrown, at the Eruptions of fiery Mountains; and the Pressure of a great Mass of Earth falling into the Abyss, though it be a Force of another kind, could not but impel the Water with so much strength, as would carry it up to a great height in the Air; and to the top of any thing that lay in its way, any Eminency, high Fragment, or new Mountain: And then rolling back again, it would sweep down with it whatsoever it rush upon, Woods, Buildings, living Creatures, and carry them all headlong into the great Gulph.

Sometimes a Mass of Water would be quite struck off and separate from the rest, and tossed through the Air like a flying River; but the common Motion of the Waves was to climb up the Hills or inclin'd Fragments; and then return into the Valleys and Deeps again, with a perpetual Fluxation going and coming, ascending and descending, till the violence of them being spent by degrees, they settled at last in the Places allotted for them; where Bounds are set that they cannot pass over, that they return not again to cover the Earth. Psal. 104: 6, 7, 8, 9.

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Neither is it to be wonder'd, that the great Tumult of the Waters, and the Extremity of the Deluge lasted for some Months; for besides, that the first Shock and Commotion of the Aysfs was extremely violent, from the general Fall of the Earth, there were ever and anon some secondary Ruins; or some Parts of the great Ruin, that were not well settled, broke again, and made new Commotions: And 'twas a considerable Time before the great Fragments that fell, and their lesser Dependencies could be so adjusted and fitted, as to rest in a firm and immoveable Posture: For the Props and Stays whereby they lean'd one upon another, or upon the Bottom of the Aysfs, often fail'd, either by the incumbent Weight or the violent Impulses of the Water against them; and so renewed, or continued the Disorder and Confusion of the Aysfs. Besides, we are to observe, that these great Fragments falling hollow, they inclos'd and bore down with them under their concave Surface a great deal of Air; and while the Water compass'd these Fragments, and overflow'd them, the Air could not readily get out of those Prisons, but by degrees, as the Earth and Water above would give way; so as this would also hinder the Settlement of the Aysfs, and the retiring of the Water into those Subterraneous Channels, for some Time. But at length, when this Air had found a vent, and left its place to the Water, and the Ruins both primary and secondary were settled and fix'd, then the Waters of the Aysfs began to settle
too, and the dry Land to appear; first the tops of the Mountains, then the high Grounds, then the Plains and the rest of the Earth. And this gradual Subsidity of the Abyss (which Moses also hath particularly noted) and Discovery of the several Parts of the Earth, would also take up a considerable Time.

Thus a new World appear'd, or the Earth put on its new Form, and became divided into Sea and Land; and the Abyss, which from several Ages, even from the beginning of the World, had lain hid in the Womb of the Earth, was brought to light and discovered; the greatest part of it constituting our present Ocean, and the rest filling the lower Cavities of the Earth: Upon the Land appear'd the Mountains and the Hills, and the Islands in the Sea, and the Rocks upon the Shore. And so the Divine Providence, having prepar'd Nature for so great a Change, at one stroke dissolved the Frame of the old World, and made us a new one out of its Ruins, which we now inhabit since the Deluge. All which Things being thus explain'd, deduc'd, and stated, we now add and pronounce our Third and last Proposition; That the Disruption of the Abyss, or Dissolution of the primâval Earth, and its Fall into the Abyss, was the Cause of the Universal Deluge, and of the Destruction of the old World.
C H A P. VII.

That the Explication we have given of an Universal Deluge is not an Idea only, but an Account of what really came to pass in this Earth, and the true Explication of Noah's Flood; as is prov'd by Argument and from History. An Examination of Tehom-Rabba, or the great Abyss, and that by it the Sea cannot be underflood, nor the Subterraneous Waters, as they are at present. What the true Notion and Form of it was, collected from Moses and other Sacred Writers; The frequent Allusions in Scripture to the opening and shutting the Abyss, and the particular Stile of Scripture in its Reflections on the Origin. And the Formation of the Earth. Observations on Deucalion's Deluge.

We have now given an Account of the first great Revolution of Nature, and of the Universal Deluge, in a way that is intelligible, and from Causes that answer the Greatness of the Effect; We have suppos'd nothing but what is also prov'd, both as to the first Form of the Earth, and as to the manner of its Dissolution: and how far from that would evidently and necessarily arise a general Deluge; which was that, which put a Period to the old World, and the first State of Things. And tho' all this hath been deduc'd in due Order, and with Connexion and Consequence of one thing upon another,
so far as I know, which is the true Evidence of a Theory; yet it may not be sufficient to command the Affent and Belief of some Persons, who will allow, it may be, and acknowledge, that this is a fair Idea of a possible Deluge in general, and of the Destruction of a World by it; but this may be only an Idea, they'll say; we desire it may be prov'd from some collateral Arguments, taken either from Sacred History, or from Observation, that this hath really been exemplified upon the Earth, and that Noah's Flood came to pass this way. And seeing we have design'd this first Book chiefly for the Explication of Noah's Deluge, I am willing to add here a Chapter or two extraordinary upon this occasion; to shew, that what we have delivered is more than an Idea, and that it was in this very way that Noah's Deluge came to pass. But they who have not this Doubt, and have a Mind to see the Issue of the Theory, may skip these two Chapters, if they please, and proceed to the following, where the Order is continued.

To satisfy then the Doubtful in this Particular, let us lay down in the first place that Conclusion which they seem to admit, viz. That this is a possible and consistent Explication of an Universal Deluge; and let's see how far this would go, if well consider'd, towards the Proof of what they desire, or towards the Demonstration of Noah's Deluge in particular. It is granted on both Hands, that there hath been an Universal Deluge upon the Earth, which was Noah's Deluge; and it is also grant-
The Deluge and Dissolution of the Earth. 107
ed, that we have given a possible and consistent Idea of an Universal Deluge: Now we have prov'd Chap. II. and III. that all other ways hitherto assign'd for the Explication of Noah's Flood are incongruous or impossible; therefore it came to pass in that possible and competent way which we have propos'd. And if we have truly prov'd, in the foremention'd Chapters, the Impossibility or Unintelligibility of it in all other ways, this Argumentation is undeniable. Besides, we may argue thus, as it is granted that there hath been an Universal Deluge upon the Earth; so I suppose it will be granted that there hath been but one: Now the Dissolution of the Earth, whencesoever it happen'd, would make one Universal Deluge, and therefore the only one, and the same with Noah's. That such a Dissolution as we have describ'd, would make an Universal Deluge, I think, cannot be question'd; and that there hath been such a Dissolution, besides what we have already all?edg'd, shall be prov'd at large from natural Observations upon the Form and Figure of the present Earth, in the Third Section and last Chapter of this Book; In the mean time we will proceed to History, both Sacred and Profane, and by comparing our Explication with those, give further Assurance of its Truth and Reality.

In the first Place, it agrees, which is most considerable, with Moses's Narration of the Deluge; both as to the Matter and Manner of it. The Matter of the Deluge Moses makes to be the Waters from above, and the Wa-
The Theory of the Earth.

ters from below; or he distinguishes the Causes of the Deluge, as we do, into Superior and Inferior, Gen. 7. 11. and the Inferior Causes he makes to be the Disruption of the Ablfs, which is the principal part, and the great Hinge of our Explication. Then as to the Manner of the Deluge, the Beginning and the Ending, the Increase and Decrease, he faith, ver. 17, 18, 19, 20. cap. 8. 3, 5. it increas'd gradually, and decreas'd gradually, by going and coming; that is, after many repeated Fluctuations and Reciprocations of the Waves, the Waters of the Ablfs began to be more compos'd, and to retire into their Channels, whence they shall never return to cover the Earth again. This agrees wholly with our Theory; we suppose the Ablfs to have been under an extream Commotion and Agitation by the Fall of the Earth into it, and this at first increas'd more and more, till the whole Earth was fain; then continuing for some time at the height of its Rage, overwhelming the greatest Mountains, it afterwards decreas'd by the like degrees, leaving first the tops of the Mountains, then the Hills and the Fields, till the Waters came to be wholly drawn off the Earth into their Channels.

It was no doubt a great Oversight in the Ancients, to fancy the Deluge like a great standing Pool of Water, reaching from the bottom of the Valleys to the tops of the Mountains, every where alike, with a level and uniform Surface; by reason of which mistaken Notion of the Deluge, they made more Water necess-
The Deluge and Dissolution of the Earth. 109

fary to it than was possible to be had, or being had, than it was possible to get quit of again; for there are no Channels in the Earth that could hold so much Water, either to give it, or to receive it. And the Psalmist, [vid. St. Austin in loc.] speaking of the Deluge, as it seems to me, notes this violent Commotion of the Abyss, Psal. 104. verses 8, 9. The Waters went up by the Mountains, came down by the Valleys unto the Place which thou hast founded for them. I know some interpret that Passage of the State of the Waters in the beginning, when they cover’d the Face of the whole Earth, Gen. 1. 2. but that cannot be, because of what follows in the next Verse; Thou hast set a Bound that they may not pass over, that they turn not again to cover the Earth. Which is not true, if the preceeding Words be understood of the State of the Waters at the beginning of the World; for they did pass those Bounds, and did return since that time to cover the Earth, namely at the Deluge: But if these Words be refer’d to the time of the Deluge, and the state of the Waters then, ’tis both a just Description of the Motion of the Abyss, and certainly true, that the Waters since that time are so settled in their Channels, that they shall never overflow the Earth again. As we are assured by the Promise made to Noah, and that illustrious Pledge and Confirmation of it, the Rainbow, that the Heavens also shall never pour out so much Waters again; their State being chang’d as well as that of the Earth,
The Theory of the Earth: Earth, or Sea, from what they were before the Deluge.

But before we leave Moses's Narration of the Deluge, we must examine further, what is, or can be understood by his Tehom-Rabba, or great Abyss, which, he faith, was broken up at the Deluge, Gen. 7. 11. for this will help us to discover, whether our Explication be the same with his, and of the same Flood. And first we must consider, whether by the Tehom-Rabba, or Mosaical Abyss, can be understood the Sea or Ocean, under that Form we see it in at present; and 'tis plain, methinks, that the Sea cannot be understood by this great Abyss, both because the Sea is not capable upon any Disruption to make such an Universal Deluge; and because the Narration of Moses, and his Expressions concerning this Abyss, do not agree to the Sea. Some of the Ancients indeed did imagine, that the Waters of the Sea were much higher than the Land, and flood, as it were, on an heap; so as when these Waters were let loose, they overflow'd the Earth, and made a Deluge. But this is known to be a gross Mistake; the Sea and the Land make one Globe, and the Waters couch themselves, as close as may be, to the Center of this Globe in a Spherical Convexity; so that if all the Mountains and Hills were scal'd, and the Earth made even, the Waters would not overflow its smooth Surface; much less could they overflow it in the Form that it is now, where the Shores are higher than the Sea, the Inland Parts than the
The Deluge and Dissolution of the Earth. 111

The Shores, and the Mountains still far above all: So as no Disruption of the Sea could make an Universal Deluge, by reason of its Situation. But besides that, the Quantity of Water contain'd in the Sea is no way sufficient to make a Deluge in the present Form of the Earth; for we have shewn before, Chap. 2. that eight such Oceans as ours would be little enough for that Purpose. Then as to the Expressions of Moses concerning this Abyss, if he had meant the Sea by it, and that the Deluge was made by the Disruption of the Sea, why did he not say so? There is no mention of the Sea in all the History of the Deluge: Moses had mention'd the Sea before, Gen. 1. 10. and us'd a Word that was common, and known to signify the Sea; and if he had a Mind to express the same thing here, why should he not use the same Word and the same Term? In an Historical Relation we use Terms that are most proper and best known; but instead of that he useth the same Term here that he did, Gen. 1. 2. when he saith, Darkness was upon the Face of the Abyss, or of the Deep, as we render it; there the Abyss was open, or cover'd with Darkness only, namely before the exterior Earth was form'd; Here the same Abyss is mention'd again, but cover'd, by the Formation of the Earth upon it; and the covering of this Abyss was broken or cleaven asunder, and the Waters gushed out that made the Deluge. This I am sure is the most natural Interpretation or Signification of this Word, according as it is us'd in Moses's Writings. Furthermore,
thermore, we must observe what Moses faith concerning this Abysfs, and whether that will agree with the Sea or no; he faith the Fountains of the great Abysfs were broken open; now if by the great Abysfs you understand the Sea, how are its Fountains broken open? To break open a Fountain, is to break open the Ground that covers it, and what Ground covers the Sea? So that upon all Considerations, either of the Word that Moses here useth, Tehom-Rabba, or of the thing affirmed concerning it, breaking open its Fountains; or of the Effect following the breaking open its Fountains, drowning of the Earth; from all these Heads it is manifest, that the Sea cannot be understood by the great Abysfs, whose Disruption was the Cause of the Deluge.

And as the Mosaicall Abysfs cannot be the Sea, so neither can it be those Subterraneous Waters that are dispers'd in the Cells and Caverns of the Earth; for as they are now lodg'd within the Earth, they are not one Abysfs, but several Cisterns and Receptacles of Water in several Places, especially under the Roots of Mountains and Hills, separate one from another, sometimes by whole Regions and Countries interpos'd. Besides, what Fountains, if they were broken up, could let out this Water, or bring it upon the Face of the Earth? When we sink a Mine, or dig a Well, the Waters, when uncover'd, do not leap out of their Places out of those Cavities, or at least, do not flow upon the Earth; 'Tis not as if you open'd
open'd a Vein, where the Blood sprirts out, and rifeth higher than its Source; but as when you take off the Cover of a Vessel, the Water doth not fly out for that: So if we should imagine all the subterraneous Caverns of the Earth uncover'd, and the Waters laid bare, there they would lie unmov'd in their Beds, if the Earth did not fall into them to force them up. Furthermore, If these Waters were any way extracted and laid upon the Surface of the Ground, nothing would be gain'd as to the Deluge by that, for as much Water would run into these Holes again when the Deluge begin to rise; so that this would be but an useless Labour, and turn to no Account. And lastly, These Waters are no way sufficient for Quantity to answer to the Mosaical Abyfs, or to be the principal Cause of the Deluge, as that was:

Now, seeing neither the Sea, as it is at present, nor the subterraneous Waters, as they are at present, can answer to the Mosaical Abyfs, we are sure there is nothing in this present Earth that can answer to it. Let us then on the other Hand compare it with that subterraneous Abyfs, which we have found in the Ante-diluvian Earth, represented 5 Fig. 2. p. 78. and examine their Characters and Correspondency: First, Mofe's Abyfs was cover'd, and subterraneous, for the Fountains of it are laid to have been cloven or burst open; then, it was vast and capacious; and thirdly, it was so dispos'd, as to be capable of a Disruption, that would cause an universal Deluge to the Earth. Our Ante-diluvian Abyfs answers tru-
The Theory of the Earth.

ly to all these Characters; it was in the Womb of the Earth; the Earth was founded upon those Waters, as the Psalmist faith; or they were inclos'd within the Earth as in a Bag. Then for the Capacity of it, it contained both all the Waters now in the Ocean, and all those that are dispers'd in the Caverns of the Earth: And lastly, it is manifest its Situation was such, that upon a Disruption or Dissolution of the Earth which cover'd it, an universal Deluge would arise. Seeing then this answers the Description, and all the Properties of the Mosaical Abyss, and nothing else will, how can we in Reason judge it otherwise than the same, and the very Thing intended and propos'd in the History of Noah's Deluge under the Name of Tehom-Rabba, or the great Abyss, at whose Disruption the World was over-flow'd? And as we do not think it an unhappy Discovery to have found out, (with a moral Certainty) the Seat of the Mosaical Abyss, which hath been almost as much sought for, and as much in vain, as the Seat of Paradise; so this gives us a great Assurance, that the Theory we have given of a general Deluge, is not a mere Idea, but is to be appropriated to the Deluge of Noah, as a true Explication of it.

And to proceed now from Moses to other divine Writers; That our Description is a Reality, both as to the Ante-diluvian Earth, and as to the Deluge, we may further be convinc'd from St. Peter's Discourse concerning those two Things, 2 Epist. 3. 6. St. Peter faith, that the Constitution of the Ante-diluvian Earth was such, in reference to the Waters, that by rea-
The Deluge and Dissolution of the Earth.

Son of that it was obnoxious to a Deluge; we say these Waters were the great Abyss it stood upon, by reason whereof that World was really expos'd to a Deluge, and overwhelm'd in it upon the Disruption of this Abyss, as Moses witnesseth. 'Tis true, St. Peter doth not specify what those Waters were, nor mention either the Sea, or the Abyss; but seeing Moses tells us, that it was by the Waters of the Abyss that the Earth was overwhelm'd, St. Peter's Waters must be understood of the same Abyss, because he supposeth them the Cause of the same Deluge. And, I think, the Apostle's Discourse there cannot receive a better Illustration, than from Moses's History of the Deluge. Moses distinguishes the Causes of the Flood into those that belong to the Heavens, and those that belong to the Earth; the Rains and the Abyss: St. Peter also distinguishes the Causes of the Deluge into the Constitution of the Heavens, in reference to its Waters; and the Constitution of the Earth, in reference to its Waters; and no doubt they both aim at the same Causes, as they refer to the same Effect, only Moses mentions the immediate Causes, the Rains and the Waters of the Abyss; and St. Peter mentions the more remote and fundamental Causes, that Constitution of the Heavens, and that Constitution of the Earth, in reference to their respective Waters, which made that World obnoxious to a Deluge: And these two, speaking of Noah's Deluge, and agreeing thus with one another, and both with us, or with the Theory which we have given of a general Deluge, we may safely conclude, that
that it is no imaginary Idea, but a true Account of that ancient Flood, whereof Moses hath left us the History.

And seeing the right Understanding of the Mosaicall Abyss is sufficient alone to prove all we have deliver'd concerning the Deluge, as also concerning the Frame of the Antediluvian Earth, give me Leave to take Notice here of some other Places of Scripture, which we mention'd before, that seem manifestly to describe this same Form of the Abyss with the Earth above it. 2 Esdr. 16. 58. Psal. 24. 2. He founded the Earth upon the Seas, and established it upon the Floods. And Psal. 136. 6. He stretched out the Earth above the Waters. Now this Foundation of the Earth upon the Waters, or Extension of it above the Waters, 2 Esdr. c. 6. doth most aptly agree to that Structure and Situation of the Abyss and the Antediluvian Earth, which we have assign'd them, and which we have before describ'd; but very improperly and forcibly to the present Form of the Earth and the Waters. In that second Place of the Psalmist, the Word may be render'd either, he stretch'd, as we read it, or he fixt and consolidated the Earth above the Waters, as the Vulgate and Septuagint translate it: For 'tis from the same Word with that which is used for the Firmament, Gen. 1. So that as the Firmament was extended over and around the Earth, so was the Earth extended over and about the Waters, in that first Constitution of Things; and I remember some of the Ancients use this very Comparison of the Firmament and Earth.
The Deluge and Dissolution of the Earth.

Earth, to express the Situation of the paradisiacal Earth in reference to the Sea or Abyss.

There is another remarkable Place in the Psalms, to shew the Disposition of the Waters in the first Earth; Psal. 33. 7. He gathereth the Waters of the Sea as in a Bag, he layeth up the Abysses in Store-houses. This answers very fitly and naturally to the Place and Disposition of the Abyss which it had before the Deluge, inclos'd within the Vault of the Earth, as in a Bag, or in a Store-house. I know very well what I render here in a Bag, is render'd in the English, as an Heap; but that Translation of the Word seems to be grounded on the old Error, that the Sea is higher than the Land, and fo doth not make a true Sense. Neither are the two Parts of the Verse so well suited and consequent one to another, if the first express an high Situation of the Waters, and the second a low one. And accordingly the Vulgate, Septuagint, and Oriental Versions and Paraphrase, as also Symmachus, St. Jerom, and Basil, render it as we do here, in a Bag, or by Terms equivalent.

To these Passages of the Psalms, concerning the Form of the Abyss and the first Earth, give me leave to add this general Remark, that they are commonly usher'd in, or followed, with something of Admiration in the Prophet. We observ'd before, that the Formation of the first Earth, after such a wonderful Manner, being a Piece of divine Architecture, when it was spoken of in Scripture, it was usually ascrib'd to a particular Providence, and accord-
The Theory of the Earth.

ingly we see in these Places now mention'd, that it is still made the Object of Praise and Admiration: In that 136th Psalm 'tis reckon'd among the Wonders of God, Verses 4, 5, 6. Give Praise to him who alone doth great Wonders; To him that by Wisdom made the Heavens: To him that stretch'd out the Earth above the Waters. And in like Manner, in that 33d Psalm, 'tis join'd with the Forming of the Heavens, and made the Subject of the Divine Power and Wisdom: Verses 6, 7, 8, 9. By the Word of the Lord were the Heavens made, and all the Host of them by the Breath of his Mouth; He gathereth the Waters of the Sea together, as in a Bag, he layeth up the Abyss in Store-houses. Let all the Earth fear the Lord; Let all the Inhabitants of the World stand in awe of him; For he spake, and it was; he commanded, and it stood fast. Namely, all Things stood in that wonderful Posture in which the Word of his Power and Wisdom had establish'd them. David often made the Works of Nature, and the external World, the Matter of his Meditations, and of his Praises and philosophical Devotions; reflecting sometimes upon the present Form of the World, and sometimes upon the primitive Form of it: And tho' poetical Expressions, as the Psalms are, seldom are so determinate and distinct, but that they may be interpreted more than one Way, yet, I think, it cannot but be acknowledg'd, that those Expressions and Passages that we have instanc'd in, are more fairly and aptly understood of the ancient Form of the Sea, or the Abyss, as it was
The Deluge and Dissolution of the Earth. 119

was inclos'd within the Earth, than of the present Form of it in an open Channel.

There are also in the Book of Job many noble Reflections upon the Works of Nature; and upon the Formation of the Earth and the Abyss; whereof that in Chap. 26. 7. He stretcheth out the North over the empty Places, and hatcheth the Earth upon nothing, seems to parallel the Expression of David; He stretcheth out the Earth upon the Waters; for the Word we render the empty Place is TOHU, which is apply'd to the Chaos and the first Abyss, Gen. 1.2, and the hanging the Earth upon nothing is much more wonderful, if it be understood of the first habitable Earth, that hung over the Waters, sustain'd by nothing but its own peculiar Form, and the Libration of its Parts, than if it be understood of the present Earth, and the whole Body of it; for if it be in its Center or proper Place, whither should it sink further, or whither should it go? But this Passage, together with the foregoing and following Verses, requires a more critical Examination than this Discourse will easily bear.

There is another remarkable Discourse in Job, that contains many Things to our present Purpose, 'tis Chap. 38. where God reproaches Job with his Ignorance of what pass'd at the beginning of the World, and the Formation of the Earth, Verses 4, 5, 6. Where wast thou when I laid the Foundations of the Earth? Declare, if thou hast Understanding. Who hath laid the Measures thereof, if thou knowest? or who hath stretch'd the Line upon it? Whereupon are the Foundations
The Theory of the Earth.

thereof fastned? or who laid the Corner-stone?

All these Questions have far more Force and Emphasis, more Propriety and Elegancy, if they be understood of the first and Ante-diluvian Form of the Earth, than if they be understood of the present; for in the present Form of the Earth there is no Architecture; no Structure, no more than in a Ruin; or at least none comparatively to what was in the first Form of it. And that the exterior and superficial Part of the Earth is here spoken of, appears by the Rule and Line apply'd to it; but what Rule or Regularity is there in the Surface of the present Earth? What Line was us'd to level its Parts? But in its original Construction, when it lay smooth and regular in its Surface, as if it had been drawn by Rule and Line in every Part; and when it hung poised upon the Deep, without Pillar or Foundation-stone, then just Proportions were taken, and every Thing plac'd by Weight and Measure: And this, I doubt not, was that artificial Structure here alluded to; and when this Work was finish'd, then The Morning Stars sang together, and all the Sons of God shouted for Joy, Verse 7.

Thus far the Questions proceed upon the Form and Construction of the first Earth; in the following Verses (8, 9, 10, 11.) they proceed upon the Demolition of that Earth, the opening the Abyss, and the present State of both. Or who shut up the Sea with Doors when it brake forth, as if it had issu'd out of a Womb? Who can doubt but this was at the breaking open of the Fountains of the Abyss? Gen. 7: 11.
when the Waters gush'd out, as out of the
great Womb of Nature; and by reason of
that Confusion and Perturbation of Air and
Water that rose upon it, a thick Mist and
Darkness was round the Earth, and all Things
as in a second Chaos, When I made the Cloud
the Garment thereof, and thick Darkness a Swad-
dling-band for it, and brake up for it my decreed
Place, and made Bars and Doors. Namely,
taking the Words as thus usually render'd)
the present Channel of the Sea was made when
the Abyfs was broke up, and at the same Time
were made the shory Rocks and Mountains,
which are the Bars and Boundaries of the Sea.
And said hitherto shalt thou come, and no fur-
ther, and here shall thy proud Waves be stay'd.
Which last Sentence shows, that this cannot
be understood of the first Disposition of the
Waters, as they were before the Flood, for
their proud Waves broke those Bounds, what-
soever they were, when they overflow'd the
Earth in the Deluge. And that the Womb
which they broke out of was the great Abyss,
the Chaldee Paraphrase in this Place doth ex-
pressly mention; and what can be understood
by יִתְנָה, the Womb of the Earth, but that
subterraneous Capacity in which the Abyss
lay? Then that which followeth is a Descrip-
tion or Representation of the great Deluge
that ensu'd, and of that Disorder in Nature
that was then, and how the Waters were set-
tled and bounded afterwards. Not unlike the
Description in the 104th Psalm, Verses 6, 7,
8, 9.
The Theory of the Earth.

8, 9. And thus much for these Places in the Book of Job.

There remains a remarkable Discourse in the Proverbs of Solomon, relating to the Mosaiical Abyss, and not only to that, but to the Origin of the Earth in general; where Wisdom declares her Antiquity and Pre-existence to all the Works of this Earth, Chap. 8. Ver. 23, 24, 25, 26, 27, 28. I was set up from Everlasting, from the Beginning, ere the Earth was. When there were no Deeps or Abysses, I was brought forth; when no Fountains abounding with Water. Then in the 27th Verse, When he prepared the Heavens, I was there; when he set a Compass upon the Face of the Deep or Abyss. When he established the Clouds above, when he strengthened the Fountains of the Abyss. Here is mention made of the Abyss, and of the Fountains of the Abyss; and who can question, but that the Fountains of the Abyss here, are the same with the Fountains of the Abyss which Moses mentions, and were broken open, as he tells us, at the Deluge? Let us observe therefore what Form Wisdom gives to this Abyss, and consequently to the Mosaiical:

And here seem to be two Expressions that determine the Form of it, Verse 28. He strengthened the Fountains of the Abyss, that is, the Cover of those Fountains, for the Fountains could be strengthened no other Way than by making a strong Cover or Arch over them. And that Arch is express'd more fully and distinctly in the foregoing Verse, When he prepar'd the Heavens.
The Deluge and Dissolution of the Earth. 123

I was there, when he set a Compass on the Face of the Abyss; we render it Compass, the Word signifies a Circle or Circumference, or an Orb or Sphere. So there was in the Beginning of the World a Sphere, Orb or Arch let round the Abyss, according to the Testimony of Wisdom, who was then present. And this shews us both the Form of the Mosaical Abyss, which was included within this Vault: And the Form of the habitable Earth, which was the outward Surface of this Vault, or the Cover of the Abyss that was broke up at the Deluge.

And thus much, I think, is sufficient to have noted out of Scripture, concerning the Mosaical Abyss, to discover the Form, Place, and Situation of it; which I have done the more largely, because that being determin'd, it will draw in easily all the rest of our Theory concerning the Deluge. I will now only add one or two general Observations, and so conclude this Discourse: The first Observation is concerning the Abyss; namely, That the opening and shutting of the Abyss, is the great Hinge upon which Nature turns in this Earth: This brings another Face of Things, other Scenes, and a new World upon the Stage: And accordingly it is a Thing often mention'd and alluded to in Scripture, sometimes in a natural, sometimes in a moral or theological Sense; and in both Senses, our Saviour shuts and opens it as he pleaseth. Our Saviour, who is both Lord of Nature and of Grace, whose Dominion is both in Heaven and in Earth, hath a double
double Key; that of the Abyss, whereby Death and Hell are in his Power, and all the Revolutions of Nature are under his Conduct and Providence; and the Key of David, whereby he admits or excludes from the City of God, and the Kingdom of Heaven whom he pleaseth, Job i. 10, 12, 14. Apoc. i. 18. 20. 1, 2, 3. 21. 1. Apoc. 3. 7. Isa. 22. 22. Of those Places that refer to the shutting and opening the Abyss in a natural Sense, I cannot but particularly take Notice of that in Job, Chap. 12. Ver. 14, 15. & Chap. 11. 10. God breaketh down, and it cannot be built again: He shutteth up Man, and there can be no opening: Behold, he withholdeth the Waters, and they dry up; also he sendeth them out, and they overturn the Earth. Tho' these Things be true of God in lesser and common Instances, yet to me it is plain, that they principally refer to the Deluge, the opening and shutting the Abyss, with the Dissolution or Subversion of the Earth thereupon; and accordingly they are made the great Effects of the divine Power and Wisdom in the 13th Verse of Chap. 12. With God is Wisdom and Strength, he hath Counsel and Understanding; Behold, he breaketh down, &c. And also in the Conclusion 'tis repeated again, Verse 16. With him is Strength and Wisdom; which Solemnity would scarce have been us'd for common Instances of his Power. When God is said to build or pull down, and no Body can build again, 'tis not to be understood of an House or a Town. God builds and unbuilds Worlds; and who shall build up that Arch
The Deluge and Dissolution of the Earth. 125

that was broke down at the Deluge? Where
shall they lay the Foundation, or how shall
the Mountains be rear'd up again to make Part
of the Roof? This is the Fabrick, which when
God breaketh down, none can build up again.
He withholdeth the Waters, and they dry up:
As we shew'd the Earth to have been immo-
derately chap'd and parch'd before its Dissolu-
tion. He sendeth them forth, and they over-
turn the Earth. What can more properly ex-
press the breaking out of the Waters at the
Disruption of the Abyfs, and the Subversion
or Dissolution of the Earth in consequence of
it? 'Tis true, this last Passage may be applied
to the breaking out of Waters in an ordinary
Earthquake, and the Subversion of some Part
of the Earth, which often follows upon it;
but it must be acknowledg'd, that the Sense is
more weighty, if it be refer'd to the great
Deluge, and the great Earthquake which laid
the World in Ruins and in Water. And phi-
losophical Descriptions in sacred Writings, like
Prophecies, have often a lesser and a greater
Accomplishment and Interpretation.

I could not pass by this Place without giving
this short Explication of it. We proceed now
to the second Observation, which is concern-
ing the Style of Scripture, in most of those Pla-
ces we have cited, and others upon the same
Subject. The Reflections that are made in se-
veral Parts of the divine Writings, upon the
Origin of the World, and the Formation of
the Earth, seem to me to be writ in a Style
something approaching to the Nature of a pro-
phetical
The Theory of the Earth: phetical Style, and to have more of a divine Enthusiasm and Elocution in them, than the ordinary Text of Scripture; the Expressions are lofty, and sometimes abrupt, and often figurative and disguis'd, as may be observ'd in most of those Places we have made use of, and particularly in that Speech of Wisdom, Prov. 8. where the 26th Verse is so obscure, that no two Versions that I have yet met with, whether ancient or modern, agree in the Translation of that Verse. And therefore, tho' I fully believe that the Construction of the first Earth is really intended in those Words; yet seeing it could not be made out clear without a long and critical Discussion of them, I did not think that proper to be insisted upon here. We may also observe, that whereas there is a double Form or Composition of the Earth, that which it had at first, or till the Deluge, and that which it hath since; sometimes the one, and sometimes the other may be glanc'd upon in these Scripture Phrases and Descriptions; and so there may be in the same Discourse an Intermixture of both. And it commonly happens so in an enthusiastick or prophetick Style, that by reason of the Eagerness and Trembling of the Fancy, it doth not always regularly follow the same even Thread of Discourse, but strikes many times upon some other Thing that hath Relation to it, or lies under or near the same view. Of this we have frequent Examples in the Apocalypse, and in that Prophecy of our Saviour's, Matth. 24. concerning the Destruction of Jerusalem, and of the World. But
The Deluge and Dissolution of the Earth. 127

But notwithstanding any such Unevenness or Indistinctness in the Style of those Places which we have cited concerning the Origin and Form of the Earth, we may at least make this Remark, that if there never was any other Form of the Earth but the present, nor any other State of the Abyss, than what it is in now, 'tis not imaginable what should give Occasion to all those Expressions and Passages that we have cited; which being so strange in themselves and paradoxical, should yet so much favour, and so fairly comply with our Suppositions. What I have observ'd in another Place, Tell. Theor. lib. 2. c. 6. in treating of Paradise, that the Expressions of the ancient Fathers were very extravagant, if Paradise was nothing but a little Plot of Ground in Mesopotamia, as many of late have fancied, may in like Manner be observ'd concerning the ancient Earth and Abyss, if they were in no other Form nor other State than what they are under now, the Expressions of the sacred Writers concerning them are very strange and unaccountable, without any sufficient Ground, that we know, or any just Occasion for such uncouth Representations. If there was nothing intended or refer'd to in those Descriptions, but the present Form and State of the Earth, that is so well known, that in describing of it there would be nothing dark or mysterious, nor any Occasion for Obscurity in the Style or Expression, whereof we find so much in those. So as, all Things consider'd, what
might otherwise be made an Exception to some of these Texts alleged by us, viz. that they are too obscure, becomes an Argument for us: As implying that there is something more intended by them than the present, and known Form of the Earth. And we having proposed another Form and Structure of the Earth, to which those Characters suit and answer more easily, as this opens and gives Light to those difficult Places, so it may be reasonably concluded to be the very Sense and Notion intended by the holy Writers.

And thus much, I think, is sufficient to have observ'd out of Scripture, to verify our Explication of the Deluge, and our Application of it to Noah's Flood, both according to the Mosaical History of the Flood, and according to many occasional Reflections and Discourses dispers'd in other Places of Scripture, concerning the same Flood, or concerning the Abyss and the first Form of the Earth. And though there may be some other Passages of a different Aspect, they will be of no Force to disprove our Conclusions, because they respect the present Form of the Earth and Sea; and also, because Expressions that deviate more from the common Opinion, are more remarkable and more proving; in that there is nothing could give Occasion to such, but an Intention to express the very Truth. So, for instance, if there was one Place of Scripture that said the Earth was mov'd, and several that seem'd to imply, that the Sun was mov'd, we should have
have more regard to that one Place for the Motion of the Earth, than to all the other that made against it; because those others might be spoken and understood according to common Opinion and common Belief, but that which affirm’d the Motion of the Earth, could not be spoke upon any other Ground, but only for Truth and Instruction sake. I leave this to be apply’d to the present Subject.

Thus much for the sacred Writings. As to the History of the ancient Heathens, we cannot expect an Account or Narration of Noah’s Flood, under that Name and Notion; but it may be of use to observe two Things out of that History. First, that the Inundations recorded there came generally to pass in the Manner we have describ’d the universal Deluge; namely, by Earthquakes and an Eruption of subterraneous Waters, the Earth being broken and falling in: And of this we shall elsewhere give a full Account out of their Authors: Secondly, that Deucalion’s Deluge in particular, which is suppos’d by most of the ancient Fathers to represent Noah’s Flood, is said to have been accompanied with a gaping or Disruption of the Earth. Apollodorus faith, Bibl. lib. i. that the Mountains of Thessaly were divided asunder, or separate one from another at that time: And Lucian (De Dea Syria) tells a very remarkable Story to this purpose, concerning Deucalion’s Deluge, and a Ceremony observ’d in the Temple of Hicropolis, in Commemoration of it; which Ceremony seems to have been of that Nature, as imply’d that there

Book I.
was an opening of the Earth at the Time of the Deluge, and that the Waters subsided into that again when the Deluge ceas’d. He faith, that this Temple at Hieropolis was built upon a kind of Abyss, or had a bottomless Pit, or gaping of the Earth in one Part of it; and the People of Arabia and Syria, and the Countries therabouts, twice a Year repair’d to this Temple, and brought with them every one a Vessel of Water, which they pour’d out upon the Floor of the Temple, and made a kind of an Inundation there in Memory of Deucalion’s Deluge; and this Water sunk by Degrees into a Chasm or opening of a Rock, which the Temple stood upon, and so left the Floor dry again. And this was a Rite solemnly and religiously perform’d both by the Priests and by the People. If Moses had left such a religious Rite among the Jews, I should not have doubted to have interpreted it concerning his Abyss, and the retiring of the Waters into it; but the actual Disruption of the Abyss could not well be represented by any Ceremony. And thus much concerning the present Question, and the true Application of our Theory to Noah’s Flood.
Chap. VIII.

The particular History of Noah's Flood is explained in all the material Parts and Circumstances of it, according to the preceding Theory. Any seeming Difficulties removed, and the whole Section concluded, with a Discourse how far the Deluge may be look'd upon as the Effect of an ordinary Providence, and how far of an extraordinary.

We have now proved our Explication of the Deluge to be more than an Idea, or to be a true Piece of natural History; and it may be the greatest and most remarkable that hath yet been since the Beginning of the World. We have shown it to be the real Account of Noah's Flood, according to Authority both divine and humane; and I would willingly proceed one step further, and declare my Thoughts concerning the Manner and Order wherein Noah's Flood came to pass; in what Method all those Things happen'd and succeeded one another, that make up the History of it, as Causes or Effects, or other Parts or Circumstances: As how the Ark was born upon the Waters, what Effect the Rains had, at what Time the Earth broke, and the Abyss was open'd; and what the Condition of the Earth was upon the ending of the Flood, and such like. But I desire to propose my Thoughts concerning these Things only as Conjectures, which I will ground as
near as I can upon Scripture and Reason, and am very willing they should be rectify'd where they happen to be amiss. I know how subject we are to Mistakes in these great and remote Things, when we descend to Particulars; but I am willing to expose the Theory to a full Trial, and to shew the Way for any to examine it, provided they do it with Equity and Sincerity. I have no other Design than to contribute my Endeavours to find out the Truth in a Subject of so great Importance, and wherein the World hath hitherto had so little Satisfaction: And he that in an obscure Argument proposeth an Hypothesis that reacheth from End to End, though it be not exact in every Particular, 'tis not without a good Effect; for it gives Aim to others to take their Measures better, and opens their Invention in a Matter which otherwise, it may be, would have been impenetrable to them: As he that makes the first Way thro' a thick Forest, tho' it be not the freightest and shortest, deserves better, and hath done more than he that makes it freighter and smoother afterwards.

Providence that ruleth all things and all Ages, after the Earth had flood above sixteen hundred Years, thought fit to put a Period to that World; and accordingly, it was reveal'd to Noah, that for the Wickedness and Degeneracy of Men, God would destroy Mankind with the Earth (Gen. 6. 13.) in a Deluge of Water; whereupon he was commanded, in order to the preserving of himself and Family, as a Stock for the new World, to build a great Vessel
The Deluge and Dissolution of the Earth. 133

Vessel or Ark, to float upon the Waters, and had Instructions given him for the Building of it both as to the Matter and as to the Form. *Noah* believed the Word of God, though against his Senses, and all external Appearances, and set himself to work to build an Ark, according to the Directions given, which after many Years Labour was finish'd; whilst the incredulous World, secure enough, as they thought, against a Deluge, continu'd still in their Excesses and Insolencies, and laughed at the Admonition of *Noah*, and at the Folly of his Design of building an extravagant Machine, a Floating House, to save himself from an imaginary Inundation; for they thought it no less, seeing it was to be in an Earth where there was no Sea, nor any Rain neither in those Parts, according to the ordinary Course of Nature; as shall be shown in the second Book of this Treatise.

But when the appointed time was come, the Heavens began to melt, and the Rains to fall, and these were the first surprizing Causes and Preparatives to the Deluge; They fell, we suppose, (tho' we do not know how that could proceed from natural Causes) throughout the Face of the whole Earth; which could not but have a considerable Effect on that Earth, being even and smooth, without Hills and Eminencies, and might lay it all under Water to some depth; so as the Ark, if it could not float upon those Rain-waters, at least taking the Advantage of a River, or of a Dock or Cistern made to receive them, it might
might be afloat before the Abyss was broken open. For I do not suppose the Abyss broken open before any Rain fell; and when the opening of the Abyss and of the Flood-gates of Heaven are mention'd together, I am apt to think those Floodgates were distinct from the common Rain, and were something more violent and impetuous. So that there might be preparatory Rains before the Disruption of the Abyss: and I do not know but those Rains, so covering up and enclosing the Earth on every side, might providentially contribute to the Disruption of it; not only by softning and weakening the Arch of the Earth in the bottom of those Cracks and Chasms which were made by the Sun, and which the Rain would first run into, but especially by stopping on a sudden all the Pores of the Earth, and all Evaporation, which would make the Vapours within struggle more violently, as we get a Fever by a Cold; and it may be in that struggle, the Doors and the Bars were broke, and the great Abyss gush out, as out of a Womb.

However, when the Rains were sain, we may suppose the Face of the Earth cover'd over with Water; and whether it was these Waters that St. Peter refers to, or that of the Abyss afterwards, I cannot tell, when he faith in his first Epistle, Chap. 3. 20. Noah and his Family were save'd by Water; so as the Water which destroy'd the rest of the World, was an Instrument of their Conservation, in as much as it bore up the Ark, and kept it from that impetuous shock, which it would have had,
The Deluge and Dissolution of the Earth. 135

had, if either it had stood upon dry Land when the Earth fell, or if the Earth had been dissolv'd without any Water on it or under it. However, Things being thus prepar'd, let us suppose the great Frame of the exterior Earth to have broke at this time, or the Fountains of the great Abyss, as Moses faith, to have been then open'd, from thence would issue, upon the Fall of the Earth, with an unspeakable Violence, such a Flood of Waters as would over-run and overwhelm for a Time all those Fragments which the Earth broke into, and bury in one common Grave all Mankind, and all the Inhabitants of the Earth. Besides, if the Flood-gates of Heaven were any thing distinct from the Forty Days Rain, their Effusion, 'tis likely, was at this same time when the Abyss was broken open; for the sinking of the Earth would make an extraordinary Convulsion of the Regions of the Air, and that Crack and Noise that must be in the Falling World, and in the Collision of the Earth and the Abyss, would make a great and universal Concussion above, which things together must needs so shake, or so squeeze the Atmosphere, as to bring down all the remaining Vapours; But the Force of these Motions not being equal throughout the whole Air, but drawing or pressing more in some Places than in other, where the Center of the Convulsion was, there would be the chiefest Collection, and there would fall, not Showers of Rain, or single Drops, but great Spouts or Cascades of Water; and this is that which Moses seems to call,
call, not improperly, the Cataraëts of Heaven, or the Windows of Heaven being set open.

Thus the Flood came to its height; and 'tis not easy to represent to our selves this strange Scene of things, when the Deluge was in its Fury and Extremity; when the Earth was broken and swallow'd up in the Abyss, whose raging Waters rise higher than the Mountains, and fill'd the Air with broken Waves, with an universal Mist, and with thick Darkness, so as Nature seem'd to be in a second Chaos; and upon this Chaos rid the distressed Ark, that bore the small Remains of Mankind. No Sea was ever so tumultuous, as this, nor is there any thing in present Nature to be compar'd with the Disorder of these Waters; all the Poetry, and all the Hyperboles that are us'd in the Description of Storms and raging Seas, were literally true in this, if not beneath it. The Ark was really carry'd to the tops of the highest Mountains, and into the Places of the Clouds, and thrown down again into the deepest Gulfs; and to this very state of the Deluge and of the Ark, which was a Type of the Church in this World, David seems to have alluded in the name of the Church, Psal. 42. 7. Abyss calls upon Abyss at the Noise of thy Cataraëts or Water-spouts; all thy Waves and Billows have gone over me. It was no doubt an extraordinary and miraculous Providence, that could make a Vessel, so ill man'd, live upon such a Sea; that kept it from being dash'd against the Hills, or overwhelm'd in the Deeps. That Abyss which had devour'd and swallow'd up
The Deluge and Dissolution of the Earth. 137

up whole Forests of Woods, Cities, and Pro-
vinces, nay the whole Earth, when it had con-
quer’d all, and triumph’d over all, could not destry this single Ship. I remember in
the Story of the Argonauticks, Dion. Argonaut.
l. 1. v. 47. when Jason set out to fetch the
Golden Fleece, the Poet faith, all the Gods
that Day look’d down from Heaven to view
the Ship; and the Nymphs stood upon the
Mountain-tops to see the noble Youth of Thes-
saly pulling at the Oars; we may with more
Reason suppose the good Angels to have
look’d down upon this Ship of Noah’s; and
that not out of Curiosity, as idle Spectators,
but with a passionate Concern for its Safety
and Deliverance. A Ship, whose Cargo was
no less than a whole World; that carry’d the
Fortune and Hopes of all Posterity, and if this
had perish’d, the Earth for any thing we know
had been nothing but a Desart, a great Ruin,
a dead heap of Rubbish, from the Deluge to
the Conflagration. But Death and Hell, the
Grave, and Destruction have their Bounds.
We may entertain our selves with the Consi-
deration of the Face of the Deluge, and of the
broken and drown’d Earth, in this Scheme, with
the floating Ark, and the guardian Angels.

Thus much for the Beginning and Progress
of the Deluge. It now remains only that we
consider it in its Decrease, and the State of the
Earth after the Waters were retir’d into their
Channels, which makes the present State of it.
Moses faith, God brought a Wind upon the
Waters,
The Theory of the Earth.

Waters, and the tops of the Hills became bare, and then the lower Grounds and Plains by degrees; the Waters being sunk into the Channels of the Sea, and the Hollowness of the Earth, and the whole Globe appearing in the Form it is now under. There needs nothing be added for Explication of this, 'tis the genuine Consequence of the Theory we have given of the Deluge; and whether this Wind was a descending Wind to depress and keep down the Swellings and Inequalities of the Abyss, or whether it was only to dry the Land as fast as it appear'd, or might have both Effects, I do not know; but as nothing can be perpetual that is violent, so this Commotion of the Abyss abated after a certain time, and the great Force that impell'd the Waters decreasing, their natural Gravity began to take Effect, and to reduce them into the lowest Places, at an equal height, and in an even Surface, and level one Part with another: That is, in short, the Abyss became our Sea, fixt within its Channel, and bounded by Rocks and Mountains: Then was the decreed Place established for it, and Bars and Doors were set; then was it said, hitherto shalt thou come, and no further, and here shall thy proud Waves be stop't. Job 38. 10, 11. And the Deluge being thus ended, and the Waters settled in their Channels, the Earth took such a broken Figure as is represented in those larger Schemes, p. 100. And this will be the Form and State of it till its great Change comes in the Conflagration, when we expect a new Heaven and a new Earth.

But
But to pursue this Prospect of Things a little further; we may easily imagine, that for many Years after the Deluge ceas’d, the Face of the Earth was very different from what it is now, and the Sea had other Bounds than it hath at present. I do not doubt but the Sea reach’d much further in-land, and clim’d higher upon the Sides of the Mountains; and I have observ’d in many Places a Ridge of Mountains some Distance from the Sea, and a Plain from their Roots to the Shore; which Plain no doubt was formerly cover’d by the Sea, bounded against those Hills as its first and natural Ramparts, or as the Ledges or Lips of its Vessel. And it seems probable, that the Sea doth still grow narrower from Age to Age, and sinks more within its Channel and the Bowels of the Earth, according as it can make its Way into all those subterraneous Cavities, and crowd the Air out of them. We see whole Countries of Land gain’d from it, and by several Indications, as ancient Seaports left dry and useless, old Sea-marks far within the Land, Pieces of Ships, Anchors, &c. left at a great Distance from the present Shores; from these Signs, and such like, we may conclude that the Sea reach’d many Places formerly that now are dry Land, and at first I believe was generally bound in on either Side with a Chain of Mountains. So I should easily imagine the Mediterranean Sea, for instance, to have been bounded by the Continuation of the Alps through Dauphine and Languedock to the Pyreneans, and at the other End by the Darmatick
The Theory of the Earth.

Matick Mountains almost to the Black Sea. Then Atlas major, which runs along with the Mediterranean from Ægypt to the Atlantick Ocean, and now parts Barbary and Numidia, may possibly have been the ancient Barrier on the Africk Side. And in our own Island I could easily figure to my self, in many Parts of it, other Sea-bounds than what it hath at present; and the like may be observ'd in other Countries.

And as the Sea had much larger Bounds for some Time after the Deluge, so the Land had a different Face in many Respects to what it hath now; for we suppose the Valleys and lower Grounds, where the Descent and Derivation of the Water was not so easy, to have been full of Lakes and Pools for a long Time; and these were often converted into Fens and Bogs, where the Ground being spungy, suck'd up the Water, and the loosen'd Earth swell'd into a soft and pappy Substance; which would still continue so, if there was any Course of Water sensible or insensible, above or within the Ground, that fed this moist Place: But if the Water flood in a more firm Basin, or on a Soil, which for its Heaviness or any other Reason would not mix with it, it made a Lake or clear Pool. And we may easily imagine there were innumerable such Lakes, and Bogs and Fastnesses for many Years after the Deluge, till the World begun to be pretty well flock'd with People, and humane Industry cleansed and drained those unfruitful and uninhabitable Places. And those Countries that have been
The Deluge and Dissolution of the Earth. 141

been later cultivated, or by a lazier People, retain still, in Proportion to their Situation and Soil, a greater Number of them.

Neither is it at all incongruous or inconvenient to suppose, that the Face of the Earth stood in this Manner for many Years after the Deluge; for while Mankind was small and few, they needed but a little Ground for their Seats or Subsistence; and as they grew more numerous, the Earth proportionably grew more dry, and more Parts of it fit for Habitation. I easily believe that Plato’s Observation or Tradition [de Leg. li. 3.] is true, that Men at first, after the Flood, liv’d in the Up-lands and Sides of the Mountains, and by Degrees sunk into the Plains and lower Countries, when Nature had prepar’d them for their Use, and their Numbers requir’d more Room. The History of Moses, Gen. 11. tells us, that some Time after the Deluge, Noah and his Posterity, his Sons and his Grand-children, chang’d their Quarters, and fell down into the Plains of Shiner, from the Sides of the Hills where the Ark had rested; and in this Plain was the last general Rendezvous of Mankind; so long they seem to have kept in a Body, and from thence they were divided and broken into Companies, and dispers’d, first, into the neighbouring Countries, and then by degrees throughout the whole Earth; the several successive Generations, like the Waves of the Sea when it flows, over-reaching one another, and striking out further and further upon the Face of the Land. Not that the whole Earth was peopled
The Theory of the Earth.

peopled by an uniform Propagation of Mankind every Way, from one Place, as a common Center; like the Swelling of a Lake upon a Plain: For sometimes they shot out in length, like Rivers, and sometimes they flew into remote Countries in Colonies, like Swarms from the Hive, and settled there, leaving many Places uninhabited between them and their first Home. Sea-shores and Islands were generally the last Places inhabited; for while the Memory or Story of the Deluge was fresh amongst them, they did not care for coming so near their late Enemy; or at least, to be inclos’d and surrounded by his Forces.

And this may be sufficient to have discours’d concerning all the Parts of the Deluge, and the Restitution of the Earth to an habitable Form, for the further Union of our Theory with the History of Moses; there rests only one Thing in that History to be taken notice of, which may be thought possibly not to agree so well with our Account of the Deluge; namely, that Moses seems to shut up the Abyss again at the End of the Deluge, which our Explication supposeth to continue open. But besides that Half the Abyss is still really cover’d, Moses saith the same Thing of the Windows of Heaven, that they were shut up too; and he seemeth in both to express only the Cessation of the Effect which proceeded from their opening: For as Moses had ascrib’d the Deluge to the opening of these two, so when it was to cease, he saith, these two were shut up; as they were really put into such a Condition,
dition, both of them, that they could not continue the Deluge any longer, nor ever be the Occasion of a second; and therefore in that Sense, and as to that Effect were for ever shut up. Some may possibly make that also an Objection against us, that Moses mentions and supposes the Mountains at the Deluge, for he faith, the Waters reached fifteen Cubits above the Tops of them; whereas we suppose the Antediluvian Earth to have had a plain and uniform Surface, without any Inequality of Hills and Valleys. But this is easily answer'd, it was in the Height of the Deluge that Moses mention'd the Mountains, and we suppose them to have risen then, or more towards the Beginning of it, when the Earth was broke; and these Mountains continuing still upon the Face of the Earth, Moses might very well take them for a Standard to measure and express to Posterity the Height of the Waters, though they were not upon the Earth when the Deluge begun. Neither is there any mention made, as is observ'd by some, of Mountains in Scripture, or of Rain, till the Time of the Deluge.

We have now finish'd our Account of Noah's Flood, both generally and particularly; and I have not wittingly omitted or conceal'd any Difficulty that occur'd to me, either from the History, or from abstract Reason: Our Theory, so far as I know, hath the Consent and Authority of both: And how far it agrees and is demonstrable from natural Observation, or from the Form and Phanomena of
of this Earth, as it lies at present, shall be the Subject of the remaining Part of this first Book. In the mean time I do not know any Thing more to be added in this Part, unless it be to conclude with an Advertisement to prevent any Mistake or Misconstruction, as if this Theory, by explaining the Deluge in a natural Way, in a great Measure, or, by natural Causes, did detract from the Power of God, by which that great Judgment was brought upon the World in a providential and miraculous Manner.

To satisfy all reasonable and intelligent Persons in this Particular, I answer and declare, first, That we are far from excluding divine Providence, either ordinary or extraordinary, from the Causes and Conduct of the Deluge. I know a Sparrow doth not fall to the Ground without the Will of our heavenly Father, much less doth the great World fall in pieces without his good Pleasure and Superintendency. In him all Things live, move, and have their Being; Things that have Life and Thought have it from him, he is the Fountain of both: Things that have Motion only, without Thought, have it also from him: And what hath only naked Being, without Thought or Motion, owe still that Being to him. And these are not only deriv'd from God at first, but every Moment continued and conserv'd by him. So intimate and universal is the Dependence of all Things upon the divine Will and Power.
In the second Place, they are guilty, in my Judgment, of a great Error or Indiscretion, that oppose the Course of Nature to Providence. St. Paul says (Acts 14. 17.) God hath not left us without Witness, in that he gives us Rain from Heaven; yet Rains proceed from natural Causes, and fall upon the Sea as well as upon the Land. In like manner, our Saviour, Matt. 6. 21. makes those Things Instances of divine Providence, which yet come to pass in an ordinary Course of Nature; in that Part of his excellent Sermon upon the Mount, Luke 12. 24. that concerns Providence, he bids them Consider the Lillies how they grow, they toil not, neither do they spin, and yet Solomon in all his Glory was not array'd like one of these: He bids them also consider the Ravens, they neither sow nor reap, neither have they Storehouse nor Barn, and God feedeth them. The Lillies grow, and the Ravens are fed according to the ordinary Course of Nature, and yet they are justly made Arguments of Providence by our Saviour; nor are these Things less providential, because constant and regular; on the contrary, such a Disposition or Establishment of second Causes, as will in the best Order, and for a long Succession, produce the most regular Effects, assisted only with the ordinary Concourse of the first Cause, is a greater Argument of Wisdom and Contrivance, than such a Disposition of Causes as will not in so good an Order, or for so long a Time produce regular Effects, without an extraordinary Concourse and Interposition of the
The Theory of the Earth.

first Cause. This, I think, is clear to every Man's Judgment. We think him a better Artift that makes a Clock that strikes regularly at every Hour from the Springs and Wheels which he puts in the Work, than he that hath so made his Clock that he must put his Finger to it every Hour to make it strike: And if one should contrive a Piece of Clock-work so that it should beat all the Hours, and make all its Motions regularly for such a Time, and that Time being come, upon a Signal given, or a Spring touch'd, it should of its own accord fall all to pieces; would not this be look'd upon as a Piece of greater Art, than if the Workman came at that Time prefix'd, and with a great Hammer beat it into pieces? I use these Comparisons to convince us, that it is no Detraction from divine Providence, that the Course of Nature is exact and regular, and that even in its greatest Changes and Revolutions it should still conspire and be prepar'd to answer the Ends and Purposes of the divine Will in reference to the moral World. This seems to me to be the great Art of divine Providence, so to adjust the two Worlds, humane and natural, material and intellectual, as seeing thro' the Possibilities and Futuritions of each, according to the first State and Circumstances he puts them under, they should all along correspond and fit one another, and especially in their great Crises and Periods.

Thirdly, Besides the ordinary Providence of God in the ordinary Course of Nature, there is doubtless an extraordinary Providence that doth
doth attend the greater Scenes and the greater Revolutions of Nature. This, methinks, besides all other Proof from the Effects, is very rational and necessary in itself; for it would be a Limitation of the divine Power and Will so to be bound up to second Causes, as never to use, upon Occasion; an extraordinary Influence or Direction: And 'tis manifest, taking any System of natural Causes, if the best possible, that there may be more and greater Things done, if to this, upon certain Occasions, you join an extraordinary Conduct. And as we have taken Notice before, that there was an extraordinary Providence in the Formation or Composition of the first Earth, so I believe there was also in the Dissolution of it: And I think it had been impossible for the Ark to have liv'd upon the raging Abyss, or for Noah and his Family to have been preserv'd, if there had not been a miraculous Hand of Providence to take care of them. But 'tis hard to separate and distinguish an ordinary and extraordinary Providence in all Cases, and to mark just how far one goes, and where the other begins. And writing a Theory of the Deluge here, as we do, we were to exhibit a Series of Causes whereby it might be made intelligible, or to shew the proximate natural Causes of it; wherein we follow the Example both of Moses and St. Peter; and with the same Veneration of the divine Power and Wisdom in the Government of Nature, by a constant ordinary Providence, and an occasional extraordinary.
The Theory of the Earth.

So much for the Theory of the Deluge, and the second Section of this Discourse.

CHAP. IX.

The second Part of this Discourse, proving the same Theory from the Effects and present Form of the Earth. First, by a general Scheme of what is most remarkable in this Globe, and then by a more particular Induction; beginning with an Account of subterraneous Cavities and subterraneous Waters.

We have now finish'd our Explication of the universal Deluge, and given an Account, not only of the Possibility of it, but (so far as our Knowledge can reach) of its Causes; and of that Form and Structure of the Earth, whereby the Old World was subject to that sort of Fate. We have not beg'd any Principles or Suppositions for the Proof of this; but taking that common Ground, which both Moses and all Antiquity present to us, viz. That this Earth rose from a Chaos: We have from that deduc'd, by an easy Train of Consequences, what the first Form of it would be; and from that Form, as from a nearer Ground, we have by a second Train of Consequences made it appear, that at some Time or other that first Earth would be subject to a Dissolution; and by that Dissolution to a Deluge. And thus far we have proceeded only by the Intuition of Causes, as is most proper to a Theory; but for the Satisfaction of those
The Deluge and Dissolution of the Earth. 149

those that require more sensible Arguments, and to compleat our Proofs on either hand, we will now argue from the Effects; and from the present State of Nature, and the present Form of the Earth, prove that it hath been broken, and undergone such a Dissolution as we have already describ'd, and made the immediate Occasion of the Deluge. And that we may do this more perspicuously and distinctly, we will lay down this Proposition to be prov'd, viz. That the present Form and Structure of the Earth, both as to the Surface and as to the interior Parts of it, so far as they are known and accessible to us, doth exactly answer to our Theory concerning the Form and Dissolution of the first Earth, and cannot be explain'd upon any other Hypothesis yet known.

Orators and Philosophers treat Nature after a very different Manner; those represent her with all her Graces and Ornaments, and if there be any Thing that is not capable of that, they dissemble it, or pass it over slightly. But Philosophers view Nature with a more impartial Eye, and without Favour or Prejudice give a just and free Account, how they find all the Parts of the Universe, some more, some less perfect. And as to this Earth in particular, if I was to describe it as an Orator, I would suppose it a beautiful and regular Globe; and not only so, but that the whole Universe was made for its sake; that it was the Darling and Favourite of Heaven, that the Sun shin'd only to give it Light, to ripen its Fruit, and make fresh its Flowers; and that the great
Concave of the Firmament, and all the Stars in their several Orbs, were design'd only for a spangled Cabinet to keep this Jewel in. This Idea I would give of it as an Orator; but a Philosopher that overheard me, would either think me in Jest, or very injudicious, if I took the Earth for a Body so regular in itself, or so considerable, if compared with the rest of the Universe. This, he would say, is to make the great World like one of the Heathen Temples, a beautiful and magnificent Structure, and of the richest Materials, yet built only for a little brute Idol, a Dog, or a Crocodile, or some deformed Creature, plac'd in a Corner of it.

We must therefore be impartial where the Truth requires it, and describe the Earth as it is really in itself; and though it be handsome and regular enough to the Eye in certain Parts of it, single Tracks and single Regions; yet if we consider the whole Surface of it, or the whole Exterior Region, 'tis as a broken and confus'd Heap of Bodies, plac'd in no Order to one another, nor with any Correspondency or Regularity of Parts: And such a Body as the Moon appears to us, when 'tis look'd upon with a good Glass, rude and ragged; as it is also represented in the modern Maps of the Moon; such a Thing would the Earth appear if it was seen from the Moon. They are both in my Judgment the Image or Picture of a great Ruin, and have the true Aspect of a World lying in its rubbish. See Fig. in Chap. 11.

Our Earth is first divided into Sea and Land, without any Regularity in the Portions, either
of the one or the other; in the Sea lie the Islands, scatter'd like Limbs torn from the rest of the Body; great Rocks stand rear'd up in the Waters; The Promontories and Capes shoot into the Sea, and the Sinus's and Creeks on the other hand run as much into the Land; and these without any Order or Uniformity. Upon the other Part of our Globe stand great Heaps of Earth or Stone, which we call Mountains; and if these were all plac'd together, they would take up a very considerable part of the dry Land; In the rest of it are lesser Hills, Valleys, Plains, Lakes and Marshes, Sands and Desarts, &c. and these also without any regular Disposition. Then the Inside of the Earth, or inward Parts of it, are generally broken or hollow, especially about the Mountains and high Lands, as also towards the Shores of the Sea, and among the Rocks. How many Holes and Caverns, and strange subterraneous Passages do we see in many Countries? and how many more may we easily imagine, that are unknown and unaccessible to us?

This is the Portraiture of our Earth, drawn without Flattery; and as oddly as it looks, it will not be at all surprizing to one that hath consider'd the foregoing Theory; For 'tis manifest enough, that upon the Dissolution of the first Earth, and its Fall into the Abyss, this very Face and Posture of Things, which we have now describ'd, or something extremly like it, would immediately result. The Sea would be open'd, and the Face of the Globe would

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be divided into Land and Water: And according as the Fragments fell, some would make Islands or Rocks in the Sea, others would make Mountains or Plains upon the Land; and the Earth would generally be full of Caverns and Hollownesses, especially in the mountainous Parts of it. And we see the Resemblance and Imitation of this in lesser Ruins, when a Mountain sinks and falls into subterraneous Water; or which is more obvious, when the Arch of a Bridge is broken, and falls into the Water, if the Water under it be not so deep as to overflow and cover all its Parts, you may see there the Image of all these things in little Continents, and Islands, and Rocks under Water: And in the Parts that stand above the Water, you see Mountains, and Precipices, and Plains, and most of the Varieties that we see and admire in the Parts of the Earth. What need we then seek any further for the Explication of these things? Let us suppose this Arch of the Bridge, as the great Arch of the Earth, which once it had, and the Water under it as the Abyss, and the Parts of this Ruin to represent the Parts of the Earth: There will be scarce any Difference but of lesser and greater, the same things appearing in both. But we have naturally that Weakness or Prejudice, that we think great things are not to be explain’d from easy and familiar Instances; We think there must be something difficult and o- perose in the Explication of them, or else we are not satisfied; whether it is that we are ashamed to see our Ignorance and Admiration
The Deluge and Dissolution of the Earth.

to have been so groundless, or whether we fancy there must be a Proportion between the Difficulty of the Explication, and the Greatness of the thing explain'd; but that is a very false Judgment, for let Things be never so great, if they be simple, their Explication must be simple and easy: And on the contrary, some things that are mean, common, and ordinary, may depend upon Causes very difficult to find out; for the Difficulty of explaining an Effect doth not depend upon its Greatness or Littleness, but upon the Simplicity or Composition of its Causes. And the Effects and Phenomena we are here to explain, though great, yet depending upon Causes very simple, you must not wonder if the Explication, when found out, be familiar and very intelligible.

And this is so intelligible, and so easily deducible from the forementioned Causes, that a Man born blind or brought up all his Life in a Cave, that had never seen the Face of the Earth, nor ever heard any Description of it, more than that it was a great Globe, having this Theory propos'd to him, or being instructed what the Form of the first Earth was, how it stood over the Waters, and then how it was broke and fell into them, he would easily of his own accord foretel what Changes would arise upon this Dissolution; and what the new Form of the Earth would be. As in the first place he would tell you, that this second Earth would be distinguish'd and checker'd into Land and Water; for the Orb which fell being greater than the Circumference it fell upon,
all the Fragments could not fall flat and lie drown'd under Water; and those that stood above, would make the dry Land or habita-
ble part of the Earth. Then in the second Place, he would plainly discern that these Frag-
ments that made the dry Land, could not lie all plain and smooth and equal, but some would be higher and some lower, some in one Posture and some in another, and consequent-
ly would make Mountains, Hills, Valleys and Plains, and all other Varieties we have in the Situation of the Parts of the Earth. And lastly, a blind Man would easily divine that such a great Ruin could not happen but there would be a great many Holes and Cavities amongst the Parts of it, a great many Intervals and empty Places in the rubbish, as I may so say; for this we see happens in all Ruins more or less; and where the Fragments are great and hard, 'tis not possible they should be so adjusted in their Fall, but that they would lie hollow in many Places, and many unfill'd Spaces would be intercepted amongst them; some gaping in the Surface of the Earth, and others hid within; so as this would give occasion to all sorts of Fractures and Ca-
vities either in the Skin of the Earth, or with-
in its Body. And these Cavities, that I may add that in the last Place, would be often fill'd with subterraneous Waters, at least at such a depth; for the Foundations of the Earth standing now within the Waters, so high as those Waters reach'd they would more or less pro-
pagate themselves every way.
Thus far our blind Man could tell us what the new World would be, or the Form of the Earth upon the great Dissolution; and we find his Reasonings and Inferences very true, these are the chief Lineaments and Features of our Earth; which appear indeed very irregular and very unaccountable when they are lookt upon naked in themselves; but if we look upon them through this Theory, we see as in a Glass all the Reasons and Causes of them. There are different Genius's of Men, and different Conceptions, and every one is to be allow'd their Liberty as to things of this Nature; I confess, for my own part, when I obserfe how easily and naturally this Hypothefis doth apply it self to the general Face of this Earth, hits and falls in so luckily and surprizingly with all the odd Postures of its Parts, I cannot, without Violence, bear off my Mind from fully assenting to it: And the more odd and extravagant, as I may so say, and the more diversify'd the Effects and Appearances are, to which an Hypothefis is to be apply'd, if it anwers them all and with Exactness, it comes the nearer to a moral Certitude and Infallibility. As a Lock that consists of a great deal of Workmanship, many Wards, and many odd Pieces and Contrivances, if you find a Key that answers to them all, and opens it readily, 'tis a thousand to one that 'tis the true Key, and was made for that purpose.

An eminent Philofopher of this Age, Monfieur des Cartes, hath made use of the like Hypothefis to explain the irregular Form of the present
present Earth; though he never dream'd of
the Deluge, nor thought that first Orb, built
over the Abyss, to have been any more than a
temporary crust, and not a real habitable World
that lasted for more than sixteen hundred Years,
as we suppose it to have been. And though
he hath, in my opinion, in the formation of
that first Orb, and upon the Dissolution of it,
committed some great Oversights, whereof we
have given an Account in the Latin Treatise,
C. 7. & lib. 2. c. 4. however he saw a Necessity
of such a Thing, and of the Disruption of
it, to bring the Earth into that Form and Pos-
ture wherein we now find it.

Thus far we have spoken in general concern-
ing the Agreement and Congruity of our Sup-
position with the present Face of the Earth, and
the easy Account it gives of the Causes of it. And
though I believe to ingenuous Persons that are
not prejudic'd by the Forms and Opinions of
the Schools against every thing that looks like
a Novelty or Invention, thus much might be
sufficient; yet for the Satisfaction of all, we
will, as a farther Proof of our Theory, or
that part of it which concerns the Dissolution
of the Earth, descend to a particular Explica-
tion of three or four of the most considerable
and remarkable things that occur in the Fabric
of this present Earth; namely, The great Chan-
nel of the Ocean; Subterraneous Cavities and
Subterraneous Waters; and lastly, Mountains
and Rocks. These are the Wonders of the
Earth as to the visible Frame of it; and who
would not be pleas'd to see a rational Account
The Deluge and Dissolution of the Earth. 157

of these, of their Origin, and of their Properties? Or who would not approve of an Hypothesis, when they see that Nature in her greatest and strangest Works may easily be understood by it, and is in no other way, that we know of, intelligible?

We will speak first of subterraneous Caves and Waters, because they will be of easier Dispatch, and an Introduction to the rest.

That the Inside of the Earth is hollow and broken in many Places, and is not one firm and united Mass, we have both the Testimony of Sense and of easy Observations to prove: How many Caves and Dens and hollow Passages into the Ground do we see in many Countries; especially amongst Mountains and Rocks; and some of them endless and bottomless so far as can be discover'd? We have many of these in our own Island, in Derbyshire, Somersetshire, Wales, and other Counties, and in every Continent or Island they abound more or less. These Hollownesses of the Earth the Ancients made Prisons, or Store-houses for the Winds, and set a God over them to confine them, or let them loose at his Pleasure. For some Ages after the Flood, as all Antiquity tells us, These were the first Houses Men had, at least in some Parts of the Earth; here rude Mortals shelter'd themselves, as well as they could, from the Injuries of the Air, till they were beaten out by wild Beasts that took Possession of them. The ancient Oracles also us'd to be given out of these Vaults and Recesses under Ground, the Sibyls had their Caves, and the Delphick
The Theory of the Earth.

Delphick Oracle, and their Temples sometimes, were built upon an hollow Rock. Places that are strange and solemn strike an Awe into us, and incline us to a kind of superstitious Timidity and Veneration, and therefore they thought them fit for the Seats and Residences of their Deities. They fancied also that Steams rise sometimes, or a sort of Vapour in those hollow Places, that gave a kind of divine Fury or Inspiration. But all these Uses and Employments are now in a great measure worn out; we know no Use of them but to make the Places talk’d on where they are, to be the Wonders of the Country, to please our Curiosity to gaze upon and admire; but we know not how they came, nor to what purpose they were made at first.

It would be very pleasant to read good Descriptions of these subterraneous Places, and of all the strange Works of Nature there; how she furnisheth these dark neglected Grotto’s; they have often a little Brook runs murmuring thro’ them, and the Roof is commonly a kind of petrified Earth or icy Fret-work, proper enough for such Rooms. But I should be pleas’d especially to view the Sea-caves, or those hollow Rocks that lie upon the Sea, where the Waves roll in a great Way under Ground, and wear the hard Rock into as many odd Shapes and Figures as we see in the Clouds. ’Tis pleasant also to see a River in the Middle of its Course throw itself into the Mouth of a Cave, or an Opening of the Earth, and run under Ground sometimes many Miles;
still pursuing its Way thro' the dark Pipes of the Earth, till at last it find an Out-let. There are many of these Rivers taken Notice of in History in the several Parts of the Earth, as the Rhone in France, Guadiana in Spain, and several in Greece, Alpheus, Lycus, and Erafinus; then Niger in Africa, Tygris in Asia, &c. And I believe if we could turn Derwent, or any other River, into one of the Holes of the Peak, it would groap its Way till it found an Issue, it may be, in some other County. These subterraneous Rivers that emerge again, shew us that the Holes of the Earth are longer and reach further than we imagine, and if we could see into the Ground, as we ride or walk, we should be affrighted to see so often Waters or Caverns under us.

But to return to our dry Caves; these commonly stand high, and are sometimes of a prodigious Greatness: Strabo [Geo. l. 16.] mentions some in the Mountains towards Arabia, that are capable to receive four thousand Men at once. The Cave of Engedi [1 Sam. 24. 3, 4.] hid David and six hundred Men, so as Saul, when he was in the Mouth of it, did not perceive them. In the Mountains of the Traconites there are many of these vast Dens and Recesses, and the People of that Country defended themselves a long time in those strong Holds against Herod and his Army: They are plac'd among such craggy Rocks and Precipices, that, as Josephus [Ant. Jud. l. 14. ch. 27.] tells us, Herod was forced to make a sort of open Chests, and in those by Chains of Iron he
he let down his Soldiers from the Top of the Mountains to go fight them in their Dens. I need add no more Instances of this Kind: In the natural History of all Countries, or the geographical Descriptions of them, you find such Places taken notice of, more or less; yet if there was a good Collection made of the chief of them in several Parts, it might be of use, and would make us more sensible how broken and torn the Body of the Earth is.

There are subterraneous Cavities of another Nature, and more remarkable, which they call Volcano's, or fiery Mountains; that belch out Flames and Smoke and Ashes, and sometimes great Stones and broken Rocks, and Lumps of Earth, or some metallick Mixture; and throw them to an incredible Distance by the Force of the Eruption. These argue great Vacuities in the Bowels of the Earth, and Magazines of combustible Matter treasur'd up in them. And as the Exhalations within these Places must be copious, so they must lie in long Mines or Trains to do so great Execution, and to last so long. 'Tis scarce credible what is reported concerning some Eruptions of Vesuvius and Ætna. The Eruptions of Vesuvius seem to be more frequent and less violent of late; the Flame and Smoke break out at the Top of the Mountain, where they have eaten away the Ground and made a great Hollow, so as it looks at the Top, when you stand upon the Brims of it, like an Amphitheatre, or like a great Caldron, about a Mile in Circumference, and the burning Furnace lies under it.
The Outside of the Mountain is all spread with Ashes, but the Inside much more; for you wade up to the Mid-leg in Ashes to go down to the Bottom of the Cavity, and 'tis extremely heavy and troublesome to get up again. The Inside lies sloping, and one may safely go down, if it be not in a raging Fit; but the middle Part of it, or Center, which is a little rais'd like the Bottom of a Platter, is not to be ventur'd upon, the Ground there lies false and hollow, there it always smoks, and there the Funnel is suppos'd to be; yet there is no visible Hole or Gaping any where when it doth not rage. Naples stands below in fear of this fiery Mountain, which hath often cover'd its Streets and Palaces with its Ashes; and in Sight of the Sea (which lies by the Side of them both) and as it were in Defiance to it, threatens at one time or another to burn that fair City. History tells us, that some Eruptions of Vesuvius have carry'd Cinders and Ashes as far as Constantinople; this is attested both by Greek and Latin Authors; particularly, that they were so affrighted with these Ashes and Darkness, that the Emperor left the City, and there was a Day observ'd yearly for a Memorial of this Calamity or Prodigy.

Ætna is of greater Fame than Vesuvius, and of greater Fury, all Antiquity speaks of it; not only the Greeks and Romans, but as far as History reacheth, either real or fabulous, there is something recorded of the Fires of Ætna. The Figure of the Mountain is inconstant, by Book I.
reason of the great Consumptions and Ruins it is subject to; the Fires and Æstuations of it are excellently describ'd by Virgil, upon Occasion of Æneas's passing by those Coasts.

— Horrificis juxta tonat Ætna ruinis; Interdumque atram prorumpit ad æthera nubes, Turbine fumantem piceo & candente favilla; Attollitque globos flammarum & sidera lambit; Interdum scopulos, avolsaque viscera Montis Erigit eruences, liquefactaque saxa sub auras Cum gemitu glomerat, fundoque exæsuat imo.

Fama est Enceladi semistum fulmine corpus Urgeri mole hac, ingentemque insuper Ætnam Imposi tam, ruptis flamnam expirare caminis. Et fessum quoties mutet latus, intremere omnem Murmure Trinacriam & caelum subtexere fumo.

—Ætna, whose Ruins make a thunder; Sometimes black Clouds of Smoak, that roawl about Mingled with Flakes of Fire, it belches out. And sometimes Balls of Flame it darts on high, Or its torn Bowels flings into the Sky. Within deep Cells under the Earth; a Store Of Fire-materials, molten Stones, and Ore, It gathers, then spews out, and gathers more.

Enceladus, when Thunder-struck by Jove, Was bury'd here, and Ætna thrown above; And when, to change his weared Side, he turns, The Island trembles and the Mountain burns.
The Deluge and Dissolution of the Earth.

Not far from Ætna lies Stromboli, and other adjacent Islands, where there are also such Magazines of Fire; and throughout all Regions and Countries in the West-Indies and in the East, in the northern and southern Parts of the Earth, there are some of these Volcano's, which are sensible Evidences that the Earth is incompact and full of Caverns; besides, the roarings and bellowings that use to be heard before an Eruption of these Volcano's, argue some dreadful Hollowness in the Belly, or under the Roots of the Mountain, where the Exhalations struggle before they can break their Prison.

The subterraneous Cavities that we have spoke of hitherto, are such as are visible in the Surface of the Earth; and break the Skin by some gaping Orifice; but the Miners and those that work under Ground meet with many more in the Bowels of the Earth, that never reach to the Top of it; Burrows and Channels, and Cliffs and Caverns, that never had the Comfort of one Beam of Light since the great Fall of the Earth. And where we think the Ground is firm and solid, as upon Heaths and Downs, it often betrays its Hollowness, by sounding under the Horses Feet and the Chariot-wheels that pass over it. We do not know when and where we stand upon good Ground, if it was examin'd deep enough; and to make us further sensible of this, we will instance in two Things that argue the Unsoundness and Hollowness of the Earth in the inward Recesses of it, tho' the Surface be int-
Earthquakes are too evident Demonstrations of the Hollowness of the Earth, being the dreadful Effects or Consequences of it; for if the Body of the Earth was found and compact, there would be no such Thing in Nature as an Earthquake. They are commonly accompanied with an heavy dead Sound, like a dull Thunder which ariseth from the Vapours that are striving in the Womb of Nature when her Throws are coming upon her. And that these Caverns where the Vapours lie are very large and capacious, we are taught sometimes by sad Experience; for whole Cities and Countries have been swallow'd up into them, as Sodom and Gomorrha, and the Region of Pentapolis, and several Cities in Greece, and in Asia, and other Parts. Whole Islands also have been thus absorpt in an Earthquake; the Pillars and Props they stood upon being broken, they have sunk and fain in as an House blown up. I am also of Opinion that those Islands that are made by Divulsion from a Continent, as Sicily was broken off from Italy, and Great-Britain, as some think, from France, have been made the same Way; that is, the Isthmus or Necks of Land, that join'd these Islands with their Continents before, have been hollow, and being either worn by the Water, or shak'd by an Earthquake, have sunk down, and so made Way for the Sea to overflow them, and of a
Promontory to make an Island. For it is not at all likely that the Neck of Land continu'd standing, and the Sea overflow'd it, and so made an Island; for then all those Passages between such Islands, and their respective Continents would be extremely shallow and un navigable, which we do not find them to be. Nor is it any more Wonder if such a Neck of Land should fall, than that a Mountain should sink, or any other Tract of Land, and a Lake rise in its Place, which hath often happen'd. Plato supposeth his Atlantis to have been greater than Asia and Africa together, and yet to have sunk all into the Sea; whether that be true or no, I do not think it impossible that some Arms of the Sea or Sinus's might have had such an Original as that; and I am very apt to think, that for some Years after the Deluge, till the Fragments were well settled and adjusted, great Alterations would happen as to the Face of the Sea and the Land; many of the Fragments would change their Posture, and many would sink into the Water that flood out before, the Props failing that bore them up, or the Joints and Corners whereby they lean'd upon one another: And thereupon, a new Face of Things would arise, and a new Deluge for that Part of the Earth. Such Removes and Interchanges, I believe, would often happen in the first Ages after the Flood; as we see in all other Ruins there happen lesser and secondary Ruins after the first, till the Parts be so well pois'd and settled, that with-
The Theory of the Earth.

out some Violence they scarce change their Posture any more.

But to return to our Earthquakes, and to give an Instance or two of their Extent and Violence: Pliny mentions one in the Reign of Tiberius Cæsar that struck down twelve Cities of Asia in one Night. And Fournier gives us an Account of one in Peru, that reach'd three hundred Leagues along the Sea-shore, and seventy Leagues Inland; and level'd the Mountains all along as it went, threw down the Cities, turn'd the Rivers out of their Channels, and made an universal Havock and Confusion: And all this, he faith, was done within the Space of seven or eight Minutes. There must be dreadful Vaults and Mines under that Continent, that gave Passage to the Vapours, and Liberty to play for nine hundred Miles in length, and above two hundred in breadth. Asia also hath been very Subject to these Desolations by Earthquakes; and many Parts in Europe, as Greece, Italy, and others. The Truth is, our Cities are built upon Ruins, and our Fields and Countries stand upon broken Arches and Vaults, and so does the greatest Part of the outward Frame of the Earth, and therefore it is no Wonder if it be often shaken; there being Quantities of Exhalations within these Mines, or cavernous Passages, that are capable of Rarefaction and Inflammation; and, upon such Occasions, requiring more Room, they shake or break the Ground that covers them. And thus much concerning Earthquakes.
A second Observation, that argues the Hollo\-wness of the Earth, is the Communication of the Seas and Lakes under Ground. The Caspian and Mediterranean Seas, and several Lakes, receive into them great Rivers, and yet have no visible Out\-let: These must have subterraneous Out\-lets, by which they empty themselves, otherwise they would redound and overflow the Brims of their Vessel. The Mediterranean is most remarkable in this Kind, because 'tis observ'd that at one End the great Ocean flows into it thro' the Straits of Gibral\-tar, with a sensible Current, and towards the other End about Constantinople the Pontus flows down into it with a Stream so strong, that Vessels have much ado to stem it; and yet it neither hath any visible Evacuation or Out\-let, nor overflows its Banks. And besides that it is thus fed at either End, it is fed by the Navel too, as I may so say; it sucks in, by their Channels, several Rivers into its Belly, where of the Nile is one very great and considerable. These Things have made it a great Problem, What becomes of the Water of the Mediterranean Sea? And for my Part, I think, the Solution is very easy, namely, that it is discharg'd by subterraneous Passages, or convey'd by Channe\-nels under the Ground into the Ocean. And this Manner of Discharge or Conveyance is not peculiar to the Mediterranean, but is com\-mon to it with the Caspian Sea, and other Seas and Lakes, that receive great Rivers into them, and have no visible Issue.
I know there have been propos'd several other Ways to answer this Difficulty concerning the Efflux or Consumption of the Waters of the Mediterranean; some have suppos'd a double Current in the Strait of Gibraltar, one that carry'd the Water in, and another that brought it out; like the Arteries and Veins in our Body, the one exporting our Blood from the Heart, and the other re-importing it: So they suppos'd one Current upon the Surface, which carry'd the Water into the Mediterranean, and under it at a certain Depth a Counter-current, which brought the Water back into the Ocean. But this hath neither Proof nor Foundation; for unless it was included in Pipes, as our Blood is, or consisted of Liquors very different, these cross Currents would mingle and destroy one another. Others are of Opinion, that all the Water that flows into the Mediterranean, or a Quantity equal to it, is consum'd in Exhalations every Day: This seems to be a bolder Supposition than the other; for if so much be consum'd in Vapours and Exhalations every Day as flows into this Sea, what if this Sea had an Outlet, and discharg'd by that, every Day, as much as it receiv'd? in a few Days the Vapours would have consum'd all the rest; and yet we see many Lakes that have as free an Outlet as an Inlet, and are not consum'd, or sensibly diminish'd by the Vapours. Besides, this Reason is a Summer Reason, and would pass very ill in Winter, when the Heat of the Sun is much less power-
The Deluge and Dissolution of the Earth. 169

ful: At least there would be a very sensible Difference betwixt the Height of the Waters in Summer and Winter, if so much was consum’d every Day, as this Explication supposeth. And the Truth is, this want of a visible Outlet is not a Property belonging only to the Mediterranean Sea, as we noted before, but is also in other Seas and great Lakes, some lying in one Climate, and some in another, where there is no Reason to suppose such excessive Exhalations; and tho’ ’tis true some Rivers in Africk, and in other Parts of the Earth, are thus exhal’d and dry’d up, without ever flowing into the Sea (as were all the Rivers in the first Earth) yet this is where the Sands and parch’d Ground suck up a great Part of them; the Heat of the Climate being excessively strong, and the Channel of the River growing shallower by Degrees, and, it may be, divided into lesser Branches and Rivulets; which are Causes that take no Place here. And therefore we must return to our first Reason, which is universal, for all Seasons of the Year and all Climates; and seeing we are assur’d that there are subterraneous Channels and Passages, for Rivers often fall into the Ground, and sometimes rise again, and sometimes never return; why should we doubt to ascribe this Effect to so obvious a Cause? Nay, I believe the very Ocean doth evacuate itself by subterraneous Out-lets; for considering what a prodigious Mass of Water falls into it every Day from the wide Mouths of all the Rivers of the Earth,
Earth, it must have Out-lets proportionable; and those Syrtes or great Whirlpools that are constant in certain Parts or Sinus's of the Sea, as upon the Coast of Norway and of Italy, arise probably from subterraneous Out-lets in those Places, whereby the Water sinks, and turns, and draws into it whatsoever comes within such a Compass; and if there was no Issue at the Bottom, tho' it might by contrary Currents turn Things round within its Sphere, yet there is no Reason from that why it should suck them down to the Bottom. Neither does it seem improbable, that the Currents of the Sea are from these In-draughts, and that there is always a submarine In-let in some Part of them, to make a Circulation of the Waters. But thus much for the subterraneous Communication of Seas and Lakes.

And thus much in general concerning subterraneous Cavities, and concerning the hollow and broken Frame of the Earth. If I had now Magick enough to shew you at one View all the Inside of the Earth, which we have imperfectly describ'd; if we could go under the Roots of the Mountains, and into the Sides of the broken Rocks; or could dive into the Earth with one of those Rivers that sink under Ground, and follow its Course and all its Windings till it rise again, or led us to the Sea, we should have a much stronger and more effectual Idea of the broken Form of the Earth, than any we can excite by these faint Descriptions collected from Reason. The Ancients
The Deluge and Dissolution of the Earth. 171

I remember us’d to represent these hollow Caves and subterraneous Regions in the Nature of a World under Ground, and supposed it inhabited by the Nymphs, especially the Nymphs of the Waters and the Sea-Goddesses; so Orpheus sung of old; and in Imitation of him Virgil hath made a Description of those Regions; feigning the Nymph Cyrene to send for her Son to come down to her, and make her a Visit in those Shades where Mortals were not admitted.

Duc age, duc ad nos, fas illi limina Divum
Tangere, ait: Simul alta jubet discedere late
Flumina, qua juvenis gressus inferret, at illum
Curvata in montis faciem circumstittunda,
Acceptitque sinu vasto, mistique sub annem.
Jam, domum mirans Genetricis & humida regna,
Speluncisque lacos clausos, lucosque sonantes,
Ibat, & ingenti motu stupesaetius aquarum
Omnia sub magna labentia flumina terra
Speetabat diversa locis; Phasinque Licumque, &c.
Et Thalami matris pendentia pumice teëta, &c.

Virgil.

Come lead the Youth below, bring him to me,
The Gods are pleas’d our Mansions he should see;
Straight she commands the Floods to make him Way,
They open their wide Bosom and obey;
Soft is the Path, and easy is his Tread,
A watry Arch bends o’er his dewy Head;
And as he goes he wonders, and looks round,
To see this new-found Kingdom under Ground.

The
The Theory of the Earth.
The silent Lakes in hollow Caves he sees,
And on their Banks an echoing Grove of Trees;
The Fall of Waters 'mongst the Rocks below
He hears, and sees the Rivers how they flow:
All the great Rivers of the Earth are there,
Prepar'd, as in a Womb, by Nature's Care.
Last, to his Mother's Bed-chamber he's brought,
Where the high Roof with Pumice-stone is wrought, &c.

If we now could open the Earth as this Nymph did the Water, and go down into the Bosom of it; see all the dark Chambers and Apartments there, how ill contriv'd, and how ill kept; so many Holes and Corners, some fill'd with Smoak and Fire, some with Water, and some with Vapours and mouldy Air; how like a Ruin it lies gaping and torn in the Parts of it; We should not easily believe that God created it into this Form immediately out of nothing: It would have cost no more to have made Things in better Order; nay, it had been more easy and more simple; and accordingly we are assured that all Things were made at first in Beauty and Proportion. And if we consider Nature and the Manner of the first Formation of the Earth, 'tis evident that there could be no such Holes and Caverns, nor broken Pieces, made then in the Body of it; for the großer Parts of the Chaos falling down towards the Center, they would there compose a Mass of Earth uniform and compact, the Water swimming above it; and this first Mass
The Deluge and Dissolution of the Earth. 173

The Mass under the Water could have no Caverns or Vacuities in it; for if it had any, the earthy Parts, while the Mass was liquid or semi-liquid, would have sunk into them and fill'd them up, expelling the Air or Water that was there; and when afterwards there came to be a Crust or new Earth form'd upon the Face of the Waters, there could be no Cavities, no Dens, no Fragments in it, no more than in the other; and for the same general Reason, that is, passing from a liquid Form into a concrete or solid, leisurely and by degrees, it would flow and settle together in an entire Mass; there being nothing broken, nor any Thing hard, to bear the Parts off from one another, or to intercept any empty Spaces between them.

'Tis manifest then that the Earth could not be in this cavernous Form originally, by any Work of Nature; nor by any immediate Action of God, seeing there is neither Use nor Beauty in this kind of Construction. Do we not then, as reasonably, as aptly, ascribe it to that Desolation that was brought upon the Earth in the general Deluge, when its outward Frame was dissolv'd and fell into the great Abyss? How easily doth this answer all that we have observ'd concerning the subterraneous Regions? That hollow and broken Posture of Things under Ground, all those Caves and Holes, and blind Recesfes, that are otherwise so unaccountable, say but that they are a Ruin, and you have in one Word explain'd
plain'd them all. For there is no sort of Cavities, interior or exterior, great or little, open or shut, wet or dry, of what Form or Fashion soever, but we might reasonably expect them in a Ruin of that Nature. And as for the subterraneous Waters, seeing the Earth fell into the Abyss, the Pillars and Foundations of the present (exterior) Earth must stand immers'd in Water, and therefore at such a Depth from the Surface every where, there must be Water found, if the Soil be of a Nature to admit it. 'Tis true, all subterraneous Waters do not proceed from this Original; for many of them are the Effects of Rains and melted Snows sunk into the Earth; but that in digging any where you constantly come to Water at length, even in the most solid Ground, this cannot proceed from these Rains or Snows, but must come from below, and from a Cause as general as the Effect is; which can be no other in my Judgment than this, that the Roots of the exterior Earth stand within the old Abyss, whereof, as a great Part lies open in the Sea, so the rest lies hid and cover'd among the Fragments of the Earth; sometimes dippers'd and only moistning the Parts, as our Blood lies in the Flesh, and in the Habit of the Body; sometimes in greater or lesser Masses, as the Blood in our Vessels. And this I take to be the true Account of subterraneous Waters as distinguish'd from Fountains and Rivers, and from the Matter and Causes of them.
Thus much we have spoke to give a general Idea of the inward Parts of the Earth, and an easy Explication of them by our Hypothesis; which whether it be true or no, if you compare it impartially with Nature, you will confess at least, that all these things are just in such a Form and Posture as if it was true.

CHAP. X.

Concerning the Channel of the Sea, and the Original of it; The Causes of its irregular Form and unequal Depths: As also of the Original of Islands, their Situation and other Properties.

We have hitherto given an Account of the subterraneous Regions, and of their general Form; We now come above Ground to view the Surface of the Globe, which we find Terraqueous, or divided into Sea and Land: These we must survey, and what is remarkable in them as to their Frame and Structure, we must give an Account of from our Hypothesis, and shew to be unaccountable from any other yet known.

As for the Ocean, there are two things considerable in it, the Water and the Channel that contains it. The Water no doubt is as ancient as the Earth and cotemporary with it, and we suppose it to be Part of the great Abyss wherein the World was drown'd; the rest lying cover'd under the hollow Fragments of Continents and Islands. But that is not so much
much the Subject of our present Discourse as the Channel of the Ocean, that vast and prodigious Cavity that runs quite round the Globe, and reacheth, for ought we know, from Pole to Pole, and in many Places is unspeakably deep: When I present this great Gulf to my Imagination, emptied of all its Waters, naked and gaping at the Sun, stretching its Jaws from one End of the Earth to another, it appears to me the most ghastly thing in Nature. What Hands or Instruments could work a Trench in the Body of the Earth of this vastness, and lay Mountains and Rocks on the side of it, as Ramparts to enclose it?

But as we justly admire its Greatness, so we cannot at all admire its Beauty or Elegancy, for 'tis as deform'd and irregular as it is great. And there appearing nothing of Order or any regular Design in its Parts, it seems reasonable to believe that it was not the Work of Nature, according to her first Intention, or according to the first Model that was drawn in Measure and Proportion by the Line and by the Plummet, but a secondary Work, and the best that could be made of broken Materials. And upon this Supposition 'tis easy to imagine, how upon the Dissolution of the Primæval Earth the Channel of the Sea was made, or that huge Cavity that lies between the several Continents of the Earth; which shall be more particularly explain'd after we have view'd a little better the Form of it, and the Islands that lie scatter'd by its Shores.
The Deluge and Dissolution of the Earth.

There is no Cavity in the Earth, whether open or subterraneous, that is comparably so great as that of the Ocean, nor would any appear of that Deformity if we could see it empty. The Inside of a Cave is rough and unsightly; the Beds of great Rivers and great Lakes when they are laid dry, look very raw and rude, the Valleys of the Earth, if they were naked, without Trees and without Grass, nothing but bare Ground and bare Stones, from the tops of their Mountains, would have a ghastly Aspect; but the Sea-Channel is the Complex of all these; here Caves, empty Lakes, naked Valleys are represented as in their Original, or rather far exceeded and outdone as to all their Irregularities; for the Cavity of the Ocean is universally irregular, both as to the Shores and Borders of it; as to the uncertain Breadth and the uncertain Depth of its several Parts, and as to its Ground and Bottom and the whole Mould: If the Sea had been drawn round the Earth in regular Figures and Borders, it might have been a great Beauty to our Globe, and we should reasonably have concluded it a Work of the first Creation, or of Nature's first Production; but finding on the contrary all the Marks of Disorder and Disproportion in it, we may as reasonably conclude, that it did not belong to the first Order of Things, but was something succedaneous, when the Degeneracy of Mankind, and the Judgments of God had destroy'd the first World, and subjected the Creation to some kind of Vanity.

Book I.

Nor
Nor can it easily be imagin'd, if the Sea had been always, and the Earth, in this *Terraqueous* Form, broke into Continents and Islands, how Mankind could have been propagated at first through the Face of the Earth, all from one Head and from one Place. For Navigation was not then known, at least as to the grand Ocean, or to pass from Continent to Continent; and I believe, *Noab's* Ark was the first Ship, or Vessel of Bulk, that ever was built in the World; how could then the Posterity of *Adam* overflow the Earth, and flock the several Parts of the World, if they had been distant or separate then, as they are now, by the Interpos'd of the great Ocean? But this Consideration we will insist upon more largely in another Place; let us reflect upon the Irregularities of the Sea-Channel again, and the possible Causes of it.

If we could imagine the Channel of the Sea to have been made as we may imagine the Channel of Rivers to have been, by long and insensible Attrition, the Water wearing by degrees the Ground under it, by the Force it hath from its Descent and Course, we should not wonder at its irregular Form; but 'tis not possible this Channel should have had any such Original; whence should its Water have descended, from what Mountains, or from what Clouds? Where is the Spring-head of the Sea? What Force could eat away half the Surface of the Earth, and wear it hollow to an immeasurable Depth? This must not be from feeble and lingering Causes, such as the Attrition
The Deluge and Dissolution of the Earth. 179

tion of Waters, but from some great Violence offer'd to Nature, such as we suppose to have been in the general Deluge, when the Frame of the Earth was broken. And after we have a little survey'd the Sea-Coast, and, so far as we can, the Form of the Sea-Channel, we shall the more easily believe that they could have no other Original than what we assign.

The Shores and Coasts of the Sea are no way equal or uniform, but go in a Line uncertainly crooked and broke; indented and jag'd as a thing torn, as you may see in the Maps of the Coasts and the Sea-charts; and yet there are innumerable more Inequalities than are taken Notice of in those Draughts; for they only mark the greater Promontories and Bays; but there are besides those a Multitude of Creeks and Out-lets, Necks of Land and Angles, which break the Evenness of the Shore in all manner of Ways. Then the Height and Level of the Shore is as uncertain as the Line of it; 'tis sometimes high and sometimes low, sometimes spread in sandy Plains, as smooth as the Sea itself, and of such an equal Height with it, that the Waves seem to have no Bounds but the meer Figure and Convexity of the Globe; in other Places 'tis rais'd into Banks and Ramparts of Earth, and in others 'tis wall'd in with Rocks; and all this without any Order that we can observe, or any other Reason than that this is what might be expected in a Ruin.

As to the Depths and Soundings of the Sea, they are under no Rule nor Equality any more
The Theory of the Earth.

than the Figures of the Shores; Shallows in some Places, and Gulphs in others; Beds of Sands sometimes, and sometimes Rocks under Water; as Navigators have learn'd by a long and dangerous Experience: And tho' we that are upon dry Land, are not much concern'd how the Rocks and the Shelves lie in the Sea, yet a poor Shipwreckt-Mariner, when he hath run his Vessel upon a Rock in the middle of the Channel, expostulates bitterly with Nature, who it was that plac'd that Rock there, and to what purpose? Was there not Room enough, faith he, upon the Land, or the Shore, to lay your great Stones, but they must be thrown into the middle of the Sea, as it were in spite to Navigation? The best Apology that can be made for Nature in this Case, so far as I know, is to confess that the whole Business of the Sea-Channel is but a Ruin, and in a Ruin Things tumble uncertainly, and commonly lie in Confusion: Though to speak the Truth, it seldom happens, unless in narrow Seas, that Rocks or Banks or Islands lie in the middle of them, or very far from the Shores.

Having view'd the more visible Parts of the Channel of the Sea, we must now descend to the bottom of it, and see the Form and Contrivance of that; but who shall guide us in our Journey, while we walk, as Job faith, Chap. 38. 16. in the search of the Deep? Or who can make a Description of that which none hath seen? It is reasonable to believe, that the bottom of the Sea is much more rugged, broken and irregular than the Face of the Land.
The Deluge and Dissolution of the Earth.

Land. There are Mountains, and Valleys, and Rocks, and Ridges of Rocks, and all the common Inequalities we see upon Land; beside these, 'tis very likely there are Caves under Water, and hollow Passages into the Bowels of the Earth, by which the Seas circulate and communicate one with another, and with subterraneous Waters; those great Eddees and infamous Syrtes and Whirlpools that are in some Seas, as the Baltic and the Mediterranean, that suck into them and overwhelm whatever comes within their reach, show that there is something below that sucks from them in Proportion, and that drinks up the Sea as the Sea drinks up the Rivers. We ought also to imagine the Shores within the Water to go inclin'd and sloping, but with great Inequality; there are many Shelves in the way, and Chambers, and sharp Angles; and many broken Rocks and great Stones lie rolled down to the Bottom.

'Tis true these things affect us little, because they are not expos'd to our Senses; and we seldom give our selves the trouble to collect from Reason what the Form of the invisible and inaccesible Parts of the Earth is; or if we do sometimes, those Idea's are faint and weak, and make no lasting Impression upon our Imagination and Passions; but if we should suppose the Ocean dry, and that we lookt down from the Top of some high Cloud upon the empty Shell, how horridly and barbarously would it look? And with what Amazement should we see it under us like an open Hell, or a wide bottomless
bottomless Pit? So deep, and hollow, and vast; so broken and confus’d, so every way deform’d and monstrous. This would effectually waken our Imagination, and make us enquire and wonder how such a thing came in Nature; from what Causes, by what Force or Engines could the Earth be torn in this prodigious manner? Did they dig the Sea with Spades, and carry out the Molds in Hand-baskets? Where are the Entrails laid? and how did they cleave the Rocks asunder? If as many Pioneers as the Army of Xerxes had been at Work ever since the Beginning of the World, they could not have made a Ditch of this Greatness. Nor is it the Greatness only, but that wild and multifarious Confusion which we see in the Parts and Fashion of it, that makes it strange and unaccountable; 'tis another Chaos in its kind, who can paint the Scenes of it? Gulfs, and Precipices, and Cataracts; Pits within Pits, and Rocks under Rocks, broken Mountains and ragged Islands, that look as if they had been Countries pull’d up by the Roots, and planted in the Sea.

If we could make true and full Representations of these things to our selves, I think we should not be so bold as to make them the immediate Product of Divine Omnipotence; being destitute of all Appearance of Art or Counsel. The first Orders of things are more perfect and regular; and this Decorum seems to be observ’d, that Nature doth not fall into Disorder till Mankind be first degenerate and leads the way. Monsters have been often made
made an Argument against Providence; if a Calf have two Heads, or five Legs, straight there must not be a God in Heaven, or at least not upon Earth; and yet this is but a Chance that happens once in many Years, and is of no Consequence at all to the rest of the World: But if we make the standing Frame of Nature monstrous, or deform'd and disproportion'd, and to have been so not by Corruption and Degeneracy, but immediately by divine Creation or Formation, it would not be so easy to answer that Objection against Providence. Let us therefore prevent this Imputation; and supposing, according to our Theory, that these Things were not originally thus, let us now explain more distinctly how they came to pass at the Deluge, or upon the Dissolution of the first Earth.

And we will not content our selves with a general Answer to these Observations concerning the Sea-channel, as if it was a sufficient Account of them to say they were the Effects of a Ruin; there are other things to be consider'd and explain'd beside this Irregularity, as the vast Hollowness of this Cavity, bigger incomparably than any other belonging to the Earth; and also the Declivity of the Sides of it, which lie shelving from Top to Bottom: For notwithstanding all the Inequalities we have taken notice of in the Channel of the Sea, it hath one general Form, which may, tho' under many Differences, be observ'd throughout, and that is, that the Shores and Sides within the Water lie inclin'd, and you descend
descend by degrees to the deepest Part, which is towards the Middle. This, I know, admits of many Exceptions; for sometimes upon a rocky Shore, or among rocky Islands the Sea is very deep close to the Rocks, and the deeper commonly the higher and steeper the Rocks are. Also where the Descent is more leisurely, 'tis often after a different manner, in some Coasts more equal and uniform, in others more broken and interrupted; but still there is a Descent to the Channel or deepest Part, and this in the deep Ocean is fathomless; and such a deep Ocean, and such a deep Channel there is always between Continents. This, I think, is a Property as determinate as any we can pitch upon in the Channel of the Sea, and with those other two mention'd; its vast Cavity, and universal Irregularity, is all one can desire an Account of as to the Form of it; we will therefore from this Ground take our Rise and first Measures for the Explication of the Sea-channel.

Let us suppose then in the Dissolution of the Earth when it began to fall, that it was divided only into three or four Fragments, according to the Number of our Continents; but those Fragments being vastly great, could not descend, at their full Breadth and Expansion, or at least could not descend so fast in the Middle as towards the Extremities; because the Air about the Edges would yield and give Place easily, not having far to go to get out of the Way; but the Air that was under the Middle of the Fragment could not without a very
very swift Motion get from under the Con-
cave of it, and consequently its Descent there
would be more resisted and suspended; but
the Sides in the mean time would continually
descend, bending the Fragment with their
Weight, and so making it of a lesser Compass
and Expansion than it was before: And by this
Means there would be an Interval and Di-
fance made between the two falling Frag-
ments, and a good Part of the Abyss, after
their Descent, would lie uncover'd in the Middle
betwixt them; as may be seen in the annex'd
Figure, where the Fragments A. B. bending
downwards in their Extremities, separate as
they go, and after they are fall'n, leave a good
Space in the Abyss betwixt them altogether
uncover'd: This Space is the main Channel of
the great Ocean, lying betwixt two Continents;
and the inclining Sides shew the Declivity of
the Shores.

This we have represented here only in a
Ring or Circle of the Earth, in the first Fi-
gure; but it may be better represented in a
broader Surface, as in the second Figure,
where the two Fragments A. B. that are to
make the two opposte Continents, fall in like
double Doors, opening downwards, the Hin-
ges being towards the Land on either Side, so
as at the Bottom they leave in the Middle be-
twixt them a deep Channel of Water, a. a. a.
such as is betwixt all Continents; and the
Water reaching a good Height upon the Land
on either Side, makes Sea there too, but shal-
lower,
lower, and by degrees you descend into the deepest Channel.

This gives an Account of two Things that we mention’d to be consider’d and explain’d as to the Sea, how the great Cavity of its Channel was made, and how it was made in that general Form of Declivity in its Sides from the Land: The third Thing was the Irregularities of it, both as to its various Depths, and as to the Form of the Shores and of the Bottom. And this is as easily and naturally explain’d from the same Supposition as the former two; for tho’ we have hitherto represent-ed the Fragments A. B. as even and regular after their Fall, because that was most simple, and there was no occasion then to represent them otherwise, yet we must suppose, that as soon as in their Fall they hit upon the Top or Bottom of the Abyss, that great Force and Weight with which they descended broke off all the Edges and Extremities, and so made innumerable Ruptures and Inequalities in the Shores, and as many within the Sea, and at the Bottom; where the broken Rocks and Lumps of Earth would lie in all imaginable Disorder; as you may conceive from the third Figure. For when the Motion came on a sudden to be obstructed, the Load of the Fragment still pressing it forwards, such a Concupision arose as made thousands of lesser Fragments, of all Shapes and Magnitudes, and in all Postures and Forms, and most of them irregular. And by these Fractions and secon-da-
ry Ruins the Line of the Shores was broken, and the Level of them too: In some Places they would stand high, in others low, sometimes rough, and sometimes even, and generally crooked, with Angles and In-lets, and uncertain Windings. The Bottom also by the same Stroke was diversify'd into all Manner of Forms, sometimes rocky with Pits and Gulfs, and sometimes spread in plain Beds, sometimes shallow, and sometimes deep; for those Differences would depend only upon the Situation of the secondary Fragments; and so it might come to pass, that some Places near the Shore might be excessive deep when a Rock or Rocks stood in a steep Posture, as (Figure 3.) b. b. b. and, on the contrary, sometimes Places much more advanc'd into the Ocean, might be less deep, where a Fragment of Earth lay under Water, or one bore up another, as c. c. c. but these Cases would not be very frequent. To conclude, There are no Properties of the Sea-channel, that I know of, nor Differences or Irregularities in the Form of it, which this Hypothesis doth not give a fair Account of: And having thus far open'd the Way, and laid down the general Grounds for their Explication, other things that are more minute, we leave to the Curiosity of particular Genius's; being unwilling to clog the Theory at first with things that may seem unnecessary. We proceed now to the Consideration of Islands.

We must in the first Place distinguish between Original Islands and Factitious Islands: Those I call factitious, that are not of the same
Date and Antiquity with the Sea, but have been made some at one time, some at another, by accidental Causes, as the Aggregation of Sands and Sand-beds, or the Sea leaving the Tops of some shallow Places that lie high, and yet flowing about the lower Skirts of them; these make sandy and plain Islands, that have no high Land in them, and are but Mock-Islands in effect. Others are made by Divulsion from some Continent, when an Isthmus, or the Neck of a Promontory running into the Sea, sinks or falls in, by an Earthquake or otherwise, and the Sea entring in at the Gap paffeth through, and makes that Promontory or Country become an Island. Thus the Island Sicily is suppos'd to have been made, and all Africa might be an Island, if the Isthmus between the Mediterranean and the red Sea should sink down. And these Islands may have Rocks and Mountains in them, if the Land had so before. Lastly, There are Islands that have been said to rise from the Bottom of the Sea; History mentions such in both the Archipelago's, Ægean and Indian; and this seems to argue that there are great Fragments or Tracts of Earth that lie loose at the Bottom of the Sea, or that are not incorporated with the Ground; which agrees very well with our Explication of the Sea-channel.

But beside these Islands, and the several Sorts of them, there are others which I call Original; because they could not be produc'd in any of the forementioned Ways, but are of the same Origin and Antiquity with the Channel
The Deluge and Dissolution of the Earth. 189

nel. of the Sea; and such are the Generality of our Islands; they were not made of Heaps of Sands, nor torn from any Continent, but are as ancient as the Continents themselves, namely, ever since the Deluge, the common Parent of them both. Nor is there any Difficulty to understand how Islands were made at the Dissolution of the Earth, any more than how Continents were made; for Islands are but lffer Continents, or Continents greater Islands; and according as Continents were made of greater Masses of Earth, or greater Fragments standing above the Water, so Islands were made of less, but so big always, and in such a Posture, as to bear their Tops above the Water. Yet tho' they agree thus far, there is a particular Difference to be taken notice of as to their Origin; for the Continents were made of those three or four primary Masses into which the falling Orb of the Earth was divided, but the Islands were made of the Fragments of these, and broken off by the Fall from the Skirts and Extremities of the Continents: We noted before, that when those great Masses and primary Fragments came to dash upon the Abyss in their Fall, the sudden Stop of the Motion, and the weighty Bulk of the descending Fragment broke off all the Edges and Extremities of it, which Edges and Extremities broken off made the Islands; and accordingly we see that they generally lie scatter'd along the Sides of the Continents, and are but Splinters, as it were, of those greater Bodies. 'Tis true, beside these, there were
an infinite Number of other Pieces broke off that do not appear, some making Rocks under Water, some Shallows and Banks in the Sea; but the greatest of them when they fell either one upon another, or in such a Posture as to prop up one another, their Heads and higher Parts would stand out of the Water and make Islands.

Thus I conceive the Islands of the Sea were at first produc'd; we cannot wonder therefore that they should be so numerous; or far more numerous than the Continents; these are the Parents, and those are the Children; nor can we wonder to see along the Sides of the Continents several Islands or Sets of Islands, sown, as it were, by Handfuls, or laid in Trains; for the Manner of their Generation would lead us to think they would be so plac'd. So the American Islands lie scatter'd upon the Coast of that Continent; the Maldivian and Philippine upon the East-Indian Shore, and the Hesperides upon the Africk; and there seldom happen to be any towards the Middle of the Ocean, tho', by an Accident, that also might come to pass. Lastly, It suits very well with our Explication, that there should be Mountains and Rocks, sometimes in Clusters, sometimes in long Chains, in all Islands; (as we find there are in all that are true and original) for 'tis that makes them high enough to appear above the Water, and strong enough to continue and preserve themselves in that high Situation.
The Deluge and Dissolution of the Earth. 191

And thus much may suffice for a summary Explication of the Causes of the Sea-channel and Islands, according to our Hypothesis.

CHAP. XI.

Concerning the Mountains of the Earth, their Greatness and irregular Form, their Situation, Causes, and Origin.

We have been in the Hollows of the Earth, and the Chambers of the Deep, amongst the Damps and Steams of those lower Regions; let us now go air our selves on the Tops of the Mountains, where we shall have a more free and large Horizon, and quite another Face of Things will present itself to our Observation.

The greatest Objects of Nature are, methinks, the most pleasing to behold; and next to the great Concave of the Heavens, and those boundless Regions where the Stars inhabit, there is nothing that I look upon with more Pleasure than the wide Sea and the Mountains of the Earth. There is something august and stately in the Air of these things, that inspires the Mind with great Thoughts and Passions; we do naturally, upon such Occasions, think of God and his Greatness: And whatsoever hath but the Shadow and Appearance of INFINITE, as all Things have that are too big for our Comprehension, they fill and over-bear the Mind with their Excess, and
and cast it into a pleasing kind of Stupor and Admiration.

And yet these Mountains we are speaking of, to confess the Truth, are nothing but great Ruins; but such as show a certain Magnificence in Nature; as from old Temples and broken Amphitheatres of the Romans we collect the Greatness of that People. But the Grandeur of a Nation is less sensible to those that never see the Remains and Monuments they have left; and those who never see the mountainous Parts of the Earth, scarce ever reflect upon the Causes of them, or what Power in Nature could be sufficient to produce them. The Truth is, the Generality of People have not Sense and Curiosity enough to raise a Question concerning these things, or concerning the Original of them. You may tell them that Mountains grow out of the Earth like Fuzzballs, or that there are Monsters under Ground, that throw up Mountains as Moles do Molehills; they will scarce raise one Objection against your Doctrine. Or if you would appear more Learned, tell them that the Earth is a great Animal, and these are Wens that grow upon its Body; this would pass current for Philosophy; so much is the World drown'd in Stupidity and sensual Pleasures, and so little inquisitive into the Works of God and Nature.

There is nothing doth more awaken our Thoughts, or excite our Minds to enquire into the Causes of such Things, than the actual View of them; as I have had Experience myself, when it was my Fortune to cross the Alps and
The Deluge and Dissolution of the Earth. 193

and Appennine Mountains; for the Sight of those wild, vast and indigested Heaps of Stones and Earth, did so deeply strike my Fancy, that I was not easy till I could give my self some tolerable Account how that Confusion came in Nature. 'Tis true, the height of Mountains compar'd with the Diameter of the Earth is not considerable, but the Extent of them and the Ground they stand upon, bears a considerable Proportion to the Surface of the Earth; and if from Europe we may take our Measures for the rest, I easily believe, that the Mountains do at least take up the tenth Part of the dry Land. The Geographers are not very careful to describe or note in their Charts the Multitude or Situation of Mountains; They mark the Bounds of Countries, the Site of Cities and Towns, and the Course of Rivers, because these are Things of chief Use to civil Affairs and Commerce, and that they design to serve, and not Philosophy or natural History. But Cluverius, in his Description of Ancient Germany, Switzerland and Italy, hath given Maps of those Countries more approaching to the natural Face of them, and we have drawn (at the end of this Chapter) such a Map of either Hemisphere, without marking Countries or Towns, or any such artificial Things; distinguishing only Land and Sea, Islands and Continents, Mountains and not Mountains; and 'tis very useful to imagine the Earth in this Manner, and to look often upon such bare Draughts as shew us Nature undrest; for B o o k I. O then
then we are best able to judge what her true Shapes and Proportions are.

'Tis certain that we naturally imagine the Surface of the Earth much more regular than it is; for unless we be in some Mountainous Parts, there seldom occur any great Inequalities within so much Compass of Ground as we can, at once, reach with our Eye; and to conceive the rest, we multiply the same Idea, and extend it to those Parts of the Earth that we do not see; and so fancy the whole Globe much more smooth and uniform than it is. But suppose a Man was carried asleep out of a plain Country amongst the Alps, and left there upon the top of one of the highest Mountains, when he wak'd and look'd about him, he wou'd think himself in an enchanted Country, or carried into another World; every Thing would appear to him so different to what he had ever seen or imagin'd before. To see on every Hand of him a multitude of vast Bodies thrown together in Confusion, as those Mountains are; Rocks standing naked round about him; and the hollow Valleys gaping under him; and at his Feet, it may be, an Heap of frozen Snow in the midst of Summer. He would hear the Thunder come from below, and see the black Clouds hanging beneath him; upon such a Prospect it would not be easy to him to perswade himself that he was still upon the same Earth; but if he did, he would be convinc'd, at least, that there are some Regions of it strangely rude, and ruin-like, and very different from what he had ever thought of before. But
The Deluge and Dissolution of the Earth. 195

But the Inhabitants of these wild Places are even with us; for those that live amongst the Alps and the great Mountains, think that all the rest of the Earth is like their Country, all broken into Mountains, and Valleys, and Precipices; they never see other, and most People think of nothing but what they have seen at one time or another.

These Alps we are speaking of are the greatest Range of Mountains in Europe; and 'tis prodigious to see and to consider of what extent these Heaps of Stones and Rubbish are; one way they over-spread Savoy and Dauphine, and reach thro' France to the Pyrenean Mountains, and so to the Ocean. The other way they run along the Skirts of Germany, thro' Stiria, Pannonia, and Dalmatia, as far as Thrace and the Black Sea. Then backwards they cover Switzerland and the Parts adjacent; and that Branch of them which we call the Appennines, strikes thro' Italy, and is, as it were, the Back-bone of that Country. This must needs be a large Space of Ground which they stand upon; yet 'tis not this part of Europe only that is laden with Mountains, the Northern part is as rough and rude in the Face of the Country, as in the Manners of the People; Bohemia, Silesia, Denmark, Norway, Sweden, Lapland, and Iceland, and all the Coasts of the Baltic Sea, are full of Cliffs, and Rocks, and Crags of Mountains: Besides the Riphean Mountains in Muscovy, which the Inhabitants there use to call the Stone-girdle, and believe that it girds the Earth round about.
Nor are the other Parts of our Continent more free from Mountains than Europe, nor other Parts of the Earth than our Continent: They are in the New World as well as the Old; and if they could discover two or three New Worlds or Continents more, they would still find them there. Neither is there any Original Island upon the Earth, but is either all a Rock, or hath Rocks and Mountains in it. And all the dry Land, and every Continent, is but a kind of Mountain; tho' that Mountain hath a multitude of lesser ones, and Valleys, and Plains, and Lakes, and Marshes, and all variety of Grounds.

In America, the Andes, or a Ridge of Mountains so called, are reported to be higher than any we have, reaching above a thousand Leagues in Length, and twenty in Breadth, where they are the narrowest. In Africk the Mountain Atlas, that for its Height was said to bear the Heavens on its Back, runs all along from the Western Sea to the Borders of Egypt, parallel with the Mediterranean. There also are the Mountains of the Moon, and many more whereof we have but an imperfect Account, as neither indeed of that Country in the remote and inner Parts of it. Asia is better known, and the Mountains thereof better describ'd: Taurus, which is the principal, was adjudg'd by the Ancient Geographers the greatest in the World. It divides Asia into two Parts, which have their Denomination from it: And there is an Anti-Taurus the greater and the less, which accordingly divide Armenia.
The Deluge and Dissolution of the Earth. 197

menia into greater and less. Then the Cruciform Mountains of Imaus, the famous Caucasus, the long Chains of Tartary and China, and the Rocky and Mountainous Arabia. If one could at once have a Prospect of all these together, one would be easily satisfied, that the Globe of the Earth is a more rude and indigested Body than 'tis commonly imagin'd; if one could see, I say, all the Kingdoms and Regions of the Earth at one View, how they lie in broken Heaps; The Sea hath overwhelm'd one half of them, and what remains are but the taller parts of a Ruin. Look upon those great Ranges of Mountains in Europe or in Asia whereof we have given a short Survey, in what Confusion do they lie? They have neither Form nor Beauty, nor Shape, nor Order, no more than the Clouds in the Air. Then how Barren, how Desolate, how Naked are they? How they stand neglected by Nature? Neither the Rains can soften them, nor the Dews from Heaven make them fruitful.

I have given this short Account of the Mountains of the Earth, to help to remove that Prejudice we are apt to have, or that Conceit, that the present Earth is regularly form'd. And to this purpose I do not doubt but that it would be of very good Use to have natural Maps of the Earth, as we noted before, as well as civil; and done with the same Care and Judgment. Our common Maps I call Civil, which note the Distinction of Countries and of Cities, and represent the Artificial Earth as inhabited and cultivated: But Natu-
ral Maps leave out all that, and represent the Earth as it would be if there was not an Inhabitant upon it, nor ever had been; the Skeleton of the Earth, as I may so say, with the Sight of all its Parts. Methinks also every Prince should have such a Draught of his own Country and Dominions, to see how the Ground lies in the several Parts of them, which highest, which lowest; what Respect they have to one another, and to the Sea; how the Rivers flow, and why; how the Mountains stand; how the Heaths, and how the Marshes are plac’d. Such a Map or Survey would be useful both in time of War and Peace, and many good Observations might be made by it, not only as to natural History and Philosophy, but also in order to the perfect Improvement of a Country. But to return to our Mountains.

And this View of the Multitude and Greatness of them may help to rectify our Mistakes about the Form of the Earth; so before we proceed to examine their Causes, it will be good to observe further, that these Mountains are plac’d in no Order one with another, that can either respect Use or Beauty; and if you consider them singly, they do not consist of any Proportion of Parts that is referable to any Design, or that hath the least Footsteps of Art or Counsel. There is nothing in Nature more shapeless and ill-figur’d than an old Rock or a Mountain, and all that Variety that is among them, is but the various Modes of Irregularity; so as you cannot make a better Cha-
Character of them, in short, than to say they are of all Forms and Figures, except regular. Then if you would go within these Mountains, (for they are generally hollow) you would find all Things there more rude, if possible, than without: And lastly, if you look upon an Heap of them together, or a mountainous Country, they are the greatest Examples of Confusion that we know in Nature; no Tempest or Earthquake puts Things into more Disorder. 'Tis true, they cannot look so ill now as they did at first; a Ruin that is fresh looks much worse than afterwards, when the Earth grows discolour’d and skin’d over. But I fancy if we had seen the Mountains when they were new born and raw, when the Earth was fresh broken, and the Waters of the Deluge newly retir’d, the Fractions and Confusions of them would have appear’d very ghastly and frightful.

After this general Survey of the Mountains of the Earth and their Properties, let us now reflect upon the Causes of them. There is a double Pleasure in Philosophy; first that of Admiration, whilst we contemplate Things that are great and wonderful, and do not yet understand their Causes; for tho’ Admiration proceeds from Ignorance, yet there is a certain Charm and Sweetness in that Passion. Then the second Pleasure is greater and more intellectual, which is that of distinct Knowledge and Comprehension, when we come to have the Key that unlocks those Secrets, and see the Methods wherein those Things come to pass.
that we admir'd before: The Reasons why the World is so or so, and from what Causes Nature, or any Part of Nature, came into such a State; and this we are now to enquire after as to the Mountains of the Earth, what their Original was, how and when the Earth came into this strange Frame and Structure. In the Beginning of our World, when the Earth rose from a Chaos, 'twas impossible it should come immediately into this mountainous Form; because a Mass that is fluid, as a Chaos is, cannot lie in any other Figure than what is regular; for the constant Laws of Nature do certainly bring all Liquors into that Form: And a Chaos is not call'd so from any Confusion or Brokenness in the Form of it, but from a Confusion and Mixture of all Sorts of Ingredients in the Composition of it. So we have already produc'd, in the precedent Chapters, a double Argument that the Earth was not originally in this Form, both because it rose from a Chaos, which could not of itself, or by any immediate Concretion, settle into a Form of this Nature, as hath been shown in the fourth and fifth Chapters; as also because if it had been originally made thus, it could never have undergone a Deluge, as hath been prov'd in the second and third Chapters. If this be then a secondary and succedaneous Form, the great Question is from what Causes it arises.

Some have thought that Mountains, and all other Irregularities in the Earth, have Rise from Earthquakes, and such like Causes; others have thought that they came from the uni-
universal Deluge; yet not from any Dissolution of the Earth that was then, but only from the great Agitation of the Waters, which broke the Ground into this rude and unequal Form. Both these Causes seem to me very incompetent and insufficient. Earthquakes seldom make Mountains, they often take them away, and sink them down into the Caverns that lie under them; besides, Earthquakes are not in all Countries and Climates as Mountains are; for, as we have observ'd more than once, there is neither Island that is original, nor Continent any where in the Earth, in what Latitude ever, but hath Mountains and Rocks in it. And lastly, what Probability is there, or how is it credible, that those vast Tracks of Land which we see fill'd with Mountains both in Europe, Asia and Africa, were rais'd by Earthquakes, or any Eruptions from below? In what Age of the World was this done, and why not continu'd? As for the Deluge, which they alleged as another Cause, I doubt not but Mountains were made in the Time of the general Deluge, that great Change and Transformation of the Earth happen'd then, but not from such Causes as are pretended, that is, the bare rolling and agitation of the Waters; for if the Earth was smooth and plain before the Flood, as they seem to suppose as well as we do, the Waters could have little or no Power over a smooth Surface to tear it any way in Pieces, no more than they do a Meadow or low Ground when they lie upon it; for that which makes Torrents and Land-floods violent, is their
The Theory of the Earth.

their Fall from the Mountains and high Lands; which our Earth is now full of; but if the Rain fell upon even and level Ground, it would only sodden and compress it; there is no possibility how it should raise Mountains in it. And if we could imagine an universal Deluge as the Earth is now constituted, it would rather throw down the Hills and Mountains than raise new ones; or by beating down their Tops and loose Parts, help to fill the Valleys, and bring the Earth nearer to Evenness and Plainness.

Seeing then there are no Hopes of explaining the Origin of Mountains, either from particular Earthquakes, or from the general Deluge, according to the common Notion and Explication of it; these not being Causes answerable to such vast Effects: Let us try our Hypothesis again; which hath made us a Channel large enough for the Sea, and room for all subterraneous Cavities, and I think will find us Materials enough to raise all the Mountains of the Earth. We suppose the great Arch or Circumference of the first Earth to have fallen into the Abyss at the Deluge, and seeing that was larger than the Surface it fell upon, 'tis absolutely certain, that it could not all fall flat, or lie under the Water: Now as all those Parts that stood above the Water made dry Land, or the present habitable Earth, so such Parts of the dry Land as stood higher than the rest, made Hills and Mountains; and this is the first and general Account of them, and of all the Inequalities of the Earth. But to consider these Things
Things a little more particularly: There is a double Cause and Necessity of Mountains, first this now mention'd, because the exterior Orb of the Earth was greater than the interior, which it fell upon, and therefore it could not all fall flat; and secondly, because this exterior Orb did not fall so flat and large as it might, or did not cover all the Bottom of the Abyss, as it was very capable to do; but as we shewed before in explaining the Channel of the Ocean, it left a gaping in the Middle, or an Abyss-channel, as I should call it; and the broader this Abyss-channel was, the more Mountains there would be upon the dry Land; for there would be more Earth, or more of the falling Orb left, and less Room to place it in, and therefore it must stand more in Heaps.

In what Parts of the Earth these Heaps would lie, and in what particular manner, it cannot be expected that we should tell; but all that we have hitherto observ'd concerning Mountains, how strange soever, and otherwise unaccountable, may easily be explain'd, and deduc'd from this Original; we shall not wonder at their Greatness and Vastness, seing they are the Ruins of a broken World; and they would take up more or less of the dry Land, according as the Ocean took up more or less Space of our Globe: Then as to their Figure and Form, whether external or internal, 'tis just such as answers our Expectation, and no more than what the Hypothesis leads us to; for you would easily believe that these Heaps would be irregular in all manner of ways,
ways, whether consider'd apart, or in their Situation to one another. And they would lie commonly in Clusters and in Ridges, for those are two of the most general Postures of the Parts of a Ruin, when they fall inwards. Lastly, We cannot wonder that Mountains should be generally hollow; for great Bodies falling together in Confusion, or bearing and leaning against one another, must needs make a great many Hollownesses in them, and by their unequal Applications empty Spaces will be intercepted. We see also from the same Reason, why mountainous Countries are subject to Earthquakes; and why Mountains often sink and fall down into the Caverns that lie under them; their Joints and Props being decayed and worn, they become unable to bear their Weight. And all these Properties you see hang upon one and the same String, and are just Consequences from our Supposition concerning the Dissolution of the first Earth. And there is no surer Mark of a good Hypothesis, than when it doth not only hit luckily in one or two Particulars, but answers all that it is to be apply'd to, and is adequate to Nature in her whole Extent.

But how fully or easily ever these Things may answer Nature, you will say, it may be, that all this is but an Hypothesis; that is, a kind of Fiction or Supposition that Things were so and so at first, and by the Coherence and Agreement of the Effects with such a Supposition, you would argue and prove that they were really so. This I confess is true, this is the
The Deluge and Dissolution of the Earth. 205

the Method, and if we would know any Thing in Nature further than our Senses go, we can know it no otherwise than by an Hypothesis. When Things are either too little for our Senses, or too remote and inaccessible, we have no Way to know the inward Nature, and the Causes of their sensible Properties, but by reasoning upon an Hypothesis. If you would know, for Example, of what Parts Water, or any other Liquor consists, they are too little to be discern'd by the Eye; you must therefore take a Supposition concerning their invisible Figure and Form, and if that agrees and gives the Reason of all their sensible Qualities, you understand the Nature of Water. In like manner, if you would know the Nature of a Comet, or of what Matter the Sun consists, which are Things inaccessible to us, you can do this no otherwise than by an Hypothesis; and if that Hypothesis be easy and intelligible, and answers all the Phenomena of those two Bodies; you have done as much as a Philosopher or as humane Reason can do. And this is what we have attempted concerning the Earth and concerning the Deluge. We have laid down an Hypothesis that is easy and perspicuous, consisting of a few Things, and those very intelligible, and from this we have given an Account how the old World was destroy'd by a Deluge of Water, and how the Earth came into this present Form, so distinguish'd and interrupted with Sea and Land, Mountains and Valleys; and so broken in the Surface and inward Parts of it.

But
But to speak the Truth, this Theory is something more than a bare Hypothesis; because we are assur'd that the general Ground that we go upon is true, namely, That the Earth rose at first from a Chaos; for besides Reason and Antiquity, Scripture itself doth assure us of that; and that one Point being granted we have deduc'd from it all the rest by a direct Chain of Consequences, which I think cannot be broken easily in any Part or Link of it. Besides, the great Hinge of this Theory, upon which all the rest turns, is the Distinction we make of the Antediluvian Earth and Heavens from the Postdiluvian, as to their Form and Constitution. And it will never be beaten out of my Head, but that St. Peter, 2 Epift. ch. 3. 5. 6. hath made the same Distinction sixteen hundred Years since, and to the very same purpose; so that we have sure footing here again, and the Theory riseth above the Character of a bare Hypothesis. And whereas an Hypothesis that is clear and proportion'd to Nature in every Respect, is accounted morally certain, we must in Equity give more than a moral Certitude to this Theory. But I mean this only as to the general Parts of it; for as to Particularities, I look upon them only as problematical, and accordingly I affirm nothing therein but with a Power of Revocation; and a Liberty to change my Opinion when I shall be better inform'd. Neither do I know any Author that hath treated a Matter new, remote, and consisting of a Multitude of Particulars, who would not have had occa-
The Deluge and Dissolution of the Earth. 207
occasion, if he had liv'd to have seen his Hypothesis fully examin'd, to have chang'd his Mind and Manner of explaining Things in many material Instances.

To conclude both this Chapter and this Section, we have here added a Map or Draught of the Earth, according to the natural Face of it, as it would appear from the Moon, if we were a little nearer to her; or as it was at first after the Deluge, before Cities were built, Distinctions of Countries made, or any Alterations by humane Industry. 'Tis chiefly to expose more to view the Mountains of the Earth, and the Proportions of Sea and Land; to shew it as it lies in itself, and as a Naturalist ought to conceive and consider it. 'Tis true, there are far more Mountains upon the Earth than what are here represented, for more could not conveniently be plac'd in this narrow Scheme; but the best and most effectual Way of representing the Body of the Earth as it is by Nature, would be, not in plain Tables, but by a rough Globe, expressing all the considerable Inequalities that are upon the Earth. The smooth Globes that we use, do but nourish in us the Conceit of the Earth's Regularity; and tho' they may be convenient enough for geographical Purposes, they are not so proper for natural Science; nothing would be more useful in this respect, than a rough Globe of the largest Dimensions, wherein the Channel of the Sea should be really hollow, as it is in Nature, with all its unequal Depths according to the best Soundings, and the Shores ex-
The Theory of the Earth

express'd both according to Matter and Form, little Rocks standing where there are. Rocks, and Sands and Beaches in the Places where they are found; and all the Islands planted in the Sea-channel in a due Form, and in their solid Dimensions. Then upon the Land should stand all the Ranges of Mountains, in the same Order or Disorder that Nature hath set them there: And the in-land Seas, and great Lakes, or rather the Beds they lie in, should be duly represented; as also the vast Deserts of Sand as they lie upon the Earth. And this being done with Care and due Art, would be a true Epitome, or true Model of our Earth. Where we should see, besides other Instructions, what a rude Lump our World is, which we are so apt to dote upon.
A short Review of what hath been already treated of, and in what Manner. The several Faces and Schemes under which the Earth would appear to a Stranger, that should view it first at a Distance, and then more closely, and the Application of them to our Subject. All Methods, whether philosophical or theological, that have been offer'd by others for the Explication of the Form of the Earth, are examin'd and disprov'd. A Conjecture concerning the other Planets, their natural Form and State compared with ours.

We have finish'd the three Sections of this Book, and in this last Chapter we will make a short Review and Reflection upon what hath been hitherto treated of, and add some further Confirmations of it. The Explication of the universal Deluge was the first Proposal and Design of this Discourse, to make that a Thing credible and intelligible to the Mind of Man: And the full Explication of this drew in the whole Theory of the Earth: Whose Original we have deduc'd from its first Source, and shew'd both what was its primæval Form, and how it came into its present Form. The Sum of our Hypothesis concerning the universal Deluge was this; That it came not to pass, as was vulgarly believ'd, by an Excess of Rains, or any Inundation of the Sea, nor could ever be effect-
ed by a mere Abundance of Waters; unless we suppose some Dissolution of the Earth at the same time, namely, when the Great Abyss was broken open. And accordingly we shewed that without such a Dissolution, or if the Earth had been always in the same Form it is in now, no Mass of Water, any where to be found in the World, could have equall'd the Height of the Mountains, or made such an universal Deluge. Secondly, We shewed that the Form of the Earth at first, and till the Deluge, was such as made it capable and subject to a Dissolution: And thirdly, That such a Dissolution being suppos'd, the Doctrine of the universal Deluge is very reasonable and intelligible; and not only the Doctrine of the Deluge, but the same Supposition is a Key to all Nature besides, shewing us how our Globe became terraqueous, what was the Original of Mountains, of the Sea-channel, of Islands; of subterraneous Cavities; things, which without this Supposition are as unintelligible as the universal Flood itself. And these things reciprocally confirming one another, our Hypothesis of the Deluge is arm'd, both Breast and Back, by the Causes and by the Effects.

It remains now, that, as to confirm our Explication of the Deluge, we shew'd all other Accounts that had been given of it to be ineff continual or impossible, so to confirm our Doctrine concerning the Dissolution of the Earth, and concerning the Original of Mountains, Seas, and all Inequalities upon it, or within it, we must examine what Causes have been assign'd
assign'd by others, or what Accounts given of these things: That seeing their Defectiveness, we may have the more Assurance and Satisfaction in our own Method.

And in order to this, let us observe first the general Forms under which the Earth may be consider'd, or under which it doth appear accordingly as we view it more nearly or remotely; and the first of these and the most general is that of a *Terraqueous Globe*. If a Philosopher should come out of another World out of Curiosity to see our Earth, the first Discovery or Observation he would make would be this, that it was a terraqueous Globe: Thus much he might observe at a great Distance when he came but near the Borders of our World. This we discern in the Moon and most of the Planets, that they are divided into Sea and Land, and how this Division came, would be his first Remark and Inquiry concerning our Earth; and how also those Subdivisions of Islands, or little Earths which lie in the Water, how these were form'd, and that great Channel that contains them both.

The second Form that the Earth appears under, is that of an uneven and *Mountainous Globe*. When our Traveller had got below the Circle of the Moon, he would discern the bald Tops of our Mountains, and the long Ranges of them upon our Continents. We cannot from the Earth discern Mountains and Valleys in the Moon directly, but from the Motion of the Light and Shadows which we see
See there, we easily collect that there are such Inequalities: And accordingly we suppose that our Mountains would appear at a great Distance, and the shady Valleys lying under them; and that this curious Person that came to view our Earth, would make that his second Inquiry, how those Mountains were formed? and how our Globe came to be so rude and irregular? for we may justly demand how any Irregularity came into Nature, seeing all her first Motions and her first Forms are regular, and whatsoever is not so, is but secondary, and the Consequence of some Degeneracy, or of some Decay.

The third visible Form of our Earth is that of a broken Globe; and broken throughout, but in the outward Parts and Regions of it. This, it may be, you will say, is not a visible Form; it doth not appear to the Eye, without reasoning, that the Surface of the Earth is so broken. Suppose our new Visitant had now pass'd the middle Region of the Air, and was alighted upon the Top of Pick Teneriffe for his first resting Place, and that sitting there he took a View of the great Rocks, the wide Sea, and of the Shores of Africk and Europe; for we'll suppose his piercing Eye to reach so far; I will not say that at first Sight he would pronounce that the Surface of this Globe was broken, unless he knew it to be so by Comparison with some other Planet like to it; but the broken Form and Figure of many Parts of the Rocks, and the Posture in which they lay, or great Portions of them, some inclin'd, some prostrate,
The Deluge and Dissolution of the Earth. 213

prostrate, some erected, would naturally lead him to that Thought, that they were a Ruin; he would see also the Islands tore from the Continents, and both the Shores of the Continents and their inland Parts in the same Disorder and irregular Situation. Besides, he had this great Advantage in viewing the Earth at a Distance, that he could see a whole Hemisphere together, which, as he made his Approaches through the Air, would have much what the same Aspect and Countenance as 'tis represented within the great Scheme, Page 203. And if any Man should accidentally hit upon that Scheme, not knowing or thinking that it was the Earth, I believe his first Thought of it would be, that it was some great broken Body, or ruin'd Frame of Matter; and the Original, I am sure, is more manifestly so. But we'll leave our strange Philosopher to his own Observations, and wish him good Guides and Interpreters in his Survey of the Earth, and that he would make a favourable Report at his Return home of our little dirty Planet.

In the mean time, let us pursue, in our own Way, this Third Idea of the Earth a little further, as it is a broken Globe. Nature I know hath dissembled and cover'd this Form as much as may be, and Time hath help'd to repair some of the old Breaches, or fill them up; besides, the Changes that have been made by Art and humane Industry, by Agriculture, planting, and building Towns, hath made the Face of the Earth quite another Thing from what it was in its naked Rudeness. As
Mankind is much alter'd from its pristine State, from what it was four thousand Years ago, or towards the first Ages after the Flood, when the Nations liv'd in Simplicity or Barbarousness; so is the Earth too, and both so disguis'd and transform'd, that if one of those primitive Fathers should rise from the Dead, he would scarce know this to be the same World which he liv'd in before. But to discern the true Form of the Earth, whether intire or broken, regular or disorder'd, we must in the first Place take away all those Ornaments or Additions made by Art or Nature, and view the bare Carcass of the Earth, as it hath nothing on it but Rocks and Mountains, Deserts and Fields, and hollow Valleys, and a wide Sea. Then secondly, We must in our Imagination empty this Channel of the Sea, take out all the Waters that hinder the Sight of it, and look upon the dry Ditch, measure the Depth and Breadth of it in our Mind, and observe the Manner of its Construction, and in what a wild Posture all the Parts of it lie; according as it hath been formerly represented, Chap. 10. And lastly, We must take off the Cover of all subterraneous Places and deep Caverns, to see the inside of the Earth; and lay bare the Roots of Mountains, to look into those Holes and Vaults that are under them, fill'd sometimes with Fire, sometimes with Water, and sometimes with thick Air and Vapours. The Object being thus prepar'd, we are then to look fixedly upon it, and to pronounce what we think of this disfigur'd Mafs, whether
The Deluge and Dissolution of the Earth. 215

whether this exterior Frame doth not seem to be shatter'd; and whether it doth more aptly resemble a new-made World, or the Ruins of one broken. I confess when this Idea of the Earth is present to my Thoughts, I can no more believe that this was the Form wherein it was first produc'd, than if I had seen the Temple of Jerusalem in its Ruins, when defac'd and sack'd by the Babylonians, I could have persuaded myself that it had never been in any other Posture, and that Solomon had given Orders for building it so.

So much for the Form of the Earth: It remains now that we examine what Causes have been assign'd by others of these Irregularities in the Form of the Earth, which we explain by the Dissolution of it; what Accounts any of the Ancients have given, or attempted to give, how the Earth swell'd into Mountains in certain Places, and in others was depress'd into low Valleys, how the Body of it was so broken, and how the Channel of the Sea was made. The Elements naturally lie in regular Forms one above another, and now we find them mix'd, confounded and transpos'd, how comes this Disturbance and Disordination in Nature? The Explications of these Things that have been given by others, may be reduc'd to two general Sorts, Philosophical or Theological, and we will try them both for our Satisfaction.

Of Philosophers none was more concern'd to give an Account of such Things than Epicurus, both because he acknowledged the Origin
gin of the Earth to have been from a Chaos; and also admitted no Causes to act in Nature but Matter and Motion: Yet all the Account we have from the Epicureans of the Form of the Earth, and the great Inequalities that are in it, is so slight and trivial, that methinks it doth not deserve the Name of a philosophical Explication. They say that the Earth and Water were mix'd at first, or rather the Earth was above the Water, and as the Earth was condensed by the Heat of the Sun and the Winds, the Water was squeeze'd out in certain Places, which either it found hollow or made so; and so was the Channel of the Sea made. Then as for Mountains, while some Parts of the Earth shrunk and sunk in this Manner, others would not sink; and these standing still while the others fell lower, made the Mountains. How the subterraneous Cavities were made according to them, I do not find.

This is all the Account that Monsieur Gassendi (who seems to have made it his Business, as well as his Pleasure, to embellish that Philosophy) can help us to out of the Epicurean Authors, how the Earth came into this Form; and he that can content himself with this, is, in my Mind, of an Humour very easy to be pleas'd. Do the Sun and the Wind use to squeeze Pools of Water out of the Earth, and that in such a Quantity as to make an Ocean? They dry the Earth, and the Waters too, and rarify them into Vapours, but I never knew them to be the Causes of pressing Water out of the Earth by Condensation.
Could they compress the Earth any otherwise, than by drying it and making it hard? and in Proportion, as it was more dry, would it not the more imbibe and suck up the Water? and how were the great Mountains of the Earth made in the North and in the South, where the Influence of the Sun is not great? What sunk the Earth there, and made the Flesh start from the Bones? But 'tis no Wonder that Epicurus should give such a mean Account of the Origin of the Earth, and the Form of its Parts, who did not so much as understand the general Figure of the Body of it, that it was in some manner Spherical, or that the Heavens encompass'd it round. One must have a blind Love for that Philosophy, and for the Conclusions it drives at, not to see its Lameness and Defects in those first and fundamental Parts.

Aristotle, though he was not concern'd to give an Account how the Earth came into this present Form, as he suppos'd it Eternal; yet upon another Consideration he seems oblig'd to give some Reason how the Elements came into this Disorder; seeing he supposeth, that, according to the Order of Nature, the Water should lie above the Earth in a Sphere, as the Air doth above the Water, and his Fire above the Air. This he toucheth upon in his Meteors, but so gently and fearfully, as if he was handling hot Coals. He faith the Sea is to be consider'd as the Element, or Body of Waters that belongs to this Earth, and that these Waters change Places, and the Sea is some Ages in one Part of the Globe, and some Ages in another;
another; but that this is at such great Distances of Time that there can be no Memory or Record of it. And he seems willing to suppose that the Water was once all over the Earth, but that it dry'd up in certain Places, and continuing in others, it there made the Sea.

What a miserable Account is this? As to his Change or Removal of the Sea-channel in several Ages, as it is without all Proof or Probability, if he mean it of the Channel of the great Ocean, so 'tis nothing to the purpose here; for the Question is not why the Channel of the Sea is in such a Part of the Earth, rather than in another, but why there is any such prodigious Cavity in or upon the Earth any where. And if we take his Supposition, that the Element of Water was once higher than the Earth, and lay in a Sphere about it, then let him tell us in plain Terms how the Earth got above, or how the Cavity of the Ocean was made, and how the Mountains rise; for this Elementary Earth which lay under the Water, was, I suppose, equal and smooth when it lay there; and what reason was there, that the Waters should be dry'd in one Part of it, more than another, if they were every where of an equal Depth, and the Ground equal under them? It was not the Climates made any Distinction, for there is Sea towards the Poles, as well as under the Equator; but suppose they were dry'd up in certain Places, that would make no Mountains, no more than there are Mountains in our dry'd Marshes:

And
And the Places where they were not dry'd, would not therefore become as deep and hollow as the Sea-channel, and tear the Earth and Rocks in pieces. If you should say that this very elementary Earth, as it lay under the Waters, was unequal, and was so originally form'd into Mountains and Valleys, and great Cavities; besides that the Supposition is altogether irrational in itself, you must suppose a prodigious Mass of Water to cover such an Earth; as much as we found requisite for the vulgar Deluge, namely, eight Oceans; and what then is become of the other seven? Upon the whole I do not see that either in Epicurus's way, who seems to suppose that the Waters were at first within the Earth; nor in Aristotle's Way, who seems to suppose them upon the Earth, any rational or tolerable Account can be given of the present Form of the Earth.

Wherefore some modern Authors, dissatisfied, as very well they might be, with these Explications given us by the Ancients concerning the Form of the Earth, have pitch'd upon other Causes, more true indeed in their kind, and in their degree, but that fall as much short of those Effects to which they would apply them. They say that all the Irregularities of the Body of the Earth have risen from Earthquakes in particular Places, and from Torrents and Inundations, and from Eruptions of Fire, or such like Causes, whereof we see some Instances more or less every Age; and these have made that havock upon the Face of the Earth,
The Theory of the Earth.

and turn'd Things upside down, raising the Earth in some Places, and making great Cavities or Chasms in others, so as to have brought it at length into that torn, broken, and disorderly Form in which we now see it.

These Authors do so far agree with us, as to acknowledge that the present irregular Form of the Earth must have proceeded from Ruins and Dissolutions of one sort or other; but these Ruins they make to have been partial only, in this or in that Country, by piece-meal, and in several Ages, and from no other Causes but such as still continue to act in Nature, namely, accidental Earthquakes and Eruptions of Fires and Waters. These Causes we acknowledge as readily as they do, but not as capable to produce so great Effects as they would ascribe to them; the Surface of the Earth may be a little changed by such Accidents as these, but for the most part they rather sink the Mountains than raise new ones: As when Houses are blown up by Mines of Powder, they are not set higher, but generally fall lower and flatter: Or suppose they do sometimes raise an Hill, or a little Mount, what's that to the great Mountains of our World, to those long and vast Piles of Rocks and Stones, which the Earth can scarce bear? What's that to strong-backt Taurus or Atlas, to the American Andes, or to a Mountain that reacheth from the Pyreneans to the Euxine Sea? There's as much Difference between these and those factitious Mountains they speak of, as betwixt them and Mole-hills.
The Deluge and Dissolution of the Earth. 221

And to answer more distinctly to this Opinion, as before in speaking of Islands we distinguished betwixt fictitious and original Islands, so, if you please, we may distinguish here betwixt fictitious and original Mountains; and allowing some few, and those of the fifth or sixth Magnitude, to have risen from such accidental Causes, we enquire concerning the rest and the greatest, what was their Original? If we should suppose that the seven Hills upon which Rome stands came from Ruins or Eruptions, or any such Causes, it doth not follow that the Alps were made so too. And as for Mountains, so for the Cavities of the Earth, I suppose there may be Disruptions sometimes made by Earthquakes, and Holes worn by subterraneous Fires and Waters; but what's that to the Channel of the Atlantick Ocean, or of the Pacific Ocean, which is extended an hundred and fifty Degrees under the Equator, and towards the Poles still further? He that should derive such mighty Things from no greater Causes, I should think him a very credulous Philosopher. And we are too subject indeed to that Fault of Credulity in matter of Philosophizing: Many when they have found out Causes that are proper for certain Effects within such a Compass, they cannot keep them there, but they will make them do every Thing for them; and extend them often to other Effects of a superior Nature or Degree, which their Activity can by no means reach to. Ætna hath been a burning Mountain ever since, and above
The Theory of the Earth:

above the Memory of Man, yet it hath not destroy'd that Island, nor made any new Channel to the Sea, tho' it stands so near it. Neither is Vesuvius above two or three Miles distant from the Sea-side, to the best of my Remembrance, and yet in so many Ages it hath made no Passage to it, neither open nor subterraneous. 'Tis true, some Phaenomenon's have been thrown down by Earthquakes, and some Lakes have been made in that manner, but what's this to a Ditch nine thousand Miles broad? such an one we have upon the Earth, and of a Depth that is not measurable; what Proportion have these Causes to such an Instance? and how many thousand Ages must be allow'd to them to do their Work, more than the Chronology of our Earth will bear?

Besides, When were these great Earthquakes and Disruptions, that did such great Execution upon the Body of the Earth? Was this before the Flood or since? If before, then the old Difficulty returns, how could there be a Flood, if the Earth was in this mountainous Form before that Time? This, I think, is demonstrated impossible in the second and third Chapters. If since the Flood, where were the Waters of the Earth before these Earthquakes made a Channel for them? Besides, where is the History or Tradition that speaks of these strange Things, and of this great Change of the Earth? Hath any writ of the Origins of the Alps? In what Year of Rome, or what Olympiad they were born? Or how they grew from little ones? How the Earth groan'd
The Deluge and Dissolution of the Earth.

groan'd when it brought them forth, when its Bowels were torn by the ragged Rocks? Do the Chronicles of the Nations mention these Things, or ancient Fame, or ancient Fables? were they made all at once, or in successive Ages? These Causes continue still in Nature, we have still Earthquakes and subterraneous Fires and Waters, why should they not still operate and have the same Effects? We often hear of Cities thrown down by Earthquakes, or Countries swallow'd up; but who ever heard of a new Chain of Mountains made upon the Earth, or a new Channel made for the Ocean? We do not read that there hath been so much as a new Sinus of the Sea ever since the Memory of Man: Which is far more feasible than what they pretend. And Things of this Nature being both strange and sensible, excite Admiration and great Attention when they come to pass, and would certainly have been remembred or propagated in some Way or other, if they had ever happen'd since the Deluge. They have recorded the Foundation of Cities and Monarchies, the Appearance of Blazing Stars, the Eruptions of fiery Mountains, the most remarkable Earthquakes and Inundations, the great Eclipses or Obscurations of the Sun, and any Thing that look'd strange or Prodigy-like, whether in the Heavens or on Earth: And these, which would have been the greatest Prodigies and greatest Changes that ever happen'd in Nature, would these have escap'd all Observation and Memory
memory of Men? That's as incredible as the things themselves are.

Lastly, To comprehend all these Opinions together, both of the Ancient and Modern Authors, they seem all to agree with us in this, That the Earth was once under another Form; otherwise why do they go about to shew the Causes how it came into this Form? I desire then to know what Form they suppose the Earth to have been under before the Mountains were made, the Channel of the Sea, or subterraneous Cavities. Either they must take that Form which we have assign'd it before the Deluge, or else they must suppose it cover'd with Water, till the Sea-channels were made, and the Mountains brought forth; as in Fig. 2. p. 76. And no doubt it was once in this Form, both Reason and the Authority of Moses assure us of it; and this is the Test which every Opinion must be brought to, how the Earth emerg'd out of that Watry Form? and in particular, as to that Opinion which we are now examining, the Question is, how by Earthquakes, and fiery Eruptions; subterraneous Waters, and such like Causes, the Body of the Earth could be wrought from that Form to this present Form? And the thing is impossible at first sight; for such Causes as these could not take place in such an Earth. As for subterraneous Waters, there could be none at that time, for they were all above ground; and as for subterraneous Exhalations, whether fiery or aery, there was no place for them neither; for the Earth, when
it lay under the Water, was a solid uniform Mass, compact and close united in its parts, as we have shewn before upon several Occasions; no Mines or hollow Vaults for the Vapours to be lodg’d in, no Store-houses of Fire; nothing that could make Earthquakes, nor any sort of Ruins or Eruptions: These are Engines that cannot play but in an Earth already broken, hollow and cavernous. Therefore the Authors of this Opinion do in Effect beg the Question; they assign such Causes of the present Form of the Earth, as could not take Place, nor have any Activity until the Earth was in this Form: These Causes may contribute something to increase the Rudeness and Inequalities of the Earth in certain Places, but they could not be the original Causes of it: And that not only because of their Disproportion to such Effects, but also because of their Incapacity, or Non-existence at that time when these Effects were to be wrought.

Thus much concerning the Philosophical Opinions or the natural Causes that have been assign’d for the irregular Form of this present Earth. Let us now consider the Theological Opinions, how Mountains were made at first, and the wonderful Channel of the Sea: And these Authors say, God Almighty made them immediately when he made the World; and so dispatch’d the Business in a few Words. This is a short Account indeed, but we must take heed that we do not derogate from the Perfection of God, by ascribing all Things promiscuously to his immediate Action.

Book I.
have often suggested that the first Order of things is regular and simple, according as the Divine Nature is; and continues so till there is some Degeneracy in the moral World; I have also noted upon several Occasions, especially in the Lat. Treat. Cap. i i. the Deformity and Incommodiousnes of the present Earth; and from these two Considerations we may reasonably infer, that the present State of the Earth was not Original, but is a State of Subjection to Vanity, wherein it must continue till the Redemption and Restitution of all things.

But beside this general Consideration, there are many others, both Natural and Theological, against this Opinion, which the Authors of it, I believe, will find unanswerable. As first, St. Peter's Distinction betwixt the present Earth and the Antediluvian; 2 Ep. Chap. 3. 5, 6. and that in Opposition to certain profane Persons, who seem to have been of the same Opinion with these Authors, namely, That the Heavens and the Earth were the same now that they had been from the beginning, and that there had been no Change in Nature, either of late, or in former Ages; These St. Peter confutes and upbraids them with Ignorance or Forgetfulness of the Change that was brought upon Nature at the Deluge, or that the Antediluvian Heavens and Earth were of a different Form and Constitution from the present, whereby that World was obnoxious to a Deluge of Water, as the present is to a Deluge of Fire. Let these Authors put themselves
The Deluge and Dissolution of the Earth. 227

themselves in the Place of those Objectors, and see what Answer they can make to the Apostle, whom I leave to dispute the Case with them. I hope they will not treat this Epistle of St. Peter's so rudely as Didymus Alexandrinus did, an ancient Christian, and one of St. Jerom's Masters; he was of the same Opinion with these Theological Authors, and so fierce in it, that seeing St. Peter's Doctrine here to be contrary, he said this Epistle of St. Peter's was corrupted, and was not to be receiv'd into the Canon. And all this because it taught that the Heavens and the Earth had chang'd their Form, and would do so again at the Conflagration; so as the same World would be triform in Success of Time. We acknowledge his Exposition of St. Peter's Words to be very true; but what he makes an Argument of the Corruption of this Epistle, is rather, in my Mind, a peculiar Argument of its Divine Inspiration. In the second Place, these Writers dash upon the old Rock, the Impossibility of explaining the Deluge, if there were Mountains from the Beginning, and the Earth then in the same Form as it is in now. Thirdly, They make the State of Paradise as unintelligible as that of the Deluge; For those Properties that are assign'd to Paradise by the Ancients, are inconsistent with the present Form of the Earth: As will appear in the Second Book. Lastly, They must answer, and give an Account of all those Marks which we have observ'd in Nature (both in this Chapter, and the Ninth, Tenth, and Ele-

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venth,)
venth,) of Fractions, Ruins, and Dissolutions that have been on the Earth, and which we have shewn to be inexplicable, unless we admit that the Earth was once in another Form.

These Arguments being premis'd, let us now bring their Opinion close to the Test, and see in what manner these Mountains must have been made according to them, and how the Channel of the Sea, and all other Cavities of the Earth. Let us to this purpose consider the Earth again in that transient incompleat Form which it had when the Abyſs encompaft the whole Body of it, Fig. 2. p. 76. we both agree that the Earth was once in this State, and they say that it came immediately out of this State into its present Form, there being made by a supernatural Power a great Channel or Ditch in one part of it, which drew off the Waters from the reft, and the Earth which was fqueez'd and forc'd out of this Ditch, made the Mountains. So there is the Channel of the Sea made, and the Mountains of the Earth; how the subterraneous Cavities were made according to these Authors, I do not well know. This I confess seems to me a very gross Thought, and a way of working very un-God-like; but however let's have Patience to examine it.

And in the first Place, if the Mountains were taken out of the Channel of the Sea, then they are equal to it, and would fill it up if they were thrown in again. But these Proportions upon Examination will not agree; for though the Mountains of the Earth be very great,
great, yet they do not equal by much the great Ocean. The Ocean extends to half the Surface of the Earth; and if you suppose the greatest Depth of the Ocean to answer the Height of the greatest Mountains, and the middle Depth to the middle fort of Mountains, the Mountains ought to cover all the dry Land to make them answer to all the Capacity of the Ocean; whereas we suppos’d them upon a reasonable Computation to cover but the tenth part of the dry Land; and consequently, neither they, nor the Sea-channel, could have been produc’d in this manner, because of their great Disproportion to one another. And the same thing appears, if we compare the Mountains with the Abyss, which cover’d the Earth before this Channel was made; for this Channel being made great enough to contain all the Abyss, the Mountains taken out of it must also be equal to all the Abyss; but the aggregate of the Mountains will not answer this by many Degrees; for suppose the Abyss was but half as deep as the deep Ocean, to make this Calculus answer, all the dry Land ought to be cover’d with Mountains, and with Mountains as high as the Ocean is deep, or doubly high to the Depth of the Abyss, because they are but upon one half of the Globe. And this is the first Argument against the Reciprocal Production of Mountains and the Sea, their Incongruency or Disproportion.

Secondly, we are to consider that a great many Mountains of the Earth are far distant from
from any Seas, as the great In-land Mountains of Asia and of Africa, and the Sarmatick Mountains, and others in Europe; how were these great Bodies flung thorough the Air from their respective Seas, whence they were taken, to those Places where they stand? What Appearance is there in common Reason, or Credibility, that these huge Masses of Earth and Stone, that stand in the middle of Continents, were dug out of any Seas? We think it strange, and very deservedly, that a little Chapel should be transported from Palestine to Italy over Land and Sea, much more the Transportation of Mount Atlas or Taurus thorough the Air, or of a Range of Mountains two or three thousand Miles long, would surely upon all Accounts appear incongruous and incredible: Besides, neither the hollow Form of Mountains, nor the stony Matter whereof they commonly consist, agrees with that Supposition, that they were pref't or taken out of the Channel of the Sea.

Lastly, we are to consider that the Mountains are not barely laid upon the Earth, as a Tomb-stone upon a Grave, nor stand as Statues do upon a Pedestal, as this Opinion seems to suppose; but they are one continued Substance with the Body of the Earth, and their Roots reach into the Abyss; as the Rocks by the Sea-side go as deep as the bottom of the Sea in one continu'd Mafs: And 'tis a ridiculous thing to imagine the Earth first a plain Surface, then all the Mountains set upon it, as Hay-cocks in a Field, standing upon their flat bottoms.
The Deluge and Dissolution of the Earth. 231 bottoms. There is no such common Surface in Nature, nor consequently any such Super-additions: 'Tis all one Frame or Mafs, only broken and disjointed in the Parts of it. To conclude, 'Tis not only the Mountains that make the Inequalities of the Earth, or the Irregularity of its Surface, every Country, every Province, every Field hath an unequal and different Situation, higher or lower, inclin'd more or less, and sometimes one way, sometimes another, you can scarce take a Mile's Compass in any Place where the Surface of the Ground continues uniform; and can you imagine that there were Moulds or Stones brought from the Sea-channel to make all those Inequalities? Or that Earthquakes have been in every County, and in every Field? The inner Veins and Lares, the Beds or Strata of the Earth are also broken as well as the Surface. These must proceed from universal Causes; and all those that have been allelg'd, whether from Philosophy or Theology, are but particular or topical. I am fully satisfied, in Contemplation of these Things, and so I think every unprejudic'd Person may be, that to such an irregular'd Variety of Situation and Construction, as we see every where in the Parts of the Earth, nothing could answer but some universal Concussion or Dislocation, in the Nature of a general Ruin.

We have now finish'd this first Part of our Theory, and all that concerns the Deluge or Dissolution of the Earth; and we have not only establish'd our own Hypothesis by positive
The Theory of the Earth.

Arguments, but also produc'd and examin'd all Suppositions that have been offer'd by others, whether philosophical or theological, for the Explication of the same Things; so as nothing seems now to remain further upon this Subject. For a Conclusion of all, we will consider, if you please, the rest of the Earths, or of the Planets within our Heavens, that appertain to the same common Sun; to see, so far as we can go by rational Conjectures, if they be not of the same Fabrick, and have undergone the like Fate, and Forms with our Earth. It is now acknowledg'd by the generality of learned Men, that the Planets are opake Bodies, and particularly our next Neighbour, the Moon, is known to be a terraqueous Globe, consisting of Mountains and Valleys, as our Earth does; and we have no Reason to believe but that she came into that Form by a Dissolution, or from like Causes, as our Earth did. Mercury is so near the Sun, that we cannot well discern his Face, whether spotted or no, nor make a Judgment of it. But as for Venus, and Mars, if the Spots that be observ'd in them be their Waters or their Sea, as they are in the Moon, 'tis likely they are also terraqueous Globes, and in much what a like Form with the Moon and the Earth, and, for ought we know, from like Causes. Particularly as to Venus, 'tis a remarkable Passage that St. Austin (De Civ. Dei, lib. 21, c. 8.) hath preserv'd out of Varro: He faith, That about the time of the great Deluge there was a wonderful Alteration or Catastrophe happen'd
The Deluge and Dissolution of the Earth. 233

happened to the Planet Venus, and that she chang'd her Colour, Form, Figure, and Magnitude. This is a great Presumption that she suffer'd her Dissolution about the same time that our Earth did. I do not know that any such Thing is recorded concerning any of the other Planets, but the Body of Mars looks very rugged, broken, and much disorder'd.

Saturn and Jupiter deserve a distinct Consideration, as having something particular and different from the rest of the Planets; Saturn is remarkable for his Hoop or Ring, which seems to stand off, or higher than his Body, and would strongly induce one to believe, that the exterior Earth of that Planet, at its Dissolution, did not all fall in, but the polar Parts sinking into the Abyss, the middle or æquinoctial Parts still subsisted, and bore themselves up in the Nature of an Arch about the Planet, or of a Bridge, as it were, built over the Sea of Saturn. And as some have observ'd concerning the Figure of Jupiter, that it is not wholly Spherical, but a Spheroid, protuberant in the Æquator, and depress'd towards the Poles: So I should suspect Saturn to have been much more so, before his Disruption: Namely, That the Body of that Planet, in its first State, was more flat and low towards the Poles, and also weaker and thinner; and about the Æquator higher, fuller and stronger built: By reason of which Figure and Construction the Polar Parts did more easily fall in, or were suckt in (as Cupping Glasses draw in the Flesh) when the Abyss below grew more empty.
Whereas the middle parts about the æquator, being a more just Arch and strongly built, would not yield or sink, but stood firm and unbroken, and continues still in its first posture. Planets break in different ways, according to the quality of their matter, the manner of their construction, and the nature of the causes that act upon them. Their dissolutions are sometimes total, as in our Earth, sometimes partial: and both of these may be under great variety. In partial dissolutions, the middle parts sometimes stand, and the polar are broke: or the polar stand, and the middle are broke. Or one hemisphere, or part of an hemisphere may be sunk, the rest standing. There may be causes and occasions for all these varieties and many more, in diversifying the phænomena of an immense universe. But to return to Saturn.

That this present uncouth form of Saturn was not its original form, I am very well satisfied, if that planet rose from a chaos, as ours did. And if this be an adventitious form, I know no account can be given of it with more probability, than by supposing it the effect of some fraction or disruption in the polar parts. Neither do I know any phænomenon hitherto observ'd concerning Saturn, that does disprove this hypothesis or conjecture.

As to Jupiter, that planet without doubt is also turn'd about its axis, otherwise how should its four moons be carried round him? And this is also collected from the motion of that permanent spot (if it be found to be so) that
The Deluge and Dissolution of the Earth. 235

that is upon its Body. Which Spot I take to be either a Lake, or a Chasm and Hiatus into the Abyss of the Planet: That is, part of the Abyss open or uncover'd, like the Aperture we made in the Seventh Figure, Chap. 6. p. 184. And this might either have been left so by Providence, at first, for some Reasons and Causes fitting that Earth: or it may have fallen in afterwards, as Plato's Atlantis, or as Sodom and Gomorrah, for some Judgment upon part of that World.

To conclude, Seeing all the Planets that are plac'd in this Heaven, and are the Foster-children of this Sun, seem to have some Affinity one with another, and have much what the same Countenance, and the same general Phænomena; it seems probable that they rise much what the same way, and after the like manner as our Earth, each one from its respective Chaos; And that they had the same Elementary Regions at first, and an exterior Orb form'd over their Abyss: And lastly, That every one of them hath suffer'd, or is to suffer its Deluge, as our Earth hath done. These, I say, are probable Conjectures according to the Analogy of Reason and Nature, so far as we can judge concerning things very remote and inaccessible.

And these Things being thus, and our Theory of the Deluge, and the Dissolution which brought it, having such a general Agreement both with our Heavens and our Earth, I think there is nothing but the Uncouthness of the thing to some Men's Understandings, the Custom
Custom of thinking otherwise, and the Uneasiness of entering into a new set of Thoughts, that can be a Bar or Hindrance to its Reception. But it may be improv'd, I doubt not, in many Respects, and in some Particularities rectified. The first Attempts in great Things are seldom or never perfect: Such is the Weakness of our Understandings, and the want of a full Natural History. And in assigning Causes of such great Effects, fair Conjectures are to be allow'd, till they be displac'd by others more evident and more certain. Accordingly I readily submit to these Terms, and leave this, and all other Parts of the Theory, to further Examination and Enquiries.
THE
THEORY
OF THE
EARTH.

Book II.
Concerning the Primæval Earth, and
concerning Paradise.

Chap. I.
The Introduction and Contents of the Second
Book. The general State of the Primæval
Earth, and of Paradise.

E have already seen a World be-

gin and perish; an Earth rais'd

from the Rudiments of a Chaos,
and dissolv'd and destroy'd in
an Universal Deluge. We have
given
given also an imperfect Description of that
Primæval Earth, so far as was necessary to shew
the Causes and Manner of its Dissolution. But
we must not content our selves with this;
Seeing that Earth was the first Theatre upon
which Mortals appear'd and acted, and contin-
ued so for above sixteen hundred Years; and
that with Scenes, as both Reason and History
tell us, very extraordinary and very different
from these of our present Earth, 'tis reasona-
ble we should endeavour to make a more full
Discovery and Description of it; especially
seeing Paradise was there; that Seat of Plea-
sure which our first Parents lost, and which all
their Posterity have much ado to find again.

In the First Book we so far describ'd this
new-found World, as to shew it very diffe-
rent in Form and Fabrick from the present
Earth; there was no Sea there, no Mountains,
nor Rocks, nor broken Caves, 'twas all one
continued and regular Mass, smooth, simple
and compleat, as the first Works of Nature
use to be. But to know thus much only, doth ra-
ther excite our Curiosity than satisfy it; what
were the other Properties of this World?
How were the Heavens, how the Elements?
What Accommodation for Human Life? Why
was it more proper to be the Seat of Paradise
than the present Earth? Unless we know
these Things, you will say, it will seem but
an airy Idea to us; and 'tis certain that the
more Properties and Particularities that we
know concerning any thing, the more real it
appears to be.
Concerning the Prim. Earth and Paradise. 239

As it was our chief Design therefore in the precedent Book, to give an Account of the Universal Deluge, by way of a Theory; so we propose to our selves chiefly in this Book, from the same Theory to give an Account of Paradise; and in performing of this, we shall be led into a more full Examination and Display of that first Earth, and of its Qualities. And if we be so happy, as, by the Conduct of the same Principles and the same Method, to give as fair an Account, and as intelligible of the State of Paradise in that Original Earth, as we have done of the Deluge by the Dissolution of it, and of the Form of this Earth which succeeded, one must be very morose or melancholy to imagine that the grounds we go upon, all this while, are wholly false or fictitious. A Foundation which will bear the Weight of two Worlds without sinking, must surely stand upon a firm Rock. And I am apt to promise my self that this Theory of the Earth will find Acceptance and Credit, more or less, with all but those, that think it a sufficient Answer to all Arguments, to say it is a Novelty.

But to proceed in our Disquisition concerning Paradise, we may note, in the first Place, two Opinions to be avoided, being both extremes; one that placeth Paradise in the extra-mundane Regions, or in the Air, or in the Moon; and the other that makes it so inconsiderable, as to be confin'd to a little Spot of Ground in Mesopotamia, or some other Country of Asia, the Earth being now as it was
was then. This offends as much in the Defect, as the other in the Excess. For it is not any single Region of the Earth that can be Paradisiacal, unless all Nature conspire, and a certain Order of Things proper and peculiar for that State. Nor is it of less Importance to find out this peculiar Order of Things, than to find out the particular Seat of Paradise, but rather pre-requisite to it: We will endeavour therefore to discover and determine both, so far as a Theory can go, beginning with that which is more general.

Tis certain there were some Qualities and Conditions of Paradise that were not meerly topical, but common to all the rest of the Earth at that time; and these we must consider in the first Place, examine what they were, and upon what they depended. History, both Sacred and Profane, must tell us what they were, and our Theory must shew us upon what Causes they depended. I had once, I confess, propos'd to my self another Method, independent upon History or Effects; I thought to have continued the Description of the Primitive or Antediluvian Earth from the Contemplation of its Causes only, and then left it to the Judgment of others to determine, whether that was not the Earth where the Golden Age was past, and where Paradise flood. For I had observ'd three Conditions or Characters of it, which I thought were sufficient to answer all that we knew concerning that first State of Things, viz. The Regularity of its Surface; The Situation or Posture of
Concerning the Prim. Earth, and Paradise. Its Body to the Sun; and the Figure of it: From these three general Causes I thought might be deduc'd all the chief Differences of that Earth from the present, and particularly those that made it more capable of being Paradisical.

But upon second Thoughts I judg'd it more useful and expedient to lay aside the Causes at present, and begin with the Effects, that we might have some sensible Matter to work upon. Bare Idea's of Things are lookt upon as Romantick till Effects be propos'd, whereof they are to give an Account; 'Tis that makes us value the Causes when Necessity puts us upon Enquiry after them; and the Reasons of things are very acceptable, when they ease the Mind, anxious, and at a loss how to understand Nature without their help. We will therefore, without more ado, premise those things that have been taken notice of as extraordinary and peculiar to the first Ages of the World, and to Paradise, and which neither do, nor can, obtain in the present Earth; whereof the first is a perpetual Spring or Æquinox; the second, the Longevity of Animals; and the third, their Production out of the Earth, and the great Fertility of the Soil in all other Things.

These Difficulties guard the way to Paradise like the flaming Sword, and must be remov'd before we can enter; these are general Preliminaries which we must explain before we proceed to enquire after the particular place of this Garden of Pleasure. The Ancients

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have taken Notice of all these in the first Ages of the World, or in their Golden Age, as they call it; and I do not doubt but what they ascribe to the Golden Age, was more remarkably true of Paradise; yet was not so peculiar to it, but that it did in a good Measure extend to other Parts of the Earth at that time. And 'tis manifest that their Golden Age was contemporary with our Paradise; for they make it begin immediately after the Production and Inhabitation of the Earth (which they, as well as Moses, raise from the Chaos) and to degenerate by degrees till the Deluge; when the World ended and begun again.

That this Parallel may the better appear, we may observe, that as we say that the whole Earth was, in some Sense, Paradisiacal in the first Ages of the World, and that there was, besides, one Region or Portion of it that was peculiarly so, and bore the Denomination of Paradise; So the Ancients, beside their Golden Age, which was common to all the Earth, noted some Parts of it that were more Golden, if I may so say, than the rest; and which did more particularly answer to Paradise; as their Elysian Fields, Fortunate Islands, Gardens of Hesperides, Alcinoüs, &c. these had a double Portion of Pleasantry, and, beside the Advantages which they had common with the rest of the Earth at that time, had something proper and singular, which gave them a distinct Consideration and Character from the rest.

Having made this Observation, let us proceed, and see what Antiquity faith, concerning that
Concerning the Prim. Earth, and Paradise. 

that first and Paradisiacal State of things, upon those three Heads forementioned; First, that there was a perpetual Spring, and constant Serenity of the Air. This is often repeated by the Ancient Poets, in their Description of the Golden Age.

Non alios prima crescentis origine mundi
Illuxisse dies, alium-ve habuisse tenorem,
Crediderim: Ver illud erat, Ver magnus agebat
Orbis, & hybernis parcebant flatibus Euri.

Virgil.

Such Days the new-born Earth enjoy'd of old,
And the calm Heavens in this same Tenor rowl'd:
All the great World had then one constant Spring,
No cold East-winds, such as our Winters bring.

For I interpret this in the same Sense with Ovid's Verses of the Golden Age:

Ver erat æternum: placidique tepentibus auris
Mulcebant Zephyri natos sine semine flores.

The Spring was constant, and soft Winds that (blew,
Rais'd, without Seed, Flow'rs always sweet and (new.

And then upon the Expiration of the Golden Age, he says,

Jupiter antiqui contraxit tempora Veris, &c.
When Jove begun to reign, he chang'd the Year,  
And for one Spring, four Seasons made appear.

The Ancients suppos'd, that in the Reign of Saturn, who was an Antediluvian God, as I may so call him, Time flow'd with a more even Motion, and there was no Diversity of Seasons in the Year; but Jupiter, they say, first introduc'd that, when he came to manage Affairs. This is express after their way, who seldom give any severe and Philosophical Accounts of the Changes of Nature. And as they suppos'd this perpetual Spring in the Golden Age, so they did also in their particular Elysiums; as I could shew largely from their Authors, if it would not multiply Citations too much. 'Tis true, their Elysiums respected the new Heavens; and new Earth to come, rather than the past; but they are both fram'd upon the same Model, and have common Properties.

The Christian Authors have no less celebrated the perpetual Spring and Serenity of the Heavens in Paradise; such Expressions or Descriptions you will find in Justin Martyr, S. Basil, Damascen, Isidore Hispalensis, De Grat. prim. hom. and others, insomuch that Bellermine, I remember, reflecting upon those Characters of Paradise, which many of the Fathers have given in these Respects, faith, Such Things could not be, unless the Sun had then another Course from what he hath now; or which is more easy, the Earth another Situation.
Concerning the Prim. Earth, and Paradise. Which Conjecture will hereafter appear to have been well grounded. In the mean time, let us see the Christian Poetry upon this Subject, as we have seen the Roman upon the other. Alcimus Avitus hath thus describ'd Paradise in his Notes upon Genesis:

Non hic alterni succedit temporis unquam
Bruma, nec aestivi redcunt post frigora Soles;
Hic Ver assiduum Caelis clementia servat.
Turbidus Auster abeit, semperque sub aere sude
Nubila diffugiunt, jugi cessura sereno.
Nec poscit Natura loci, quos non habet, imbris,
Sed contenta suo dotanti venire germina rore.
Perpetuo viret omne solum, terraeque benigna
Blanda nitet facies : Stant semper collibus herba,
Arboribusque corae, &c.

No Change of Seasons or Excess was there,
No Winter chill'd, nor Summer scorched the Air,
But, with a constant Spring, Nature was fresh
( and fair.)

Rough Winds or Rains that Region never knew,
Water'd with Rivers and the Morning Dew;
The Heav'ns still clear, the Fields still green and
(gay,

No Clouds above, nor on the Earth decay;
Trees kept their Leaves and Verdure all the Year,
And Fruits were never out of Season there.

And as the Christian Authors, so likewise the Jewish have spoken of Paradise in the same manner; they tell us also that the Days there were always of the same Length throughout the
The Theory of the Earth.

the whole Year; and that made 'em fancy Paradise to lie under the æquinoctial; as we shall see in its due Place. 'Tis true, we do not find these things mention'd expressly in the Sacred Writings, but the Effects that flow'd from 'em are recorded there, and we may reasonably suppose Providence to have foreseen, that when those Effects came to be scan'd and narrowly lookt into, they would lead us to a Discovery of the Causes, and particularly of this great and general Cause, that perpetual æquinoct and Unity of Seasons in the Year, till the Deluge. The Longevity of the Antediluvians cannot be explain'd upon any other Supposition, as we shall have Occasion to show hereafter; and that you know is recorded carefully in Scripture: As also that there was no Rainbow before the Flood; which goes upon the same Ground, that there was no Variety of Seasons, nor any Rain: And this by many is thought to be understood by Moses's Words, Gen. 2. 5, 6. which he speaks of the first and Paradisical Earth. Lastly, Seeing the Earth then brought forth the Principles of Life and all Living Creatures (Man excepted) according to Moses, Gen. 1. 24. we must suppose that the State of the Heavens was such as favour'd these Conceptions and Births, which could not possibly be brought to Perfection, as the Seasons of the Year are at present. The first time that we have mention made in Scripture of Summer and Winter, and the Differences of Seasons, is at the ending of the De- luge, Gen. 8. 22. Hence forward all the Days
Concerning the Prim. Earth, and Paradise. 247 of the Earth, Seed-time and Harvest, Heat and Cold, Summer and Winter, Day and Night shall not cease. 'Tis true these Words are so lax, that they may be understood either of a new Course of Nature then instituted, or of an old one restor'd; but seeing it doth appear from other Arguments and Considerations, that there was at that time a new Course of Nature constituted, it is more reasonable to interpret the Words in that Sense; which, as it is agreeable to Truth, according to Reason and Antiquity; so it renders that Remark of Moses of far greater Importance, if it be understood as an Indication of a new Order then settled in Nature, which should continue henceforwards so long as the Earth endur'd. Nor do I at all wonder that such things should not be expressly and positively declar'd in Scripture; for Natural Mysteries in the Holy Writings, as well as Prophetic, are many times, on set Purpose, incompleatly deliver'd, so as to awaken and excite our Thoughts rather than fully resolve them: This being often more suitable to the Designs of Providence in the Government of the World. But thus much for this first common or general Character of the Golden Age, and of Paradise, a perpetual Serenity and perpetual Equinox.

The second Character is the Longevity of Men, and, as is probable, of all other Animals in Proportion. This, methinks, is as strange and surprizing as the other; and I know no Difference betwixt the Antediluvian World and the present so apt to affect us, if
we reflect upon it, as this wonderful Disproportion in the Ages of Men; our Forefathers and their Posterity: They liv'd seven, eight, nine hundred Years and upwards, and 'tis a wonder now if a Man live to one hundred. Our Oaks do not last so long as their Bodies did; Stone and Iron would scarce outwear them. And this Property of the first Ages, or their Inhabitants, how strange ever, is well attested, and beyond all Exception, having the joint Consent of Sacred and Profane History. The Scripture sets down the precise Age of a Series of Antediluvian Patriarchs, and by that measures the Time from the beginning of the World to the Deluge; so as all Sacred Chronology stands upon that bottom. Yet I know some have thought this so improbable and incongruous a thing, that to save the Credit of Moses and the Sacred History, they interpret these Years of Lunar Years or Months; and so the Ages of these Patriarchs are reduc'd to much what the same measure with the common Life of Man at this time. It may be observ'd in this, as in many other Instances, that for want of a Theory to make Things credible and intelligible, Men of Wit and Parts have often depress the Sense of Scripture; and that not out of any ill Will to Scripture or Religion, but because they could not otherwise, upon the Stock of their Notions, give themselves a rational Account of Things recorded there. But I hope when we come to explain the Causes of this Longevity, we shall shew that it is altogether as strange a Thing that
Concerning the Prim. Earth, and Paradise. that Men should have such short Lives as they have now, as that they had such long Lives in the first Ages of the World. In the mean time, there are a great many collateral Reasons to assure us that Lunar Years cannot be here understood by Moses, for all Antiquity gives the same Account of those first Ages of the World, and of the first Men, that they were extremely long-liv'd. We meet with it generally in the Description of the Golden Age; and not only so, but in their Topical Paradises also they always suppos'd a great Vivacity or Longevity in those that enjoy'd them. And Josephus, speaking upon this Subject, Book i. Ch. 4. Jew. Ant. faith, the Authors of all the Learned Nations, Greeks or Barbarians, bare Witness to Moses's Doctrine in this particular. And in the Mosaical History it self, there are several Circumstances and Marks that discover plainly, that the Years of the Patriarchs cannot be understood of Lunar Years; as we shall have Occasion to shew in another Place. We proceed in the mean time to the third and last Character, The extraordinary Fertility of the Soil, and the Production of Animals out of the new made Earth.

The first part of this Character is unquestionable; All Antiquity speaks of the Plenty of the Golden Age, and of their Paradises, whether Christian or Heathen. The Fruits of the Earth at first were spontaneous, and the Ground, without being torn and tormented, satisfied the Wants or Desires of Man. When Nature was fresh and full, all things flow'd from
from her more easily and more pure, like the first running of the Grape, or the Honey-comb; but now she must be press'd and squizz'd, and her Productions taste more of the Earth and of Bitterness. The ancient Poets have often pleas'd themselves in making Descriptions of this happy State, and in admiring the Riches and Liberality of Nature at that time; but we need not transcribe their Poetry here, seeing this Point is not, I think, contested by any. The second Part of this Character, concerning the spontaneous Origin of Living Creatures out of that first Earth, is not so unquestionable; and as to Man, Moses plainly implies that there was a particular Action or Ministry of Providence in the Formation of his Body; but as to other Animals, he seems to suppose that the Earth brought them forth as it did Herbs and Plants. (Gen. i. 24. compar'd with the 11th Verse.) And the Truth is, there is no such great Difference betwixt Vegetable and Animal Eggs, or betwixt the Seeds out of which Plants rise, and the Eggs out of which all Animals rise, but that we may conceive, the one as well as the other, in the first Earth; And as some Warmth and Influence from the Sun is requir'd for the Vegetation of Seeds, so that Influence or Impregnation, which is necessary to make Animal Eggs fruitful, was imputed by the Ancients to the Aether, or to an active and pure Element which had the same Effect upon our great Mother the Earth, as the Irradiation of the Male hath upon the Females Eggs.
Concerning the Prim. Earth, and Paradise. 251

Tum Pater Omnipotens fœcundis imbribus Æther Conjugis in gremium late descendit.

In fruitful Show'rs of Æther Jove did glide
Into the Bosom of his joyful Bride.

'Tis true, this Opinion of the spontaneous
Origin of Animals in the first Earth hath lain
under some Odium, because it was commonly reckoned to be Epicurus's Opinion peculiarly; and he extended it not only to all brute Creatures, but to Mankind also, whom he supposed to grow out of the Earth in great
numbers, in several Parts and Countries, like other Animals; which is a Notion contrary to the Sacred Writings; for they declare, that all Mankind, though diffus'd now through the several Parts and Regions of the Earth, rose at first from one Head or single Man or Woman; which is a Conclusion of great Importance, and that could not, I think, by the Light of Nature, have ever been discover'd. And this makes the Epicurian Opinion the more improbable, for why should two rise only, if they sprung from the Earth? or how could they rise in their full Growth and Perfection, as Adam and Eve did? But as for the Opinion of Animals rising out of the Earth at first, that was not at all peculiar to Epicurus; The Stoicks were of the same Mind, and the Pythagoreans, and the Ægyptians, and, I think, all that supposed the Earth to rise from a Chaos. Neither do I know any harm in that Opinion, if duly limited
252 The Theory of the Earth.

mited and stated; for what Inconvenience is it, or what Diminution of Providence, that there should be the Principles of Life, as well as the Principles of Vegetation, in the new Earth? And unless you suppose all the first Animals, as well as the first Man, to have been made at one stroke, in their full Growth and Perfection, which we have neither Reason nor Authority sufficient to believe; if they were made young, little and weak, as they come now into the World, there seems to be no way for their Production more proper, and decorous, than that they should spring from their great Mother the Earth. Lastly, considering the innumerable little Creatures that are upon the Earth, Insects and creeping things; and that these were not created out of nothing, but form'd out of the Ground: I think that an Office most proper for Nature, that can set so many Hands to work at once; and that hath Hands fit for all those little Operations or Manufactures, how small soever, that would less become the Dignity of Superior Agents.

Thus much for the Preliminaries, or three general Characters of Paradise, which were common to it with the rest of the Primæval Earth; and were the chief Ingredients of the Golden Age, so much celebrated by the Ancients. I know there were several other Differences betwixt that Earth and this; but these are the Original; and such as are not necessary to be premis'd for the general Explication of Paradise, we reserve for another Place. We may in the mean time observe, how prepos-
Concerning the Prim. Earth, and Paradise. 253

terously they go to work, that set themselves immediately to find out some pleasant Place of the Earth to fix Paradise in, before they have consider'd, or laid any Grounds, to explain the general Conditions of it, wheresoever it was. These must be first known and determin'd, and we must take our Aim and Directions from these, how to proceed further in our Enquiries after it; otherwise we sail without a Compass, or seek a Port and know not which way it lies. And as we should think him a very unskilful Pilot that sought a Place in the new World, or America, that really was in the old; so they commit no less an Error, that seek Paradise in the present Earth, as now constituted, which could only belong to the former, and to the State of the first World: As will appear more plainly in the following Chapter.

C H A P. II.

The great Change of the World since the Flood from what it was in the first Ages. The Earth under its present Form could not be Paradisiacal, nor any Part of it.

THE Scheme of this World passeth away, faith an Holy Author: The Mode and Form, both of the Natural and Civil World changeth continually more or less, but most remarkably at certain Periods, when all Nature puts on another Face; as it will do at the Conflagration, and hath done already from the
the time of the Deluge. We may imagine how different a Prospect the first World would make from what we see now in the present State of Things, if we consider only those Generals by which we have describ'd it in the foregoing Chapter, and what their Influence would be upon Mankind and the rest of Nature. For every new State of Nature doth introduce a new Civil Order, and a new Face and Economy of Humane Affairs: And I am apt to think that some two Planets, that are under the same State or Period, do not so much differ from one another, as the same Planet doth from itself in different Periods of its Duration. We do not seem to inhabit the same World that our first Fore-fathers did, nor scarce to be the same Race of Men. Our Life now is so short and vain, as if we came into the World only to see it and leave it; by that time we begin to understand ourselves a little, and to know where we are, and how to act our part, we must leave the Stage, and give Place to others as meer Novices as we were ourselves at our first Entrance. And this short Life is employ'd, in a great measure, to preserve our selves from Necessity, or Diseases, or Injuries of the Air, or other Inconveniencies; to make one Man easy, ten must work and do drudge-ry; The Body takes up so much time, we have little Leisure for Contemplation, or to cultivate the Mind. The Earth doth not yield us Food, but with much Labour and Industry; and what was her free-will Offering before, or an easy Liberality, can scarce now be extorted from
Concerning the Prim. Earth, and Paradise.

from her. Neither are the Heavens more favourable, sometimes in one Extremity, sometimes in another; The Air often impure or infectious, and, for a great part of the Year, Nature her self seems to be sick or dead. To this Vanity the external Creation is made subject as well as Mankind, and so must continue till the Restitution of all Things.

Can we imagine, in those happy Times and Places we are treating of, that things stood in this same Posture? are these the Fruits of the Golden Age and of Paradise, or consistent with their Happiness? And the Remedies of these Evils must be so universal, you cannot give them to one Place or Region of the Earth, but all must participate: For these are things that flow from the Course of the Heavens, or such general Causes as extend at once to all Nature. If there was a perpetual Spring and perpetual æquinox in Paradise, there was at the same time a perpetual æquinox all the Earth over; unless you place Paradise in the middle of the Torrid Zone. So also the long Lives of the Antediluvians was an universal Effect, and must have had an universal Cause. 'Tis true, in some single Parts or Regions of the present Earth, the Inhabitants live generally longer than in others, but do not approach in any measure the Age of their Antediluvian Fore-fathers; and that degree of Longevity which they have above the rest, they owe to the Calmness and Tranquility of their Heavens and Air; which is but an imperfect Participation of that Cause which was once
The Theory of the Earth:

once universal, and had its Effect throughout the whole Earth. And as to the Fertility of this Earth, though in some Spots it be eminently more fruitful than in others, and more delicious; yet that of the first Earth was a Fertility of another kind, being spontaneous, and extending to the Production of Animals, which cannot be without a favourable Concourse from the Heavens also.

Thus much in general; we will now go over those three forementioned Characters more distinctly, to show, by their Unsuitableness to the present State of Nature, that neither the whole Earth, as it is now, nor any Part of it, could be Paradisiacal. The perpetual Spring, which belong'd to the Golden Age, and to Paradise, is an Happiness this present Earth cannot pretend to, nor is capable of, unless we could transfer the Sun from the Ecliptick to the Æquator, or, which is as easy, persuade the Earth to change its Posture to the Sun. If Archimedes had found a Place to plant his Machines in for removing of the Earth, all that I should have desir'd of him, would have been only to have given it an heave at one End, and set it a little to rights again with the Sun, that we might have enjoy'd the Comfort of a perpetual Spring, which we have lost by its Dislocation ever since the Deluge. And there being nothing more indispensably necessary to a Paradisiacal State than this Unity and Equality of Seasons, where that cannot be, 'tis in vain to seek for the rest of Paradise.

The
Concerning the Prim. Earth, and Paradise. 257

The spontaneous Fruitfulness of the Ground was a thing peculiar to the primigenial Soil, which was so temper'd, as made it more luxuriant at that time than it could ever be afterwards; and as that rich Temperament was spent, so by degrees it grew less fertile. The Origin or Production of Animals out of the Earth depended not only upon this vital Constitution of the Soil at first, but also upon such a Posture and Aspect of the Heavens, as favour'd, or at least permitted Nature, to make her best Works out of this prepar'd Matter, and better than could be made in that manner, after the Flood. Noah, we see, had Orders given him to preserve the Races of living Creatures in his Ark, when the old World was destroy'd; which is an Argument to me, that Providence foresaw that the Earth would not be capable to produce them under its new Form; and that, not only for want of Fitness in the Soil, but because of the Diversity of Seasons which were then to take Place, whereby Nature would be disturb'd in her Work, and the Subject to be wrought upon would not continue long enough in the same due Temper. But this part of the second Character, concerning the Original of Animals, deserves to be further examin'd and explain'd.

The first Principles of Life must be tender and ductile, that they may yield to all the Motions and gentle Touches of Nature; otherwise it is not possible that they should be wrought with that Curiosity, and drawn into all those little fine Threads and Textures, that

Book II.  S  we
we see and admire in some parts of the Bodies of Animals. And as the Matter must be so constituted at first, so it must be kept in a due Temper till the Work be finished, without any Excess of Heat or Cold; and accordingly we see that Nature hath made Provision in all sorts of Creatures, whether Oviparous or Viviparous, that the first Rudiments of Life should be preserved from all Injuries of the Air, and kept in a moderate Warmth. Eggs are enclos'd in a Shell, or Film, and must be cherish'd with an equal gentle Heat, to begin Formation and continue it, otherwise the Work miscarries: And in Viviparous Creatures, the Materials of Life are safely lodg'd in the Female's Womb, and conserv'd in a fit Temperature 'twixt Heat and Cold, while the Causes that Providence hath employ'd are busy at work, fashioning and placing and joining the Parts in that due Order which so wonderful a Fabrick requires.

Let us now compare these things with the Birth of Animals in the new-made World, when they first rose out of the Earth, to see what Provision could be made there for their Safety and Nourishment, while they were a making, and when newly made; and though we take all Advantages we can, and suppose both the Heavens and the Earth favourable, a fit Soil and a warm and constant Temper of the Air, all will be little enough to make this way of Production feasible or probable. But if we suppose there was then the same Inconstancy of the Heavens that is now, the same Vicissitude of Seasons, and the same Inequality of Heat
Concerning the Prim: Earth, and Paradise. 259

Heat and Cold, I do not think it at all possible that they could be so form'd, or, being new-form'd, preserv'd and nourish'd. 'Tis true, some little Creatures, that are of short Dispatch in their Formation, and find Nourishment enough wherefover they are bred, might be produc'd and brought to Perfection in this way, notwithstanding any Inequality of Seasons; because they are made all at a Heat, as I may so say, begun and ended within the compass of one Season. But the great Question is concerning the more perfect kinds of Animals, that require a long stay in the Womb, to make them capable to sustain and nourish themselves when they first come into the World. Such Animals, being big and strong, must have a pretty Hardness in their Bones, and Force and Firmness in their Muscles and Joints, before they can bare their own weight, and exercise the common Motions of their Body: And accordingly we see Nature hath ordain'd for these a longer time of Gestation, that their Limbs and Members might have time to acquire Strength and Solidity. Besides, the young ones of these Animals have commonly the Milk of the Dam to nourish them after they are brought forth, which is a very proper Nourishment, and like to that which they had before in the Womb; and by this means their Stomachs are prepar'd by degrees for coarser Food; Whereas our Terrigenous Animals must have been wean'd as soon as they were born, or as soon as they were separ-
The Theory of the Earth.

rated from their Mother the Earth, and therefore must be allow'd a longer time of continuing there.

These Things being consider'd, we cannot in reason but suppose, that these Terrigenous Animals were as long, or longer, a perfecting, than our Viviparous, and were not separated from the Body of the Earth for ten, twelve, eighteen or more Months, according as their Nature was; and seeing in this space of time they must have suffer'd, upon the common Hypothesis, all Vicissitudes and Variety of Seasons, and great Excesses of Heat and Cold, which are things incompatible with the tender Principles of Life and the Formation of living Creatures, as we have shown before; we may reasonably and safely conclude, that Nature had not, when the World began, the same Course she hath now, or that the Earth was not then in its present Posture and Constitution: Seeing, I say, these first spontaneous Births, which both the Holy Writ, Reason and Antiquity seem to allow, could not be finish'd and brought to Maturity, nor afterwards preserv'd and nourish'd, upon any other Supposition.

Longevity is the last Character to be consider'd, and as inconsistent with the present State of the Earth as any other. There are many Things in the Story of the first Ages that seem strange, but nothing so prodigy-like as the long Lives of those Men; that their Houses of Clay should stand eight or nine hundred Years and upwards, and those we build of the hardest Stone or Marble will not now last so long.
Concerning the Prim. Earth, and Paradise. 261 long. This hath excited the Curiosity of Ingenious and Learned Men in all Ages to enquire after the possible Causes of that Longevity; and if it had been always in Conjunction with Innocency of Life and Manners, and expir'd when that expir'd, we might have thought it some peculiar Blessing or Reward attending that; but 'twas common to good and bad, and lasted till the Deluge, whereas Mankind was degenerate long before. Amongst Natural Causes, some have imputed it to the Sobriety and Simplicity of their Diet and manner of living in those Days, that they eat no Flesh, and had not all those Provocations to Gluttony which Wit and Vice have since invented. This might have some Effect, but not possibly to that degree and measure that we speak of. There are many Monastical Persons now that live Abstemiously all their Lives, and yet they think an hundred Years a very great Age amongst them. Others have imputed it to the Excellency of their Fruits, and some unknown Virtue in their Herbs and Plants in those Days; but they may as well say nothing, as say that which can neither be prov'd nor understood. It could not be either the Quantity or Quality of their Food that was the Cause of their long Lives, for the Earth was said to be curst long before the Deluge, and probably by that time was more barren and juiceless (for the generality) than ours is now; yet we do not see that their Longevity decrease'd at all, from the beginning of the World to the Flood. Methuselah was Noah's Grandfather.
father, but one intire Remove from the Deluge, and he liv’d longer than any of his Fore-fathers. That Food that will nourish the Parts, and keep us in Health, is also capable to keep us in long Life, if there be no Impediments otherwise; for to continue Health is to continue Life; as that Fewel that is fit to raise and nourish a Flame, will preserve it as long as you please, if you add fresh Fewel, and no external Causes hinder: Neither do we observe that in those Parts of the present Earth, where People live longer than in others, that there is any thing extraordinary in their Food; but that the Difference is chiefly from the Air and the Temperateness of the Heavens; And if the Antediluvians had not enjoy’d that Advantage in a peculiar manner, and differently from what any Parts of the Earth do now, they would never have seen seven, eight, or nine hundred Years go over their Heads, though they had been nourish’d with Nectar and Ambrosia.

Others have thought that the long Lives of those Men of the old World proceeded from the Strength of their Stamina, or first Principles of their Bodies; which if they were now as strong in us, they think we should still live as long as they did. This could not be the sole and adequate Cause of their Longevity, as will appear both from History and Reason. Shem, who was born before the Flood, and had in his Body all the Virtue of the Antediluvian Stamina and Constitution, fell three hundred Years short of the Age of his Fore-fathers, because the greatest part of his Life was past after
Concerning the Prim. Earth, and Paradise. 263
after the Flood. That their Stamina were stronger than ours are, I am very ready to believe, and that their Bodies were greater; and any Race of strong Men, living long in Health, would have Children of a proportionable strong Constitution with themselves; but then the Question is, how was this interrupted? We that are their Posterity, why do not we inherit their long Lives? How was this Constitution broken at the Deluge, and how did the Stamina fail so fast when that came? Why was there so great a Crisis then and Turn of Life, or why was that the Period of their Strength?

We see this Longevity sunk half in half immediately after the Flood, and after that it sunk by gentler degrees, but was still in Motion and Declension till it was fixed at length, before David's time, Ps. 90. 10. (call'd a Psalm of Moses,) in that which hath been the common Standard of Man's Age ever since: As when some excellent Fruit is transplanted into a worse Climate and Soil, it degenerates continually till it comes to such a degree of Meaness as suits that Air and Soil, and then it stands. That the Age of Man did not fall all on a sudden from the Antediluvian Measure to the present, I impute it to the remaining Stamina of those first Ages, and the Strength of that pristine Constitution which could not wear off but by degrees. We see the Blacks do not quit their Complexion immediately by removing into another Climate, but their Posterity changeth by little and little, and after some Generations they become altogether like the

S 4 People
People of the Country where they are. Thus by the Change of Nature that happen'd at the Flood, the unhappy Influence of the Air and unequal Seasons weaken'd by degrees the innate Strength of their Bodies and the Vigour of their Parts, which would have been capable to have lasted several more hundreds of Years, if the Heavens had continued their Course as formerly, or the Earth its Position. To conclude this particular, if any think that the Antediluvian Longevity proceeded only from the Stamina, or the meer Strength of their Bodies, and would have been so under any Constitution of the Heavens, let 'em resolve themselves these Questions: First, Why these Stamina, or this Strength of Constitution fail'd? Secondly, Why did it fail so much and so remarkably at the Deluge? Thirdly, Why in such Proportions as it hath done since the Deluge? And lastly, Why it hath stood so long immovable, and without any further Diminution? Within the compass of five hundred Years they sunk from nine hundred to ninety; and in the compass of more than three thousand Years since they have not sunk ten Years, or scarce any thing at all. Who considers the Reasons of these Things, and the true Resolution of these Questions, will be satisfied, that to understand the Causes of that Longevity, something more must be consider'd than the Make and Strength of their Bodies; which, though they had been made as strong as the Behemoth or Leviathan, could not have lasted so many Ages, if there had not been a particular
Concerning the Prim. Earth, and Paradise. 265

cular Concurrence of external Causes, such as
the present State of Nature doth not admit
of.

By this short Review of the three general
Characters of Paradise and the Golden Age,
we may conclude how little consistent they are
with the present Form and Order of the Earth.
Who can pretend to assign any Place or Region
in this terraqueous Globe, Island or Conti-
nent, that is capable of these Conditions, or
that agrees either with the Descriptions given
by the Ancient Heathens of their Paradises,
or by the Christian Fathers of Scripture Para-
dise? But where then, will you say, must we
look for it, if not upon this Earth? This puts
us more into Despair of finding it than ever;
'tis not above nor below, in the Air or in the
subterraneous Regions: No, doubtless 'twas
upon the Surface of the Earth, but of the
Primitive Earth, whose Form and Properties,
as they were different from this, so they were
such as made it capable of being truly Para-
disiacal, both according to the forementioned
Characters, and all other Qualities, and Pri-
vileges reasonably ascrib'd to Paradise.
Chap. III.

The Original Differences of the Primitive Earth from the present or post-diluvian. The three Characters of Paradise and the Golden Age found in the Primitive Earth. A particular Explication of each Character.

We have hitherto only perplexed the Argument and our selves, by showing how inexplicable the State of Paradise is according to the present Order of Things, and the present Condition of the Earth. We must now therefore bring into view that Original and Antediluvian Earth where we pretend its Seat was, and show it capable of all those Privileges which we have deny'd to the present; in virtue of which Privileges, and of the Order of Nature established there, that primitive Earth might be truly Paradisiacal, as in the Golden Age; and some Region of it might be peculiarly so, according to the receiv'd Idea of Paradise. And this, I think, is all the Knowledge and Satisfaction that we can expect, or that Providence hath allow'd us in this Argument.

The Primigenial Earth, which in the first Book (Chap. 5.) we rais'd from a Chaos, and set up in an habitable Form, we must now survey again with more Care, to observe its principal Differences from the present Earth, and what Influence they will have upon the Question in hand. These Differences, as we have
Concerning the Prim. Earth, and Paradise. 267
have said before, were chiefly three; The Form
of it, which was smooth, even and regular.
The Posture and Situation of it to the Sun,
which was direct, and not, as it is at present,
inclin'd and oblique; and the Figure of it,
which was more apparently and regularly
oval than it is now. From these three Diffe-
rences flow'd a great many more, inferiour
and subordinate; and which had a considera-
ble Influence upon the moral World at that
time, as well as the natural. But we will on-
ly observe here their more immediate Effects,
and that in reference to those general Charac-
ters or Properties of the Golden Age and of
Paradise, which we have instanc'd in, and
whereof we are bound to give an Account by
our Hypothesis.

And in this respect the most fundamental of
those three Differences we mention'd, was that
of the right Posture and Situation of the Earth
to the Sun; for from this immediately follow'd
a perpetual Æquinox all the Earth over, or;
if you will, a perpetual Spring: And that was
the great thing we found wanting in the
present Earth to make it Paradisical, or capa-
ble of being so. Wherefore this being now
found and establishd in the Primitive Earth, the
other two Properties, of Longævity and of
Spontaneous and Vital Fertility, will be of
more easy Explication. In the mean time let
us view a little the Reasons and Causes of that
regular Situation in the first Earth.

The Truth is, one cannot so well require a
Reason of the regular Situation the Earth had
then,
The Theory of the Earth.

Then, for that was most simple and natural; as of the irregular Situation it hath now, standing oblique and inclin'd to the Sun or the Ecliptick: Whereby the Course of the Year is become unequal, and we are cast into a great Diversity of Seasons. But however, stating the first aright with its Circumstances, we shall have a better Prospect upon the second, and see from what Causes, and in what manner, it came to pass. Let us therefore suppose the Earth, with the rest of its fellow Planets, to be carried about the Sun in the Ecliptick by the Motion of the liquid Heavens; and being at that time perfectly uniform and regular, having the same Center of its Magnitude and Gravity, it would by the Equality of its Libration necessarily have its Axis parallel to the Axis of the same Ecliptick, both its Poles being equally inclin'd to the Sun. And this Posture I call a right Situation, as oppos'd to oblique or inclin'd: or a parallel Situation, if you please. Now this is a thing that needs no Proof besides its own Evidence; for 'tis the immediate Result and common Effect of Gravity or Libration, that a Body, freely left to itself in a fluid Medium, should settle in such a Posture as best answers to its Gravitation; and this first Earth whereof we speak, being uniform and every way equally balanc'd, there was no Reason why it should incline at one End, more than at the other, towards the Sun. As if you should suppose a Ship to stand North and South under the Æquator, if it was equally built and equally ballasted,
Concerning the Prim. Earth, and Paradise. 269
ballasted, it would not incline to one Pole or other, but keep its Axis parallel to the Axis of the Earth; but if the Ballast lay more at one End, it would dip towards that Pole, and rise proportionably higher towards the other. So those great Ships that sail about the Sun once a Year, or once in so many Years, whilst they are uniformly built and equally poised, they keep steady and even with the Axis of their Orbit; but if they lose that Equality, and the Center of their Gravity change, the heavier End will incline more towards the common Center of their Motion, and the other End will recede from it. So particularly the Earth, which makes one in that Aëry Fleet, when it 'scap'd so narrowly from being shipwrackt in the great Deluge, was however so broken and disorder'd, that it lost its equal Poise, and thereupon the Center of its Gravity changing, one Pole became more inclin'd towards the Sun, and the other more remov'd from it, and so its right and parallel Situation which it had before to the Axis of the Eclipatick, was chang'd into an oblique; in which skew Posture it hath stood ever since, and is likely so to do for some Ages to come. I instance in this, as the most obvious Cause of the Change of the Situation of the Earth, though it may be, upon this followed a Change in its Magnetism, and that might also contribute to the same Effect.

However, this Change and Obliquity of the Earth's Posture had a long train of Consequences depending upon it; whereof that was the most immediate, that it alter'd the Form
of the Year, and brought in that Inequality of Seasons which hath since obtain'd: As, on the contrary, while the Earth was in its first and natural Posture, in a more easy and regular Disposition to the Sun, that had also another respective train of Consequences, whereof one of the first, and that which we are most concern'd in at present, was, that it made a perpetual Æquinox or Spring to all the World, all the Parts of the Year had one and the same Tenor, Face and Temper; there was no Winter or Summer, Seed-time or Harvest, but a continual Temperature of the Air and Verdure of the Earth. And this fully answers the first and fundamental Character of the Golden Age and of Paradise; and what Antiquity, whether Heathen or Christian, hath spoken concerning that perpetual Serenity and constant Spring that reign'd there, which in the one was accounted Fabulous, and in the other Hyperbolical, we see to have been really and Philosophically true. Nor is there any Wonder in the thing, the Wonder is rather on our side, that the Earth should stand and continue in that forc'd Posture wherein it is now, spinning Yearly about an Axis, I mean that of the Æquator, that doth not belong to the Orbit of its Motion; This, I say, is more strange than that it once stood in a Posture that was straight and regular; As we more justly admire the Tower at Pifa, that stands crook'd, than twenty other straight Towers that are much higher.

Having
Concerning the Prim. Earth, and Paradise.

Having got this Foundation to stand upon, the rest of our Work will go on more easily; and the two other Characters which we mention'd, will not be of very difficult Explanation. The spontaneous Fertility of the Earth, and its Production of Animals at that time, we have in some measure explain'd before, supposing it to proceed partly from the Richness of the primigenial Soil, and partly from this constant Spring and Benignity of the Heavens, which we have now establish'd: These were always ready to excite Nature, and put her upon Action, and never to interrupt her in any of her Motions or Attempts. We have show'd in the fifth Chapter of the first Book, how this primigenial Soil was made, and of what Ingredients; which were such as compose the richest and fattest Soil, being a light Earth mixt with unctuous Juices, and then afterwards refresh'd and diluted with the Dews of Heaven all the Year long, and cherish'd with a continual Warmth from the Sun. What more hopeful Beginning of a World than this? You will grant, I believe, that whatsoever degree, or whatsoever kind of Fruitfulness could be expected from a Soil and a Sun, might be reasonably expected there. We see great Woods and Forests of Trees rise spontaneously, and that since the Flood (for who can imagine that the ancient Forests, whereof some were so vastly great, were planted by the Hand of Man? ) why should we not then believe that Fruit-trees and Corn rose as spontaneously in that first Earth? That which makes Husbandry...
The Theory of the Earth.

dry and humane Arts so necessary now for the Fruits and Productions of the Earth, is partly indeed the Decay of the Soil, but chiefly the Diversity of Seasons, whereby they perish, if care be not taken of them; but when there was neither Heat nor Cold, Winter nor Summer, every Season was a Seed-time to Nature, and every Season an Harvest.

This, it may be, you will allow as to the Fruits of the Earth, but that the same Earth should produce Animals also will not be thought so intelligible. Since it hath been discover'd, that the first Materials of all Animals are Eggs, as Seeds are of Plants, it doth not seem so hard to conceive that these Eggs might be in the first Earth, as well as those Seeds; for there is a great Analogy and Similarity betwixt them; especially if you compare these Seeds first with the Eggs of Insects or Fishes, and then with the Eggs of viviparous Animals. And as for those Juices which the Eggs of viviparous Animals imbibe thorough their Coats from the Womb, they might as well imbibe them, or something analogous to them, from a conveniently temper'd Earth, as Plant-Eggs do; and these Things being admitted, the Progress is much—what the same in Seeds as Eggs, and in one sort of Eggs as in another.

'Tis true, Animal-Eggs do not seem to be fruitful of themselves, without the Influence of the Male; and this is not necessary in Plant-Eggs or vegetable Seeds. But neither doth it seem necessary in all Animal Eggs, if there be any
any Animals *sponte orta*, as they call them, or bred without Copulation. And, as we observ'd before, according to the best Knowledge that we have of this Male-influence, it is reasonable to believe, that it may be supplied by the Heavens or *Æther*. The Ancients, both the *Stoicks* and *Aristotle*, have suppos'd that there was something of an æthereal Element in the Malegeniture, from whence the Virtue of it chiefly proceeded; and if so, why may we not suppose, at that time, some general Impression or Irradiation of that purer Element to fructify the new made Earth? *Moses* faith there was an Incubation of the Spirit of God upon the Mafs, and without all doubt that was either to form, or fructify it, and by the Mediation of this active Principle; but the Ancients speak more plainly with express mention of this *Æther*, and of the Impregnation of the Earth by it, as betwixt Male and Female. As in the Place before cited;

*Tu m Pater omnipotens fæcundis imbrisibus *Æther* Conjugis in gremium latæ descendit; & omnes Magnus alit magno commixtus corpore satus.*

Which Notion, I remember, St. *Austin* faith, *De Civ. D. lib. 4. c. 10 Virgil* did not take from the Fictions of the Poets, but out of the Books of the Philosophers. Some of the gravest Authors amongst the Romans have reported that this Virtue hath been convey'd into the Wombs of some Animals by the Winds or the Zephyri; and as I easily believe that the first
fresh Air was more impregnated with this æthereal Principle than ours is; so I see no rea
son but those balmy Dews, that fell every Night in the Primitive Earth, might be the Vehi
cle of it as well as the Malegeniture is now; and from them the teeming Earth, and those vital Seeds which it contain'd, were actuated, and receiv'd their first Fruitfulness.

Now this Principle, howsoever convey'd to those Rudiments of Life which we call Eggs, is that which gives the first stroke towards Animation; and this seems to be by exciting a Ferment in those little Masses, whereby the Parts are loosen'd, and dispos'd for that Formation which is to follow afterwards. And I see nothing that hinders but that we may reasonably suppose that these Animal Productions might proceed thus far in the Primigenial Earth: And as to their Progress and the Formation of the Body, by what Agents or Principles ever that great Work is carried on in the Womb of the Female, it might by the same be carried on there. Neither would there be any Danger of miscarrying by Excess of Heat or Cold, for the Air was always of an equal Temper and moderate Warmth; And all other Impediments were remov'd, and all Principles ready, whether active or passive; so as we may justly conclude, that as Eve was the Mother of all living as to Mankind, so was the Earth the Great Mother of all living Creatures besides.

The third Character to be explain'd, and the most extraordinary in Appearance, is that of
Concerning the Prim. Earth, and Paradise. 275

of LONGÆVITY. This sprung from the same Root, in my Opinion, with the other; though the Connexion, it may be, is not so visible. We show’d in the foregoing Chapter, that no Advantage of Diet, or of strong Constitutions, could have carried their Lives, before the Flood, to that wonderful Length, if they had been expos’d to the same Changes of Air and of Seasons that our Bodies are: But taking a perpetual Æquinox, and fixing the Heavens, you fix the Life of Man too; which was not then in such a rapid Flux as it is now, but seem’d to stand still, as the Sun did once without Declension. There is no Question but every thing upon Earth, and especially the Animate World, would be much more permanent, if the general Course of Nature was more steady and uniform; a Stability in the Heavens makes a Stability in all things below; and that Change and Contrariety of Qualities that we have in these Regions, is the Fountain of Corruption, and suffers nothing to be long in quiet: Either by intestine Motions and Fermentations excited within, or by outward Impressions, Bodies are no sooner well constituted, but they are tending again to Dissolution. The Æther in their little Pores and Chinks is unequally agitated, and differently mov’d at different times, and so is the Air in their greater, and the Vapours and Atmosphere round about them: All these shake and unsettle both the Texture and Continuity of Bodies. Whereas in a fixt State of Nature, where these Principles have always the same

constant
constant and uniform Motion, when they are once suited to the Forms and Compositions of Bodies, they givethem no further Disturbance; they enjoy a long and lasting Peace, without any Commotions or Violence within or without.

We find our selves sensible Changes in our Bodies upon the Turn of the Year, and the Change of Seasons; new Fermentations in the Blood and Resolutions of the Humours; which if they do not amount to Diseases, at least they disturb Nature, and have a bad Effect not only upon the fluid Parts, but also upon the more solid, upon the Springs and Fibres in the Organs of the Body, to weaken them and unfit them by degrees for their respective Functions. For though the Change is not sensible immediately in these Parts, yet after many repeated Impressions every Year, by unequal Heat and Cold, Driness and Moisture, contracting and relaxing the Fibres, their Tone at length is in a great measure destroy’d, and brought to a manifest Debility; and the great Springs falling, the less, that depend upon them, fall in Proportion, and all the Symptoms of Decay and old Age follow. We see by daily Experience, that Bodies are kept better in the same Medium, as we call it, than if they often change their Medium, as sometimes in Air, sometimes in Water, moisten’d and dry’d, heated and cool’d; these different States weaken the Contexture of the Parts: But our Bodies, in the present State of Nature, are put into an hundred different Mediums in the course of a Year; sometimes we are steep’d in Water, or in a misty foggy.
Concerning the Prim. Earth, and Paradise. foggy Air for several Days together, sometimes we are almost frozen with Cold, then fainting with Heat at another time of the Year; and the Winds are of a different Nature, and the Air of a different Weight and Pressure, according to the Weather and the Seasons: These things would wear our Bodies, tho' they were built of Oak, and that in a very short time in Comparison of what they would last, if they were always incompact with one and the same Medium, under one and the same Temper, as it was in the Primitive Earth.

The Ancients seem to have been sensible of this, and of the true Causes of those long Periods of Life; for wheresoever they assign'd a great Longevity, as they did not only to their Golden Age, but also to their particular and topical Paradises, they also assign'd there a constant Serenity and Equality of the Heavens, and sometimes expressly a constant Equinox; as might be made appear from their Authors. And some of our Christian Authors have gone farther, and connected these two together, as Cause and Effect, for they say that the Longevity of the Antediluvian Patriarchs proceeded from a favourable Aspect and Influence of the Heavens at that time; which Aspect of the Heavens, being rightly interpreted, is the same thing that we call the Position of the Heavens, or the right Situation of the Sun and the Earth, from whence came a perpetual Equinox. And if we consider the present Earth, I know no Place where they live longer than in that little Island of the Bermudas, where, according to
to the Proportion of time they hold out there, after they are arriv'd from other Parts, one may reasonably suppose, that the Natives would live two hundred Years. And there's nothing appears in that Island that should give long Life above other Places, but the extraordinary Steadiness of the Weather, and of the Temper of the Air throughout the whole Year, so as there is scarce any considerable Difference of Seasons.

But because it would take up too much time to show in this place the full and just Reasons why, and how these long Periods of Life depend upon the Stability of the Heavens: And how on the contrary, from their Inconstancy and Mutability these Periods are shorten'd, as in the present Order of Nature; we will set apart the next Chapter to treat upon that Subject; yet by way of Digression only, so as those that have a Mind may pass to the following, where the Thread of this Discourse is continued. In the mean time you see, we have prepar'd an Earth for Paradise, and given a fair and intelligible Account of those three general Characters, which, according to the Rules of Method, must be determin'd before any further Progress can be made in this Argument. For in the Doctrine of Paradise there are two things to be consider'd, the State of it, and the Place of it; And as it is first in Order of Nature, so it is much more material, to find out the State of it, than the Region where it stood. We need not follow the Windings of Rivers, and the Interpretation of hard Names, to discover this,
Concerning the Prim. Earth, and Paradise. 279
we take more faithful Guides. The unanimous Reports of Antiquity, sacred and pro-
fane, supported by a regular Theory. Upon these Grounds we go, and have thus far pro-
ceeded on our Way; which we hope will grow more easy and pleasant, the nearer we come
to our Journey's End.

C H A P. IV.

A Digression concerning the natural Causes of
Longevity. That the Machine of an Animal consists of Springs, and which are the two
principal. The Age of the Antediluvians to be computed by Solar not Lunar Years.

To confirm our Opinion concerning the
Reasons of Longevity in the first In-
habitants of the World, it will not be
amiss to deduce more at large the natural
Causes of long or short Periods of Life. And
when we speak of long or short Periods of Life, we do not mean those little Diffe-
rences of ten, twenty, or forty Years, which we see amongst Men now-a-days, according as they are of stronger or weaker Constitutions, and govern themselves better or worse; but those grand and famous Differences of several hundreds of Years, which we have Examples of in the different Ages of the World, and particularly in those that liv'd before and since the Flood. Neither do we think it peculiar to this Earth to have such an Inequality in the Lives of Men; but the other Planets, if they
be inhabited, have the same Property, and the same Difference in their different Periods: All Planets that are in their Antediluvian State, and in their first and regular Situation to the Sun, have long-liv'd Inhabitants; and those, that are in an oblique Situation, have short-liv'd; unless there be some counter Causes that hinder this general Rule of Nature from taking Place.

We are now so us'd to a short Life, and to drop away after three score or fourscore Years, that when we compare our Lives with those of the Antediluvians, we think the Wonder lies wholly on their Side, why they liv'd so long; and so it doth, popularly speaking; but if we speak philosophically, the Wonder lies rather on our Side, why we live so little, or so short a Time: For seeing our Bodies are such Machines as have a Faculty of nourishing themselves, that is, of repairing their lost or decay'd Parts, so long as they have good Nourishment to make use of, why should they not continue in good Plight, and always the same, as a Flame does, so long as it is supplied with Fewel? And that we may the better see on whether Side the Wonder lies, and from what Causes it proceeds, we will propose this Problem to be examin'd, Why the Frame or Machine of an humane Body, or of another Animal, having that Construction of Parts, and those Faculties which it hath, lasts so short a Time? And tho' it fall into no Disease, nor have any unnatural Accident, within the Space of
Concerning the Prim. Earth, and Paradise. 281

of eighty Years, more or less, fatally and inevitably decays, dies and perisheth?

That the State and Difficulty of this Question may the better appear, let us consider a Man in the Prime and Vigour of his Life, at the Age of twenty or twenty four Years, of an healthful Constitution, and all his Vitals sound; let him be nourish'd with good Food, use due Exercise; and govern himself with Moderation in all other things; the Question is, Why this Body should not continue in the same Plight, and in the same Strength, for some Ages? or at least why it should decay so soon, and so fast as we see it does? We do not wonder at Things that happen daily, though the Causes of them be never so hard to find out; we contract a certain Familiarity with common Events, and fancy we know as much of them as can be known, tho' in Reality we know nothing of them but Matter of Fact; which the Vulgar know as well as the Wise or the Learned. We see daily Instances of the Shortness of Man's Life, how soon his Race is run, and we do not wonder at it, because 'tis common; yet if we examine the Composition of the Body, it will be very hard to find any good Reasons why the Frame of it should decay so soon.

I know 'tis easy to give general and superficial Answers and Accounts of these Things; but they are such, as, being strictly examin'd, give no Satisfaction to an inquisitive Mind: You would say, it may be, that the interior Parts and Organs of the Body wear and decay
The Theory of the Earth.

cay by Degrees, so as not performing so well their several Offices and Functions, for the Digestion and Distribution of the Food and its Juices, all the other Parts suffer by it, and draws on insensibly a Decay upon the whole Frame of the Body. This is all true; but why, and how comes this to pass? from what Causes? where is the first Failure, and what are the Consequences of it? The inward Parts do not destroy themselves, and we suppose that there is no want of good Food, nor any Disease, and we take the Body in its full Strength and Vigour, why doth it not continue thus, as a Lamp does, if you supply it with Oil? The Causes being the same, why doth not the same Effect still follow? Why should not the Flame of Life, as well as any other Flame, if you give it Fewel, continue in its Force without Languishing or Decay?

You will say, it may be, the Case is not the same in a simple Body, such as a Lamp or a Fire, and in an organisable Body; which being variously compounded of Multiplicity of Parts, and all those Parts put in Connexion and Dependence one upon another, if any one fail, it will disorder the whole Frame; and therefore it must needs be more difficult for such a Body to continue long in the same State, than for a simple Body, that hath no Variety of Parts or Operations. I acknowledge such a Body is much more subject to Diseases and Accidents than a more simple; but barring all Diseases and Accidents, as we do, it might be of as long a Duration as any other, if it was supply'd
ply'd with Nourishment adequately to all its Parts: As this Lamp we speak of, if it consists of twenty Branches, and each of these Branches was to be fed with a different Oil, and these Oils could be all mix'd together in some common Cistern, whence they were to be distributed into the several Branches, either according to their different Degrees of Lightness, one rising higher than another; or according to the Capacity and Figure of the little Pipes they were to pass thro'; such a compounded Lamp, made up of such Artifices, would indeed be more subject to Accidents, and to be out of Order, by the Obstruction of some of the little Pipes, or some unfit Qualities in the Oils; but all these Casualties and Disorders excepted, as they are in our Case, if it was supply'd with convenient Liquors, it would burn as long as any other, tho' more plain and simple.

To instance yet, for more Plainness, in another sort of Machine; suppose a Mill, where the Water may represent the Nourishment and Humours in our Body, and the Frame of Wood and Stone, the solid Parts; if we could suppose this Mill to have a Power of nourishing itself by the Water it receiv'd, and of repairing all the Parts that were worn away, whether of the Wood-work or of the Stone, feed it but with a constant Stream, and it would subsist and grind for ever. And 'tis the same Thing for all other artificial Machines of this Nature, if they had a Faculty of nourishing themselves, and repairing their Parts. And seeing
seeing those natural Machines we are speaking of, the Body of Man, and of other Animals, have and enjoy this Faculty, why should they not be able to preserve themselves beyond that short Period of Time which is now the Measure of their Life?

Thus much we have said to shew the Difficulty propos'd, and in force it; we must now consider the true Answer and Resolution of it; and to that purpose bring into View again those Causes which we have assign'd, both of the long Periods of Life before the Flood, and of the short ones since. That there was a perpetual Æquinox and Stability of the Heavens before the Flood, we have shew'd both from History and Reason; neither was there then any thing of Clouds, Rains, Winds, Storms, or unequal Weather, as will appear in the following Chapter; and to this Steadiness of Nature, and universal Calmness of the external World, we have imputed those long Periods of Life which Men enjoy'd at that time: As on the contrary, when that great Change and Revolution happen'd to Nature at the Deluge, and the Heavens and the Earth were cast in another Mould, then was brought in, beside many other new Scenes, that Shortness and Vanity in the Life of Man, and a general Instability in all sublunary Things, but especially in the animate World.

It is not necessary to shew, more than we have done already, how that primitive State of Nature contributed to long Life; neither is it requir'd that it should actively contribute, but only
Concerning the Prim. Earth, and Paradise. 285

only be permissive, and suffer our Bodies to act their Parts; for if they be not disturb’d, nor any Harm done them by external Nature, they are built with Art and Strength enough to last many hundreds of Years. And as we observ’d before concerning the Posture of the Earth, that that which it had at first, being simple and regular, was not so much to be accounted for, as its present Posture, which is irregular; so likewise for the Life of Man, the Difficulty is not why they liv’d so long in the old World; that was their due and proper Course; but why our Bodies, being made after the same Manner, should endure so short a time now. This is it therefore which we must now make our Business to give an Account of, namely, how that Vicissitude of Seasons, Inconstancy of the Air, and unequal Course of Nature, which came in at the Deluge, do shorten Life; and indeed hasten the Dissolution of all Bodies, animate or inanimate.

In our Bodies we may consider three several Qualities or Dispositions, and according to each whereof they suffer Decay: First, Their Continuity; Secondly, That Disposition whereby they are capable of receiving Nourishment, which we may call Nutribility; and Thirdly, The Tone or tonick Disposition of the Organs, whereby they perform their several Functions. In all these three Respects they would decay in any State of Nature, but far sooner and faster in the present State than in the primæval. As for their Continuity, we have noted before that all consistent Bodies must be less durable
The Theory of the Earth

durable now, than under that first Order of the World, because of the unequal and contrary Motions of the Elements, or of the Air and Aëther that penetrate and pervade them; and 'tis Part of that Vanity which all Things now are subject to, to be more perishable than in their first Constitution. If we should consider our Bodies only as breathing Statues, consisting of those Parts they do, and of that Tenderness, the Air which we breathe, and wherewith we are continually incompact, changing so often 'twixt moist and dry, hot and cold, a slow and eager Motion, these different Actions and restless Changes would sooner weaken and destroy the Union of the Parts, than if they were always in a calm and quiet Medium.

But it is not the gross and visible Continuity of the Parts of our Body that first decays; there are finer Textures that are spoil'd insensibly, and draw on the Decay of the rest; such are those other two we mention'd; that Disposition and Temper of the Parts whereby they are fit to receive their full Nourishment; and especially that Construction and Texture of the Organs that are preparatory to this Nutrition. The Nutribility of the Body depends upon a certain Temperament in the Parts, soft and yielding, which makes them open to the Blood and Juices in their Circulation and Passage thro' them, and mixing intimately and universally, hold fast and retain many of their Particles; as muddy Earth doth the Parts of the Water that runs into it and mixeth with it.
Concerning the Prim. Earth, and Paradise. 287

it: And when these nutritious Particles retain'd are more than the Body spends, that Body is in its Growth; as when they are fewer, 'tis in its Decay. And as we compar'd the Flesh and tender Parts, when they are young and in a growing Disposition, to a muddy Soil; that opens to the Water, swells and incorporates with it; so when they become hard and dry, they are like a sandy Earth, that suffers the Water to glide thro' it, without incorporating or retaining many of its Parts; and the sooner they come to this Temper, the sooner follows their Decay: For the same Causes, that set Limits to our Growth, set also Limits to our Life; and he that can resolve that Question, why the Time of our Growth is so short, will also be able to resolve the other in a good measure, why the Time of our Life is so short. In both Cases, that which stops our Progress is external Nature, whose Course, while it was even and steady, and the ambient Air mild and balmy, preserv'd the Body much longer in a fresh and fit Temper to receive its full Nourishment, and consequently gave larger Bounds both to our Growth and Life.

But the third thing we mention'd is the most considerable, The Decay of the Organick Parts; and especially of the Organs preparatory to Nutrition. This is the Point chiefly to be examin'd and explain'd, and therefore we will endeavour to state it fully and distinctly. There are several Functions in the Body of an Animal, and several Organs for the Conduct of them; and
I am of Opinion, that all the Organs of the Body are in the Nature of Springs, and that their Action is tonical. The Action of the Muscles is apparently so, and so is that of the Heart and the Stomach; and as for those Parts, that make Secretions only, as the Glandules and Parenchymata, if they be any more than merely passive, as Strainers, 'tis the Tone of the Parts, when distended, that performs the Separation: And accordingly in all other active Organs, the Action proceeds from a Tone in the Parts. And this seems to be easily prov'd, both as to our Bodies, and all other Bodies; for no Matter that is not fluid, hath any Motion or Action in it, but in virtue of some Tone; if Matter be fluid, its Parts are actually in Motion, and consequently may impel or give Motion to other Bodies; but if it be solid or consistent, the Parts are not separate or separately mov'd from one another, and therefore cannot impel or give motion to any other, but in virtue of their Tone; they having no other Motion themselves. Accordingly we see in Artificial Machines there are but two general Sorts, those that move by some fluid or volatile Matter, as Water, Wind, Air, or some active Spirit; and those which move by Springs, or by the Tonick Disposition of some Part that gives Motion to the rest: For as for such Machines as act by Weights, 'tis not the Weight that is the active Principle, but the Air or Æther that impels it. 'Tis true, the Body of an Animal is a kind of mixt Machine, and those Organs that are the primary Parts of it, partake of both
Concerning the Prim. Earth, and Paradise. 289

both these Principles; for there are Spirits and Liquors that do assist in the Motions of the Muscles, of the Heart and of the Stomach; but we have no Occasion to consider them at present, but only the Tone of the solid Organs.

This being observ'd in the first Place, where in the Force of our Organs consists, we might here immediately subjoin, how this Force is weaken'd and destroy'd by the unequal Course of Nature which now obtains, and consequently our Life shorten'd; for the whole State and Economy of the Body depends upon the Force and Action of these Organs. But to understand the Business more distinctly, it will be worth our Time to examine upon which of the Organs of the Body Life depends more immediately, and the Prolongation of it; that so reducing our Inquiries into a narrower Compass, we may manage them with more Ease and more Certainty.

In the Body of Man there are several Compages, or Sets of Parts, some whereof need not be consider'd in this Question; there is that System that serves for Sense and local Motion, which is commonly call'd the ANIMAL Compages; and that which serves for Generation, which is call'd the GENITAL. These have no Influence upon long Life, being Parts nourished, not nourishing, and that are fed from others as Rivers from their Fountain: Wherefore having laid these aside, there remain two Compages more, the NATURAL and VITAL, which consist of the Heart and Stomach, with their Appendages. Book II.
These are the Sources of Life, and these are all that is absolutely necessary to the Constitution of a living Creature; what Parts we find more, few or many, of one sort or other, according to the several Kinds of Creatures, is accidental to our Purpose: The Form of an Animal, as we are to consider it here, lies in this little Compass, and what is superadded is for some new Purposes besides that of mere Life, as for Sense, Motion, Generation, and such like. As in a Watch, beside the Movement, which is made to tell you the Hour of the Day, which constitutes a Watch; you may have a Fancy to have an Alarm added, or a Minute-motion, or that it should tell you the Day of the Month; and this sometimes will require a new Spring, sometimes only new Wheels; however, if you would examine the Nature of a Watch, and upon what its Motion, or, if I may so say, its Life depends, you must lay aside those secondary Movements, and observe the main Spring, and the Wheels that immediately depend upon that, for all the rest is accidental. So for the Life of an Animal, which is a Piece of Nature's Clock-work, if we would examine upon what the Duration of it depends, we must lay aside those additional Parts or Systems of Parts, which are for other Purposes, and consider only the first Principles and Fountains of Life, and the Causes of their natural and necessary Decay.

Having thus reduc'd our Inquiries to these two Organs, the Stomach and the Heart, as the two Master-Springs in the Mechanism of an
Concerning the Prim. Earth, and Paradise.

an Animal, upon which all the rest depend, let us now see what their Action is, and how it will be more or less durable and constant, according to the different States of external Nature. We determin’d before, that the Force and Action of all Organs in the Body was tonical, and of none more remarkably than of these two, the Heart and Stomach; for tho’ it be not clearly determin’d what the particular Structure of these Organs, or of their Fibres is, that makes them tonical, yet ’tis manifest by their Actions that they are so. In the Stomach, besides a peculiar Ferment that opens and dissolves the Parts of the Meat, and melts them into a Fluor or Pulp; the Coats of it, or Fibres whereof they consist, have a Motion proper to them, proceeding from their Tone, whereby they close the Stomach, and compress the Meat when it is receiv’d, and when turn’d into Chyle, press it forwards, and squeeze it into the Intestines; and the Intestines also partaking of the same Motion, push and work it still forwards into those little Veins that convey it towards the Heart. The Heart hath the same general Motions with the Stomach, of opening and shutting, and hath also a peculiar Ferment which rarifies the Blood that enters into it; and that Blood, by the Spring of the Heart, and the particular Texture of its Fibres, is thrown out again to make its Circulation thro’ the Body. This is, in short, the Action of both these Organs; and indeed the Mystery of the Body of an Animal, and of its Operations and Economy, consits
The Theory of the Earth.

consists chiefly in Springs and Ferments; the one for the solid Parts, the other in the fluid.

But to apply this Fabrick of the organick Parts to our purpose, we may observe and conclude, that whatsoever weakens the Tone or Spring of these two Organs, which are the Bases of all Vitality, weaken the Principle of Life, and shorten the natural Duration of it; and if of two Orders or Courses of Nature, the one be favourable and easy to these tonick Principles in the Body, and the other uneasy and prejudicial, that Course of Nature will be attended with long Periods of Life, and this with short. And we have shewn, that in the primitive Earth the Course of Nature was even, steady and unchangeable, without either different Qualities of the Air, or unequal Seasons of the Year, which must needs be more easy to these Principles we speak of, and permit them to continue longer in their Strength and Vigour, than they can possibly do under all those Changes of the Air, of the Atmosphere, and of the Heavens, which we now suffer yearly, monthly, and daily. And tho' sacred History had not acquainted us with the Longevity of the Antediluvian Patriarchs, nor profane History with those of the Golden Age, I should have concluded from the Theory alone, and the Contemplation of that State of Nature, that the Forms of all Things were much more permanent in that World than in ours, and that the Lives of Men and all other Animals had longer Periods.
Concerning the Prim. Earth, and Paradise. 293

I confess, I am of Opinion, that 'tis this that makes not only these living Springs or tonick Organs of the Body, but all artificial Springs also, tho' made of the hardest Metal, decay so fast. The different Pressure of the Atmosphere, sometimes heavier, sometimes lighter, more rare or more dense, moist or dry, and agitated with different Degrees of Motion, and in different Manners; this must needs operate upon that nicer Contexture of Bodies, which makes them tonical or elaffick; altering the Figure or Minuteness of the Pores, and the Strength and Order of the Fibres upon which that Propriety depends; bending and unbending, closing and opening the Parts. There is a subtle and æthereal Element that traverseth the Pores of all Bodies, and when 'tis straiten'd and pent up there, or stopp'd in its usual Course and Passage, its Motion is more quick and eager, as a Current of Water, when 'tis obstructed or runs thro' a narrower Channel; and that Strife and those Attempts which these little active Particles make to get free, and follow the same Tracks they did before, do still press upon the Parts of the Body that are chang'd, to redress and reduce them to their first and natural Posture, and in this consists the Force of a Spring. Accordingly we may obser ve, that there is no Body that is or will be tonical or elaffick, if it be left to itself, and to that Posture it would take naturally; for then all the Parts are at ease, and the subtle Matter moves freely and uninterrupted within its Pores; but if by Distention, or by Com-
pression, or by Flexion, or any other Way, the Situation of the Parts and Pores be so alter'd, that the Air sometimes, but for the most part that subtler Element, is uneasy and compreft too much, it causeth that Renitency or Tendency to Restitution, which we call the Tone or Spring of a Body. Now as this Disposition of Bodies doth far more easily perish than their Continuity, so I think there is nothing that contributes more to its perishing (whether in natural or artificial Springs) than the unequal Action and different Qualities of the Æther, Air, and Atmosphere.

It will be objected to us, it may be, that in the beginning of the Chapter we instanc'd in artificial Things, that would continue for ever, if they had but the Power of nourishing themselves, as Lamps, Mills, and such like; why then may not natural Machines that have that Power laft for ever? The Case is not the same as to the Bodies of Animals, and the Things there instanc'd in, for those were springless Machines, that act only by some external Cause, and not in Virtue of any Tone or interior Temper of the Parts, as our Bodies do; and when that Tone or Temper is destroy'd, no Nourishment can repair it. There is something, I say, irreparable in the tonical Disposition of Matter, which when wholly lost cannot be restor'd by Nutrition. Nutrition may answer to a bare Consumption of Parts; but where the Parts are to be preserv'd in such a Temperament, or in such a Degree of Humidity and Drinels, Warmth, Rarity or Density,
Concerning the Prim. Earth, and Paradise. to make them capable of that Nourishment, as well as of their other Operations, as Organs, (which is the Case of our Bodies) there the Heavens, the Air, and external Causes will change the Qualities of the Matter in spite of all Nutrition; and the Qualities of the Matter being chang'd, (in a Course of Nature, where the Cause cannot be taken away) that is a Fault incorrigible, and irreparable by the Nourishment that follows, being hinder'd of its Effect by the Indisposition or Incapacity of the Recipient. And as they say, a Fault in the first Concoction cannot be corrected in the second; so neither can a Fault in the Prerequisites to all the Concoctions be corrected by any of them.

I know the Ancients made the Decay and Term of Life to depend rather upon the Humours of the Body, than the solid Parts, and suppos'd an Humidum radicale and a Calidum innatum, as they call them, a radical Moisture and congenit Heat to be in every Body from its Birth and first Formation; and as these decay'd, Life decay'd. But who's wiser for this Account, what doth this instruct us in? We know there is Heat and Moisture in the Body, and you may call the one Radical, and the other Innate if you please; this is but a sort of Cant, for we know no more of the real physical Causes of that Effect we enquir'd into, than we did before. What makes this Heat and Moisture fail, if the Nourishment be good, and all the Organs in their due Strength and Temper? The first and original

Failure
Failure is not in the Fluid, but in the solid Parts, which if they continued the same, the Humours would do so too. Besides, What befel this radical Moisture and Heat at the Deluge, that it should decay so fast afterwards, and last so long before? There is a certain Temper, no doubt, of the Juices and Humours of the Body, which is more fit than any other to conserve the Parts from Drinels and Decay; but the Cause of that Drinels and Decay, or other Inability in the solid Parts, whence is that, if not from external Nature? 'Tis thither we must come at length in our Search of the Reasons of the natural Decay of our Bodies, we follow the Fate and Laws of that: And, I think, by those Causes, and in that Order, that we have already describ'd and explain'd.

To conclude this Discourse, we may collect from it what Judgment is to be made of those Projectors of Immortality, or Undertakers to make Men live to the Age of Methuselah, if they will use their Methods and Medicines: There is but one Method for this, To put the Sun into his old Course, or the Earth into its first Posture; there is no other Secret to prolong Life; our Bodies will sympathize with the general Course of Nature, nothing can guard us from it, no Elixir, no Specific, no Philosopher's Stone. But there are Enthusiasts in Philosophy, as well as in Religion; Men that go by no Principles, but their own Conceit and Fancy, and by a Light within, which shines very uncertainly, and for the most part leads them out of the Way of
Concerning the Prim. Earth, and Paradise. 297

of Truth. And so much for this Disquisition, concerning the Causes of Longevity, or of the long and short Periods of Life in the different Periods of the World.

That the Age of the Antediluvian Patriarchs is to be computed by Solar or common Years, not by Lunar, or Months.

Having made this Discourse of the unequal Periods of Life, only in reference to the Antediluvians and their fam'd Longevity, left we should seem to have proceeded upon an ill-grounded and mistaken Supposition, we are bound to take notice of, and confute, that Opinion which makes the Years of the Antediluvian Patriarchs to have been Lunar, not Solar, and so would bear us in hand, that they liv'd only so many Months as Scripture faith they liv'd Years. Seeing there is nothing could drive Men to this bold Interpretation but the Incredibility of the Thing, as they fancied; they having no Notions or Hypothefis whereby it could appear intelligible or possible to them; and seeing we have taken away that Stumbling-stone, and shew'd it not only possible but necessary, according to the Constitution of that World, that the Periods of Life should be far longer than in this; by removing the Ground or Occasion of their Misinterpretation, we hope we have undeceiv'd them, and let them see that there is no need of that Subterfuge, either to prevent an Incongruity, or save the Credit of the sacred Historian.

But
But as this Opinion is inconsistent with Nature truly understood, so is it also with common History; for besides what I have already mention'd in the first Chapter of this Book, Josephus tells us, (Lib. 1. Jew. Ant. Chap. 4.) that the Historians of all Nations, both Greeks and Barbarians, give the same Account of the first Inhabitants of the Earth; Manetho, who writ the Story of the Egyptians; Berosus, who writ the Chaldaean History, and those Authors that have given us an Account of the Phœnician Antiquities, besides Molus and Hesitiaus, and Hieronymus the Egyptian; and amongst the Greeks, Hesiodus, Hecateus, Hellanicus, Acu-slaus, Ephorus and Nicolaus: We have the Suffrages of all these, and their common Consent, that in the first Ages of the World Men liv'd a thousand Years. Now we cannot well suppose that all these Historians meant Lunar Years, or that they all conspir'd together to make and propagate a Fable.

Lastly, as Nature and profane History do disown and confute this Opinion, so much more doth sacred History; not indeed in profess'd Terms, for Moses doth not say that he useth Solar Years; but by several Marks and Observations, or collateral Arguments, it may be clearly collected, that he doth not use Lunar. As first, because he distinguisheth Months and Years in the History of the Deluge, and of the Life of Noah; for Gen. 7. 11. he faith in the sixth hundredth Year of Noah's Life, in the second Month, &c. It cannot be imagin'd that in the same Verse and Sentence these two Terms
Concerning the Prim. Earth, and Paradise. 299

Terms of Year and Month should be so confounded as to signify the same thing; and therefore Noah's Years were not the same with Months, nor consequently those of the other Patriarchs, for we have no Reason to make any Difference. Besides, what ground was there, or how was it proper or pertinent to reckon, as Moses does there, first, second, third Month, as so many going to a Year, if every one of them was a Year? And seeing the Deluge begun in the sixth hundredth Year of Noah's Life, and in the second Month, and ended in the six hundredth and first Year, (Chap. 8. 13.) the first or second Month, all that was betwixt these two Terms, or all the Duration of the Deluge, made but one Year in Noah's Life, or it may be not so much; and we know Moses reckons a great many Months in the Duration of the Deluge; so as this is a Demonstration that Noah's Years are not to be understood of Lunar. And to imagine that his Years are to be understood one way, and those of his fellow-Patriarchs another, would be an unaccountable Fiction. This Argument therefore extends to all the Antediluvians, and Noah's Life will take in the Postdiluvians too; for you see Part of it runs amongst them, and ties together the two Worlds: So that if we exclude Lunar Years from his Life, we exclude them from all; those of his Fathers, and those of his Children.

Secondly, If Lunar Years were understood in the Ages of the Antediluvian Patriarchs, the Interval betwixt the Creation and the Deluge would be too short, and in many Respects
The Theory of the Earth.

Specs incongruous. There would be but 1656 Months from the Beginning of the World to the Flood; which, converted into common Years, make but 127 Years and five Months for that Interval. This perverts all Chronology, and besides, makes the Number of People too small and inconsiderable at the Time of the Deluge, that destroying of the World then was not so much as destroying of a Country Town would be now: For from one Couple you cannot well imagine there could arise above five hundred Persons in so short a Time; but if there were a thousand, 'tis not so many as we have sometimes in a good Country Village. And were the Flood-gates of Heaven open'd, and the great Abyss broken up to destroy such an Handful of People, and the Waters rais'd fifteen Cubits above the highest Mountains throughout the Face of the Earth, to drown a Parish or two? is not this more incredible than our Age of the Patriarchs? Besides, This short Interval doth not leave Room for ten Generations, which we find from Adam to the Flood, nor allows the Patriarchs Age enough at the Time when they are said to have got Children. One hundred twenty-seven Years for ten Generations is very strait; and of these you must take off forty-six Years for one Generation only, or for Noah, for he liv'd six hundred Years before the Flood, and if they were Lunar, they would come however to forty-six of our Years; so that for the other nine Generations you would have but eighty-one Years, that is, nine Years a-piece; at
Concerning the Prim. Earth, and Paradise. 301
at which Age they must all be suppos'd to
have begun to get Children; which you
cannot but think a very absurd Supposition.
Thus it would be, if you divide the whole
Time equally amongst the nine Generations;
but if you consider some single Instances, as
they are set down by Moses, 'tis still worse;
for Mahaleel and his Grandchild Enoch are said
to have got Children at sixty five Years of
Age, which if you suppose Months, they were
but five Years old at that time; now I appeal
to any one, whether it is more incredible that
Men should live to the Age of nine hundred
Years, or that they should beget Children at
the Age of five Years.

You will say, it may be, 'tis true these In-
conveniencies follow, if our Hebrew Copies
of the Old Testament be Authentick; but if
the Greek Translation by the Septuagint be of
better Authority, as some would have it to
be, that gives a little Relief in this Case; for
the Septuagint make the Distance from the
Creation to the Flood six hundred Years more
than the Hebrew Text does, and so give us a
little more room for our ten Generations:
And not only so, but they have so convenient-
ly dispos'd those additional Years, as to salve
the other Inconvenience too, of the Patriarchs
having Children so young; for what Patriarchs
are found to have got Children sooner than
the rest, and so soon, that, upon a Computa-
tion by Lunar Years, they would be but meer
Children themselves at that time, to these
more Years are added, and plac'd opportunely,
before
before the time of their getting Children; so as one can scarce forbear to think that it was done on purpose to cure that Inconvenience, and to favour and protect the Computation by Lunar Years. The thing looks so like an Artifice, and as done to serve a Turn, that one cannot but have a less Opinion of that Chronology for it.

But not to enter upon that Dispute at present, methinks they have not wrought the Cure effectually enough; for with these six hundred Lunar Years added, the Sum will be only one hundred seventy three common Years and odd Months; and from these deducting, as we did before, for Noah, forty six Years, and for Adam, or the first Generation, about eighteen (for he was two hundred and thirty Years old, according to the Septuagint, when he begot Seth) there will remain but one hundred and nine Years for eight Generations; which will be thirteen Years a piece and odd Months; a low Age to get Children in, and to hold for eight Generations together. Neither is the other Inconvenience, we mention'd, well cur'd by the Septuagint Account, namely, the small Number of People that would be in the World at the Deluge; for the Septuagint Account, if understood of Lunar Years, adds but forty six common Years to the Hebrew Account, and to the Age of the World at the Deluge, in which time there could be but a very small Accession to the Number of Mankind. So as both these Incongruities continue, though not in the same degree,
Concerning the Prim. Earth, and Paradise. 

degree, and stand good in either Account, if it be understood of Lunar Years.

Thirdly, 'Tis manifest from other Texts of Scripture, and from other Considerations, that our first Fathers liv'd very long, and considerably longer than Men have done since; whereas if their Years be interpreted Lunar, there is not one of them that liv'd to the Age that Men do now; Methuselah himself did not reach threescore and fifteen Years, upon that Interpretation; which doth depress them not only below those that liv'd next to the Flood, but below all following Generations to this Day; and those first Ages of the World, which were always celebrated for Strength and Vivacity, are made as weak and feeble as the last Dregs of Nature. We may observe, that after the Flood for some time, till the pristine Crawl of the Body was broken by the new Course of Nature, they liv'd five, four, three, two hundred Years, and the Life of Men shorten'd by degrees; but before the Flood, when they liv'd longer, there was no such Decrease or gradual Declension in their Lives. For Noah, who was the last, liv'd longer than Adam; and Methuselah, who was last but two, liv'd the longest of all: So that it was not simply their Distance from the beginning of the World that made them live a shorter Time, but some Change which happen'd in Nature after such a Period of Time; namely at the Deluge, when the Declension begun. Let's set down the Table of both States.

A TABLE
### A Table of the Ages of the Antediluvian Fathers.

<table>
<thead>
<tr>
<th>Name</th>
<th>Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adam</td>
<td>930</td>
</tr>
<tr>
<td>Seth</td>
<td>912</td>
</tr>
<tr>
<td>Enos</td>
<td>905</td>
</tr>
<tr>
<td>Cainan</td>
<td>910</td>
</tr>
<tr>
<td>Mahaleel</td>
<td>895</td>
</tr>
<tr>
<td>Jared</td>
<td>962</td>
</tr>
<tr>
<td>Enoch</td>
<td>365</td>
</tr>
<tr>
<td>Methuselah</td>
<td>969</td>
</tr>
<tr>
<td>Lamech</td>
<td>777</td>
</tr>
<tr>
<td>Noah</td>
<td>950</td>
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</tbody>
</table>

### A Table of the Ages of the Postdiluvian Fathers, from Shem to Joseph.

<table>
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<th>Name</th>
<th>Years</th>
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<tbody>
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<tr>
<td>Arphaxad</td>
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<tr>
<td>Salah</td>
<td>433</td>
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<td>Eber</td>
<td>464</td>
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<tr>
<td>Peleg</td>
<td>239</td>
</tr>
<tr>
<td>Reu</td>
<td>239</td>
</tr>
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<td>Serug</td>
<td>230</td>
</tr>
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<td>Nahor</td>
<td>148</td>
</tr>
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<td>Terah</td>
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</tr>
<tr>
<td>Abraham</td>
<td>175</td>
</tr>
<tr>
<td>Isaac</td>
<td>180</td>
</tr>
<tr>
<td>Jacob</td>
<td>147</td>
</tr>
<tr>
<td>Joseph</td>
<td>110</td>
</tr>
</tbody>
</table>

From
Concerning the Prim. Earth, and Paradise. 305

From these Tables we see that Mens Lives were much longer before the Flood, and next after it, than they are now; which also is confirm'd undeniably by Jacob's Complaint of the Shortness of his Life, in Comparison of his Forefathers, when he had liv'd one hundred and thirty Years, Gen. 47: 9. The Days of the Years of my Pilgrimage are an hundred and thirty Years; few and evil have the Days of the Years of my Life been, and have not attained unto the Days of the Years of the Life of my Fathers. There were then, 'tis certain, long-liv'd Men in the World before Jacob's Time; when were they, before the Flood or after? We say both, according as the Tables shew it. But if you count by Lunar Years, there never were any, either before or after, and Jacob's Complaint was unjust and false; for he was the oldest Man in the World himself, or at least there was none of his Forefathers that liv'd so long as he.

The Patrons of this Opinion must needs find themselves at a loss, how or where to break off the Account of Lunar Years in sacred History, if they once admit it. If they say that way of counting must only be extended to the Flood, then they make the Postdiluvian Fathers longer liv'd than the Antediluvian; did the Flood bring in Longevity? how could that be the Cause of such an Effect? Besides, if they allow the Postdiluvians to have liv'd six hundred (common) Years, that being clearly beyond the Standard of our Lives, I should never stick at two or three hundred Years more.
The Theory of the Earth.

for the first Ages of the World. If they extend their Lunar Account to the Postdiluvians too, they will still be intangled in worse Absurdities; for they must make their Lives miserably short, and their Age of getting Children altogether incongruous and impossible. Nahor, for Example, when he was but two Years and three Months old must have begot Terah, Abraham's Father: And all the rest between him and Shem must have had Children before they were three Years old: A pretty Race of Pigmies. Then their Lives were proportionably short, for this Nahor liv'd but eleven Years and six Months at this Rate; and his Grandchild Abraham, who is said to have died in a good old Age, and full of Years, (Gen. 25. 8.) was not fourteen Years old. What a ridiculous Account this gives of Scripture-Chronology and Genealogies? But you'll say, it may be, these Lunar Years are not to be carried so far as Abraham neither; tell us then where you'll stop, and why you stop in such a Place rather than another. If you once take in Lunar Years, what Ground is there in the Text, or in the History, that you should change your way of computing at such a Time, or in such a Place? All our ancient Chronology is founded upon the Books of Moses, where the Terms and Periods of Times are express by Years, and often by Genealogies and the Lives of Men: Now if these Years are sometimes to be interpreted Lunar, and sometimes Solar, without any Distinction made in the Text, what Light or certain Rule have we to
Concerning the Prim. Earth, and Paradise. to go by? let these Authors name to us the Parts and Places where, and only where the Lunar Years are to be understood, and I dare undertake to shew, that their Method is not only arbitrary, but absurd and incoherent.

To conclude this Discourse, we cannot but repeat what we have partly observ'd before; How necessary it is to understand Nature, if we would rightly understand those Things in holy Writ that relate to the natural World. For without this Knowledge, as we are apt to think some Things consistent and credible that are really impossible in Nature; so on the other hand, we are apt to look upon other Things as incredible and impossible that are really founded in Nature. And seeing every one is willing so to expound Scripture, as it may be to them good Sense, and consistent with their Notions in other Things, they are forc'd many times to go against the easy and natural Importance of the Words, and to invent other Interpretations more compliant with their Principles, and, as they think, with the Nature of Things. We have, I say, a great Instance of this before us in the Scripture-History of the long Lives of the Ante-diluvians, where, without any Ground or Shadow of Ground in the Narration, only to comply with a mistaken Philosophy, and their Ignorance of the primitive World, many Men would beat down the Scripture Account of Years into Months, and sink the Lives of those first Fathers below the Rate of the worst of Ages. Whereby that great Monument, which Providence
The Theory of the Earth:
dence hath left us of the first World, and of
its Difference from the second, would not on-
ly be defac'd, but wholly demolish'd. And
all this sprung only from the seeming Incredi-
bility of the Thing; for they cannot show in
any Part of Scripture, new or old, that these
Lunar Years are made use of, or that any Com-
putation, literal or prophetical, proceeds upon
them: Nor that there is any Thing in the
Text or Context of that Place, that argues or
intimates any such Account. We have endea-
vour'd, upon this Occasion, effectually to pre-
vent this Misconstruction of sacred History for
the future; both by showing the Incongruities
that follow upon it, and also that there is no
Necessity from Nature of any such Shift or
Evasion, as that is: But rather on the contra-
ry, that we have just and necessary Reasons to
conclude, That as the Forms of all Things
would be far more permanent and lasting in
that primitive State of the Heavens and the
Earth; so particularly the Lives of Men, and
of other Animals.
Concerning the Prin. Earth, and Paradise. 309

CHAP. V.

Concerning the Waters of the primitive Earth: What the State of the Regions of the Air was then, and how all Waters proceeded from them; How the Rivers arose, what was their Course, and how they ended. Some Things in sacred Writ that confirm this Hydrography of the first Earth; especially the Origin of the Rainbow.

Having thus far clear'd our Way to Paradise, and given a rational Account of its general Properties; before we proceed to discourse of the Place of it, there is one Affair of Moment, concerning this primitive Earth, that must first be stated and explain'd; and that is, How it was water'd; from what Causes, and in what Manner. How could Fountains rise, or Rivers flow in an Earth of that Form and Nature? We have shut up the Sea with thick Walls on every Side, and taken away all Communication that could be 'twixt it and the external Earth; and we have remov'd all the Hills and the Mountains where the Springs use to rise; and whence the Rivers descend to water the Face of the Ground: And lastly, we have left no Issue for these Rivers, no Ocean to receive them, nor any other Place to disburden themselves into: So that our new-found World is like to be a dry and barren Wilderness, and
so far from being Paradisiacal, that it would scarce be habitable.

I confess there was nothing in this whole Theory that gave such a Stop to my Thoughts, as this Part of it, concerning the Rivers of the first Earth; how they rose, how they flow'd, and how they ended. It seem'd at first, that we had wip'd away at once the Notion and whole Doctrine of Rivers, we had turn'd the Earth so smooth, that there was not an Hill or Rising for the Head of a Spring, nor any Fall or Descent for the Course of a River: Besides, I had fuckt in the common Opinion of Philosophers, That all Rivers rise from the Sea, and return to it again; and both those Passages, I see, were stop't up in that Earth. This gave me occasion to reflect upon the modern and more solid Opinion concerning the Origin of Fountains and Rivers, That they rise chiefly from Rains and melted Snows, and not from the Sea alone; and as soon as I had demur'd in that Particular, I saw it was necessary to consider and examine how the Rains fell in that first Earth, to understand what the State of their Waters and Rivers would be.

And I had no sooner apply'd my self to that Inquiry, but I easily discover'd, that the Order of Nature in the Regions of the Air would be then very different from what it is now, and the Meteorology of the World was of another sort from that of the present. The Air was always calm and equal, there could be no violent Meteors there, nor any that proceeded from
Concerning the Prim. Earth, and Paradise. 311

from Extremity of Cold; as Ice, Snow or Hail; nor Thunder neither; for the Clouds could not be of a Quality and Consistency fit for such an Effect, either by falling one upon another, or by their Disruption. And as for Winds, they could not be either impetuous or irregular in that Earth; seeing there were neither Mountains nor any other Inequalities to obstruct the Course of the Vapours; nor any unequal Seasons, or unequal Action of the Sun, nor any contrary and struggling Motions of the Air: Nature was then a Stranger to all those Disorders. But as for watery Meteors, or those that rise from watery Vapours more immediately, as Dews and Rains, there could not but be Plenty of these in some Part or other of that Earth; for the Action of the Sun in raising Vapours was very strong and very constant, and the Earth was at first moist and soft, and according as it grew more dry, the Rays of the Sun would pierce more deep into it, and reach at length the great Abyfs which lay underneath, and was an unexhausted Storehouse of new Vapours. But, 'tis true, the same Heat, which extracted these Vapours so copiously, would also hinder them from condensing into Clouds or Rain in the warmer Parts of the Earth; and there being no Mountains at that Time, nor contrary Winds, nor any such Causes to stop them or compress them, we must consider which way they would tend, and what their Course would be, and whether they would anywhere meet with Causes capable to change or condense them;
for upon this, 'tis manifest, would depend the Meteors of that Air, and the Waters of that Earth.

And as the Heat of the Sun was chiefly towards the middle Parts of the Earth, so the copious Vapours rais’d there were most rarified and agitated; and being once in the open Air, their Course would be that Way, where they found least Resistance to their Motion; and that would certainly be towards the Poles, and the colder Regions of the Earth. For East and West they would meet with as warm an Air, and Vapours as much agitated as themselves, which therefore would not yield to their Progress that Way; but towards the North and the South, they would find a more easy Passage, the Cold of those Parts attracting them, as we call it, that is, making way to their Motion and Dilatation without much Resistance, as Mountains and cold Places usually draw Vapours from the warmer. So as the regular and constant Course of the Vapours of that Earth, which were rais’d chiefly about the Æquinoctial and middle Parts of it, would be towards the extrem Parts of it, or towards the Poles.

And in consequence of this, when these Vapours were arriv’d in those cooler Climates, and cooler Parts of the Air, they would be condens’d into Rain; for wanting there the Cause of their Agitation, namely, the Heat of the Sun, their Motion would soon begin to languish, and they would fall closer to one another in the Form of Water. For the Difference
Concerning the Prim. Earth, and Paradise.

Concerning the Prim. Earth, and Paradise. 313

ference betwixt Vapours and Water is only gradual, and consists in this, that Vapours are in a flying Motion, separate and distant each from another; but the Parts of Water are in a creeping Motion, close to one another; like a Swarm of Bees when they are settled; as Vapours resemble the same Bees in the Air before they settle together. Now there is nothing puts these Vapours upon the Wing, or keeps them so, but a strong Agitation by Heat; and when that fails, as it must do in all colder Places and Regions, they necessarily return to Water again. Accordingly therefore we must suppose they would soon, after they reach these cold Regions, be condens'd, and fall down in a continual Rain or Dew upon those Parts of the Earth. I say a continual Rain; for seeing the Action of the Sun, which rais'd the Vapours, was (at that Time) always the same, and the State of the Air always alike, nor any cross Winds, nor any thing else that could hinder the Course of the Vapours towards the Poles, nor their Condensation when arriv'd there; 'tis manifest there would be a constant Source or Store-house of Waters in those Parts of the Earth, and in those Parts of the Earth. And this, I think, was the established Order of Nature in that World, this was the State of the Antediluvian Heavens and Earth; all their Waters came from above, and that with a constant Supply and Circulation; for when the Crowd of Vapours, rais'd about the middle Parts of the Earth, found Vent and Issue this
This way towards the Poles, the Passage being once open'd, and the Channel made, the Current would be still continued without Intermission; and as they were dissolv'd and spent there, they would suck in more and more of those which followed, and came in fresh Streams from the hotter Climates. Aristotle, I remember, in his Meteors, speaking of the Course of the Vapours, faith, there is a River in the Air, constantly flowing betwixt the Heavens and the Earth, made by the ascending and descending Vapours: This was more remarkably true in the primitive Earth, where the State of Nature was more constant and regular; there was indeed an uninterrupted Flood of Vapours rising in one Region of the Earth, and flowing to another, and there continually distilling in Dews and Rain, which made this aereal River. As may be easily apprehended from this Scheme of the Earth and Air.

Thus we have found a Source for Waters in the first Earth, which had no Communication with the Sea; and a Source that would never fail, neither diminish or overflow, but feed the Earth with an equal Supply throughout all the Parts of the Year. But there is a second Difficulty that appears at the End of this, how these Waters would flow upon the even Surface of the Earth, or form themselves into Rivers; there being no Descent or Declivity for their Course. There were no Hills, nor Mountains, nor high Lands in the first Earth, and if these
Concerning the Prim. Earth, and Paradise. 315 these Rains fell in the Frigid Zones, or towards the Poles, there they would stand in Lakes and Pools, having no Descent one Way more than another; and so the rest of the Earth would be no better for them. This, I confess, appear'd as great a Difficulty as the former, and would be unanswerable, for ought I know, if that first Earth was not water'd by Dews only (as I believe some Worlds are) or had been exactly Spherical; but we noted before, that it was Oval or Oblong; and in such a Figure 'tis manifest the polar Parts are higher than the æquinoctial, that is, more remote from the Center, as appears to the Eye in this Scheme. This affords us a present Remedy, and sets us free of the second Difficulty; for by this Means the Waters, which fell about the extreme Parts of the Earth, would have a continual Descent towards the middle Parts of it; this Figure gives them Motion and Distribution; and many Rivers and Rivulets would flow from those Mother-Lakes to refresh the Face of the Earth, bending their Course still towards the middle Parts of it.

'Tis
The Theory of the Earth.

'Tis true, These Derivations of the Waters at first would be very irregular and diffuse, till the Channels were a little worn and hollow'd; and tho' that Earth was smooth and uniform, yet 'tis impossible, upon an inclining Surface, but that Waters should find a Way of creeping downwards, as we see upon a smooth Table, or a flag'd Pavement, if there be the least Inclination, Water will flow from the higher to the lower Parts of it, either directly, or winding to and fro: So the Smoothness of that Earth would be no Hindrance to the Course of the Rivers, provided there was a general Declivity in the Site and Libration of it, as 'tis plain there was from the Poles towards the Equator. The Current indeed would be easy and gentle all along, and if it chanc'd in some Places to rest or be stop'd, it would spread itself into a pleasant Lake, till by fresh Supplies it had rais'd its Waters so high as to overflow and break loose again; then it would pursue its Way, with many other Rivers its Companions, thro' all the temperate Climates as far as the Torrid Zone.

But you'll say, When they were got therer, what would become of them then? How would they end or finish their Course? This is the third Difficulty concerning the Ending of the Rivers in that Earth; what Issue could they have when they were come to the middle Parts of it; whither it seems they all tended? There was no Sea to lose themselves in, as our Rivers do; nor any subterraneous Passages to throw themselves into; how would they
Concerning the Prim. Earth, and Paradise. 317. they die, what would be their Fate at last? I answer, The greater Rivers, when they were come towards those Parts of the Earth, would be divided into many Branches, or a Multitude of Rivulets; and those would be partly exhal'd by the Heat of the Sun, and partly drunk up by the dry and sandy Earth. But how and in what Manner this came to pass, requires a little further Explication.

We must therefore observe in the first Place, that those Rivers, as they drew nearer to the æquinoctial Parts, would find a less Declivity or Descent of Ground than in the beginning or former Part of their Course; that is evident from the oval Figure of the Earth, for near the middle Parts of an Oval, the Semi-diameters, as I may call them, are very little shorter one than another; and for this Reason the Rivers, when they were advanc'd towards the middle Parts of the Earth, would begin to flow more flowly, and, by that Weakness of their Current, suffer themselves easily to be divided and distracted into several lesser Streams and Rivulets; or else, having no Force to wear a Channel, would lie shallow upon the Ground like a Plash of Water; and in both Cases their Waters would be much more expos'd to the Action of the Sun, than if they had kept together in a deeper Channel, as they were before.

Secondly, We must observe, that seeing these Waters could not reach to the Middle of the Torrid Zone, for want of Descent; that Part of the Earth having the Sun always per-
The Theory of the Earth

pendicular over it, and being refresh'd by no Rivers, would become extremely dry and parch'd, and be converted at length into a kind of sandy Desert; so as all the Waters that were carried thus far, and were not exhal'd and consum'd by the Sun, would be suckt up, as in a Spunge, by these Sands of the Torrid Zone. This was the common Grave wherein the Rivers of the first Earth were buried; and this is nothing but what happens still in several Parts of the present Earth, especially in Africk, where many Rivers never flow into the Sea, but expire after the same Manner as these did, drunk up by the Sun and the Sands. And one Arm of Euphrates dies, as I remember, amongst the Sands of Arabia, after the Manner of the Rivers of the first Earth.

Thus we have conquer'd the greatest Difficulty, in my Apprehension, in this whole Theory, To find out the State of the Rivers in the primitive and antediluvian Earth, their Origin, Course, and Period. We have been forc'd to win our Ground by Inches, and have divided the Difficulty into Parts, that we might encounter them single with more Ease. The Rivers of the Earth, you see, were in most respects different, and in some contrary to ours; and if you could turn our Rivers backwards, to run from the Sea towards their Fountain-heads, they would more resemble the Course of those Antediluvian Rivers; for they were greatest at their first setting out, and the Current afterwards, when it was more weak, and the Channel more shallow, was divided into many
Concerning the Prim. Earth, and Paradise. 319

many Branches and little Rivers; like the Ar-
teries in our Body, that carry the Blood; they
are greatest at first, and the further they go
from the Heart, their Source, the less they
grow and divide into a Multitude of little
Branches, which lose themselves insensibly in
the Habit of the Flesh, as these little Floods
did in the Sands of the Earth.

Because it pleaseth more, and makes a grea-
ter Impression upon us, to see Things repre-
sented to the Eye, than to read their Descrip-
tion in Words, we have ventur'd to give a
Model of the Primæval Earth, with its Zones
or greater Climates, and the general Order
and Tracks of its Rivers: Not that we believe
Things to have been in the very same Form
as here exhibited; but this may serve as a ge-
neral Idea of that Earth, which may be wrought
into more Exactness, according as we are able
to enlarge or correct our Thoughts hereafter.
And as the Zones here represented resemble
the Belts or Fasciae of Jupiter, so we suppose
them to proceed from like Causes, if that
Planet be in an Antediluvian State, as the
Earth we here represent. As for the Polar
Parts in that first Earth, I can say very little of
them, they would make a Scene by them-
selves, and a very particular one; the Sun
would be perpetually in their Horizon, which
makes me think the Rains would not fall so
much there as in the other Parts of the Frigid
Zones, where accordingly we have made their
chief Seat and Receptacle. That they flow'd

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from thence in such a like Manner as is here represented, we have already prov'd; and sometimes in their Passage swelling into Lakes, and towards the End of their Course parting into several Streams and Branches, they would water those Parts of the Earth like a Garden.

We have before compar'd the Branchings of these Rivers towards the End of their Course to the Ramifications of the Arteries in the Body, when they are far from the Heart near the extream Parts; and some, it may be, looking upon this Scheme, would carry the Comparison further, and suppose, that as in the Body the Blood is not lost in the Habit of the Flesh, but strain'd thorough it, and taken up again by the little Branches of the Veins; so in that Earth the Waters were not lost in those Sands of the Torrid Zone, but strain'd or percolated thorough them, and receiv'd into the Channels of the other Hemisphere. This indeed would in some Measure answer the Notion which several of the ancient Fathers make use of, that the Rivers of Paradise were trajected out of the other Hemisphere into this by subterraneous Passages. But I confess I could never see it possible how such a Trajection could be made, nor how they could have any Motion, being arriv'd in another Hemisphere; and therefore I am apt to believe that Doctrine amongst the Ancients arose from an Entanglement in their Principles: They suppos'd generally, that Paradise was in the other Hemisphere, as we shall have occasion to show hereafter; and yet they believ'd that Tygris,
Concerning the Prim. Earth, and Paradise. 321

Tygris, Euphrates, Nile, and Ganges, were the Rivers of Paradise, or came out of it; and these two Opinions they could not reconcile, or make out, but by supposing that these four Rivers had their Fountain-heads in the other Hemisphire, and by some wonderful Trajectory broke out again here. This was the Expedient they found out to make their Opinions consistent one with another; but this is a Method to me altogether unconceivable; and, for my part, I do not love to be led out of my Depth, leaning only upon Antiquity. How there could be any such Communication, either above Ground, or under Ground, between the two Hemispheres, does not appear; and therefore we must still suppose the Torrid Zone to have been the Barrier between them, which nothing could pass either Way.

We have now examin'd and determin'd the State of the Air, and of the Waters in the Primitive Earth, by the Light and Consequences of Reason; and we must not wonder to find them different from the present Order of Nature; what things are laid of them, or relating to them in Holy Writ, do testify or imply as much; and it will be worth our time to make some Reflection upon those Passages for our further Confirmation. Moses tells us, that the Rainbow was set in the Clouds after the Deluge; those Heavens then, that never had a Rainbow before, were certainly of a Constitution very different from ours. And St. Peter, 2 Epist. chap. 3. v. 5: doth formally and expressly tell us, that the Book II.
Old Heavens, or the Antediluvian Heavens had a different Constitution from ours, and particularly, that they were compos'd or constituted of Water; which Philosophy of the Apostle's may be easily understood, if we attend to two things, first, that the Heavens he speaks of were not the Starry Heavens, but the Areal Heavens, or the Regions of our Air, where the Meteors are: Secondly, that there were no Meteors in those Regions, or in those Heavens, till the Deluge, but watery Meteors, and therefore, he says, they consisted of Water. And this shows the Foundation upon which that Description is made, how coherently the Apostle argues, and answers the Objection there propos'd: How justly also he distinguisheth the first Heavens from the present Heavens, or rather opposeth them one to another; because as those were constituted of Water, and watery Meteors only, so the present Heavens, he faith, have Treasures of Fire, fiery Exhalations and Meteors, and a Disposition to become the Executioners of the Divine Wrath and Decrees in the final Conflagration of the Earth.

This minds me also of the Celestial Waters, or the Waters above the Firmaments, which Scripture sometimes mentions, and which, methinks, cannot be explain'd so fitly and emphatically upon any Supposition as this of ours. Tho' those who place them above the Starry Heavens, seem neither to understand Astronomy nor Philosophy; and, on the other hand, if nothing be understood by them, but the Clouds
Concerning the Prim. Earth, and Paradise. 323

Clouds and the middle Region of the Air, as it is at present, methinks that was no such eminent and remarkable thing as to deserve a particular Commemoration by Moses in his six Days Work; but if we understand them, not as they are now, but as they were then, the only Source of Waters, or the only Source of Waters upon that Earth, (for they had not one Drop of Water but what was Celestial,) this gives it a new Force and Emphasis: Besides, the whole middle Region having no other sort of Meteors but them, that made it still the greater Singularity, and more worthy Commemoration. As for the Rivers of Paradise, there is nothing said concerning their Source, or their Issue, that is either contrary to this, or that is not agreeable to the general Account we have given of the Waters and Rivers of the first Earth. They are not said to rise from any Mountain, but from a great River, or a kind of a Lake in Eden, according to the Custom of the Rivers of that Earth. And as for their End and Issue, Moses doth not say, that they disburthen’d themselves into this or that Sea, as they usually do in the Description of great Rivers, but rather implies that they spent themselves in compassing and watering certain Countries, which falls in again very easily with our Hypothesis. But I say this rather to comply with the Opinions of others, than of my own Judgment: For I think that Suggestion about the Supercoelestial Waters made by Moses, was not so much according to the strict Nature and Speciality of
The Theory of the Earth.

Causes, as for the Ease and Profit of the People, in their Belief and Acknowledgment of Providence for so great a Benefit, by what Causes soever it was brought to pass.

But to return to the Rainbow, which we mentioned before, and is not to be past over so slightly. This we say is a Creature of the modern World, and was not seen nor known before the Flood. Moses (Gen. 9. 12, 13.) plainly intimates as much, or rather directly affirms it; for he says, the Bow was set in the Clouds after the Deluge, as a Confirmation of the Promise or Covenant which God made with Noah, that he would drown the World no more with Water. And how could it be a Sign of this, or given as a Pledge and Confirmation of such a Promise, if it was in the Clouds before, and with no Regard to this Promise? and stood there, it may be, when the World was going to be drown'd. This would have been but cold Comfort to Noah, to have had such a Pledge of the Divine Veracity. You'll say, it may be, that it was not a Sign or Pledge that signified naturally, but voluntarily only, and by Divine Institution: I am of Opinion, I confess, that it signify'd naturally, and by Connexion with the Effect, importing thus much, that the State of Nature was chang'd from what it was before, and so chang'd, that the Earth was no more in a Condition to perish by Water. But however, let us grant that it signified only by Institution; to make it significant in this Sense, it must be something new, otherwise it could not
Concerhig the Prim. Earth, and Paradise. 325 not signify any new thing, or be the Confirmation of a new Promise. If God Almighty had said to *Noah*, I make a Promise to you, and to all living Creatures, that the World shall never be destroy’d by Water again, and for Confirmation of this, Behold, I set the Sun in the Firmament: Would this have been any strengthening of *Noah*’s Faith, or any Satisfaction to his Mind? Why, says *Noah*, the Sun was in the Firmament when the Deluge came, and was a Spectator of that sad Tragedy; why may it not be so again? What Sign or Assurance is this against a second Deluge? When God gives a Sign in the Heavens, or on the Earth, of any Prophecy or Promise to be fulfill’d, it must be by something new, or by some Change wrought in Nature; whereby God doth testify to us, that he is able and willing to stand to his Promise. God says to *Ahaz*, Isai. 7. *Ask a Sign of the Lord*; *ask it either in the Depth, or in the Height above*: And when *Ahaz* would ask no Sign, God gives one unask’d; Behold, a *Virgin* shall conceive and bear a Son. So when *Zachary*, Luke 1, was promis’d a Son, he asketh for a Sign, *Whereby shall I know this?* for I am old, and my Wife well stricken in Years; and the Sign given him was, that he became dumb, and continued so till the Promise was fulfill’d. Accordingly, when *Abraham* ask’d a Sign whereby he might be assured of God’s Promise that his Seed should inherit the Land of Canaan, Gen. 15. 8. ’Tis said (ver. 17.) *When the Sun went down and it was dark*, behold a smoaking Fu-
nace and a burning Lamp passed betwixt the Pieces of the Beasts that he had cut asunder. So in other Instances of Signs given in external Nature, as the Sign given to King Hezekiah, 1 Sa. 38. for his Recovery, and to Gideon for his Victory; to confirm the Promise made to Hezekiah, Jude 7. the Shadow went back ten Degrees in Ahaz Dial. And for Gideon, his Fleece was wet, and all the Ground about it dry; and then to change the Trial, it was dry, and all the Ground about it wet. These were all Signs very proper, significant, and satisfactory, having something surprising and extraordinary, yet these were Signs by Institution only; and to be such they must have something new and strange, as a Mark of the Hand of God, otherwise they can have no Force or Significancy. Accordingly, we see Moses himself in another place speaks this very Sense, when in the Mutiny or Rebellion of Corah and Dathan, he speaks thus to the People, If these Men die the common Death of Men, then the Lord hath not sent me. But if the Lord make a new thing, and the Earth open her Mouth and swallow them up, &c. then you shall understand that these Men have provoked the Lord, Num. 26. 29, 30. So in the Case of Noah, if God created a new Creature (which are Moses's Words in the forecited Place) the Sign was effectual: But where every thing continues to be as it was before, and the Face of Nature, in all its Parts, the very same, it cannot signify any thing new, nor any new Intention in the Author of Nature; and consequently,
Concerning the Prim. Earth, and Paradise. 327

...frequently cannot be a Sign or Pledge, a Token or Assurance of the Accomplishment of any new Covenant or Promise made by him.

This, methinks, is plain to common Sense, and to every Man's Reason; but because it is a Thing of Importance, to prove that there was no Rainbow before the Flood, and will confirm a considerable Part of this Theory, by discovering what the State of the Air was in the old World, give me leave to argue it a little further, and to remove some Prejudices that may keep others from assenting to clear Reason. I know 'tis usually said, that Signs, like Words, signify any Thing by Institution, or may be apply'd to any Thing by the Will of the Imposter; as hanging out a white Flag is calling for Mercy; a Bush at the Door, a Sign of Wine to be sold, and such like. But these are Instances nothing to our Purpose, these are Signs of something present, and that signify only by Use and repeated Experience; we are speaking of Signs of another Nature, given in Confirmation of a Promise, or Threatning, or Prophecy, and given with Design to cure our Unbelief, or to excite and beget in us Faith in God, in the Prophet, or in the Promiser; such Signs, I say, when they are wrought in external Nature, must be some new Appearance, and must thereby induce us to believe the Effect, or more to believe it, than if there had been no Sign, but only the Affirmation of the Promiser; for otherwise the pretended Sign is a mere Cypher and Superfluity. But a Thing that obtain'd before, and
in the same Manner, (even when that came to pass, which we are now promis'd shall not come to pass again) signifies no more, than if there had been no Sign at all: It can neither signify another Course in Nature, nor another Purpose in God; and therefore is perfectly insignificant. Some instance in the Sacraments, Jewish or Christian, and make them Signs in such a Sense as the Rainbow is: But those are rather Symbolical Representations or Commemorations; and some of them Marks of Distinction and Consecration of our selves to God in such a Religion; they were also new, and very particular when first instituted; but all such Instances fall short, and do not reach the Case before us; we are speaking of Signs confirmatory of a Promise; when there is something affirm'd de futuro, and to give us a further Argument of the Certainty of it, and of the Power and Veracity of the Promiser, a Sign is given: This, we say, must indispensible be something new, otherwise it cannot have the Nature, Virtue, and Influence of a Sign.

We have seen how incongruous it would be to admit that the Rainbow appear'd before the Deluge, and how dead a Sign that would make it, how forc'd, fruitless and ineffectual, as to the Promise it was to confirm: Let us now on the other hand suppose, that it first appear'd to the Inhabitants of the Earth after the Deluge, how proper, and how apposite a Sign would this be for Providence to pitch upon, to confirm the Promise made to Noah and his Posterity, That the World should be no more destroy'd
Concerning the Prim. Earth, and Paradise. 329

firoy'd by Water? It had a secret Connexion with the Effect it self, and was so far a natural Sign; but however, appearing first after the Deluge, and in a watery Cloud, there was, methinks, a great Easiness and Propriety of Application for such a purpose. And if we suppose, that while God Almighty was declaring his Promise to 

Noah, and the Sign of it, there appear'd at the same Time in the Clouds a fair Rainbow, that marvellous and beautiful Meteor, which 

Noah had never seen before; it could not but make a most lively Impression upon him, quickning his Faith, and giving him Comfort and Assurance that God would be stedfast to his Promise.

Nor ought we to wonder that Interpreters have commonly gone the other Way, and suppos'd that the Rainbow was before the Flood; this, I say, was no Wonder in them, for they had no Hypothesis that could answer to any other Interpretation: And in the Interpretation of the Texts of Scripture that concern natural Things, they commonly bring them down to their own Philosophy and Notions: As we have a great Instance in that Discourse of St. Peter's, (2 Epift. c. 3. 5.) concerning the Deluge and the Antediluvian Heavens and Earth, which, for want of a Theory, they have been scarce able to make Sense of; for they have forcibly apply'd to the present Earth, or the present Form of the Earth, what plainly respected another. A like Instance we have in the Mosaical Abyss, or Tephon-Rabba, by whose Disruption the Deluge was made; this they knew
The Theory of the Earth.

knew not well what to make of, and so have generally interpreted it of the Sea, or of our subterraneous Waters; without any Propriety either as to the Word, or as to the Sense. A third Instance is this of the Rainbow, where their Philosophy hath misguided them again; for to give them their due, they do not allege, nor pretend to allege any Thing from the Text, that should make them interpret thus, or think the Rainbow was before the Flood; but they pretend to go by certain Reasons, as that the Clouds were before the Flood, therefore the Rainbow; and if the Rainbow was not before the Flood, then all Things were not made within the six Days Creation: To whom these Reasons are convictive, they must be led into the same Belief with them, but not by any Thing in the Text, nor in the true Theory, at least if ours be so; for by that you see that the Vapours were never condens'd into Drops, nor into Rain in the temperate and inhabited Climates of that Earth, and consequently there could never be the Production or Appearance of this Bow in the Clouds. Thus much concerning the Rainbow.

To recollect our selves, and conclude this Chapter, and the whole Disquisition concerning the Waters of the primitive Earth; we seem to have so well satisfied the Difficulties propos'd in the Beginning of the Chapter, that they have rather given us an Advantage; a better Discovery, and such a new Prospect of that Earth, as makes it not only habitable, but more
Concerning the Prim. Earth, and Paradise. 332

more fit to be Paradisiacal. The Pleasantness of the Site of Paradise is made to consist chiefly in two Things, its Waters, and its Trees, (Gen. 2. and Chap. 13. 10. Ezek. 31. 8.) and considering the Richness of that first Soil in the primitive Earth, it could not but abound in Trees, as it did in Rivers and Rivulets; and be wooded like a Grove, as it was water’d like a Garden, in the temperate Climates of it; so as it would not be, methinks, so difficult to find one Paradise there, as not to find more than one.

C H A P. VI.

A Recollection and Review of what hath been said concerning the Primitive Earth; with a more full Survey of the State of the first World, Natural and Civil, and the Comparison of it with the present World.

We have now, in a good Measure, finish’d our Description of the first and antediluvian Earth: And as Travellers, when they see strange Countries, make it part of their Pleasure and Improvement, to compare them with their own, to observe the Differences, and wherein they excel, or come short of one another: So it will not be unpleasant, nor useless, it may be, having made a Discovery, not of a new Country, but of a new World, and travel’d it over in our Thoughts and Fancy, now to sit down and compare it with our own: And ’twill be no hard
hard Task, from the general Differences which we have taken Notice of already, to ob-
serve what lesser would arise, and what the whole Face of Nature would be.

'Tis also one Fruit of travelling, that by seeing Variety of Places, and People, of Hu-
mours, Fashions, and Forms of Living, it frees us, by degrees, from that Pedantry and
Littleness of Spirit, whereby we are apt to cen
sure every thing for absurd and ridiculous,
that is not according to our own Way, and
the Mode of our own Country: But if, in
stead of crossing the Seas, we could waft our
selves over to our neighbouring Planets, we
should meet with such Varieties there, both
in Nature and Mankind, as would very much
enlarge our Thoughts and Souls, and help to
cure those Diseases of little Minds, that make
them troublesome to others, as well as un-
easy to themselves.

But seeing our heavy Bodies are not made
for such Voyages, the best and greatest thing
we can do in this kind, is to make a Survey
and Reflection upon the antediluvian Earth,
which in some Sense was another World from
this, and, it may be, as different as some two
Planets are from one another. We have de-
clar’d already the general Grounds upon which
we must proceed, and must now trace the
Consequences of them, and drive them down
into Particulars, which will shew us in most
things, wherein that Earth, or that World,
differ’d from the present. The Form of that
Earth, and its Situation to the Sun, were two
of
Concerning the Prim. Earth, and Paradise. of its most fundamental Differences from ours: As to the Form of it, 'twas all one smooth Continent, one continued Surface of Earth, without any Sea, any Mountains, or Rocks; any Holes, Dens or Caverns: And the Situation of it to the Sun was such as made a perpetual Æquinox. These two join'd together, lay the Foundation of a new Astronomy, Meteorology, Hydrography and Geography; such as were proper and peculiar to that World. The Earth by this Means having its Axis parallel to the Axis of the Ecliptick, the Heavens would appear in another Posture; and their diurnal Motion, which is imputed to the Primum Mobile, and suppos'd to be upon the Poles of the Æquator, would then be upon the same Poles with the second and periodical Motions of the Orbs and Planets, namely, upon the Poles of the Ecliptick, by which Means the Phænomena of the Heavens would be more simple and regular, and much of that Entangledness and Perplexity, which we find now in Astronomy, would be taken away. Whether the Sun and Moon would suffer any Eclipses then, cannot well be determin'd, unless one knew what the Course of the Moon was at that time, or whether she was then come into our Neighbourhood: Her Presence seems to have been less needful when there were no long Winter Nights, nor the great Pool of the Sea to move or govern.

As for the Regions of the Air and the Meteors, we have in the preceding Chapter set down
down what the State of them would be, and in how much a better Order, and more peaceable, that Kingdom was, till the Earth was broken and displac'd, and the Course of Nature chang'd: Nothing violent, nothing frightful, nothing troublesome or incommodious to Mankind, came from above, but the Countenance of the Heavens was always smooth and serene. I have often thought it a very desirable Piece of Power, if a Man could but command a fair Day, when he had occasion for it, for himself, or for his Friends; 'tis more than the greatest Prince or Potentate upon Earth can do; yet they never wanted one in that World, nor ever saw a foul one. Besides, they had constant Breezes from the Motion of the Earth, and the Course of the Vapours, which cool'd the open Plains, and made the Weather temperate, as well as fair. But we have spoken enough in other Places upon this Subject of the Air and the Heavens, let us now descend to the Earth.

The Earth was divided into two Hemispheres, separated by the Torrid Zone, which at that time was uninhabitable, and utterly unpassable; so as the two Hemispheres made two distinct Worlds, which, so far as we can judge, had no manner of Commerce or Communication one with another. The Southern Hemisphere the Ancients call'd Antichthon, the Opposite Earth, or the Other World. And this Name and Notion remain'd long after the Reason of it had ceas'd. Just as the Torrid Zone was generally accounted uninhabitable by
Concerning the Prim. Earth, and Paradise.

by the Ancients, even in their Time, because it really had been so once, and the Tradition remain'd uncorrected, when the Causes were taken away; namely, when the Earth had chang'd its Posture to the Sun after the Deluge.

This may be look'd upon as the first Division of that primæval Earth, into two Hemispheres, naturally sever'd and disunited: But it was also divided into five Zones, two Frigid, two Temperate, and the Torrid betwixt them. And this Distinction of the Globe into five Zones, I think, did properly belong to that original Earth, and primitive Geography, and improperly, and by Translation only, to the present. For all the Zones of our Earth are habitable, and their Distinctions are in a manner but imaginary, not fix'd by Nature; whereas in that Earth where the Rivers fail'd, and the Regions became uninhabitable, by reason of Driness and Heat, there begun the Torrid Zone; and where the Regions became uninhabitable by reason of Cold and Moisture, there begun the Frigid Zone; and these being determin'd they became Bounds on either side to the Temperate. But all this was alter'd when the Posture of the Earth was chang'd; and chang'd for that very purpose, as some of the Ancients have said, That the uninhabitable Parts of the Earth might become habitable. Yet though there was so much of the first Earth uninhabitable, there remain'd as much to be inhabited as we have now; for the Sea, since the Breaking up of the Abyss, hath
The Theory of the Earth.

336

hath taken away half of the Earth from us, a great part whereof was to them good Land. Besides, we are not to suppose, that the Torrid Zone was of that Extent we make it now, twenty three Degrees and more on either side of the Æquator: These Bounds are set only by the Tropicks, and the Tropicks by the Obliquity of the Course of the Sun, or of the Posture of the Earth, which was not in that World. Where the Rivers stop’d, there the Torrid Zone would begin, but the Sun was directly perpendicular to no part of it but the middle.

How the Rivers flow’d in the first Earth we have before explain’d sufficiently, and what Parts the Rivers did not reach, were turn’d into Sands and Defarts by the Heat of the Sun; for I cannot easily imagine, that the sandy Defarts of the Earth were made so at first, immediately and from the beginning of the World; from what Causes should that be, and to what purpose in that Age? But in those Tracks of the Earth that were not refresh’d with Rivers and Moisture, which cement the Parts, the Ground would moulder and crumble into little Pieces, and then those Pieces by the Heat of the Sun were bak’d into Stone. And this would come to pass chiefly in the hot and scorch’d Regions of the Earth, though it might happen sometimes where there was not that Extremity of Heat, if by any Chance a Place wanted Rivers and Water to keep the Earth in due Temper; but those Sands would not be so early
Concerning the Prim. Earth, and Paradise. 337

or ancient as the other. As for greater loose Stones, and rough Pebbles, there were none in that Earth; Deucalion and Pyrrha, when the Deluge was over, found new made Stones to cast behind their Backs; the Bones of their Mother Earth, which then were broken in Pieces, in that great Ruine.

As for Plants and Trees, we cannot imagine but that they must needs abound in the Primitive Earth, seeing it was so well water'd, and had a Soil so fruitful; a new unlabour'd Soil, replenish'd with the Seeds of all Vegetables; and a warm Sun that would call upon Nature early for her First-fruits, to be offer'd up at the beginning of her Course. Nature had a wild Luxuriancy at first, which humane Industry by degrees gave Form and Order to: The Waters flow'd with a constant and gentle Current, and were easily led which way the Inhabitants had a Mind, for their Use, or for their Pleasure; and shady Trees, which grow best in moist and warm Countries, grac'd the Banks of their Rivers or Canals. But that which was the Beauty and Crown of all, was their perpetual Spring, the Fields always green, the Flowers always fresh, and the Trees always cover'd with Leaves and Fruit: But we have occasionally spoken of these things in several Places, and may do again hereafter, and therefore need not enlarge upon them here.

As for Subterraneous Things, Metals and Minerals, I believe they had none in the first Earth; and the happier they; no Gold, nor

Book II.

Silver,
Silver, nor coarser Metals. The Use of these is either imaginary, or in such Works, as, by the Constitution of their World, they had little Occasion for. And Minerals are either for Medicine, which they had no need of further than Herbs; or for Materials to certain Arts, which were not then in use, or were supplied by other ways. These subterraneous Things, Metals and metalick Minerals, are factitious, not original Bodies, coæval with the Earth; but are made in Process of Time, after long Preparations and Concoctions, by the Action of the Sun within the Bowels of the Earth. And if the Stamina or Principles of them rise from the lower Regions that lie under the Abyss, as I am apt to think they do, it doth not seem probable that they could be drawn thro' such a Mass of Waters, or that the Heat of the Sun could on a sudden penetrate so deep, and be able to loosen them, and raise them into the exterior Earth. And as the first Age of the World was call'd Golden, though it knew not what Gold was; so the following Ages had their Names from several Metals, which lay then asleep in the dark and deep Womb of Nature, and saw not the Sun till many Years and Ages afterwards.

Having run through the several Regions of Nature, from Top to Bottom, from the Heavens to the lower Parts of the Earth, and made some Observations upon their Order in the antediluvian World; let us now look up on Man and other living Creatures, that make
Concerning the Prim. Earth, and Paradys. 339

the superior and animate Part of Nature. We have observ'd, and sufficiently spoken to that Difference betwixt the Men of the old World, and those of the present, in Point of Longevity, and given the Reasons of it; but we must not imagine that this long Life was peculiar to Man, all other Animals had their Share of it, and were in their Proportion longer-liv'd than they are now. Nay, not only Animals, but also Vegetables; and the Forms of all living Things were far more permanent: The Trees of the Field and of the Forest, in all Probability, outlasted the Lives of Men; and I do not know but the first Groves of Pines and Cedars that grew out of the Earth, or that were planted in the Garden of God, might be standing when the Deluge came, (Ezek. 37. 8.) and see, from first to last, the entire Course and Period of a World.

We might add here, with St. Austin, (Civ. Dei, lib. 15. c. 9.) another Observation, both concerning Men and other living Creatures in the first World, that they were greater as well as longer-liv'd, than they are at present. This seems to be a very reasonable Conjecture; for the State of every Thing that hath Life is divided into the Time of its Growth, its Consistency, and its Decay; and when the whole Duration is longer, every one of these Parts, tho' not always in like Proportions, will be longer. We must suppose then, that the Growth both in Men and other Animals lasted longer in that World than it doth now, and consequently carried their Bodies both to a greater Height.
and Bulk. And in like Manner, their Trees would be both taller, and every Way bigger than ours; neither were they in any Danger there to be blown down by Winds and Storms; or struck with Thunder, tho' they had been as high as the Egyptian Pyramids; and whatsoever their Height was, if they had Roots and Trunks proportionable, and were straight and well pois'd, they would stand firm, and with a greater Majesty. *The Fowls of Heaven making their Nests in their Boughs, and under their Shadow, the Beasts of the Field bringing forth their Young.* When Things are fairly possible in their Causes, and possible in several Degrees, higher or lower, 'tis Weakness of Spirit in us, to think there is nothing in Nature, but in that one Way, or in that one Degree, that we are us'd to. And whosoever believes those Accounts given us, both by the Ancients (Plin. l. 7. c. 2. Strab. l. 17.) and Moderns, (Hort. Malabar. vol. 3.) of the Indian Trees, will not think it strange that those of the first Earth should much exceed any that we now see in this World. That allegorical Description of the Glory of Assyria in Ezekiel, Chap. 31. by Allusion to Trees, and particularly to the Trees of Paradise, was chiefly for the Greatness and Stateliness of them; and there is all Fairness of Reason to believe, that in that first Earth, both the Birds of the Air, and the Beasts of the Field, and the Trees and their Fruit, were all in their several Kinds more large and goodly than Nature produces any now.
Concerning the Prim. Earth, and Paradise. 341

So much in short concerning the natural World, inanimate or animate; we should now take a Prospect of the moral World of that time, or of the civil and artificial World; what the Order and Oeconomy of these was, what the Manner of Living, and how the Scenes of humane Life were different from ours at present. The Ancients, especially the Poets, in their Description of the golden Age, exhibit to us an Order of Things, and a Form of Life, very remote from any Thing we see in our Days; but they are not to be trusted in all Particulars; many times they exaggerate Matters on purpose, that they may seem more strange, or more great, and by that Means move and please us more. A Moral or Philo-

sophick History of the World, well writ, would certainly be a very useful Work, to observe and relate how the Scenes of humane Life have chang'd in several Ages, the Modes and Forms of Living, in what Simplicity Men began at first, and by what Degrees they came out of that Way, by Luxury, Ambition, Improvement, or Changes in Nature; then what new Forms and Modifications were superadd-
ed by the Invention of Arts, what by Reli-
gion, what by Superstition. This would be a View of Things more instructive, and more satisfactory, than to know what Kings reign'd in such an Age; and what Battles were fought; which common History teacheth, and teacheth little more. Such Affairs are but the little Under-plots in the Tragi-comedy of the World; the main Design is of another Nature, and of
far greater Extent and Consequence. But to return to the Subject.

As the animate World depends upon the inanimate, so the civil World depends upon them both, and takes its Measures from them; Nature is the Foundation still, and the Affairs of Mankind are a Superstructure that will be always proportion'd to it. Therefore we must look back upon the Model or Picture of their natural World, which we have drawn before, to make our Conjectures or Judgment of the civil and artificial, that were to accompany it. We observ'd from their perpetual Æquinox, and the Smoothness of the Earth, that the Air would be always calm, and the Heavens fair, no cold or violent Winds, Rains, or Storms, no Extremity of Weather in any kind, and therefore they would need little Protection from the Injures of the Air in that State; whereas now one great Part of the Affairs of Life is to preserve our selves from those Inconveniencies, by building and cloathing. How many Hands, and how many Trades are employ'd about these two Things? which then were in a manner needleless, or at least in such Plainness and Simplicity, that every Man might be his own Workman. Tents and Bowers would keep them from all Incommodities of the Air and Weather, better than Stone Walls and strong Roofs defend us now; and Men are apt to take the easiest Ways of Living, till Necessity or Vice put them upon others that are more laborious, and more artificial. We also observ'd and prov'd, that they had no Sea in the
Concerning the Prim. Earth, and Paradise. 343

the primitive and antediluvian World, which makes a vast Difference 'twixt us and them: This takes up half of our Globe, and a good Part of Mankind is busied with Sea-affairs and Navigation. They had little need of Merchandizing then, Nature supply'd them at Home with all Necessaries, which were few, and they were not so greedy of Superfluities as we are. We may add to these what concern'd their Food and Diet; Antiquity doth generally suppose that Men were not carnivorous in thole Ages of the World, or did not feed upon Flesh, but only upon Fruit and Herbs. And this seems to be plainly confirm'd by Scripture; for after the Deluge God Almighty gives Noah and his Posterity a Licence to eat Flesh, (Gen. 9. 2, 3.) Every moving thing that liveth shall be Meat for you. Whereas before, in the new-made Earth, God had prescrib'd them Herbs and Fruit for their Diet, (Gen. 1. 29.) Behold, I have given you every Herb bearing Seed, which is upon the Face of all the Earth; and every Tree, in the which is the Fruit of a Tree yielding Seed, to you it shall be for Meat. And of this natural Diet they would be provided to their Hands, without further Preparation, as the Birds and the Beasts are.

Upon these general Grounds we may infer and conclude, that the civil World then, as well as the natural, had a very different Face and Aspect from what it hath now; for of these Heads, Food and Cloathing, Building and Traffick, with that Train of Arts, Trades and
and Manufactures that attend them, the civil Order of Things is in a great Measure constituted and compounded: These make the Business of Life, the several Occupations of Men, the Noise and Hurry of the World; these fill our Cities, and our Fairs, and our Havens and Ports; yet all these fine Things are but the Effects of Indigency and Necessitousness, and were, for the most part, needless and unknown in that first State of Nature. The Ancients have told us the same Things in Effect; but telling us them without their Grounds, which they themselves did not know, they lookt like poetical Stories, and pleasant Fictions, and with most Men past for no better. We have shewn them in another Light, with their Reasons and Causes, deduced from the State of the natural World, which is the Basis upon which they stand; and this doth not only give them a just and full Credibility, but also lays a Foundation for After-thoughts, and further Deductions, when they meet with Minds dispos'd to pursue Speculations of this Nature.

As for Laws, Government, natural Religion, Military and Judicial Affairs, with all their Equipage, which make an higher Order of Things in the civil and moral World, to calculate these upon the Grounds given, would be more difficult, and more uncertain; neither do they at all belong to the present Theory. But from what we have already observ'd, we may be able to make a better Judgment of those traditional Accounts which the Ancients have
Concerning the Prim. Earth, and Paradise. 345.

have left us concerning these Things, in the early Ages of the World, and the primitive State of Nature. No doubt in these, as in all other Particulars, there was a great Easiness and Simplicity in Comparison of what is now; we are in a more pompous, forc'd, and artificial Method, which partly the Change of Nature, and partly the Vices and Vanities of Men have introduc'd and establisht. But these things, with many more, ought to be the Subject of a Philosophick History of the World, which we mention'd before.

This is a short and general Scheme of the primate World, compar'd with the modern; yet these Things did not equally run thro' all the Parts and Ages of it; there was a Declension and Degeneracy, both natural and moral, by Degrees, and especially towards the latter End; but the principal Form of Nature remaining till the Deluge and the Dissolution of that Heavens and Earth, till then also this civil Frame of Things would stand in a great Measure. And tho' such a State of Nature, and of Mankind, when 'tis propos'd crudely, and without its Grounds, appear fabulous or imaginary, yet 'tis really in it self a State, not only possible, but more easy and natural, than what the World is in at present. And if one of the old antediluvian Patriarchs should rise from the Dead, he would be more surpriz'd to see our World in that Posture it is, than we can be by the Story and Description of his. As an Indian hath more Reason to wonder at the European Modes, than we have to wonder at their
their plain Manner of Living. 'Tis we that have left the Track of Nature, that are wrought and screw'd up into Artifices, that have disguis'd our selves; and 'tis in our World that the Scenes are chang'd, and become more strange and fantastical.

I will conclude this Discourse with an easy Remark, and without any particular Application of it. 'Tis a strange Power that Custom hath upon weak and little Spirits, whose Thoughts reach no further than their Senses; and what they have seen and been us'd to, they make the Standard and Measure of Nature, of Reason, and of all Decorum. Neither are there any Sort of Men more positive and tenacious of their petty Opinions, than they are; nor more censorious, even to Bitterness and Malice. And 'tis generally so, that those that have the least Evidence for the Truth of their beloved Opinions, are most peevish and impatient in the Defence of them. This sort of Men are the last that will be made wise Men, if ever they be; for they have the worst of Diseases that accompany Ignorance, and do not so much as know themselves to be sick.
The Place of Paradise cannot be determin'd from the Theory only, nor from Scripture only. What the Sense of Antiquity was concerning it, both as to the Jews and Heathens, and especially as to the Christian Fathers. That they generally plac'd it out of this Continent, in the southern Hemisphere.

WE have now prepar'd our Work for the last finishing Strokes; describ'd the first Earth, and compar'd it with the present; and not only the two Earths, but in a good Measure the whole State and Oeconomy of those two Worlds. It remains only to determine the Place of Paradise in that primæval Earth; I say, in that primæval Earth; for we have driven the Point so far already, that the Seat of it could not be in the present Earth, whose Form, Site, and Air, are so dispos'd, as could not consist with the first and most indispensible Properties of Paradise; And accordingly, we see with what ill Success our modern Authors have rang'd over the Earth, to find a fit Spot of Ground to plant Paradise in; some would set it on the Top of an high Mountain, that it might have good Air and fair Weather, as being above the Clouds, and the middle Region; but then they were at a Loss for Water, which made a great Part of the Pleasure and Beauty of that Place. Others therefore would seat it in a Plain, or in a Ri-
The Theory of the Earth:

a River-Island, that they might have Water enough; but then it would be subject to the Injuries of the Air, and foul Weather at the Seasons of the Year; from which, both Reason and all Authority have exempted Paradise. 'Tis like seeking a perfect Beauty in a mortal Body, there are so many Things requir'd to it, as to Complexion, Features, Proportions, and Air, that they never meet all together in one Person; neither can all the Properties of a terrestrial Paradise ever meet together in one Place, tho' never so well chosen, in this present Earth.

But in the primæval Earth, which we have describ'd, 'tis easy to find a Seat that had all those Beauties and Conveniencies. We have every where thro' the temperate Climates, a clear and constant Air, a fruitful Soil, pleasant Waters, and all the general Characters of Paradise; so that the Trouble will be rather in that Competition, what Part or Region to pitch upon in particular. But to come as near it as we can, we must remember in the first Place, how that Earth was divided into two Hemispheres, distant and separated from one another, not by an imaginary Line, but by a real Boundary that could not be past; so as the first Inquiry will be, in whether of these Hemispheres was the Seat of Paradise. To answer this only according to our Theory, I confess, I see no natural Reason or Occasion to place it in one Hemisphere more than in another; I see no Ground of Difference or Pre-eminence, that one had above the other; and I am apt to think,
Concerning the Prim. Earth, and Paradise. think, that depended rather upon the Will of God, and the Series of Providence that was to follow in this Earth, than upon any natural Incapacity in one of these two Regions more than in the other, for planting in it the Garden of God. Neither doth Scripture determine, with any Certainty, either Hemisphere for the Place of it; for when 'tis said to be in Eden, or to be the Garden of Eden, 'tis no more than the Garden of Pleasure or Delight, as the Word signifies: And even the Septuagint, who render this Word Eden, as a proper Name twice, (Gen. 2. ver. 8. & 10.) do in the same Story render it twice as a common Name, signifying τεταυρωμένη, Pleasure, (Chap. 2. 15. and Chap. 3. 24.) and so they do accordingly render it in Ezekiel, (Chap. 31. 9. 16, 18.) where this Garden of Eden is spoken of again. Some have thought that the Word Mekiddim, (Gen. 2. 8.) was to be render'd in the East, or Eastward, as we read it, and therefore determin'd the Site of Paradise; but 'tis only the Septuagint translate it so; all the other Greek Versions, and St. Jerome, the Vulgate, the Chaldee Paraphrase, and the Syriack render it from the Beginning, or in the Beginning, or to that Effect. And we that do not believe the Septuagint to have been infallible, or inspir'd, have no Reason to prefer their single Authority above all the rest. Some also think the Place of Paradise may be determin'd by the four Rivers that are named as belonging to it; and the Countries they ran thro'; but the Names of those Rivers are to me uncertain, and
and two of them altogether unintelligible. Where are there four Rivers in our Continent that come from one Head, as these are said to have done, either at the Entrance or Issue of the Garden? 'Tis true, if you admit our Hypothesis, concerning the Fractiion and Disruption of the Earth at the Deluge, then we cannot expect to find Rivers now as they were before; the general Source is chang'd, and their Channels are all broke up; but if you do not admit such a Dissolution of the Earth, but suppose the Deluge to have been only like a standing Pool, after it had once cover'd the Surface of the Earth, I do not see why it should make any great Havock or Confusion in it; and they that go that Way, are therefore the more oblig'd to show us still the Rivers of Paradise. Several of the Ancients, as we shall show hereafter, suppos'd these four Rivers to have their Heads in the other Hemisphere; and if so, the Seat of Paradise might be there too. But let them first agree among themselves concerning these Rivers, and the Countries they ran thro', and we will undertake to show that there cannot be any such in this Continent.

Seeing then neither the Theory doth determine, nor Scripture, where the Place of Paradise was, nor in whether Hemisphere, we must appeal to Antiquity, or the Opinions of the Ancients; for I know no other Guide but one of these three, Scripture, Reason, and ancient Tradition; and where the two former are silent, it seems very reasonable to consult the
Concerning the Prim. Earth, and Paradise. 351

the third. And that our Inquiries may be comprehensive enough, we will consider what the Jews, what the Heathens, and what the Christian Fathers have said or determin'd concerning the Seat of Paradise. The Jews and Hebrew Doctors place it in neither Hemisphere, but betwixt both, under the æquinoctial, as you may see plainly in Abravanel; Manasses, Ben-Israel, Maimonides, Aben Ezra, and others. But the Reason why they carried it no further than the Line, is because they suppos'd it certain, as Eben Ezra tells us, that the Days and Nights were always equal in Paradise, and they did not know how that could be, unless it stood under the æquinoctial. But we have shown another Method, wherein that perpetual æquinox came to pass, and how it was common to all the Parts and Climates of that Earth, which if they had been aware of, and that the Torrid Zone at that time was utterly uninhabitable, having remov'd their Paradise thus far from Home, they would probably have remov'd it a little further into the temperate Climates of the other Hemisphere.

The ancient Heathens, Poets and Philosophers, had the Notion of Paradise, or rather of several Paradises in the Earth; and 'tis remarkable, that they plac'd them generally, if not all of them, out of this Continent; in the Ocean, or beyond it, or in another Orb or Hemisphere. The Garden of the Hesperides, the fortunate Islands, the Elysian Fields, Ogygia and Toprabane, as it is describ'd by Diodorus Siculus, with others such like; which as they
The Theory of the Earth.

they were all characteriz'd like so many Paradises, so they were all seated out of our Continent by their Geography and Descriptions of them.

Thus far Antiquity seems to incline to the other Hemisphere, or to some Place beyond the Bounds of our Continent for the Seat of Paradise: But that which we are most to depend upon in this Affair, is Christian Antiquity, the Judgment and Tradition of the Fathers upon this Argument. And we may safely say in the first Place, negatively, that none of the Christian Fathers, Latin or Greek, ever plac'd Paradise in Mesopotamia; that is a Conceit and Invention of some modern Authors, which hath been much encouraged of late, because it gave Men Ease and Rest as to further Inquiries, in an Argument they could not well manage. Secondly, We may affirm, that none of the Christian Fathers have plac'd Paradise in any determinate Region of our Continent, Asia, Africk, or Europe. I have read of one or two Authors, I think, that fancied Paradise to have been at Jerusalem; but 'twas a mere Fancy, that no body regarded or pursu'd. The Controversy amongst the Fathers concerning Paradise was quite another Thing from what it is now of late: They disputed and controverted, whether Paradise was corporeal or intellectual only, and allegorical; this was the grand Point amongst them. Then of those that thought it corporeal, some plac'd it high in the Air, some inaccessible, by Desarts or Mountains, and many beyond the
Concerning the Prim. Earth, and Paradise. 353

Ocean, or in another World; and in these chiefly consisted the Differences and Diversity of Opinions amongst them; nor do we find that they nam’d any particular Place or Country in the known Parts of the Earth for the Seat of Paradise, or that one contended for one Spot of Ground, and another for another, which is the vain Temerity of modern Authors; as if they could tell to an Acre of Land where Paradise stood, or could set their Foot upon the Centre of the Garden. These have corrupted and misrepresented the Notion of our Paradise, just as some modern Poets have the Notion of the Elysian Fields, which Homer and the Ancients plac’d remote on the Extremities of the Earth, and these would make a little green Meadow in Campania Felix to be the fam’d Elysium.

Thus much concerning the Fathers, negatively; but to discover as far as we can, what their positive Assertions were in this Argument, we may observe, that tho’ their Opinions be differently exprest, they generally concenter in this, that the Southern Hemisphere was the Seat of Paradise. This, I say, seems manifestly to be the Sense of Christian Antiquity and Tradition, so far as there is any Thing definitive in the Remains we have upon that Subject. Some of the Fathers did not believe Paradise to be corporeal and local, and those are to be laid aside in the first Place, as to this Point; others that thought it local, did not determine any Thing (as most of them indeed did not) concerning the particular Place of it; but the rest that did, tho’ they have exp-

Book II. A a preff
prest themselves in various Ways, and under various Forms; yet, upon a due Interpretation, they all meet in one common and general Conclusion, that Paradise was seated beyond the Aequinoctial, or in the other Hemisphere.

And to understand this aright, we must reflect, in the first Place, upon the Form of the primæval Earth, and of the two Hemispheres of which it consisted, altogether incommunicable one with another, by reason of the Torrid Zone betwixt them; so as those two Hemispheres were then as two distinct Worlds, or distinct Earths, that had no Commerce with one another. And this Notion or Tradition we find among Heathen Authors, as well as Christian; this opposite Earth being call'd by them Antichthon, and its Inhabitants Antichthones: For those Words comprehend both the Antipodes and Antæci, or all beyond the Line, as is manifest from their best Authors, as Achilles Tatius, and Cæsar Germanicus upon Aratus, Probus Grammaticus, Censorinus, Pomponius Mela, and Pliny. And these were call'd another World, and lookt upon as another Stock and Race of Mankind, as appears from Cicero and Macrobius, (Somn. Scip.) But as the latter Part was their Mistake, so the former is acknowledg'd by Christian Authors, as well as others; and particularly St. Clement, in his Epistle to the Corinthians, mentions a World, or Worlds beyond the Ocean, subject to divine Providence, and the great Lord of Nature, as well as ours. This Passage of St. Clement is also cited by St. Jerome, in his Commentary upon Ephes. 2. 2. and by Origen Peri-
Concerning the Prim. Earth, and Paradise. 355

archon, (Lib. 2. c. 3.) where the Inhabitants of
that other World are call'd Antichthones.

I make this Remark in the first Place, that
we may understand the true Sense and Impor-
tance of those Phrases and Expressions amongst
the Ancients, when they say Paradise was in
another World. Which are not to be so under-
stood, as if they thought Paradise was in the
Moon, or in Jupiter, or hung above like a
Cloud or a Meteor, they were not so extrava-
gant; but that Paradise was in another He-
misphere, which was call'd Antichthon, an-
other Earth, or another World from ours; and
justly reputed so, because of an Impossibility of
Commerce or Intercourse betwixt their re-
spective Inhabitants. And this Remark being
premis'd, we will now distribute the Chris-
tian Authors and Fathers, that have deliver'd
their Opinion concerning the Place of Para-
dise, into three or four Ranks or Orders; and
tho' they express themselves differently, you
will see, when duly examin'd and expounded,
they all conspire and concur in the foremen-
tion'd Conclusion, That the Seat of Paradise
was in the other Hemispher.

In the first Rank then we will place and
reckon those that have set Paradise in another
World, or in another Earth; seeing, according
to the foregoing Explication, that is the same
thing as to affirm it seated beyond the Torrid
Zone in the other Hemispher. In this Num-
ber are Ephrem Syrus, Moses Bar Cepha, Tati-
amus, and of later Date Jacobus de Valen-
tia. To these are to be added again such Au-
thors as say, that Adam, when he was turn'd
out
out of Paradise, was brought into our Earth; or into our Region of the Earth; for this is tantamount with the former; and this seems to be the Sense of St. Jerome in several Places against Forvinian, as also of Constantine, in his Oration in Eusebius, and is positively asserted by Sulpitius Severus. And lastly, Those Authors that represent Paradise as remote from our World, and inaccessible; so St. Austin, Procopius Gazaæus, Beda, Strabus Fuldensis, Historia Scholiastica, and others; these, I say, pursue the same Notion of Antiquity; for what is remote from our World, (that is, from our Continent, as we before explain'd it) is to be understood to be that Antichthon, (Ὄμερένθ) or Anti-hemisphere, which the Ancients oppos'd to ours.

Another Set of Authors, that interpret the Flaming Sword that guarded Paradise to be the Torrid Zone, do plainly intimate, that Paradise in their Opinion lay beyond the Torrid Zone, or in the Anti-hemisphere; and thus Tertullian interprets the Flaming Sword, and in such Words as fully confirm our Sense: Paradise, he says, by the Torrid Zone, as by a Wall of Fire, was sever'd from the Communication and Knowledge of our World. It lay then on the other Side of this Zone. And St. Cyprian, or the ancient Author that passeth under his Name, in his Comment upon Genesis, expresseth himself to the same effect; so also St. Austin and Isidore Hispalensis are thought to interpret it: And Aquinas, who makes Paradise inaccessible, gives this Reason for it, Prop-

\[ \text{pro-} \]
Concerning the Prim. Earth, and Paradise. 357

Propinquitate Solis, & hoc significatur per Flammum Gladium: Because of that vehement Heat in the Parts betwixt us and that, arising from the Nearness of the Sun, and this is signified by the Flaming Sword. And this Interpretation of the Flaming Sword receives a remarkable Force and Emphasis from our Theory and Description of the primæval Earth, for there the Torrid Zone was as a Wall of Fire indeed, or a Region of Flame, which none could pass or subsist in, no more than in a Furnace.

There is another Form of Expression amongst the Ancients concerning Paradise, which, if decyphered, is of the same Force and Signification with this we have already instanc'd in: They say sometimes Paradise was beyond the Ocean, or that the Rivers of Paradise came from beyond the Ocean. This is of the same Import with the former Head, and points still at the other Hemisphere; for, as we noted before, some of them fixt their Antichthon and Antichthones beyond the Ocean; that is, since there was an Ocean; since the Form of the Earth was chang'd, and the Torrid Zone became habitable, and consequently could not be a Boundary or Separation betwixt the two Worlds. Wherefore, as some run still upon the old Division by the Torrid Zone, others took the new Division by the Ocean. Which Ocean they suppos'd to lie from East to West betwixt the Tropicks; as may be seen in ancient Authors, Geminus, Herodotus, Cicero de republica, and Clemens Romæus, whom we cited before. St. Austin (De Civ. Dei, lib. 16. c. 9.) also speaks upon the
fame Supposition, when he would confute the
Doctrine of the Antipodes, or Antichthones; and
Macrobius, I remember, makes it an Argu-
ment of Providence, that the Sun and the Plan-
ets, in what Part of their Course foever they
are betwixt the two Tropicks, have still the
Ocean under them, that they may be cool'd
and nourish'd by its Moisture. They thought
the Sea, like a Girdle, went round the Earth,
and the temperate Zones on either Side were
the habitable Regions, whereof this was cal-
led the Oicoumene, and the other Antichthon.

This being observ'd, 'tis not material whe-
ther their Notion was true or false, it shews
us what their Meaning was, and what Part of
the Earth they design'd, when they spoke of
any Thing beyond the Ocean; namely, that
they meant beyond the Line, in the other He-
misphere, or in the Antichthon; and accord-
ingly, when they say Paradise, or the Foun-
tains of its Rivers were beyond the Ocean,
they say the same Thing in other Terms with
the rest of those Authors we have cited. In
Moses Bar Cepha above-mention'd, we find a
Chapter upon this Subject, Quomodo trajecerint
Mortales inde ex Paradisi terra in hanc terram.
How Mankind pass out of that Earth or Conti-
nent, where Paradise was, into that where we
are. Namely, how they past the Ocean, that
lay betwixt them, as the Answer there given
explains it. And so Ephrem Syrus is cited of-
ten in that Treatise, placing Paradise beyond
the Ocean. The Essenes also, who were the
most Philosophick Sect of the Jews, plac'd
Paradise, according to Josephus, beyond the
Ocean,
Concerning the Prim. Earth, and Paradise. 359

Ocean, under a perfect Temperature of Air. And that Passage in Eusebius, in the Oration of Constantine, being corrected and restored to the true reading, represents Paradise, in like manner, as in another Continent, from whence Adam was brought, after his Transgression, into this. And lastly, there are some Authors, whose Testimony and Authority may deserve to be consider’d, not for their own Antiquity, but because they are professedly Transcribers of Antiquity and Traditions; such as Stratus, Comester, and the like, who are known to give this Account or Report of Paradise from the Ancients, that it was interposito Oceano ab Orbe nostro vel a Zona nostra habitabili secretus, separated from our Orb or Hemisphere by the Interposition of the Ocean.

It is also observable, that many of the Ancients that took Tigris, Euphrates, Nile and Ganges, for the Rivers of Paradise, said that those Heads or Fountains of them, which we have in our Continent, are but their Capita secunda, their second Sources, and that their first Sources were in another Orb where Paradise was; and thus Hugo de Sancto Victore says, Sanctos communiter sensisse, That the Holy Men of old were generally of that Opinion. To this Sense also Moses Bar Cepha often expresseth himself; as also Epiphanius, Procopius Gazaevus, and Severianus in Catena. Which Notion amongst the Ancients, concerning the Trajectory or Passage of the paradisical Rivers under Ground, or under Sea, from one Continent
The Theory of the Earth.

rent into another, is to me, I confess, unintelligible, either in the first or second Earth; but however it discovers their Sense and Opinion of the Seat of Paradise, that it was not to be sought for in Asia or in Africa, where those Rivers rise to us; but in some remoter Parts of the World, where they supposed their first Sources to be.

This is a short Account of what the Christian Fathers have left us concerning the Seat of Paradise; and the Truth is, 'tis but a short and broken Account; yet 'tis no wonder it should be so, if we consider, as we noted before, that several of them did not believe Paradise to be local and corporeal; others that did believe it so, yet did not offer to determine the Place of it, but left that Matter wholly untouch'd and undecided; and the rest that did speak to that Point, did it commonly both in general Terms, and in Expressions that were disguis'd, and needed Interpretation; but all these Differences and Obscurities of Expression, you see, when duly stated and expounded, may signify one and the same Thing, and terminate all in this common Conclusion, That Paradise was without our Continent, according to the general Opinion and Tradition of Antiquity. And I do not doubt but the Tradition would have been both more express and more universal, if the Ancients had understood Geography better; for those of the Ancients that did not admit or believe that there were Antipodes or Antichthories, as Laelantius, St. Austin, and some others; these could not join
Concerning the Prim. Earth, and Paradise. 

36r join in the common Opinion about the Place of Paradise, because they thought there was no Land, nor any Thing habitable ἥς οἰκεμένς, or beside this Continent. And yet St. Austin was so cautious, that as he was bounded on the one Hand by his false Idea of the Earth, that he could not join with Antiquity as to the Place of Paradise; so on the other Hand he had that Respect for it, that he would not say any thing to the contrary; therefore being to give his Opinion, he says only, Terrestrem esse Paradisum, & locum ejus ab hominum cognitione esse remotissimum: That it is somewhere upon the Earth, but the Place of it very remote from the Knowledge of Men.

And as their Ignorance of the Globe of the Earth was one Reason why the Doctrine of Paradise was so broken and obscure, so another Reason why it is much more so at present is, because the chief ancient Books writ upon that Subject are lost. Ephrem Syrus, who liv'd in the fourth Century, writ a Commentary in Genesis five de Ortu rerum, concerning the Origin of the Earth; and by those Remains that are cited from it, we have reason to believe that it contain'd many Things remarkable concerning the first Earth, and concerning Paradise. Tertullian also writ a Book de Paradiso, which is wholly lost; and we see to what Effect it would have been, by his making the Torrid Zone to be the Flaming Sword, and the Partition betwixt this Earth and Paradise; which two Earths he more than once distinguisheth as very different from
The Theory of the Earth.

one another, (Cont. Marc. lib. 2. c. 2. c. 5.) The most ancient Author that I know upon this Subject, at least of those that writ of it literally, is Moses Bar Cepha, a Syrian Bishop, who liv'd about seven hundred Years since, and his Book is translated into Latin by that learned and judicious Man Andreas Masius. Bar Cepha writes upon the same Views of Paradise that we have here presented, that it was beyond the Ocean, in another Track of Land, or another Continent from that which we inhabit: As appears from the very Titles of his eighth, tenth, and fourteenth Chapters. But we must allow him for his mistaken Notions about the Form of the Earth; for he seems to have fancied the Earth plain, (not only as oppos'd to rough and mountainous, for so it was plain; but as oppos'd to spherical) and the Ocean to have divided it in two Parts, an interior, and an exterior, and in that exterior Part was Paradise. Such Allowances must often be made for geographical Mistakes, in examining and understanding the Writings of the Ancients. The rest of the Syrian Fathers, as well as Ephrem and Bar Cepha, incline to the same Doctrine of Paradise, and seem to have retain'd more of the ancient Notions concerning it, than the Greek and Latin Fathers have; and yet there is in all some Fragments of this Doctrine, and but Fragments in the best.

We might add in the last Place, that as the most ancient Treatises concerning Paradise are lost, so also the ancient Glosses and Catena upon Scripture, where we might have found the Traditions
Concerning the Prim. Earth, and Paradise. 363

Traditions and Opinions of the Ancients upon this Subject, are many of them either lost or unpublish'd; and upon this Consideration we did not think it improper to cite some Authors of small Antiquity, but such as have transcrib'd several Things out of ancient Manuscript-glosses into their Commentaries. They living however before Printing was invented, or Learning well restor'd, and before the Reformation. I add that also, before the Reformation, for since that Time the Protestant Authors having lessen'd the Authority of Traditions, the pontifical Doctors content themselves to insist only upon such as they thought were useful or necessary, left by multiplying others that were but Matter of Curiosity, they should bring the first into Question, and render the whole Doctrine of Traditions more dubious and exceptionable; and upon this Account, there are some Authors that writ an Age or two before the Reformation, that have with more Freedom told us the Tenets and Traditions of the Ancients in these Speculations, that are but collateral to Religion, than any have done since.

And I must confess, I am apt to think that what remains concerning the Doctrine of Paradise, and the primæval Earth, is in a good Measure traditional; for one may observe, that those that treat upon these Subjects quote the true Opinions, and tell you some of the Ancients held so and so; as that Paradise was in another Earth, or higher than this Earth; that there were no Mountains before the Flood, nor any Rain, and such like; yet they do not name
name those ancient Authors that held these Opinions; which makes me apt to believe, either that they were convey'd by a traditional Communication from one to another, or that there were other Books extant upon those Subjects, or other Glosses, than what are now known.

Finally, To conclude this Discourse concerning the Seat of Paradise, we must mind you again upon what Basis it stands. We declar'd freely, that we could not by our Theory alone determine the particular Place of it, only by that we are assur'd that it was in the primæval Earth, and not in the present; but in what Region, or in whether Hemisphere of that Earth it was seated, we cannot define from Speculation only. 'Tis true, if we hold fast to that Scripture-conclusion, That all Mankind rose from one Head, and from one and the same Stock and Lineage, (which doth not seem to be according to the Sentiments of the Heathens) we must suppose they were born in one Hemisphere, and after some Time translated into the other, or a Colony of them: But this still doth not determine in whether of the two they begun, and were first seated before their Translation; and I am apt to think that depended rather, as we noted before, upon the divine Pleasure, and the Train of Affairs that was to succeed, than upon natural Causes and Differences. Some of the Ancients, I know, made both the Soil and the Stars more noble in the southern Hemisphere, than in ours; but I do not see any Proof or Warrant for it; therefore,
Concerning the Prim. Earth, and Paradise. 365

wherefore, laying aside all natural Topicks, we are willing, in this Particular, to refer our selves wholly to the Report and Majority of Votes among the Ancients; who yet do not seem to me to lay much Stress upon the Notion of a particular and topical Paradise, and therefore use general and remote Expressions concerning it. And finding no Place for it in this Continent, they are willing to quit their Hands of it, by placing it in a Region somewhere far off, and inaccessible. This, together with the old Tradition, that Paradise was in another Earth, seems to me to give an Account of most of their Opinions concerning the Seat of Paradise, and that they were generally very uncertain where to fix it.

C H A P. VIII.

The Uses of this Theory for the Illustration of Antiquity; The ancient Chaos explain'd; The Inhabitability of the Torrid Zone; The Change of the Poles of the World; The Doctrine of the Mundane Egg; How America was first peopled; How Paradise within the Circle of the Moon.

W e have now dispatch'd the Theory of the primæval Earth, and reviv'd a forgotten World. 'Tis pity the first and fairest Works of Nature should be lost out of the Memory of Man, and that we should so much dote upon the Ruines, as never to think upon the original Structure. As the mo-
The Theory of the Earth.

dem Artists, from some broken Pieces of an ancient Statue, make out all the other Parts and Proportions; so from the broken and scatter'd Limbs of the first World we have shown you how to raise the whole Fabrick again; and renew the Prospect of those pleasant Scenes that first saw the Light, and first entertain'd Man, when he came to act upon this newly erected Stage.

We have drawn this Theory chiefly to give an Account of the universal Deluge, and of Paradise; but as when one lights a Candle to look for one or two Things which they want, the Light will not confine it self to those two Objects, but shows all the other in the room; so, methinks, we have unexpectedly cast a Light upon all Antiquity, in seeking after these two Things, or in retrieving the Notion and Doctrine of the primal Earth, upon which they depended. For in ancient Learning there are many Discourses, and many Conclusions deliver'd to us, that are so obscure and confus'd, and so remote from the present State of Things, that one cannot well distinguish whether they are Fictions or Realities: And there is no Way to distinguish with Certainty, but by a clear Theory upon the same Subjects; which showing us the Truth directly and independently upon them, shows us also by Reflection, how far they are true or false, and in what Sense they are to be interpreted and understood. And the present Theory being of great extent, we shall find it serviceable in many
Concerning the Prim. Earth, and Paradife. 367
many Things, for the Illustration of such dubious and obscure Doctrines in Antiquity.
To begin with their ancient Chaos; what a dark Story have they made of it, both their Philosophers and Poets; and how fabulous in Appearance? 'Tis deliver'd as confusedly as the Mass it self could be, and hath not been reduc'd to Order, nor indeed made intelligible by any. They tell us of moral Principles in the Chaos instead of natural, of Strife, and Discord, and Division on the one hand, and Love, Friendship, and Venus on the other; and, after a long Contest, Love got the better of Discord, and united the disagreeing Principles: This is one Part of their Story. Then they make the Forming of the World out of the Chaos a kind of Genealogy or Pedigree; Chaos was the common Parent of all, and from Chaos sprung first Night, and Tartarus, or Oceanus; Night was a teeming Mother, and of her were born Æther and the Earth; The Earth conceiv'd by the Influences of Æther, and brought forth Man and all Animals.

This seems to be a poetical Fiction rather than Philosophy; yet when 'tis set in a true Light, and compar'd with our Theory of the Chaos, 'twill appear a pretty regular Account, how the World was form'd at first, or how the Chaos divided it self successively into several Regions, rising one after another, and propagated one from another, as Children and Posterity from a common Parent. We show'd in the first Book, Chap. 5. how the Chaos, from
from an uniform Mass, wrought it self into several Regions or Elements; the grossest Part sinking to the Center; upon this lay the Mass of Water, and over the Water was a Region of dark, impure, caliginous Air; this impure caliginous Air is that which the Ancients call Night, and the Mass of Water Oceanus or Tartarus; for those two Terms with them are often of the like Force, Tartarus being Oceanus inclos'd and lock'd up: Thus we have the first Offspring of the Chaos, or its first-born Twins, Nox and Oceanus. Now this turbid Air purifying it self by Degrees, as the more subtle Parts flew upwards, and compos'd the Æther; so the earthy Parts that were mixt with it dropt down upon the Surface of the Water, or the liquid Mass; and that Mass on the other Hand l高中 its lighter and more oily Parts towards its Surface, these two incorporate there, and by their Mixture and Union compose a Body of Earth quite round the Mass of Waters: And this was the first habitable Earth, which, as it was, you see, the Daughter of Nox and Oceanus, so it was the Mother of all other Things, and all living Creatures, which at the Beginning of the World sprung out of its fruitful Womb.

This Doctrine of the Chaos, for the greater Pomp of the Business, the Ancients call'd their Theogonia, or the Genealogy of the Gods; for they gave their Gods, at least their terrestrial Gods, an Original and Beginning; and all the Elements and greater Portions of Nature they made Gods and Goddesses, or their
Concerning the Prim. Earth, and Paradise. 369

their Deities presided over them in such a Manner, that the Names were us’d promiscuously for one another. We also mention’d before some moral Principles, which they plac’d in the Chaos, Eris and Eros; Strife, Discord, and Disaffection, which prevail’d at first; and afterward Love, Kindness and Union got the upper Hand, and in spite of those factionous and dividing Principles gather’d together the separated Elements, and united them into an habitable World. This is all easily understood, if we do but look upon the Schemes of the rising World, as we have set them down in that fifth Chapter; for in the first Commotion of the Chaos, after an intestine Struggle of all the Parts, the Elements separated from one another into so many distinct Bodies or Masses; and in this State and Posture Things continu’d a good while, which the Ancients, after their poetick or moral Way, call’d the Reign of Eris or Contention, of Hatred, Slight and Disaffection; and if Things had always continued in that System, we should never have had an habitable World. But Love and good Nature conquer’d at length; Venus rose out of the Sea, and receiv’d into her Bosom, and intangled into her Embraces the falling Æther, viz. the Parts of lighter Earth, which were mixt with the Air in that first Separation, and gave it the Name of Night: These, I say, fell down upon the oily Parts of the Sea-mass, which lay floating upon the Surface of it, and by that Union and Conjunction a new Body, and a new World was produc’d, which was

Book II. B b the
The Theory of the Earth.

This is the Interpretation of their mystical Philosophy of the Chaos, and the Resolution of it into plain natural History: Which you may see more fully discussed in the Latin Treatise, Lib. 2. c. 7.

In consequence of this, we have already explained, in several Places, the Golden Age of the Ancients, and laid down such Grounds as will enable us to discern what is real, and what poetical, in the Reports and Characters that Antiquity hath given of those first Ages of the World. And if there be any Thing amongst the Ancients that refers to another Earth, as Plato's Atlantis, which he says, was absorbed by an Earthquake, and an Inundation, as the primæval Earth was; or his Astrereal Earth mention'd in his Phædo, which he opposes to this broken hollow Earth; makes it to have long-liv'd Inhabitants, and to be without Rains and Storms, as that first Earth was also; or the pendulous Gardens of Alcinous, or such like; to which nothing answers in present Nature, by reflecting upon the State of the first Earth, we find an easy Explication of them. We have also explained what the Antichthon and Antichthones of the Ancients were, and what the true Ground of that Distinction was. But nothing seems more remarkable than the Inhabitability of the Torrid Zone, if we consider what a general Fame and Belief it had amongst the Ancients, and yet in the present Form of the Earth we find no such Thing, nor any Foundation for it. I cannot believe that this was so universally receiv'd upon a slight Presumption
Concerning the Prim. Earth, and Paradife. 371

Concerning the Earthy and Faradife, 371

fumption only, because it lay under the Course of the Sun, if the Sun had then the fame Lat-titude from the Âquator, in his Course and Motion, that he hath now, and made the fame Variety of Seasons; whereby even the hottest Parts of the Earth have a Winter, or something equivalent to it. But if we apply this to the primæval Earth, whose Posture was direct to the Sun, standing always fixt in its E-
quinoctial, we shall easily believe that the Torrid Zone was then uninhabitable by Extre-
mity of Heat, there being no Difference of Seasons, nor any Change of Weather, the Sun hanging always over Head at the fame Distance, and in the same Direction. Besides this, the Descent of the Rivers in that first Earth was such, that they could never reach the E-
quinoctial Parts, as we have shown before; by which Means, and the want of Rain, that Region must necessarily be turn'd into a dry Desert. Now this being really the State of the first Earth, the Fame and general Belief that the Torrid Zone was uninhabitable had this true Original, and continued still with Po-
sterity after the Deluge, tho' the Causes then were taken away; for they being ignorant of the Change that was made in Nature at that Time, kept up still the fame Tradition and Opinion current, till Observation and Expe-
rience taught later Ages to correct it. As the true Miracles, that were in the Christian Church at first, occasion'd a Fame and Belief of their Continuance long after they had really cease'd. 

This
This gives an easy Account, and, I think, the true Cause of that Opinion, amongst the Ancients generally receiv'd, That the Torrid Zone was uninhabitable. I say, generally receiv'd; for not only the Poets, both Greek and Latin, but their Philosophers, Astronomers and Geographers, had the same Notion, and deliver'd the same Doctrine; as Aristotle, Cleomedes, Achilles Tatius, Ptolemy, Cicero, Strabo, Mela, Pliny, Macrobius, &c. And to speak Truth, the whole Doctrine of the Zones is calculated more properly for the first Earth, than for the present; for the Divisions and Bounds of them now are but arbitrary, being habitable all over, and having no visible Distinction; whereas they were then determin'd by Nature, and the Globe of the Earth was really divided into so many Regions of a very different Aspect and Quality; which would have appear'd at a Distance, if they had been lookt upon from the Clouds, or from the Moon, as Jupiter's Belts, or as so many Girdles or Swathing-bands about the Body of the Earth: And so the Word imports, and so the Ancients use to call them Cinguli and Fascia. But in the present Form of the Earth, if it was seen at a Distance, no such Distinction would appear in the Parts of it, nor scarce any other but that of Land and Water, and of Mountains and Valleys, which are nothing to the purpose of Zones. And to add this Note further, When the Earth lay in this regular Form, divided into Regions or Walks, if I may so call them, as this gave Occasion of its Distinction
Concerning the Prim. Earth, and Paradise. 373

Distinction by Zones; so if we might consider all that Earth as a Paradise, and Paradise as a Garden; (for it is always call'd so in Scripture, and in Jewish Authors.) And as this Torrid Zone, bare of Grass and Trees, made a kind of Gravel-walk in the Middle, so there was a green Walk on either Hand of it, made by the temperate Zones; and beyond those lay a Canal, which water'd the Garden from either Side. (See Fig. 3. c. 5.)

But to return to Antiquity; We may add under this Head another Observation or Doctrine amongst the Ancients, strange enough in Appearance, which yet receives an easy Explanation from the preceding Theory; They say, The Poles of the World did once change their Situation, and were at first in another Posture from what they are in now, till that Inclination happen'd: This the ancient Philosophers often make mention of, as Anaxagoras, Empedocles, Diogenes, Leucippus, Democritus; (See the Lat. Treat. lib. 2. c. 10.) as may be seen in Laertius, and in Plutarch; and the Stars, they say, at first were carried about the Earth in a more uniform Manner. This is no more than what we have observ'd and told you in other Words, namely, That the Earth chang'd its Posture at the Deluge, and thereby made these seeming Changes in the Heavens; its Poles before pointed to the Poles of the Ecliptick, which now point to the Poles of the Æquator, and its Axis is become parallel with that Axis; and this is the Mystery and Interpretation of what they say in other Terms;
this makes the different Aspect of the Heavens, and of its Poles: And I am apt to think, that those Changes in the Course of the Stars, which the Ancients sometimes speak of, and especially the Egyptians, if they did not proceed from Defects in their Calendar, had no other physical Account than this.

And as they say the Poles of the World were in another Situation at first, so at first they say, there was no Variety of Seasons in the Year, as in their Golden Age. Which is very coherent with all the rest, and still runs along with the Theory. And you may observe, that all these Things we have instanc'd in hitherto are but Links of the same Chain, in Connexion and Dependance upon one another. When the primate Earth was made out of the Chaos, its Form and Posture was such, as of Course brought on all those Scenes which Antiquity hath kept the Remembrance of; tho' now in another State of Nature they seem very strange; especially being disguis'd, as some of them are, by their odd Manner of representing them. That the Poles of the World stood once in another Posture; That the Year had no Diversity of Seasons; That the Torrid Zone was uninhabitable; That the two Hemispheres had no possibility of Intercourse, and such like; These all hang upon the same String; or lean one upon another as Stones in the same Building; whereof we have, by this Theory, laid the very Foundation bare, that you may see what they all stand upon, and in what Order,

There
Concerning the Prim. Earth, and Paradise. 375

There is still one remarkable Notion or Doctrine amongst the Ancients which we have not spoken to; 'tis partly symbolical, and the Propriety of the Symbol, or of the Application of it, hath been little understood; 'tis their Doctrine of the Mundane Egg, or their comparing the World to an Egg, and especially in the original Composition of it. This seems to be a mean Comparison, the World and an Egg; what Proportion, or what Resemblance betwixt these two Things? And yet I do not know any symbolical Doctrine, or Conclusion, that hath been so universally entertain'd by the Mystics, or wise and learned of all Nations; as hath been noted before in the fifth Chapter of the first Book, and at large in the Latin Treatise, (Lib. 2. c. 10.) 'Tis certain, that by the World in this Similitude, they do not mean the Great Universe, for that hath neither Figure, nor any determinate Form of Composition, and it would be a great Vanity and Rashness in any one to compare this to an Egg: The Works of God are immense, as his Nature is infinite, and we cannot make any Image or Resemblance of either of them; but this Comparison is to be understood of the Sublunary World, or of the Earth: And for a general Key to Antiquity upon this Argument, we may lay this down as a Maxim or Canon, That what the Ancients have said concerning the Form and Figure of the World, or concerning the Original of it from a Chaos, or about its Periods and Dissolution, are never to be understood of the Great Universe, but of our Earth, or of this...
The Theory of the Earth: sublunary and terrestrial World. And this Observation being made, do but reflect upon our Theory of the Earth, the Manner of its Composition at first, and the Figure of it, being completed, and you will need no other Interpreter to understand this Mystery. We have show’d there, (Book i. c. 5.) that the Figure of it, when finisht, was Oval, and the inward Form of it was a Frame of four Regions, encompassing one another, where that of Fire lay in the Middle like the Yolk, and a Shell of Earth inclos’d them all. This gives a Solution so easy and natural, and shows such an Aptness and Elegancy in the Representation, that one cannot doubt upon a View and Compare of Circumstances, but that we have truly found out the Riddle of the Mundane Egg.

Amongst other Difficulties arising from the Form of this present Earth, that is one, How America could be peopled, or any other Continent, or Island remote from all Continents, the Sea interposing. This Difficulty does not hold in our Theory of the first Earth, where there was no Sea. And after the Flood, when the Earth was broken and the Sea laid open, the same Race of Men might continue there, if settled there before. For I do not see any Necessity of deducing all Mankind from Noah after the Flood: If America was peopled before, it might continue so; not but that the Flood was universal. But when the great Frame of the Earth broke at the Deluge, Providence foresaw into how many Continents it would be divided after the ceasing of the Flood;
Concerning the Prim. Earth, and Paradise. 377

Flood; and accordingly, as we may rea

sonably suppose, made Provision to save a Rem

nant in every Continent, that the Race of

Mankind might not be quite extinct in any of

them. What Provision he made in our Conti

nent we know from sacred History; but as

that takes Notice of no other Continent but

ours, so neither could it take Notice of any Me

thod that was us’d there for saving of a Rem

nant of Men; but 'twere great Presumption,
methinks, to imagine that Providence had a

Care of none but us, or could not find out

Ways of Preservation in other Places, as well

as in that where our Habitations were to be.

Asia, Africk and Europe, were repeopled by

the Sons of Noah, Shem, Ham, and Japhet;

but we read nothing of their going over into

America, or sending any Colonies thither; and

that World, which is near as big as ours, must

have stood long without People, or any thing

of humane Race in it, after the Flood, if it

stood so till this was full, or till Men naviga

ted the Ocean, and by chance discover’d it: It

seems more reasonable to suppose, that there

was a Stock providentially reserv’d there, as

well as here, out of which they sprung again;

but we do not pretend in an Argument of this

Nature to define or determine any Thing po

sitively. To conclude, As this is but a secon

dary Difficulty, and of no great Force, so nei

ther is it any Thing peculiar to us, or to our

Hypothesis, but alike common to both; and if

they can propose any reasonable Way whereby

the Sons of Noah might be transplanted into

America,
America, with all my Heart; but all the Ways that I have met with hitherto have seem'd to me mere Fictions, or mere Presumptions. Besides, finding Birds and Beasts there, which are no where upon our Continent, nor would live in our Countries if brought hither; 'tis a fair Conjecture that they were not carried from us, but originally bred and preserv'd there.

Thus much for the Illustration of Antiquity in some Points of humane Literature, by our Theory of the primæval Earth; there is also in Christian Antiquity a Tradition or Doctrine, that appears as obscure and as much a Paradox as any of these, and better deserves an Illustration, because it relates more closely and expressly to our present Subject: 'Tis that Notion or Opinion amongst the Ancients concerning Paradise, that it was seated as high as the Sphere of the Moon, or within the lunar Circle. This looks very strange, and indeed extravagantly at first Sight; but the Wonder will cease, if we understand this not of Paradise taken apart from the rest of the Earth, but of the whole primæval Earth, wherein the Seat of Paradise was; That was really seated much higher than the present Earth, and may be reasonably suppos'd to have been as much elevated as the Tops of our Mountains are now. And that Phrase of reaching to the Sphere of the Moon, signifies no more than those other Expressions of reaching to Heaven, or reaching above the Clouds; which are Phrases commonly us'd to express the Height of Buildings, or of Mountains, and such like Things: So the Builders
Concerning the Prim. Earth, and Paradise. 379

Builders of Babel said, they would make a Tower should reach to Heaven; Olympus and Parnassus are said by the Poets to reach to Heaven, or to rise above the Clouds; and Pliny and Solinus use this very Expression of the Lunar Circle, when they describe the Height of Mount Atlas, *Educxtus in viciniam Lunaris Circuli*, (Solin. c. 17.) The Ancients, I believe, aim'd particularly by this Phrase, to express an Height above the middle Region, or above our Atmosphere, that Paradise might be serene; and where our Atmosphere ended, they reckon'd the Sphere of the Moon begun, and therefore said it reacht to the Sphere of the Moon. Many of the Christian Fathers express their Opinion concerning the high Situation of Paradise in plain and formal Terms, as St. Basil, Damasceen, Moses Bar Cepha, &c. but this Phrase of reaching to the Lunar Circle is repeated by several of them, and said to be of great Antiquity. Aquinas, Albertus, and others, ascribe it to Bede, but many to St. Austin; and therefore Ambrosius Catharinus, (Com. in Gen. c. 2.) is angry with their great Schoolman, that he should derive it from Bede, seeing St. Austin writing to Orosius, deliver'd this Doctrine, which surely, says he, St. Austin neither feign'd nor dream'd only, but had receiv'd it from Antiquity: And from so great Antiquity, that it was no less than Apostolical, if we credit Albertus Magnus, and the ancient Books he appeals to; (Sum. Theol. par. 2. tr. 13. q. 79.) for he says this Tradition was deriv'd as high as from St. Thomas the
The Theory of the Earth.

The Apostle. His Words are these, after he had deliver'd his own Opinion, Hoc tamen dico, &c. But this I say, without Prejudice to the better Opinion, for I have found it in some most ancient Books, that Thomas the Apostle was the Author of that Opinion, which is usually attributed to Bede and Strabas, namely, That Paradise was so high as to reach to the Lunar Circle. But thus much concerning this Opinion, and concerning Antiquity.

To conclude all, we see this Theory, which was drawn only by a Thread of Reason, and the Laws of Nature, abstractedly from all Antiquity, notwithstanding casts a Light upon many Passages there, which were otherwise accounted Fictions, or unintelligible Truths; and tho' we do not alledge these as Proofs of the Theory, for it carries its own Light and Proof with it; yet whether we will or no, they do mutually confirm, as well as illustrate one another; and 'tis a Pleasure also, when one hath wrought out Truth by mere Dint of Thinking, and Examination of Causes, and propos'd it plainly and openly, to meet with it again among the Ancients, disguis'd, and in an old fashion'd Dress; scarce to be known or discover'd, but by those that before-hand knew it very well. And it would be a further Pleasure and Satisfaction to have render'd those Doctrines and Notions, for the future, intelligible and useful to others, as well as delightful to our selves.

Chap.
Concerning the Prim. Earth, and Paradise. 381

CHAP. IX.

A general Objection against this Theory, viz. That if there had been such a Primitive Earth, as we pretend, the Fame of it would have sounded throughout all Antiquity. The eastern and western Learning consider'd. The most considerable Records of both are lost. What Footsteps remain relating to this Subject. The Jewish and Christian Learning consider'd; how far lost as to this Argument, and what Notes or Traditions remain. Lastly, How far the sacred Writings bear witness to it. The providential Conduct of Knowledge in the World. A Recapitulation and State of the Theory.

Having gone thro' the two first Parts, and the two first Books of this Theory, that concern the primitive World, the universal Deluge, and the State of Paradise, we have leisure now to reflect a little, and consider what may probably be objected against a Theory of this Nature. I do not mean single Objections against single Parts, for those may be many, and such as I cannot foresee; but what may be said against the Body and Substance of the Theory, and the Credibility of it, appearing new and surprizing, and yet of great Extent and Importance. This, I fancy, will induce many to say, surely this cannot be a Reality; for if there had been such a primitive Earth, and such a primitive World
World as is here represented, and so remarkably different from the present, it could not have been so utterly forgotten, or lain hid for so many Ages; all Antiquity would have rung of it; the Memory of it would have been kept fresh by Books or Traditions. Can we imagine that it should lie buried for some thousands of Years in deep Silence and Oblivion? and now only when the second World is drawing to an End, we begin to discover that there was a first, and that of another Make and Order from this.

To satisfy this Objection, or Surmise rather, it will be convenient to take a good large Scope and Compass in our Discourse; we must not suppose that this primitive World hath been wholly lost out of the Memory of Man, or out of History, for we have some History and Chronology of it preserv'd by Moses, and likewise in the Monuments of the Ancients, more or less; for they all suppos'd a World before the Deluge. But 'tis the Philosophy of this primitive World that hath been lost in a great Measure; what the State of Nature was then, and wherein it differ'd from the present or postdiluvian Order of Things. This, I confess, hath been little taken notice of; it hath been generally thought or presum'd, that the World before the Flood was of the same Form and Constitution with the present World: This we do not deny, but rather think it design'd and providential, that there should not remain a clear and full Knowledge of that first State of Things; and we may easily suppos'd how it might
Concerning the Prim. Earth, and Paradise. 383

might decay and perish, if we consider how little of the remote Antiquities of the World have ever been brought down to our Knowledge.

The Greeks and Romans divided the Ages of the World into three Periods or Intervals, whereof they call'd the first the Obscure Period, the second the Fabulous, and the third Historical. The dark and obscure Period was from the Beginning of the World to the Deluge; what pass'd then, either in Nature, or amongst Men, they have no Records, no Account, by their own Confession; all that Space of Time was cover'd with Darkness and Oblivion; so that we ought rather to wonder at those Remains they have, and those broken Notions of the Golden Age, and the Conditions of it, how they were sav'd out of the common Shipwrack, than to expect from them the Philosophy of that World, and all its Differences from the present. And as for the other Nations that pretend to greater Antiquities, to more ancient History and Chronology, from what is left of their Monuments, many will allow only this Difference, that their fabulous Age begun more high, or that they had more ancient Fables.

But besides that our Expectations cannot be great from the Learning of the Gentiles, we have not the Means or Opportunity to inform ourselves well what Notions they did leave us concerning the primitive World; for their Books and Monuments are generally lost, or lie hid unknown to us. The Learning of the World
World may be divided into the Eastern Learning and the Western; and I look upon the Eastern as far more considerable for philosophical Antiquities, and philosophical Conclusions; I say Conclusions, for I do not believe either of them had any considerable Theory, or Contexture of Principles and Conclusions together: But 'tis certain that in the East, from what Source soever it came, humane or divine, they had some extraordinary Doctrines and Notions dispers'd amongst them. Now as by the western Learning we understand that of the Greeks and Romans; so by the eastern, that which was amongst the Ægyptians, Phænicians, Chaldaæans, Assyrians, Indians, Æthiopians, and Persians; and of the Learning of these Nations, how little have we now left? except some Fragments and Citations in Greek Authors, what do we know of them? The modern Bracmans, and the Persees, or Pagan Persians, have some broken Remains of Traditions relating to the Origin and Changes of the World: But if we had not only those Books entire, whereof we have now the Gleanings and Reversions only; but all that have perisht besides, especially in that famous Library at Alexandria; if these, I say, were all restor'd to the World again, we might promise our selves the Satisfaction of seeing more of the Antiquities, and natural History of the first World, than we have now left, or can reasonably expect. That Library we speak of at Alexandria, was a Collection, beside Greek Books, of Ægyptian, Chaldaean, and all the eastern
Concerning the Prim. Earth, and Paradise. 385
eastern Learning; and Cedrenus makes it to
consist of an hundred thousand Volumes: But
Josephus faith, when the Translation of the
Bible by the Septuagint was to be added to it,
Demetrius Phalerius, (who was Keeper or Go-
vernor of it) told the King then, that he had
already two hundred thousand Volumes, and
that he hop'd to make them five hundred thou-
sand; and he was better than his Word, or
his Successors for him; for Ammianus Marcell-
linus, and other Authors, report them to have
increas'd to seven hundred thousand. This
Library was unfortunately burnt in the facking
of Alexandria by Cæsar, and considering that
all these were ancient Books, and generally of
the eastern Wisdom, 'twas an inestimable and
irreparable Loss to the Commonwealth of
Learning. In like manner we are told of a
vast Library of Books of all Arts and Scien-
ces in China, burnt by the Command or Ca-
price of one of their Kings. Wherein the
Chineses, according to their Vanity, were us'd
to say, greater Riches were lost, than will be
in the last Conflagration.

We are told alfo of the Abyssine, or Æthio-
pick Library, as something very extraordinary.
'Twas formerly in great Reputation, but is
now, I suppose, embezil'd and loft. But I
was extremely surpriz'd by a Treatife brought
to me some few Months since, wherein are
mention'd some Æthiopick Antiquities relating
to the primæval Earth and the Deluge: To
both which they give such Characters and
Properties as are in Effect the very fame with
Book II.
The Theory of the Earth.

Those assign'd them in this Theory. They say the first Earth was much greater than the present, higher and more advanced into the Air: That it was smooth and regular in its Surface, without Mountains or Valleys, but hollow within; and was spontaneously fruitful, without plowing or sowing. This was its first State; but when Mankind became degenerate and outrageous with Pride and Violence, the angry Gods, as they say, by Earthquakes and Concussions broke the habitable Orb of the Earth, and thereupon the subterraneous Waters gushing out, drown'd it in a Deluge, and destroy'd Mankind. Upon this Fractiion, it came into another Form, with a Sea, Lakes and Rivers, as we now have. And those Parts of the broken Earth that stood above the Waters, became Mountains, Rocks, Islands, and so much of the Land as we now inhabit. This Account is given us by Barnardinus Ramazzinus, (in his Treatise De Fontium Mutinentium Scaturigine.*) Taken from a Book writ by Francisco Patricio, to

* Page 41. Franciscus Patricius, Vir eruditione sat clarus, in quodam libello suo de Antiquorum Rhetorica, Italic idiomate conscripto, ac Venetiis impresso per Franciscum Senefensem, Dialogo primo suis lepidissim narrationem habet, quam refert Julianum Stroziam a Comite Baltasarv Caesilione audivisse, illum vero à Philofophi quodam Abyssino in Hispaniâ acceptisse. Narravit ergo ipsius ille Abyssinus in antiquissimis Æthiopie Annalibus descriptione esse historiam perditonis humani generis & disruptionis totius Terrae. In Mundi seficiet primordiis suisse Terram multo ampliori quam nunc est, ac Carlo proximiorem, perfecte rotundam, sine Montibus, ac Vallibus, totam tamen intus cavornam ad insar spargisse, hominesque in illâ habitantes, ac atheae purissiimo gaudentes, insignum eum divisse, Terrâ inarata optimis fruges, & fructus ferentes. Cum autem post diuturnum saeculorum fluxum homines superbiae clati a prisci illâ bonitate desivissent, Deos ira-
Concerning the Prim. Earth, and Paradise. 387

to whom this wonderful Tradition was deli-
ver'd by Persons of Credit, from an Æthiop-
ian Philosopher then in Spain. I have not yet
had the good Fortune to see that Book of
Francisco Patricio; 'tis writ in Italian with this
Title, Della Rhetorica degli Antichi: Printed
at Venice, 1562. This Story indeed deserves
to be enquired after, for we do not any where
amongst the Ancients meet with such a full
and explicit Narration of the State of the first
and second Earth. That which comes nearest
to it are those Accounts we find in Plato, from
the Ægyptian Antiquities, in his Timeæus, Po-
liticus, and Phædo, of another Earth, and an-
other State of Nature and Mankind. But none
of them are so full and distinct as this Æthio-
pian Doctrine.

As for the western Learning, we may re-
member what the Ægyptian Priest says to So-
lon in Plato's Timeæus, You Greeks are always
Children, and know nothing of Antiquity; and
if the Greeks were so, much more the Romans,
who came after them in time; and for so great
a People, and so much civiliz'd, never any
had less Philosophy, and less of the Sciences
amongst them than the Romans had: They

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studied
The Theory of the Earth.

studied only the Art of Speaking, of Governing, and of Fighting; and left the rest to the Greeks and eastern Nations, as unprofitable. Yet we have Reason to believe, that the best philosophical Antiquities that the Romans had, perish'd with the Books of Varro, of Numa Pompilius, and of the ancient Sibyls, (De Civ. Dei, lib. 6. Dion. Halic. Ant. Rom. lib. 4.) Varro writ, as St. Austin tells us, a Multitude of Volumes, and of various Sorts, and I had rather retrieve his Works, than the Works of any other Roman Author; not his Etymologies and Criticisms, where we see nothing admirable, but his Theologia Physica, and his Antiquitates; which in all Probability would have given us more Light into remote Times, and the natural History of the past World, than all the Latin Authors besides have done. He has left the foremention'd Distinction of three Periods of Time; He had the Doctrine of the Mundane Egg, as we see in Probus Grammaticus; and he gave us that Observation of the Star Venus, concerning the great Change she suffer'd about the Time of our Deluge.

Numa Pompilius was doubtless a contemplative Man, and 'tis thought that he understood the true System of the World, and represented the Sun by his Vestal Fire; tho', methinks, Vesta does not so properly refer to the Sun, as to the Earth, which hath a sacred Fire too, that is not to be extinguisht. He order'd his Books to be buried with him, which were found in a Stone Chest by him, four hundred Years after his Death: They were in all twenty-four,
Concerning the Prim' Earth, and Paradise.

ty-four, whereof twelve contain'd sacred Rites and Ceremonies, and the other twelve the Philosophy and Wisdom of the Greeks; the Romans gave them to the Prætor Petilius to peruse; and to make his Report to the Senate, whether they were fit to be publish'd or no: The Prætor made a wise politic Report, that the Contents of them might be of dangerous Consequence to the establish'd Laws and Religion; and thereupon they were condemn'd to be burnt, and Posterity was depriv'd of that ancient Treasure, whatsoever it was. What the nine Books of the Sibyl contain'd, that were offer'd to King Tarquin, we little know; she valued them high, and the higher still, the more they seem'd to slight or neglect them; which is a Piece of very natural Indignation or Contempt, when one is satisfied of the Worth of what they offer. 'Tis likely they respect-ed, besides the Fate of Rome, the Fate and several Periods of the World, both past and to come, and the most mystical Passages of them. And in these Authors and Monuments are lost the greatest Hopes of natural and philosophick Antiquities, that we could have had from the Romans.

And as to the Greeks, their best and sacred Learning was not originally their own; they enrich'd themselves with the Spoils of the East, and the Remains we have of that eastern Learning, is what we pick out of the Greeks; whose Works, I believe, if they were entirely extant, we should not need to go any further for Witnesses to confirm all the principal Parts
The Theory of the Earth.

of this Theory. With what Regret does one read in Laertius, Suidas, and others, the promising Titles of Books writ by the Greek Philosophers, hundreds or thousands, whereof there is not one now extant; and those that are extant are generally but Fragments: Those Authors also that have writ their Lives, or collected their Opinions, have done it confusedly and injudiciously. I should hope for as much Light and Instruction, as to the Original of the World, from Orpheus alone, if his Works had been preserv'd, as from all that is extant now of the other Greek Philosophers. We may see from what remains of him, that he understood in a good Measure how the Earth rose from a Chaos, what was its external Figure, and what the Form of its inward Structure: The Opinion of the Oval Figure of the Earth is ascrib'd to Orpheus and his Disciples; and the Doctrine of the Mundane Egg is so peculiarly his, that 'tis call'd by Proclus, the Orphick Egg; not that he was the first Author of that Doctrine, but the first that brought it into Greece.

Thus much concerning the Heathen Learning, eastern and western, and the small Remains of it in Things Philosophical; 'tis no Wonder then if the Account we have left us from them of the primitive Earth, and the Antiquities of the natural World be very imperfect. And yet we have trac'd (in the precedent Chapter, and more largely in our Latin Treatise) the Footsteps of several Parts of this Theory amongst the Writings and Traditions of the Ancients, and even of those Parts that seem
Concerning the Prim. Earth, and Paradise. It seem the most strange and singular, and that are the Basis upon which the rest stand. We have shown there, that their Account of the Chaos, tho' it seem'd to many but a poetical Rhapsody, contain'd the true Mystery of the Formation of the primitive Earth, (Tell. Theor. lib. 2. c. 7.) We have also shown upon the same Occasion, that both the external Figure and internal Form of that Earth were compriz'd and signified in their ancient Doctrine of the Mundane Egg, which hath been propagated through all the learned Nations, (Ibid. Cap. 10.) And lastly, As to the Situation of that Earth, and the Change of its Posture since, that the Memory of that has been kept up, we have brought several Testimonies and Indications from the Greek Philosophers, (Ibid.) And these were the three great and fundamental Properties of the primitive Earth, upon which all the other depend, and all its Differences from the present Order of Nature. You see then, tho' Providence hath suffer'd the ancient Heathen Learning and their Monuments, in a great Part, to perish, yet we are not left wholly without Witnesses amongst them, in a Speculation of this great Importance.

You will say, it may be, tho' this Account, as to the Books and Learning of the Heathen, may be lookt upon as reasonable, yet we might expect however, from the Jewish and Christian Authors, a more full and satisfactory Account of that primitive Earth, and of the old World. First, as to the Jews, 'tis well known that they have no ancient Learning,
The Theory of the Earth.

unless by Way of Tradition, amongst them. There is not a Book extant in their Language, excepting the Canon of the Old Testament, that hath not been writ since our Saviour's Time. They are very bad Masters of Antiquity, and they may in some Measure be excus'd, because of their several Captivities, Dispersions, and Desolations. In the Babylonish Captivity their Temple was ransack'd, and they did not preserve, as is thought, so much as the Autograph or original Manuscript of the Law, nor the Books of those of their Prophets that were then extant, and kept in the Temple; and at their Return from the Captivity after seventy Years, they seem to have had forgot their native Language so much, that the Law was to be interpreted to them in Chaldee, after it was read in Hebrew; for so I understand that Interpretation in Nehemiah, (Chap. 8. 7, 8.) 'Twas a great Providence, methinks, that they should any Way preserve their Law, and other Books of Scripture, in the Captivity, for so long a Time; for 'tis likely they had not the Liberty of using them in any publick Worship, seeing they return'd so ignorant of their own Language, and, as 'tis thought, of their Alphabet and Character too. And if their sacred Books were hardly preserv'd, we may easily believe all others perish'd in that publick Desolation.

Yet there was another Destruction of that Nation, and their Temple, greater than this, by the Romans; and if there were any Remains of Learning preserv'd in the former Ruin,
Concerning the Prim. Earth, and Paradise. 393

Ruin, or any Recruits made since that Time, this second Desolation would sweep them all away. And accordingly we see they have nothing left in their Tongue, beside the Bible, so ancient as the Destruction of Jerusalem. These, and other publick Calamities of the Jewish Nation may reasonably be thought to have wasted their Records of ancient Learning, if they had any; for to speak Truth, the Jews are a People of little Curiosity, as to Sciences and philosophical Enquiries: They were very tenacious of their own Customs, and careful of those Traditions that did respect them, but were not remarkable, that I know of, or thought great Proficients in any other sort of Learning. There has been a great Fame, 'tis true, of the Jewish Cabala, and of great Mysteries contain'd in it; and, I believe, there was once a traditional Doctrine amongst some of them, that had extraordinary Notions and Conclusions: But where is this now to be found? The Essenes were the likeliest Sect, one would think, to retain such Doctrines; but 'tis probable they are now so mixt with Things fabulous and fantastical, that what one should alledge from thence would be of little or no Authority. One Head in this Cabala was the Doctrine of the Sephiroth, (Vide Men. ben Isr. de Creat. prob. 28.) and tho' the Explication of them be uncertain, the inferior Sephiroth in the corporeal World cannot so well be apply'd to any Thing, as to those several Orbs and Regions, infolding one another, whereof the primigenial Earth was
was compos'd: Yet such Conjectures and Applications, I know, are of no Validity, but in Conform with better Arguments. I have often thought also, that their first and second Temple represented the first and second Earth or World; and that of Ezekiel's, which is the third, is still to be erected, the most beautiful of all, when this second Temple of the World shall be burnt down. If the Prophecies of Enoch had been preserv'd, and taken into the Canon by Ezra, after their Return from Babylon, when the Collection of their sacred Books is suppos'd to have been made, we might probably have had a considerable Account there, both of Times past and to come, of Antiquities and Futuritions; for those Prophecies are generally suppos'd to have contain'd both the first and second Fate of this Earth, and all the Periods of it. But as this Book is lost to us, so I look upon all others that pretend to be Ante-Mosaical or Patriarchal, as spurious and fabulous.

Thus much concerning the Jews. As for Christian Authors, their Knowledge must be from some of these foremention'd Jews or Heathens; or else by Apostolical Tradition: For the Christian Fathers were not very speculative, so as to raise a Theory from their own Thoughts and Contemplations, concerning the Origin of the Earth. We have instanc'd, in the last Chapter, in a Christian Tradition concerning Paradise, and the high Situation of it, which is fully consonant to the Scite of the Primitive Earth, where Paradise stood, and doth
Concerning the Prim. Earth, and Paradise. 395
doth seem plainly to refer to it, being unintelligible upon any other Supposition. And 'twas, I believe, this Elevation of Paradise, and the Pencil Structure of that Paradisiacal Earth, that gave Occasion to Celsius, as we see by Origen's Answer, to say, that the Christian Paradise was taken from the pensile Gardens of Alcibiades: But we may see now what was the Ground of such Expressions or Traditions amongst the Ancients, which Providence left to keep Mens Minds awake; not fully to instruct them, but to confirm them in the Truth, when it should come to be made known in other Methods. We have noted also above, that the ancient Books and Authors amongst the Christians, that were most likely to inform us in this Argument, have perished, and are lost out of the World, such as Ephrem Syrus de ortu rerum, and Tertullian de Paradiso; and that Piece, which is extant of Moses Bar Cephas upon this Subject, receives more Light from our Hypothesis, than from any other I know; for, correcting some Mistakes about the Figure of the Earth, which the Ancients were often guilty of, the Obscurity or Confusion of that Discourse in other things may be easily rectified, if compar'd with this Theory.

Of this Nature also is that Tradition that is common both to Jews and Christians, and which we have often mentioned before, that there was a perpetual Serenity, and perpetual Equinox in Paradise; which cannot be upon this Earth, not so much as under the Equinoctial; for they have a sort of Winter and Summer there,
The Theory of the Earth:

there, a Course of Rains at certain times of the Year, and great Inequalities of the Air, as to Heat and Cold, Moisture and Drought. They had also Traditions amongst them, That there was no Rain from the Beginning of the World till the Deluge, and that there were no Mountains till the Flood, (Lat. Treat. Lib. 2. c. 10.) and such like. These, you see, point directly at such an Earth, as we have describ'd. And I call these Traditions, because we cannot find the Original Authors of them; the ancient ordinary Gloss (upon Genesis) which some make eight hundred Years old, mentions both these Opinions; so does Historia Scholastica, Alcuinus, Rabanus Maurus, Lyranus, and such Collectors of Antiquity. Bede also relates that of the Plainness or Smoothness of the Antediluvian Earth. Yet these are reported Traditionally, as it were, naming no Authors or Books from whence they were taken: Nor can it be imagin'd that they feign'd them themselves; to what End or Purpose? it serv'd no Interest; or upon what Ground? seeing they had no Theory that could lead them to such Notions as these, or that could be strengthen'd and confirm'd by them. Those Opinions also of the Fathers, which we recited in the seventh Chapter, placing Paradise beyond the Torrid Zone, and making it therefore inaccessible, suit very well to the Form, Qualities, and Bipartition of the Primæval Earth, and seem to be grounded upon them.

Thus much may serve for a short Survey of the antient Learning, to give us a reasonable Account,
Concerning the Prim. Earth, and Paradise. 397
Account, why the Memory and Knowledge of the Primitive Earth should be so much lost out of the World; and what we retain of it still; which would be far more, I do not doubt, if all Manuscripts were brought to light, that are yet extant in publick or private Libraries. The Truth is, one cannot judge with Certainty, neither what things have been recorded and preserv'd in the Monuments of Learning, nor what are still; not what have been, because so many of those Monuments are lost: The Alexandrian Library, which we spoke of before, seems to have been the greatest Collection that ever was made before Christianity, and the Constantinopolitan (begun by Constantine, and destroy'd in the fifth Century, when it was rais'd to the Number, as is said, of one hundred twenty thousand Volumes) the most valuable that was ever since, and both these have been permitted by Providence to perish in the merciless Flames. Beside those Devastations of Books and Libraries that have been made in Christendom, by the Northern barbarous Nations overflowing Europe, and the Saracens and Turks, great Parts of Asia and Africk. It is hard therefore to pronounce what Knowledge hath been in the World, or what Accounts of Antiquity; neither can we well judge what remain, or of what things the Memory may be still latently conserv'd: For beside those Manuscripts that are yet unexamin'd in these Parts of Christendom, there are many, doubtless, of good Value in other Parts; beside those that lie hid in the unchristianiz'd
The Theory of the Earth.

The Library of Fez is said to contain thirty two thousand Volumes in Arabick; and though the Arabick Learning was most what Western, and therefore of less Account, yet they did deal in Eastern Learning too; for Avicenna writ a Book with that Title, Philosophia Orientalis. There may be also in the East Thousands of Manuscripts unknown to us, of greater Value than most Books we have: And as to those Subjects we are treating of, I should promise my self more Light and Confirmation from the Syriack Authors than from any others. These things being consider'd, we can make but a very imperfect Estimate, what Evidences are left us, and what Accounts of the primitive Earth; and if these Deductions and Defalcations be made, both for what Books are wholly lost, and for what lie asleep or dead in Libraries, we have Reason to be satisfied in a Theory of this Nature, to find so good Attestations as we have produc'd for the several Parts of it; which we purpose to enlarge upon considerably at another time and occasion.

But to carry this Objection as far as may be, let us suppose it to be urg'd still in the last Place, that though these Humane Writings have perish'd, or be imperfect, yet in the Divine Writings at least, we might expect that the Memory of the old World, and of the primitive Earth should have been preserv'd. To this I answer in short, that we could not expect in the Scriptures any natural Theory of that Earth, nor any Account of it, but what...
what was general; and this we have both by the Tekom Rabba of Moses, and the Description of the same Abyss in other Places of Scripture, as we have shown at large in the first Book, Chap. 7. And also by the Description which St. Peter hath given of the antediluvian Heavens and Earth, and their different Constitution from the present; which is also prov'd by the Rainbow, not seen in the first World. You will say, it may be, that that Place of St. Peter, 2 Pet. 3. 5, 6, &c. is capable of another Interpretation; so are most Places of Scripture, if you speak of a bare Capacity, they are capable of more than one Interpretation: But that which is most natural, proper, and congruous, and suitable to the Words, suitable to the Argument, and suitable to the Context, wherein is nothing superfluous or impertinent, that we prefer and accept of as the most reasonable Interpretation. Besides, in such Texts as relate to the natural World, if of two Interpretations propos'd, one agrees better with the Theory of Nature than the other, ceteris paribus, that ought to be prefer'd. And by these two Rules we are willing to be try'd, in the Exposition of that remarkable Discourse of St. Peter's, and to stand to that Sense which is found most agreeable to them.

Give me leave to conclude the whole Discourse with this general Consideration: 'Tis reasonable to suppose, that there is a Providence in the Conduct of Knowledge, as well as of other Affairs on the Earth; and that it was
was not design'd that all the Mysteries of Nature and Providence should be plainly and clearly understood throughout all the Ages of the World; but that there is an Order establish'd for this, as for other Things, and certain Periods and Seasons; and what was made known to the Ancients only by broken Conclusions and Traditions, will be known (in the latter Ages of the World) in a more perfect way, by Principles and Theories. The Increase of Knowledge being that which changeth so much the Face of the World, and the State of humane Affairs, I do not doubt but there is a particular Care and Superintendency for the Conduct of it; by what Steps and Degrees it should come to light, at what Seasons and in what Ages; what Evidence should be left, either in Scripture, Reason or Tradition, for the Grounds of it; how clear or obscure, how dispers'd or united: All these things were weigh'd and consider'd, and such Measures taken as best suit the Designs of Providence, and the general Project and Method propos'd in the Government of the World. And I make no Question but the State both of the Old World, and of that which is to come, is exhibited to us in Scripture in such a Measure and Proportion, as is fit for this foremention'd Purpose; not as the Articles of our Faith, or the Precepts of a good Life, which he that runs may read; but to the attentive and reflective, to those that are unprejudic'd, and to those are inquisitive, and have their Minds open and prepar'd for the Distinguishment of Mysteries of such a Nature.

Thus
Concerning the Prim. Earth, and Paradise. 401

Thus much in Answer to that general Objection which might be made against this Theory, That it is not founded in Antiquity. I do not doubt but there may be many particular Objections against Parts and Sections of it, and the exposing it thus in our own Tongue may excite some or other, it may be, to make them; but if any be so minded, I desire (if they be Scholars) that it may rather be in Latin, as being more proper for a Subject of this Nature; and also that they would keep themselves close to the Substance of the Theory, and wound that as much as they can: But to make Excursions upon Things accidental or collateral, that do not destroy the Hypothesis, is but to trouble the World with Impertinencies. Now the Substance of the Theory is this, THAT there was a Primitive Earth of another Form from the present, and inhabited by Mankind till the Deluge: That it had those Properties and Conditions that we have ascrib'd to it, namely, a perpetual Equinox or Spring, by reason of its right Situation to the Sun; was of an oval Figure, and the exterior Face of it smooth and uniform, without Mountains or a Sea. That in this Earth flood Paradise; the Doctrine whereof cannot be understood but upon Supposition of this primitive Earth, and its Properties. Then that the Disruption and Fall of this Earth into the Abyss, which lay under it, was that which made the universal Deluge, and the Destruction of the old World; and that neither Noah's Flood, nor the present Form of the Earth, can be ex-

Book II. D d plain'd
plain'd in any other Method that is rational, nor by any other Causes that are intelligible, at least, that have been hitherto propos'd to the World. These are the Vitals of the Theory, and the primary Asserions, whereof I do freely profess my full Belief; and whosoever by solid Reasons will show me in an Error, and undeceive me, I shall be very much oblig'd to him. There are other lesser Conclusions which flow from these, and may be call'd Secondary, as that the Longevity of the Ante-diluvians depended upon their perpetual Equinox, and the perpetual Equality and Serenity of the Air; That the Torrid Zone in the primitive Earth was uninhabitable, and that all their Rivers flow'd from the extreme Parts of the Earth towards the Equinoctial; there being neither Rain, nor Rainbow, in the temperate and habitable Regions of it: And lastly, That the Place of Paradise, according to the Opinion of Antiquity, (for I determine no Place by the Theory) was in the southern Hemisphere. These, I think, are all truly deduc'd and prov'd in their several Ways, tho' they be not such essentia! Parts of the Theory, as the former. There are also besides, many particular Explications that are to be consider'd with more Liberty and Latitude, and may be perhaps upon better Thoughts, or better Observations, corrected, without any Prejudice to the general Theory. Those Places of Scripture, which we have cited, I think, are all truly apply'd; and I have not mention'd Moses's Cosmopoeia, because I thought it deliver'd by
Concerning the Prim. Earth, and Paradise. 403
by him as a Lawgiver, not as a Philosopher; which I intend to show at large in another Treatise, not thinking that Discussion proper for the vulgar Tongue. Upon the whole, we are to remember, that some Allowances are to be made for every Hypothesis that is new propos'd and untry'd; and that we ought not, out of Levity of Wit, or any private Design, discountenance free and fair Essays; nor from any other Motive, but the only Love and Concern of Truth.

C H A P. X.

Concerning the Author of Nature.

Seeing the Theory which we have propos'd in this Work is of that Extent and Comprehension, that it begins with the first Foundation of this World, and is to reach to the last Period of it, in one continued Series or Chain of Nature; it will not be improper, before we conclude, to make some Reflections and Remarks what Nature is, and upon what superior Causes she depends in all her Motions and Operations: And this will lead us to the Discovery of the Author of Nature, and to the true Notion and State of Natural Providence, which seems to have been hitherto very much neglected, or little understood in the World.

And 'tis the more reasonable and fitting that we should explain these Notions before we shut up this Treatise, left those natural Explanations which we have given of the Deluge,
The Theory of the Earth

and other Things, should be mistaken or misapplied; seeing some are apt to run away with Pieces of a Discourse, which they think applicable to their Purpose, or which they can maliciously represent, without attending to the Scope or just Limitations of what is spoken.

By Nature in general is understood all the Powers of finite Beings, with the Laws established for their Action and Conduct according to the ordinary Course of Things. And this extends both to intellectual Beings and corporeal; but seeing 'tis only the material World that hath been the Subject of our Discourse, Nature, as to that, may be defin'd, the Powers of Matter, with the Laws established for their Action and Conduct. Seeing also Matter hath no Action, whether from itself, or impressed upon it, but Motion, as to the corporeal World, Nature is no more than the Powers and Capacities of Matter, with the Laws that govern the Motions of it. And this Definition is so plain and easy, that, I believe, all Parties will agree in it; there will also be no great Controversy what these Laws are. As that one Part of Matter cannot penetrate another, nor be in several Places at once; That the greater Body overcomes the less, and the swifter the flower; That all Motion is in a right Line, till something obstruct it or divert it; which are Points little disputed as to the Matter of Fact; but the Points concerning which the Controversy ariseth, and which are to lead us to the Author of Nature, are these: Who or what is the Author of these Laws?
Concerning the Prim. Earth, and Paradise. 405

of this Motion, and even of Matter itself; and of all those Modes and Forms of it which we see in Nature?

The Question useth chiefly to be put concerning Motion, how it came into the World; what the first Source of it is, or how Matter came at first to be mov’d? For the simple Notion of Matter, not divided into Parts, nor diversified, doth not imply Motion, but Extension only: 'Tis true, from Extension there necessarily follows Mobility, or a Capacity of being mov’d by an external Power, but not actual or necessary Motion, springing from itself. For Dimensions, or Length, Breadth, and Depth, which is the Idea of Matter, or of a Body, do no Way include local Motion, or Translation of Parts; on the contrary, we do more easily and naturally conceive simple Extension as a Thing steady and fixt; and if we conceive Motion in it, or in its Parts, we must superadd something to our first Thought, and something that does not flow from Extension. As when we conceive a Figure, a Triangle, Square, or any other, we naturally conceive it fixt or quiescent; and if afterwards we imagine it in Motion, that is purely accidental to the Figure; in like Manner it is accidental to Matter, that there should be Motion in it, it hath no inward Principle from whence that can flow, and its Nature is compleat without it; wherefore, if we find Motion and Action in Matter, which is of itself a dead inactive Mafs; this should lead us immediately to the Author of Nature, or to some external Power distinct
The Theory of the Earth.

different from Matter, which is the Cause of all Motion in the World.

In single Bodies, and single Parts of Matter, we readily believe and conclude, that they do not move, unless something move them, and why should we not conclude the same Thing of the whole Mass? If a Rock or Mountain cannot move it self, nor divide it self, either into great Goblets, or into small Powder, why should it not be as impossible for the whole Mass of Matter to do so? 'Tis true, Matter is capable both of Motion and Rest; yet to conceive it undivided, undiversified and unmov'd, is certainly a more simple Notion, than to conceive it divided and mov'd; and this being first in Order of Nature, and an adequate Conception too, we ought to enquire and give our selves an Account how it came out of this State, and by what Causes, or, as we said before, how Motion came first into the World.

In the second Place, That Diversity which we see in Nature, both as to the Qualities of Matter, and the Compositions of it, being one Step further than bare Motion, ought also to be a further Indication of the Author of Nature, and to put us upon Enquiry into the Causes of this Diversity. There is nothing more uniform than simple Extension, nothing more the same throughout, all of a Piece, and all of a sort, similar, and like to it self every where; yet we find the Matter of the Universe diversified a thousand Ways, into Heavens and Earth, Air and Water, Stars, Meteors, Light, Dark-
Concerning the Prim. Earth, and Paradise. 407

Darkness, Stones, Wood, Animals, and all terrestrial Bodies: These Diversifications are still further Removes from the natural Unity and Identity of Matter, and a further Argument of some external and superior Power that hath given these different Forms to the several Portions of Matter by the Intervention of Motion. For if you exclude the Author of Nature, and suppose nothing but Matter in the World, take whether Hypothesis you will, either that Matter is without Motion of itself; or that it is of itself in Motion, there could not arise this Diversity, and these Compositions in it. If it was without Motion, then the Case is plain, for it would be nothing but an hard inflexible Lump of impenetrable Extension, without any Diversity at all. And if you suppose it mov'd of itself or to have an innate Motion, that would certainly hinder all sort of natural Concretions and Compositions, and in Effect destroy all Continuity. For Motion, if it be essential to Matter, it is essential to every Atom of it, and equally diffus'd throughout all its Parts; and all those Parts or Atoms would be equal to one another, and as little as possible; for if Matter was divided into Parts by its own innate Motion, that would melt it down into Parts as little as possible, and consequently all equal to one another, there being no reason why you should stop those Divisions, or the Effect of this innate Impetus in any one Part sooner than in another, or in any Part indeed till it was divided as much as was possible: Wherefore upon this Principle, or in
this Method, all the Matter of the Universe would be one liquid or volatile Mass, smaller than Pin-dust, nay, than Air or Æther; and there would be no Diversity of Forms, only another sort of Identity from the former, when we suppos'd it wholly without Motion. And so, upon the whole, you see, that Matter, whether we allow it Motion, or no Motion, could not come into that Variety of Tempers and Compositions in which we find it in the World, without the Influence and Direction of a superior external Cause, which we call the Author of Nature.

But there is still a further and stronger Argument from this Head, if we consider not only the Diversity of Bodies that the Mass of Matter is cut into, but also that that Diversity is regular, and in some Parts of it admirably artful and ingenious. This will not only lead us to an Author of Nature, but to such an Author as hath Wisdom as well as Power. Matter is a brute Being, stupid and senseless; and tho' we should suppose it to have a Force to move it self, yet that it should be able to meditate and consult, and take its Measures how to frame a World, a regular and beautiful Structure, consisting of such and such Parts and Regions, and adapted to such and such Purposes, this would be too extravagant to imagine; to allow it not only Motion from it self, but Wit and Judgment too; and that before it came into any organical or animate Composition.
Concerning the Prim. Earth, and Paradise. 409

You'll say, it may be, the Frame of the World was not the Result of Counsel and Consultation, but of Necessity; Matter being once in Motion under the Conduct of those Laws that are essential to it, it wrought itself by Degrees from one State into another, till at length it came into the present Form which we call the World. These are Words thrown out at Random, without any Pretence of Ground, only to see if they can be confuted; and so they may easily be; for we have shown already, that if Matter had innate Motion, it would be so far from running into the orderly and well dispos'd Frame of the World, that it would run into no Frame at all, into no Forms or Compositions, or Diversity of Bodies; but would either be all fluid, or all solid; either every single Particle in a separate Motion, or all in one continued Mass, with an universal Tremor, or Inclination to move without actual Separation; and either of these two States is far from the Form of a World. Secondly, As to the Laws of Motion, as some of them are essential to Matter, so others are not demonstrable, but upon Supposition of an Author of Nature. And thirdly, Tho' all the Laws of Motion be admitted, they cannot bring Matter into the Form of a World, unless some Measures be taken at first by an intelligent Being; I say, some Measures be taken to determine the primary Motions upon which the rest depend, and to put them in a Way that leads to the Formation of a World. The Mass must be divided into Regions, and Centers
Centers fixt, and Motions appropriated to them; and it must be consider'd of what Magnitude the first Bodies, or the first Divisions of Matter should be, and how mov'd: Besides, there must be a determinate Proportion, and certain Degree of Motion impress'd upon the universal Matter, to qualify it for the Production of a World; if the Dose was either too strong or too weak, the Work would miscarry; and nothing but infinite Wisdom could see thro' the Effects of every Proportion, or every new Degree of Motion, and discern which was best for the Beginning, Progress, and Perfection of a World. So you see the Author of Nature is no Way excluded, or made useless by the Laws of Motion; nor if Matter was promiscuously mov'd, would these be sufficient Causes of themselves to produce a World, or that regular Diversity of Bodies that compose it.

But 'tis hard to satisfy Men against their Inclinations, or their Interest: And as the Regularity of the Universe was always a great Stumbling-stone to the Epicureans; so they have endeavour'd to make Shifts of all Sorts to give an Account and Answer to it, without Recourse to an intelligent Principle; and for their last Refuge, they say, that Chance might bring that to pass, which Nature and Necessity could not do; the Atoms might hit upon a lucky Set of Motions, which, tho' it were casual and fortuitous, might happily lead them to the forming of a World. A lucky hit indeed, for Chance to frame a World: But this is a mere
Concerning the Prim. Earth, and Paradise. mere Shuffle and Collusion; for if there was nothing in Nature but Matter, there could be no such Thing as Chance, all would be pure Mechanical Necessity; and so this Answer, tho' it seem very different, is the same in effect with the former, and Epicurus with his Atomists are oblig'd to give a just mechanical Account, how all the Parts of Nature, the most compound and elaborate Parts not excepted, rise from their Atoms by pure Necessity: There could be no accidental Concourse or Coalition of them, every Step, every Motion, every Composition was fatal and necessary, and therefore 'tis Nonsense for an Epicurean to talk of Chance, as Chance is oppos'd to Necessity; and if they oppose it to Counsel and Wisdom, 'tis little better than Nonsense, to say the World and all its Furniture rose by Chance, in that Notion of it. But it will deserve our Patience a little to give a more full and distinct Answer to this, seeing it reacheth all their Pleas and Evasions at once.

What Proof or Demonstration of Wisdom and Counsel can be given, or can be desir'd, that is not found in some Part of the World, animate or inanimate? We know but a little Portion of the Universe, a mere Point in Comparison, and a broken Point too; and yet in this broken Point, or some small Parcels of it, there is more of Art, Counsel and Wisdom shewn, than in all the Works of Men taken together, or than in all our Artificial World. In the Construction of the Body of an Animal, there is more of Thought and Contrivance,
vance, more of exquisite Invention, and fit
Disposition of Parts, than is in all the Tem-
ples, Palaces, Ships, Theatres, or any other
Pieces of Architecture the World ever yet
saw: And not Architecture only, but all other
Mechanism whatsoever, Engines, Clock-work,
or any other, is not comparable to the Body
of a living Creature. Seeing then we acknow-
ledge these artificial Works, wheresoever we
meet with them, to be the Effects of Wit,
Understanding and Reason, is it not manifest
Partiality, or Stupidity rather, to deny the
Works of Nature, which excel these in all
Degrees, to proceed from an intelligent Prin-
ciple? Let them take any Piece of humane
Art, or any Machine fram'd by the Wit of
Man, and compare it with the Body of an
Animal, either for Diversity and Multiplicity
of Workmanship, or Curiosity in the minute
Parts, or just Connexion and Dependance of
one Thing upon another, or fit Subserviency
to the Ends propos'd, of Life, Motion, Use
and Ornament to the Creature; and if in all
these Respects they find it superior to any
Work of humane Production, (as they certain-
ly must do) why should it be thought to pro-
ceed from inferior and senseless Causes? ought
we not in this, as well as in other Things, to
proportion the Causes to the Effect, and to
speak Truth, and bring in an honest Verdict
for Nature as well as Art?

In the Composition of a perfect Animal,
there are four several Frames or Compages
join'd together, the natural, vital, animal and
genital:
Concerning the Prim. Earth, and Paradise. 413

genital: Let them examine any one of these apart, and try if they can find any Thing defective or superfluous, or any Way inept for Matter or Form. Let them view the whole Compages of the Bones, and especially the admirable Construction, Texture, and Disposition of the Muscles, which are join'd with them for moving the Body, or its Parts. Let them take an Account of the little Pipes and Conduits for the Juices and the Liquors, of their Form and Distribution; or let them take any single Organ to examine, as the Eye, or the Ear, the Hand, or the Heart: In each of these they may discover such Arguments of Wisdom, and of Art, as will either convince them, or confound them; tho' still they must leave greater undiscover'd. We know little the insensible Form and Contexture of the Parts of the Body, nor the just Method of their Action: We know not yet the Manner, Order and Causes of the Motion of the Heart, which is the chief Spring of the whole Machine; and with how little Exactness do we understand the Brain, and the Parts belonging to it? Why of that Temper and of that Form: How Motions are propagated there, and how conserv'd: How they answer the several Operations of the Mind: Why such little Discompostures of it disturb our Senses, and upon what little Differences in this the great Differences of Wits and Genius's depend. Yet seeing in all these Organs, whose Make and Manner of Action we cannot discover, we see however by the Effects, that they are truly fitted.
fitted for those Offices to which Nature hath design'd them, we ought in Reason to admire that Art which we cannot penetrate. At least we cannot but judge it a Thing absurd, that what we have not Wit enough to find out or comprehend, we should not allow to be an Argument of Wit and Understanding in the Author, or Inventor of it. This would be against all Logick, common Sense, and common Decorum. Neither do I think it possible to the Mind of Man, while we attend to Evidence, to believe that these, and such like Works of Nature came by Chance, as they call it, or without Providence, Forecast and Wisdom, either in the first Causes, or in the proximate; in the Design, or in the Execution; in the Preparation to them, or in the finishing of them.

Wherefore, in my Judgment, if any be of this Persuasion, it cannot be so much the Effect of their Understanding, as of their Disposition and Inclination; and in moral Things, Mens Opinions do as often spring from the one, as from the other. For my Part, I do generally distinguish of two Sorts of Opinions in all Men, Inclination-opinions, and Reason'd-opinions; Opinions that grow upon Mens Complexions, and Opinions that are the Results of their Reason; and I meet with very few that are of a Temperament so equal, or a Constitution so even pois'd, but that they incline to one Set of Opinions rather than another, antecedently to all Proofs of Reason: And when they have espous'd their Opinions from that secret Sympathy,
Concerning the Prim. Earth, and Paradise. 415

pathy, then they find out as good Reasons as they can to maintain them, and say, nay think sometimes, that 'twas for the sake of those Reasons that they first embrac'd them. We may commonly distinguish these Inclination-opinions from the rational, because we find them accompanied with more Heat than Light, a great deal of Eagerness and Impatience in defending of them, and but slender Arguments. One might give Instances of this, both in Sects of Religion and Philosophy, in Platonists, Stoicks, and Epicureans, that are so by their Temper more than their Reason; but to our Purpose it will be sufficient to instance in one hearty Epicurean, Lucretius, who is manifestly such, more from his Inclination, and the Bent of his Spirit, than from the Force of Argument. For tho' his Suppositions be very precarious, and his Reasonings all along very slight, he will many times strut and triumph, as if he had wrested the Thunder out of Jove's right Hand; and a Mathematician is not more confident of his Demonstration, than he seems to be of the Truth of his shallow Philosophy. From such a Principle of natural Complexion as this, I allow a Man may be atheistical, but never from the calm Dictate of his Reason; yet he may be as confident and as tenacious of his Conclusion, as if he had a clear and distinct Evidence for it. For I take it to be a true Maxim in humane Nature, that a strong Inclination, with a little Evidence, is equivalent to a strong Evidence. And therefore we are not to be surpriz'd if we find Men confi-
fident in their Opinions many times far beyond the Degree of their Evidence, seeing there are other Things, besides Evidence, that incline the Will to one Conclusion rather than another. And as I have instanc'd in natural Complexion, so Interest hath the same Effect upon humane Nature, because it always begets an Inclination to those Opinions that favour our Interest, and a Disinclination to the contrary: And this Principle may be another Ingredient, and secret Persuasive to Atheism; for when Men have run themselves so deep into Vice and Immorality, that they expect no Benefit from a God, 'tis in a Manner necessary to their Quiet, and the Ease of their Mind, that they should fancy there is none; for they are afraid, if there be a God, that he will not stand neuter, and let them alone in another World. This, I say, is necessary to the Quiet of their Mind, unless they can attain that great Art, which many labour after, of Non-reflection, or an unthinking Faculty, as to God and a World to come. But to return to our Argument, after this short Digression——

And as that regular Diversity which we see in the Forms of Nature, and especially in the Bodies of Animals, could not be from any blind Principle either of Necessity or of Chance; so in the last Place, that Subordination which we see in the Parts of Nature, and Subserviency to one another, the less Noble to the more Noble, the Inanimate to the Animate, and all Things upon Earth unto Man, must needs have been the Effect of some Being higher
Concerning the Prim. Earth, and Paradise. 417

higher than Matter; that did wisely dispose all Things so at first, and doth still conserve them in the same Order. If Man had been born into the World, and a numerous Host of Creatures, without any Provision or Accommodation made for their Subsistence and Conveniences, we might have suspected that they had come by Chance, and therefore were so ill provided for: but which of them can complain? through their various Kinds and Orders, what is there wanting? They are all fitted to their several Elements, and their ways of living, Birds, Beasts, and Fishes, both by the Form and Shape of their Bodies, the manner of their Covering, and the Quality of their Food. Besides, they are instructed in little Arts and Instincts for their Conservation; and not only for their proper Conservation, but also to find a way to make and bring up young ones, and leave behind them a Posterity: And all this in so fit a Method, and by such a pretty Train of Actions, as is really admirable.

Man is the Master of all, and of him a double Care is taken; that he should neither want what Nature can afford, nor what Art can supply. He could not be provided of all Conveniences by Nature only, especially to secure him against the Injuries of the Air; but in recompence, Nature hath provided Materials for all those Arts which she saw would be needful in humane Life, as Building, Clothing, Navigation, Agriculture, &c. that so Man-kind might have both wherewithal to answer their Occasions, and also to employ their time.
and exercise their Ingenuity. This Oeconomy of Nature, as I may call it, or well ordering of the great Family of living Creatures, is an Argument both of Goodness and of Wisdom, and is every way far above the Powers of Brute Matter. All regular Administration we ascribe to Conduct and Judgment: If an Army of Men be well provided for in things necessary both for Food, Cloaths, Arms, Lodging, Security and Defence, so as nothing is wanting in so great a Multitude, we suppose it the Effect of Care and Forecast in those Persons that had the Charge of it; they took their Measures at first, computed and proportion’d one thing to another, made good Regulations, and gave Orders for convenient Supplies. And can we suppose the great Army of Creatures upon Earth manag’d and provided for with less Fore-thought and Providence, nay, with none at all, by meer Chance? This is to recede from all Rules and Analogy of Reason, only to serve a Turn, and gratify an unreasonable Humour.

To conclude this Argument; there are two general Heads of things, if I recollect aright, which we make the Marks and Characters of Wisdom and Reason, Works of Art, and the Conduct of Affairs or Direction of Means to an End; and wheresoever we meet, either with regular material Works, or a regular Ordination of Affairs, we think we have a good Title and Warrant to derive them from an intelligent Author: Now these two being found in the natural World, and that in an eminent Degree,
Concerning the Prim. Earth, and Paradise. 419

Degree, the one in the Frame of it, and the other in the Oeconomy of it, we have all the Evidence and Ground that can be in arguing from Things visible to Things invisible, that there is an Author of Nature, superior to humane Power and humane Wisdom.

Before we proceed to give any further Proofs or Discoveries of the Author of Nature, let us reflect a little upon those we have already insisted upon; which have been taken wholly from the material World, and from the common Course of Nature. The very Existence of Matter is a Proof of a Deity, for the Idea of it hath no Connexion with Existence, as we shall show hereafter; however we will take leave now to set it down with the rest in Order as they follow one another.

1. The Existence of Matter.
2. The Motion of Matter.
3. The just Quantity and Degree of that Motion.
4. The first Form of the Universe upon Motion impress; both as to the Divisions of Matter, and the Leading Motions.
5. The Laws for Communication and Regulation of that Motion.
6. The regular Effects of it, especially in the Animate World.
7. The Oeconomy of Nature, and fit Subordination of one part of the World to another.

The five first of these Heads are Prerequisites, and Preparatives to the Formation of a World, and the two last are as the Image and Character
Character of its Maker, of his Power, Goodness and Wisdom, impressed upon it. Every one of them might well deserve a chapter to itself, if the subject was to be treated on at large; but this is only an occasional dissertation, to state the powers of matter, lest they should be thought boundless, and the Author of nature unnecessary, as the Epicureans pretend; but notwithstanding their vain confidence and credulity, I defy them, or any man else, to make sense of the material world, without placing a God at the center of it.

To these considerations taken wholly from the corporeal world, give me leave to add one of a mixed nature, concerning the union of our soul and body. This strange effect, if rightly understood, doth as truly discover the Author of nature, as many effects that are accounted more supernatural. The incarnation, as I may so say, of a spiritual substance, is to me a kind of standing miracle; that there should be such an union and connexion reciprocally betwixt the motions of the body, and the actions and passions of the soul; betwixt a substance intellectual, and a parcel of organized matter; can be no effect of either of these substances; being wholly distinct in themselves, and remote in their natures from one another. For instance, when my finger is cut, or when 'tis burnt, that my soul thereupon should feel such a smart and violent pain, is no consequence of nature, or does not follow from any connexion there is betwixt the motion
Concerning the Prim. Earth, and Paradise. 421

Motion or Division of that Piece of Matter, I call my Finger, and the Passion of that Spirit I call my Soul; for these are two distinct Essences, and in themselves independent upon one another, as much as the Sun and my Body are independent; and there is no more Reason in strict Nature, or in the essential Chain of Causes and Effects, that my Soul should suffer, or be affected with this Motion in the Finger, than that the Sun should be affected with it; nay, there is less Reason, if less can be, for the Sun being corporeal, as the Finger is, there is some remote Possibility that there might be Communication of Motion betwixt them; but Motion cannot beget a Thought, or a Passion, by its own Force; Motion can beget nothing but Motion, and if it should produce a Thought, the Effect would be more noble than the Cause. Wherefore this Union is not by any Necessity of Nature, but only from a positive Institution or Decree, establish'd by the Author of Nature, that there should be such a Communication betwixt these two Substances for a time, viz. during the Vitality of the Body.

'Tis true indeed, if Thought, Apprehension, and Reason, was nothing but corporeal Motion, this Argument would be of no Force; but to suppose this, is to admit an Absurdity to cure a Difficulty; to make a Thought out of a local Motion is like making a God out of a Stock, or a Stone; for these two are as remote in their Nature, and have as different Idea's in the Mind, as any two disparate Things we can propose or conceive; Number
The Theory of the Earth.

and Colour, a Triangle and Virtue, Free-will and a Pyramid, are not more unlike, more distant, or of more different Forms, than Thought and local Motion. Motion is nothing but a Body's changing its Place and Situation amongst other Bodies, and what Affinity or Resemblance hath that to a Thought? How is that like to Pain, or to a Doubt of the Mind? to Hope or to Desire? to the Idea of God? to any Act of the Will or Understanding, as judging, consent ing, reasoning, remembering, or any other? These are things of several Orders that have no Similitude, nor any Mixture of one another. And as this is the Nature of Motion, so, on the other hand, in a Thought there are two Things, Consciousness and a Representation; Consciousness is in all Thoughts indifferently, whether distinct or confus'd, for no Man thinks but he is conscious that he thinks, nor perceives any thing but he is conscious that he perceives it; there is also in a Thought, especially if it be distinct, a Representation; 'tis the Image of that we think upon, and makes its Object present to the Mind. Now what hath local Motion to do with either of these two, Consciousness or Representativeness? How doth it include either of them, or hold them any way affix'd to its Nature? I think one may with as good Sense and Reason ask of what Colour a Thought is, green or scarlet, as what sort of Motion it is; for Motion, of what sort soever, can never be conscious, nor represent Things as our Thoughts do. I have noted thus much in general, only to show the different
Concerning the Prim. Earth, and Paradise. different Nature of Motion and Cognition, that we may be the more sensible that they have no mutual Connexion in us, nor in any other Creature, from their Essence or essential Properties, but by a supervenient Power from the Author of Nature, who hath thus united the Soul and the Body in their Operations.

We have hitherto only consider'd the ordinary Course of Nature, and what Indications and Proofs of its Author, that affords us: There is another remarkable Head of Arguments from Effects, extraordinary and supernatural, such as Miracles, Prophecies, Inspirations, Prodigies, Apparitions, Witchcraft, Sorceries, &c. These, at one Step, lead us to something above Nature, and this is the shortest way, and the most popular; several Arguments are suited to several Tempers, and God hath not left himself without a proper Witness to every Temper that is not wilfully blind. Of these Witnesses we now speak of, the most considerable are Miracles, and the most considerable Records of them are the Books of Scripture; which if we consider only as an History, and as having nothing sacred in them more than other good Histories, that is, Truth in Matter of Fact, we cannot doubt but there have been Miracles in the World; that Moses and the Prophets, our Saviour and his Apostles, wrought Miracles, I can no more question, than that Cæsar and Alexander fought Battles, and took Cities. So also that there were true Prophecies and Inspirations, we know from Scripture, only consider'd as a true His-

E e 4
Theory of the Earth.

But as for other supernatural Effects that are not recorded there, we have Reason to examine them more strictly before we receive them, at least as to particular Instances; for I am apt to think they are like Lotteries, where there are ten or twenty Blanks for one Prize; but yet if there were no Prizes at all, the Lottery would not have Credit to subsist, and would be cry'd down as a perfect Cheat: So if amongst those many Stories of Prodigies, Apparitions, and Witchcrafts, there were not some true, the very Fame and Thought of them would die from amongst Men, and the first Broachers of them would be hooted at as Cheats. As a false Religion, that hath nothing true and solid mix'd with it, can scarce be fix'd upon Mankind; but where there is a Mixture of true and false, the Strength of the one supports the Weakness of the other. As for Sorcery, the Instances and Examples of it are undeniable; not so much those few scatter'd Instances that happen now and then among us, but such as are more constant, and in a manner National, in some Countries, and amongst barbarous People. Besides, the Oracles, and the Magick that was so frequent amongst the Ancients, show us that there have been always some Powers more than Humane tampering with the Affairs of Mankind. But this Topick from Effects, extraordinary and supernatural, being in a great measure Historical, and respecting evil Spirits as well as the Author of Nature, is not so proper for this Place.
Concerning the Prim. Earth, and Paradise. 425

There is a third Set or Head of Arguments, that to some Tempers are more cogent and convictive than any of these, namely, Arguments Abstract and Metaphysical; And these do not only lead us to an Author of Nature in general, but shew us more of his Properties and Perfections; represent him to us as a supreme Deity, infinitely perfect, the Fountain of all Being, and the steady Center of all Things. But Reasons of this Order being of a finer Thread, require more Attention, and some Preparation of Mind to make us discern them well, and be duly sensible of them. When a Man hath withdrawn himself from the Noise of this busy World, lock’d up his Senses and his Passions, and every thing that would unite him with it; commanded a general Silence in the Soul, and suffers not a Thought to stir, but what looks inwards; let him then reflect seriously, and ask himself, What am I, and How came I into Being? If I was Author and Original to my self, surely I ought to feel that mighty Power, and enjoy the Pleasure of it; but, alas, I am conscious of no such Force or Virtue, nor of any thing in my Nature, that should give me necessary Existence; it hath no Connexion with any part of me, nor any Faculty in me, that I can discern. And now that I do exist, from what Causes foever, Can I secure myself in Being? now that I am in Possession, am I sure to keep it? am I certain that three Minutes hence I shall still exist? I may or I may not, for ought I see; either seems possible in itself, and either is contin-
gently as to me; I find nothing in my Nature that can warrant my Subsistence for one Day, for one Hour, for one Moment longer. I am nothing but Thoughts, fleeting Thoughts, that chase and extinguish one another; and my Being, for ought I know, is successsive, and as dying as they are, and renew'd to me every Moment. This I am sure of, that so far as I know my self, and am conscious what I am, there is no Principle of Immutability, or of necessary and indefectible Existence in my Nature; and therefore I ought in Reason to believe, that I stand or fall at the Mercy of other Causes, and not by my own Will, or my own Sufficiency.

Besides, I am very sensible, and in this I cannot be mistaken, that my Nature is in several respects weak and imperfect, both as to Will and Understanding. I Will many Things in vain, and without effect, and I Wish often what I have no Ability to execute or obtain. And as to my Understanding, how defective is it? how little or nothing do I know in Comparison of what I am ignorant of? Almost all the intellectual World is shut up to me, and the far greatest Part of the corporeal; and in those Things that fall under my Cognizance, how often am I mistaken? I am confin'd to a narrow Sphere, and yet within that Sphere I often err; my Conceptions of Things are obscure and confus'd, my Reason short-sighted; I am forc'd often to correct my self, to acknowledge that I have judg'd false, and consented to an Error. In sum, all my Powers I find are limited,
Concerning the Prim. Earth, and Paradise. 427
limited, and I can easily conceive the same
kind of Perfections in higher Degrees than I
possess them, and consequently there are Be-
ings, or may be, greater and more excellent
than my self, and more able to subsist by their
own Power, (Τὸ τέλειον πρότερον τῇ ποιεῖ τῆς ὅτελγκ. 
Arist.) Why should I not therefore believe
that my Original is from those Beings rather
than from my self? For every Nature, the
more great and perfect it is, the nearer it ap-
proacheth to Necessity of Existence, and to a
Power of producing other Things. Yet, the
Truth is, it must be acknowledg'd, that so
long as the Perfections of those other Beings
are limited and finite, tho' they be far superior
to us, there is no Necessity ariseth from their
Nature that they should exist; and the same
Arguments that we have us'd against our selves,
they may, in Proportion, use against them-
selves; and therefore we must still, advance
higher to find a self-originated Being, whose
Existence must flow immediately from his Es-
fence, or have a necessary Connexion with it.
And indeed all these different Degrees of
higher and higher Perfections lead us directly
to an highest, or supreme Degree, which is
infinite and unlimited Perfection. As subordi-
nate Causes lead to the first, so Natures more
perfect one than another lead us to a Nature
infinitely perfect, which is the Fountain of
them all. Thither we must go, if we will
follow the Course of Reason, which cannot
stop at one more than another, till it arrive
there; and being arriv'd there at that sovereign
and
and original Perfection, it finds a firm and im-
moveable Ground to stand upon; the steady
Center of all Being, wherein the Mind rests
and is satisfied. All the Scruples or Objec-
tions that we mov'd against our selves, or
other Creatures, take no Place here: This Be-
ing is conscious of an Allsufficiency in it self,
and of Immutability as to any Thing else; in-
cluding in it all the Causes of Existence, or, to
speak more properly, all Necessity of Existence.
Besides, that we exist our sel-ves, notwithstanding
the Imperfection and Insufficiency of our
Nature, is a just, collateral Proof of the Ex-
istence of this supreme Being; for such an Ef-
fect as this cannot be without its Cause, and it
can have no other competent Cause but what
we mention. And as this Being is its own
Origin, so it must needs be capable of produ-
cing all Creatures; for whatsoever is possible,
must be possible to it; and that Creatures or
finite Beings are possible, we both see by Expe-
rience, and may also discern by Reason; for
those several Degrees of Perfection, or Limi-
tations of it, which we mention'd before, are
all consistt Notions, and consequently make
consistent Natures, and such as may exist; but
contingently indeed, and in Dependance upon
the first Cause.

Thus we are come at length to a fair Resolu-
tion of that great Question, Wherefore are,
and how we continue in Being? And this hath
led us by an easy Ascent to the supreme Au-
 thor of Nature, and the first Cause of all things;
and presents us also with such a Scheme and
Draught
Concerning the Prim. Earth, and Paradise. 429

Draught of the Universe, as is clear and rational; everything in its Order, and in its Place, according to the Dignity of its Nature, and the Strength of its Principles. When the Mind hath rais'd it self into this View of a Being infinitely Perfect, 'tis in a Region of Light, hath a free Prospect every Way, and sees all Things from Top to Bottom, as per-\-vious and transparent. Whereas without God and a first Cause there is nothing but Darkness and Confusion in the Mind, and in Nature; broken Views of Things, short interrupted Glimples of Light, nothing certain or demonstrative, no Basis of Truth, no Extent of Thought, no Science, no Contemplation.

You will say, it may be, 'tis true, something must be eternal, and of necessary Existence, but why may not Matter be this eternal necessary Being? Then our Souls and all other Intellectual Things must be Parts and Parcels of Matter; and what Pretensions can Matter have to those Properties and Perfections that we find in our Souls, how limited soever? much less to necessary Existence, and those Perfections that are the Foundation of it? What exists eternally, and from it self, its Existence must flow immediately from its Essence, as its Cause, Reason or Ground; for as Existence hath always something antecedent to it in Order of Nature, so that which is antecedent to it must infer it by a necessary Connexion, and so may be call'd the Cause, Ground, or Reason of it. And nothing can be such a Ground, but what is a Perfection; nor every Perfection neither,
it must be sovereign and infinite Perfection; for from what else can necessary Existence flow, or be inferred? Besides, if that Being was not infinitely perfect, there might be another Being more powerful than it, and consequently able to oppose and hinder its Existence; and what may be hindered is contingent and arbitrary. Now Matter is so far from being a Nature infinitely perfect, that it hath no Perfection at all, but that of bare Substance; neither Life, Sense, Will or Understanding; nor so much as Motion from itself; as we have shewed before. And therefore this brute inactive Mass, which is but, as it were, the Drudge of Nature, can have no Right or Title to that sovereign Prerogative of Self-existence.

We noted before, as a Thing agreed upon, that something or other must needs be Eternal. For if ever there was a Time or State when there was no Being, there never could be any. Seeing Nothing could not produce Something. Therefore 'tis undeniably true on all Hands, that there was some Being from Eternity. Now, according to our Understandings, Truth is Eternal: Therefore, say we, some intellectual or intelligent Being. So also the Reasons of Goodness and Justice appear to us eternal; and therefore some good and just Being is eternal. Thus much is plain, that these Perfections which bear the Signatures of Eternity upon them, are Things that have no Relation to Matter, but relate immediately to an intellectual Being: Therefore some such Being, to whom they originally belong, must be that Eternal. Besides, We cannot possibly but judge such a Be-
Concerning the Prim. Earth, and Paradise. 437

ing more perfect than Matter. Now every Na-
ture, the more perfect it is, the more remote it is
from Nothing; and the more remote it is from
Nothing, the more it approaches to Necessity of
Existence, and consequently to eternal Existence.

Thus we have made a short Survey, so far
as the Bounds of a Chapter would permit, of
those Evidences and Assurances which we
have from abstract Reason and the external
World, that there is an Author of Nature; and
that a Being infinitely perfect, which we call
God. We may add to these, in the last Place,
that universal Consent of Mankind, or natural
Instinct of Religion, which we see, more or
less, throughout all Nations, barbarous or ci-
vil. For tho' this Argument, 'tis true, be more
disputable than the rest, yet having set down
just Grounds already from whence this natural
Judgment or Persuasion might spring, we have
more Reason to impute it to some of those,
and their insensible Influence upon the Mind,
than to the Artifices of Men, or to make it a
Weakness, Prejudice, or Error of our Nature.
That there is such a Propension in humane Na-
ture, seems to be very plain; at least so far as
to move us to implore, and have recourse to
invisible Powers in our Extremities. Prayer is
natural in certain Cases, and we do at the mere
Motion of our natural Spirit, and indeliberate-
ly, invoke God and Heaven, either in case of
extreme Danger, to help and assist us; or
in case of Injustice and Oppression, to re-
lieve or avenge us; or in case of false
Accusation, to vindicate our Innocency;
and generally in all Cases desperate and
remediless as to humane Power, we seem to appeal, and address our selves to something higher. And this we do by a sudden Impulse of Nature, without Reflexion or Deliberation. Besides, as Witnesses of our Faith and Veracity, we use to invoke the Gods, or superior Powers, by Way of Imprecation upon our selves, if we be false and perjur'd; and this hath been us'd in most Nations and Ages, if not in all. These things also argue, that there is a natural Conscience in Man, and a Distinction of moral Good and Evil; and that we look upon those invisible Powers as the Guardians of Virtue and Honesty. There are also few or no People upon the Earth but have something of external Religion, true or false; and either of them is an Argument of this natural Anticipation, or that they have an Opinion that there is something above them, and above visible Nature; tho' what that something was, they seldom were able to make a good Judgment. But to pursue this Argument particularly, would require an historical Deduction of Times and Places, which is not suitable to our present Design.

To conclude this Chapter and this Subject; if we set Religion apart, and consider the Deist and Atheist only as two Sects in Philosophy, or their Doctrine as two different Hypotheses propos'd for the Explication of Nature, and in Competition with one another, whether should give the more rational Account of the Universe, of its Origin and Phænomena; I say, if we consider them only thus, and make an impartial
Concerning the Prim. Earth, and Paradise. 433

impartial Estimate whether System is more rea-
onable, more clear, and more satisfactory; to
me there seems to be no more Comparison
than betwixt Light and Darkness. The Hypo-
thesis of the Deist reacheth from Top to Bot-
tom, both thorough the intellectual and mate-
rial World, with a clear and distinct Light
every where; is genuine, comprehensive, and
satisfactory; hath nothing forc'd, nothing con-
fus'd, nothing precarious; whereas the Hypo-
thesis of the Atheist is strain'd and broken, dark
and uneasy to the Mind, commonly precari-
ous; often incongruous and irrational, and
sometimes plainly ridiculous. And this Judg-
ment I should make of them abstractly from
the Interest of Religion, considering them on-
ly as Matter of Reason and Philosophy. And
I dare affirm with Assurance, if the Faculties
of our Souls be true, that no Man can have a
System of Thoughts reaching thorough Na-
ture, coherent and consistent in every Part,
without a Deity for the Basis of it.

Book II.  F f  Chap.
Concerning Natural Providence.


We have set Bounds to Nature in the foregoing Chapter, and plac'd her Author and Governor upon his Throne, to give Laws to her Motions, and to direct and limit her Power in such Ways and Methods as are most for his Honour. Let us now consider Nature under the Conduct of Providence, or consider Natural Providence, and the Extent of it; and as we were cautious before not to give too much Power or Greatness to Nature, consider'd apart from Providence; so we must be careful now, under this second Consideration, not to contract her Bounds too much; left we should, by too mean and narrow Thoughts of the Creation, eclipse the Glory of its Author, whom we have so lately own'd as a Being infinitely Perfect.
Concerning the Prim. Earth, and Paradise. 435

And to use no further Introduction, in the first Place, we must not by any Means admit or imagine, that all Nature, and this great Univerfe, was made only for the fake of Man, the meanest of all intelligent Creatures that we know of; nor that this little Planet, where we sojourn for a few Days, is the only habitable Part of the Univerfe: These are Thoughts so groundless and unreasonable in themselves, and also so derogatory to the infinite Power, Wisdom and Goodness of the first Cause, that as they are absurd in Reason, so they deserve far better to be mark’d and censur’d for Herefies in Religion, than many Opinions that have been censur’d for such in former Ages. How is it possible that it should enter into the Thoughts of vain Man to believe himself the principal Part of God’s Creation, or that all the rest was ordain’d for him, for his Service or Pleasure? Man, whose Follies we laugh at every Day, or else complain of them; whose Pleasures are Vanity, and his Passions stronger than his Reason; who sees himself every Way weak and impotent, hath no Power over external Nature, little over himself; cannot execute so much as his own good Resolutions; mutable, irregular, prone to Evil. Surely, if we made the least Reflection upon our selves with Impartiality, we should be ashamed of such an arrogant Thought. How few of these Sons of Men, for whom, they say, all Things were made, are the Sons of Wisdom? How few find the Paths of Life? They spend a few Days in Folly
Folly and Sin, and then go down to the Regions of Death and Misery. And is it possible to believe that all Nature, and all Providence, are only or principally for their sake? Is it not a more reasonable Character or Conclusion which the Prophet hath made, *Surely every Man is Vanity*? Man that comes into the World at the Pleasure of another, and goes out by an hundred Accidents; his Birth and Education generally determine his Fate here, and neither of those are in his own Power; his Wit also is as uncertain as his Fortune; he hath not the moulding of his own Brain, however a Knock on the Head makes him a Fool, stupid as the Beasts of the Field; and a little Excess of Passion or Melancholy makes him worse, Mad and Frantick. In his best Senses he is shallow, and of little Understanding; and in nothing more blind and ignorant than in Things sacred and divine; he falls down before a Stock or a Stone, and says, Thou art my God; he can believe Nonsense and Contradictions, and make it his Religion to do so. And is this the great Creature which God hath made by the Might of his Power, and for the Honour of his Majesty? Upon whom all Things must wait, to whom all Things must be subservient? Methinks we have noted Weaknesses and Follies enough in the Nature of Man; this need not be added as the Top and Accomplishment, That with all these he is so Vain as to think that all the rest of the World was made for his sake.
Concerning the Prim. Earth, and Paradise. 437

And as due Humility and the Consideration of our own Meaneness ought to secure us from any such vain Opinion of our selves, so the Perfection of other Beings ought to give us more Respect and Honour for them. With what Face can we pretend that Creatures far superior to us, and more excellent both in Nature and Condition, should be made for our Sake and Service? How preposterous would it be to ascribe such a thing to our Maker, and how intolerable a Vanity in us to affect it? We that are next to the Brutes that perish, by a sacrilegious Attempt would make our selves more considerable than the highest Dignities. It is thought to have been the Crime of Lucifer, who was thrown down from Heaven to Hell, that he affected an Equality with the Almighty; and to affect to be next to the Almighty is a Crime next to that. We have no Reason to believe but that there are, at least, as many Orders of Beings above us, as there are Ranks of Creatures below us; there is a greater Distance sure betwixt us and God Almighty, than there is betwixt us and the meanest Worm; and yet we should take it very ill, if the Worms of the Earth should pretend that we were made for them. But to pass from the invisible World to the visible and corporeal——

Was that made only for our sake? King David was more wise, and more just both to God and Man, in his 8th Psalm; where he says, He wonders, when he considers the Heavens, that the Maker of them could think on Man. He truly
The Theory of the Earth

supposes the celestial Bodies, and the Inhabitants of them, much more considerable than we are, and reckons up only terrestrial Things as put in subjection to Man. Can we then be so fond as to imagine all the corporeal Universe made for our Use? 'Tis not the millioneth Part of it that is known to us, much less useful; we can neither reach with our Eye, nor our Imagination, those Armies of Stars that lie far and deep in the boundless Heavens. If we take a good Glass, we discover innumerably more Stars in the Firmament than we can with our single Eye; and yet if you take a second Glass, better than the first, that carries the Sight to a greater Distance, you see more still lying beyond the other; and a third Glass that pierceth further, still makes new Discoveries of Stars; and so forwards, indefinitely and inexhaustedly for any Thing we know, according to the Immensity of the divine Nature and Power.

Who can reckon up the Stars of the Galaxy, or direct us in the Use of them? And can we believe that those and all the rest were made for us? Of those few Stars that we enjoy, or that are visible to the Eye, there is not a tenth Part that is really useful to Man; and no doubt if the principal End of them had been our Pleasure or Conveniency, they would have been put in some better Order in respect of the Earth. They lie carelessly scatter'd, as if they had been sown in the Heaven, like Seed, by handfuls; and not by a skilful Hand neither. What a beautiful Hemisphere they would have made, if they had been
been plac’d in Rank and Order; if they had been all dispos’d into regular Figures, and the little ones set with due Regard to the greater, then all finish’d and made up into one fair Piece or great Composition, according to the Rules of Art and Symmetry; what a surprizing Beauty this would have been to the Inhabitants of the Earth? What a lovely Roof to our little World? This indeed might have given one some Temptation to have thought that they had been all made for us; but left any such vain Imagination should now enter into our Thoughts, Providence (besides more important Reasons) seems on Purpose to have left them under that Negligence or Disorder which they appear in to us.

The second Part of this Opinion supposeth this Planet, where we live, to be the only habitable Part of the Universe; and this is a natural Consequence of the former: If all things were made to serve us, why should any more be made than what is useful to us? But ’tis only our Ignorance of the System of the World, and of the Grandeur of the Works of God, that betrays us to such narrow Thoughts, (See the Lat. Treat. lib. 1. c. 10. p. 108. 109, &c.) If we do but consider what this Earth is, both for Littleness and Deformity, and what its Inhabitants are, we shall not be apt to think that this miserable Atom hath ingross’d and exhaust’d all the divine Favours, and all the Riches of his Goodness, and of his Providence. But we will not enlarge upon this Part of the Opinion,
The Theory of the Earth.

left it should carry us too far from the subject, and it will fall of its own accord, with the former. Upon the whole we may conclude, that it was only the sublunary World that was made for the sake of Man, and not the great Creation, either material or intellectual; and we cannot admit or affirm any more without manifest injury, depression, and misrepresentation of Providence, as we may be easily convinced from these four heads; The Meanness of Man and of this Earth; The Excellency of other beings; The Immensity of the Universe, and the infinite perfection of the first Cause. Which I leave to your further meditation, and pass on to the second rule concerning natural Providence.

In the second place then, If we would have a fair view and right apprehensions of natural Providence, we must not cut the chains of it too short, by having recourse without necessity either to the first cause, in explaining the origins of things; or to miracles, in explaining particular effects. This, I say, breaks the chains of natural Providence, when it is done without necessity; that is, when things are otherwise intelligible from second causes. Neither is any thing gain'd by it to God Almighty; for 'tis but as the proverb says, To rob Peter to pay Paul; to take so much from his ordinary Providence, and place it to his extraordinary. When a new religion is brought into the world, 'tis very reasonable and decorous that it should be usher'd in with miracles, as
Concerning the Prim. Earth, and Paradise. 441
both the Jewish and Christian were; but afterwards Things return into their Channel, and do not change or overflow again but upon extraordinary Occasions or Revolutions. The Power Extraordinary of God is to be accounted very sacred, not to be touch'd or expos'd for our Pleasure or Conveniency; but I am afraid we often make use of it only to conceal our own Ignorance, or to save us the Trouble of inquiring into natural Causes. Men are generally unwilling to appear ignorant, especially those that make Profession of Knowledge; and when they have not Skill enough to explain some particular Effect in a Way of Reason, they throw it upon the first Cause, as able to bear all; and so placing it to that Account, they excuse themselves, and save their Credit; for all Men are equally wise, if you take away second Causes; as we are all of the same Colour, if you take away the Light.

But to state this Matter, and see the Ground of this Rule more distinctly, we must observe and consider, That the Course of Nature is truly the Will of God; (See Book I. c. 8. at the End.) and, as I may so say, his first Will; from which we are not to recede, but upon clear Evidence and Necessity. And as in Matter of Religion, we are to follow the known reveal'd Will of God, and not to trust to every Impulse or Motion of Enthusiasm, as coming from the Divine Spirit, unless there be evident Marks that it is supernatural, and cannot come from our own; so neither are we, without Ne-
The Theory of the Earth.

Necessity, to quit the known and ordinary Will and Power of God, establish'd in the Course of Nature, and fly to supernatural Causes, or his extraordinary Will; for this is a kind of Enthusiasm or Fanaticism, as well as the other: And no doubt that great Prodigality and Waste of Miracles which some make, is no way to the Honour of God or Religion. 'Tis true, the other Extreme is worse than this, for to deny all Miracles, is in effect to deny all Reveal'd Religion; therefore due Measures are to be taken betwixt these two, so as neither to make the Divine Power too mean and cheap, nor the Power of Nature illimitied and all-sufficient.

In the third Place, to make the Scenes of natural Providence considerable, and the Knowledge of them satisfactory to the Mind, we must take a true Philosophy, or the true Principles that govern Nature, which are Geometrical and Mechanical. By these you discover the Footsteps of the Divine Art and Wisdom, and trace the Progress of Nature Step by Step, as distinctly as in artificial things, where we see how the Motions depend upon one another, in what Order and by what Necessity. God made all Things in Number, Weight and Measure, which are Geometrical and Mechanical Principles: He is not said to have made Things by Forms and Qualities, or any Combination of Qualities, but by these three Principles, which may be conceiv'd to express the Subject of three Mathematical Scien-
Concerning the Prim. Earth, and Paradise. 443

Sciences, Number, of Arithmetick; Weight, of Staticks; and Measure and Proportion, of Geometry: If then all things were made according to these Principles, to understand the manner of their Construction and Composition, we must proceed in the Search of them by the same Principles, and resolve them into these again. Besides, the Nature of the Subject does direct us sufficiently; for when we contemplate or treat of Bodies, and the material World, we must proceed by the Modes of Bodies, and their real Properties, such as can be represented either to Sense or Imagination, for these Faculties are made for corporeal Things; but Logical Notions, when applied to particular Bodies, are mere Shadows of them, without Light or Substance. No Man can raise a Theory upon such Grounds, nor calculate any Revolutions of Nature, nor render any Service, or invent any thing useful in humane Life. And accordingly we see, that for these many Ages, that this dry Philosophy hath govern'd Christendom, it hath brought forth no Fruit, produc'd nothing good to God or Man, to Religion or Humane Society.

To these true Principles of Philosophy, we must join also the true System of the World. That gives Scope to our Thoughts, and rational Grounds to work upon; but the vulgar System, or that which Aristotle and others have propos'd, affords no Matter of Contemplation. All above the Moon, according to him, is firm as Adamant, and as immutable; no Change
Change or Variation in the Universe, but in those little Removes that happen here below, one Quality or Form shifting into another: There would therefore be no great Exercise of Reason or Meditation in such a World; no long Series's of Providence: The Regions above being made of a kind of immutable Matter, they would always remain in the same Form, Structure, and Qualities: So as we might lock up that part of the Universe as to any further Inquiries, and we should find it ten thousand Years hence in the same Form and State wherein we left it. Then in this Sublunary World there would be but very small Doings neither; Things would lie in a narrow Compass, no great Revolution of Nature, no new Form of the Earth, but a few Anniversary Corruptions and Generations, and that would be the short and the long of Nature, and of Providence, according to Aristotle. But if we consider the Earth, as one of those many Planets that move about the Sun, and the Sun as one of those innumerable fix'd Stars that adorn the Universe, and are the Centers of its greatest Motions; and all this subject to Fate and Change, to Corruptions and Renovations: This opens a large Field for our Thoughts, and gives a large Subject for the Exercise and Expansion of the Divine Wisdom and Power, and for the Glory of his Providence.

In the last Place; Having thus prepar'd your Mind, and the Subject, for the Contemplation
Concerning the Prim. Earth, and Paradise. 445
tion of Natural Providence, do not content
your self to consider only the present Face of
Nature, but look back into the first Sources of
Things, into their more simple and original
States; and observe the Progress of Nature
from one Form to another, through various
Modes and Compositions. For there is no
single Effect, nor any single State of Nature,
how perfect soever, that can be such an Argu-
ment and Demonstration of Providence, as a
Period of Nature, or a Revolution of several
States consequent to one another; and in
such an Order and Dependance, that as they
flow and succeed, they shall still be adjusted to
the Periods of the moral World; so as to be
ready always to be Ministers of the Divine
Justice or Beneficence to Mankind. This
shows the manifold Riches of the Wisdom and
Power of God in Nature. And this may give
us just Occasion to reflect again upon Aristotle's
System and Method, which destroys Natural
Providence in this respect also; for he takes
the World as it is now, both for Matter and
Form, and supposeth it to have been in this
Posture from all Eternity, and that it will con-
tinue to Eternity in the same; so as all the
great Turns of Nature, and the principal
Scenes of Providence in the Natural World
are quite struck out; and we have but this
one Scene for all, and a pitiful one too, if
compar'd with the infinite Wisdom of God,
and the Depths of Providence. We must
take Things in their full Extent, and from their
Origins,
Origins, to comprehend them well, and to discover the Mysteries of Providence, both in the Causes and in the Conduct of them. That Method which David followed in the Contemplation of the Little World, or in the Body of Man, we should also follow in the Great; take it in its first Mass, in its tender Principles and Rudiments, and observe the Progress of it to a compleat Form; in these first Strokes of Nature are the Secrets of her Art; the Eye must be plac'd in this Point to have a right Prospect, and see her Works in a true Light. David admires the Wisdom of God in the Origin and Formation of his Body; My Body, says he, was not hid from thee, when I was made in secret, curiously wrought in the lower Parts of the Earth; thine Eyes did see my Substance being yet unperfect, and in thy Book all my Members were written; which in Continuance were fashioned, when as yet there was none of them, or being at first in no Form. How precious are thy Thoughts to me, O God! &c. Psal. 139. 15, 16, 17. This was the Subject of David's Meditations, how his Body was wrought from a shapeless Mass into that marvellous Composition which it had when fully fram'd; and this, he says, was under the Eye of God all along; and the Model of it, as it were, was design'd and delineated in the Book of Providence, according to which it was by degrees fashion'd and wrought to Perfection. Thine Eyes did see my Substance yet being imperfect, in thy Book all my Members were drawn, &c. Job
Concerning the Prim. Earth, and Paradise. 447

Job also hath aptly express'd those first Rudiments of the Body, or that little Chaos out of which it riseth; Hast thou not poured me out as Milk, and craddled me like Cheese? Thou hast cloathed me with Skin and Flesh, and fenced me with Bones and Sinews, Job. 10. 10, 11.

Where he notes the first Matter and the last Form of his Body, its compleat and most incompleat State. According to these Examples we must likewise consider the greater Bodies of Nature, the Earth and the Sublunary World; we must go to the Origin of them, the Seminal Mass, the Chaos out of which they rise; look upon the World first as an Embryo World, without Form or Shape, and then consider how its Members were fashion'd, how by degrees it was brought into that Diversity of Parts and Regions which it consists of, with all their Furniture, and with all their Ornaments. The Idea of all which was before-hand, according to David's Expression, written in the Divine Mind; and we partake of that Wisdom, according to our Capacity, in seeing and admiring the Methods of it.

These seem to be necessary Preparatives or Directions to those that would contemplate, with Profit, Natural Providence, and the great Works of God in the visible Creation. We consider'd Nature in the precedent Chapter abstractly, and in her self; and now we consider her under the Conduct of Providence; which we therefore call Natural Providence:

And
The Theory of the Earth:

And as we have endeavour'd to remove those false Notions and Suppositions that lay as Clouds upon her Face, so we must now endeavour to represent her in a better Light, and in a fuller Beauty. By Natural Providence therefore we understand, the Form or Course of Universal Nature, as actuated by the Divine Power; with all the Changes, Periods, and Vicissitudes that attend it, according to the Method and Establishment made at first by the Author of it. I said of Universal Nature, through all the Orders of Beings in the intellectual World, and all the Regions and Systems of Matter in the corporeal. For, having prov'd in the foregoing Chapter, that there is an Author of Nature, a Being infinitely perfect, by whose Power and Influence alone all finite Natures exist and act, we have an assured Ground to conclude, that nothing can come to pass, throughout the whole Creation, without the Prescience and Permission of its Author; and as it is necessary to suppose that there is an Idea in the Divine Understanding of all the Mass of Beings produc'd or created, according to the several Ranks and Orders wherein they stand; so there is also an Idea there, according to which this great Frame moves, and all the Parts of it, in Beauty and Harmony.

And these two Things, The Essences of all Beings, and the Series of their Motions, compose the MUNDANE IDEA, as I may so call it; or that great all-comprehensive Thought in the divine Understanding, which contains the System
Concerning the Prim. Earth, and Paradise. 449

System of universal Providence, and the State of all Things, past, present, or to come. This glorious Idea is the express Image of the whole Creation, of all the Works of God, and the Disposition of them; here lie the Mysteries of Providence, as in their Original; the successive Forms of all Nature; and herein, as in a Glass, may be view'd all the Scenes of Time or Eternity. This is an Abyss of sacred Wisdom, the inexhausted Treasure of all Science, the Root of Truth, and Fountain of intellectual Light; and in the clear and full Contemplation of this is perfect Happiness, and a truly beatific Vision.

But what concerns the intellectual World in this Idea, and the Orders or Natures that compose it, is not our present Business to pursue; we are to speak of the corporeal Universe, whereof we will make now a short and general Survey, as it lies under Providence. The corporeal Universe, how immense soever it be, and divided into innumerible Regions, may be consider'd all as one System, made up of several subordinate Systems. And there is also one immense Design of Providence co-extended with it, that contains all the Fate, and all the Revolutions of this great Mass. This, I say, is made up of several subordinate Systems, involving one another, and comprehending one another, in greater and greater Orbs and Compositions; and the Aggregate of all these is that which we call the Universe. But what the Form of these Compositions is, and what the Design of Providence that runs thro' them
all, and comprehends them all, this is unsearchable, not only to humane Understanding, but even to Angels and Archangels.

Wherefore leaving those greater Systems and Compositions of the Universe, as Matter of our Admiration, rather than of our Knowledge; there are two or three kinds of lesser Systems that are visible to us, and bring us nearer to our Subject, and nearer home. That of a fixt Star single; That of a fixt Star with its Planets, and that of a single Planet, primary or secondary. These three Systems we see and enjoy more or less. No doubt there are fixt Stars single, or that have no Planets about them, as our Sun hath; nay, 'tis probable, that at first the whole Universe consisted only of such Globes of liquid Fire, with Spheres about them, of pure Light and Æther: Earths are but the Dirt and Skum of the Creation, and all Things were pure as they came at first out of the Hands of God. But because we have nothing particular taught us, either by the Light of Nature or Revelation, concerning the Providence that governs these single Stars, of what Use they are to intellectual Beings, how animated by them, what Diversity there is amongst those æthereal Worlds, what Periods they have, what Changes or Vicissitudes they are capable to undergo; because such Inquiries would seem too remote, and carry us too far from our Subject, we leave these heavenly Systems to the Enjoyment and Contemplation of higher and more noble Creatures.
Concerning the Prim. Earth, and Paradise. 451

The Sun, with all the Planets that move about him, and depend upon him, make a good Sort of System; not considerable indeed, if compar'd with the whole Universe, or some of the greater Compositions in it; but in respect of us, the System of the Sun is of vast Extent: We cannot measure the Greatness of his Kingdom, and his Dominion is without End. The Distance from the highest Planet to the nearest fixt Star in the Firmament is unmeasurable, and all this belongs to the Empire of the Sun; besides the several Planets and their Orbs, which cast themselves closer about his Body, that they may receive a warmer and stronger Influence from him; for by him they may be said to live and move. But those vast Spaces that lie beyond these opaque Bodies, are Regions of perpetual Light; one Planet may eclipse the Sun to another, and one Hemisphere of a Planet to the other Hemisphere makes Night and Darkness; but nothing can eclipse the Sun, or intercept the Course of his Light to these remote æthereal Regions; they are always luminous, and always pure and serene. And if the worst and planetary Parts of his Dominions be replenish'd with Inhabitants, we cannot suppose the better to lie as Deserts unenjoy'd and uninhabited; his Subjects then must be numerous, as well as his Dominions large; and in both respects this System of a fixt Star, with its Planets, (of which kind we may imagine innumerable in the Universe, besides this of the Sun, which is near and visible to us) is of a noble Character
Character and Order, being the Habitation of Angels and glorified Spirits, as well as of mortal Men.

A planetary System is the last and lowest; and of these, no doubt, there is great Variety, and great Differences; not only of primary and secondary, or of the principal Planet, and its Moons or Attendants, but also amongst Planets of the same Rank; for they may differ both in their original Constitution, and according to the Form and State they are under at present; of which sort of Differences we have noted some amongst our Planets, (Book. i. chap. last, p. 113, &c.) tho' they seem to be all of much-what the same original Constitution. Besides, according to external Circumstances, their Distance, Manner of Motion, and Posture to the Sun, which is the Heart of the whole System, they become different in many Things. And we may observe, that those leading Differences, tho' they seem little, draw after them innumerable others, and so make a distinct Face of Nature, and a distinct World; which still shows the Riches and Fecundity of divine Providence, and gives new Matter of Contemplation to those that take Pleasure in studying the Works and Ways of God. But leaving all other Planets, or planetary Systems to our Meditations only, we must particularly consider our own.

Having therefore made this general Survey of the great Universe, run thorough the boundless Regions of it, and with much ado found
Concerning the Prim. Earth, and Paradise. 453

our Way home to that little Planet where our Concerns lie, this Earth or sublunary World, we must rest here as at the End of our Course. And having undertaken to give the general Theory of this Earth, to conclude the present Treatise, we'll reflect upon the whole Work, and observe what Progress we have hitherto made in this Theory, and what remains to be treated of hereafter. This Earth, tho' it be a small Part or Particle of the Universe, hath a distinct System of Providence belonging to it, or an Order establisht by the Author of Nature for all its Phenomena (natural or moral) throughout the whole Period of its Duration, and every Interval of it; for, as there is nothing so great as to be above the divine Care, so neither is there any thing so little as to be below it. All the Changes of our World are fixt; How, or how often to be destroy'd, and how renew'd; What different Faces of Nature, and what of Mankind, in every Part of its Course; What new Scenes to adorn the Stage, and what new Parts to be acted; What the Entrance, and what the Consummation of all. Neither is there any sort of Knowledge more proper, or of more Importance to us that are the Inhabitants of this Earth, than to understand this its natural and sacred History, as I may so call it, both as to what is past, and what is to come. And as those greater Volumes and Compositions of the Universe are proportion'd to the Understanding of Angels and superior Beings, so these little Systems are Compendiums of the divine
divine Wisdom more fitted to our Capacity and Comprehension.

The Providence of the Earth, as of all other Systems, consists of two Parts, natural, and sacred or theological. I call that sacred or theological that respects Religion, and the Dispensations of it; the Government of the rational World, or of Mankind, whether under the Light of Nature only, or of a Revelation; the Method and Terms of their Happiness and Unhappiness in a future Life: The State, Oeconomy, and Conduct of this, with all the Mysteries contain'd in it, we call theological Providence; in the Head whereof stands the Soul of the blest Messiah, who is Lord of both Worlds, intellectual and material. When we call the other Part of Providence Natural, we use that Word in a restrain'd Sense, as respecting only the material World; and accordingly this Part of Providence orders and superintends the State of the Earth, the great Vicissitudes and Mutations of it; for we must not imagine but that these are under the Eye of Providence, as well as humane Affairs, or any Revolutions of States and Empires. Now seeing both in the intellectual and corporeal World there are certain Periods, Fulnesses of Time, and fixt Seasons, either for some great Catastrophe, or some great Instauration; 'tis Providence that makes a due Harmony or Synchronism betwixt these two, and measures out the concurrent Fates of both Worlds, so as Nature may be always a faithful Minister of the divine Pleasure, whether for Rewards
Concerning the Prim. Earth, and Paradise. 455

Rewards or Punishments, according as the State of Mankind may require. But theological Providence not being the Subject of this Work, we shall only observe, as we said before, what Account we have hitherto given of the natural State of the Earth, and what remains to be handled in another Treatise, and so conclude.

I did not think it necessary to carry the Story and Original of the Earth, higher than the Chaos, as Zoroafter and Orpheus seem to have done; but taking that for our Foundation, which Antiquity sacred and profane doth suppose, and natural Reason approve and confirm, we have form'd the Earth from it. But when we say the Earth rose from a fluid Mass, it is not to be so crudely understood, as if a Rock of Marble, suppose, was fluid immediately before it became Marble; no, Things had a gradual Progression from one Form to another, and came at length to those more permanent Forms they are now settled in: Stone was once Earth, and Earth was once Mud, and Mud was once fluid. And so other Things may have another kind of Progression from Fluidity; but all was once Fluid, at least all the exterior Regions of this Earth. And even those Stones and Rocks of Marble which we speak of, seem to confess they were once soft or liquid, by those Mixtures we find in them of heterogeneous Bodies, and those Spots and Veins dissever'd thorough their Substance; for these Things could not happen to them after they were hard and impene-

trable, in the Form of Stone or Marble. And
The Theory of the Earth.

if we can soften Rocks and Stones, and run them down into their first Liquors, as these Observations seem to do, we may easily believe that other Bodies also that compose the Earth were once in a fluid Mafs, which is that we call a Chaos.

We therefore watch'd the Motions of that Chaos, and the several Transformations of it, while it continued Fluid; and we found at length what its first Concretion would be, and how it settled into the Form of an habitable Earth. But that Form was very different from the present Form of the Earth, which is not immediately deducible from a Chaos by any known Laws of Nature, or by any Wit of Man; as every one, that will have Patience to examine it, may easily be satisfied. That first Earth was of a smooth, regular Surface, as the Concretions of Liquors are, before they are disturb'd or broken; under that Surface lay the Great Abyss, which was ready to swallow up the World that hung over it, and about it, whencesoever God should give the Command, and the Vault should break; and this Constitution of the primæval Earth gave Occasion to the first Catastrophe of this World, when it perish'd in a Deluge of Water. For that Vault did break, as we have shown at large, and by the Dissolution and Fall of it, the great Deep was thrown out of its Bed, forc'd upwards into the Air, and overflow'd, in that impetuous Comotion, the highest Tops of the Fragments of the ruin'd Earth, which now we call its Mountains.
Concerning the Prim. Earth, and Paradise. 457
tains. And as this was the first great and fa-
tal Period of Nature; so upon the Issue of this,
and the Return of the Waters into their Chan-
nels, the second Face of Nature appear'd, or
the present broken Form of the Earth, as it is
Terraqueous, Mountainous, and Cavernous. These
Things we have explain'd fully in the first
Book, and have thereby settled two great
Points, given a rational Account of the Uni-
versal Deluge, and shewn the Causes of the
irregular Form of the present or Postdiluvian
Earth. This being done, we have apply'd
our selves, in the second Book, to the Descrip-
tion of the Primæval Earth, and the Examina-
tion of its Properties; and this hath led us by
an eazy Tract to the Discovery of Paradise, and
of the true Notion and Mystery of it; which
is not so much a Spot of Ground where a fine
Garden stood, as a Course of Nature, or a
peculiar State of the Earth; Paradisiacal in
many Parts, but especially in one Region of
it; which Place or Region we have also en-
deavour'd to determine, though not so much
from the Theory, as from the Suffrages of An-
tiquity, if you will take their Judgment.

Thus much is finish'd, and this contains the
Natural Theory of the Earth till this present
time; for since the Deluge all Things have
continued in the same State, or without any
remarkable Change. We are next to enter
upon new Matter and new Thoughts, and
not only so, but upon a Series of Things and
Times to come, which is to make the second
Book II. H h Part
Part of this Theory. Dividing the Duration of the World into two Parts, past and future, we have dispatch'd the first and far greater Part, and come better half of our way; And if we make a stand here, and look both ways, backwards to the Chaos, and the Beginning of the World, and forwards to the End and Consummation of all Things, though the first be a longer Prospect, yet there are as many general Changes and Revolutions of Nature in the remaining Part, as have already happen'd; and in the Evening of this long Day the Scenes will change faster, and be more bright and illustrious. From the Creation to this Age the Earth hath undergone but one Catastrophe, and Nature hath had two different Faces. The next Catastrophe is the CONFLAGRATION, to which a new Face of Nature will accordingly succeed, New Heavens and a New Earth, Paradise renew'd, and so it is call'd the Reitution of Things, or Regeneration of the World, Ἀνακατάσεις, Παλιγγενεσία. And that Period of Nature and Providence being expir'd, then follows the Consummation of all Things, or the general Apotheosis; when Death and Hell shall be swallowed up in Victory: When the great Circle of Time and Fate is run; or, according to the Language of Scripture, When the Heavens and the Earth shall pass away, and Time shall be no more.
May we, in the mean time, by a true Love of God above all Things, and a Contempt of this vain World which passeth away; By a careful Use of the Gifts of God and Nature, the Light of Reason and Revelation, prepare ourselves, and the State of Things, for the great Coming of our Saviour. To whom be Praise and Honour for Evermore.

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