Philosophical Letters Or Modest Reflections upon some Opinions in Natural Philosophy

Margaret Cavendish

The Project Gutenberg eBook of Philosophical Letters: or, modest Reflections upon some Opinions in Natural Philosophy

This eBook is for the use of anyone anywhere in the United States and most other parts of the world at no cost and with almost no restrictions whatsoever. You may copy it, give it away or re-use it under the terms of the Project Gutenberg License included with this eBook or online at www.gutenberg.org. If you are not located in the United States, you will have to check the laws of the country where you are located before using this eBook.

Title: Philosophical Letters: or, modest Reflections upon some Opinions in Natural Philosophy

Author: Duchess of Margaret Cavendish Newcastle

Release date: December 6, 2016 [eBook #53679]
Most recently updated: October 23, 2024

Language: English

Other information and formats: www.gutenberg.org/ebooks/53679

Credits: Produced by Clare Graham and Marc D'Hooghe at Free
Literature (online soon in an extended version, also linking
to free sources for education worldwide ... MOOC's,
educational materials,...) Images generously made available
by the Internet Archive.

*** START OF THE PROJECT GUTENBERG EBOOK PHILOSOPHICAL LETTERS: OR, MODEST REFLECTIONS UPON SOME OPINIONS IN NATURAL PHILOSOPHY ***

Philosophical Letters:

OR,

MODEST REFLECTIONS

Upon some Opinions in

NATURAL PHILOSOPHY,

MAINTAINED

By several Famous and Learned Authors of this Age,

Expressed by way of LETTERS:

By the Thrice Noble, Illustrious, and Excellent Princess,

The Lady MARCHIONESS of *NEWCASTLE*.

***LONDON*, Printed in the Year, 1664.**

TABLE OF CONTENTS

TO HER EXCELLENCY The Lady Marchioness of NEWCASTLE

TO HIS EXCELLENCY The Lord Marquis of NEWCASTLE

TO THE MOST FAMOUS UNIVERSITY OF CAMBRIDGE

A PREFACE TO THE READER

SECTION I

Letters: I; II; III; IV; V; VI; VII; VIII; IX; X; XI; XII; XIII; XIV; XV; XVI; XVII; XVIII; XIX; XX; XXI; XXII; XXIII; XXIV; XXV; XXVI; XXVII; XXVIII; XXIX; XXX; XXXI; XXXII; XXXIII; XXXIV; XXXV; XXXVI; XXXVII; XXXVIII; XXXIX; XL; XLI; XLII; XLIII; XLIV; XLV

SECTION II

Letters: I; II; III; IV; V; VI; VII; VIII; IX; X; XI; XII; XIII; XIV; XV; XVI; XVII; XVIII; XIX; XX; XXI; XXII; XXIII; XXIV; XXV; XXVI; XXVII; XXVIII; XXIX; XXX; XXXI; XXXII; XXXIII; XXXIV;

SECTION III

Letters: I; II; III; IV; V; VI; VII; VIII; IX; X; XI; XII; XIII; XIV; XV; XVI; XVII; XVIII; XIX; XX; XXI; XXII; XXIII; XXIV; XXV; XXVI; XXVII; XXVIII; XXIX; XXX; XXXI; XXXII; XXXIII; XXXIV; XXXV; XXXVI; XXXVII; XXXVIII; XXXIX; XL; XLI; XLII; XLIII; XLIV; XLV

SECTION IV

Letters: I II; III; IV; V; VI; VII; VIII; IX; X; XI; XII; XIII; XIV; XV; XVI; XVII; XVIII; XIX; XX; XXI; XXII; XXIII; XXIV; XXV; XXVI; XXVII;

XXVIII; XXIX; XXX; XXXI; XXXII; XXXIII

ENVOI

TO HER EXCELLENCY
The Lady Marchioness of NEWCASTLE
On her Book of Philosophical Letters.

'Tis Supernatural, nay 'tis Divine,
To write whole Volumes ere I can a line.
I 'mplor'd the Lady Muses, those fine things,
But they have broken all their Fidle-strings
And cannot help me; Nay, then I did try
Their Helicon, *but that is grown all dry:*
Then on Parnassus *I did make a sallie,*
But that's laid level, like a Bowling-alley;
Invok'd my Muse, found it a Pond, a Dream,
To your eternal Spring, and running Stream;
So clear and fresh, with Wit and Phansie store,
As then despair did bid me write no more.

W. Newcastle.

TO HIS EXCELLENCY
The Lord Marquis of NEWCASTLE.

My Noble Lord,

Although you have, always encouraged me in my harmless pastime of Writing, yet was I afraid that your Lordship would be angry with me for Writing

and Publishing this Book, by reason it is a Book of Controversies, of which I have heard your Lordship say, That Controversies and Disputations make Enemies of Friends, and that such Disputations and Controversies as these, are a pedantical kind of quarrelling, not becoming Noble Persons. But your Lordship will be pleased to consider in my behalf, that it is impossible for one Person to be of every one's Opinion, if their opinions be different, and that my Opinions in Philosophy, being new, and never thought of, at least not divulged by any, but my self, are quite different from others: For the Ground of my Opinions is, that there is not onely a Sensitive, but also a Rational Life and Knowledge, and so a double Perception in all Creatures: And thus my opinions being new, are not so easily understood as those, that take up several pieces of old opinions, of which they patch up a new Philosophy, (if new may be made of old things,) like a Suit made up of old Stuff bought at the Brokers: Wherefore to find out a Truth, at least a Probability in Natural Philosophy by a new and different way from other Writers, and to make this way more known, easie and intelligible, I was in a manner forced to write this Book; for I have not contradicted those Authors in any thing, but what concerns and is opposite to my opinions; neither do I anything, but what they have done themselves, as being common amongst them to contradict each other: which may as well be allowable, as for Lawyers to plead at the Barr in opposite Causes. For as Lawyers are not Enemies to each other, but great Friends, all agreeing from the Barr, although not at the Barr: so it is with Philosophers, who make their Opinions as their Clients, not for Wealth, but for Fame, and therefore have no reason to become Enemies to each other, by being Industrious in their

Profession. All which considered, was the cause of Publishing this Book; wherein although I dissent from their opinions, yet doth not this take off the least of the respect and esteem I have of their Merits and Works. But if your Lordship do but pardon me, I care not if I be condemned by others; for your Favour is more then the World to me, for which all the actions of my Life shall be devoted and ready to serve you, as becomes,

My Lord,

Your Lordships

honest Wife, and humble Servant,

M. N.

TO THE MOST FAMOUS UNIVERSITY OF CAMBRIDGE.

Most Noble, Ingenious, Learned, and Industrious Students.

Be not offended, that I dedicate to you this weak and infirm work of mine; for though it be not an offering worthy your acceptance, yet it is as much as I can present for this time; and I wish from my Soul, I might be so happy as to have some means or ways to express my Gratitude for your Magnificent favours to me, having done me more honour then ever I could expect, or give sufficient thanks for: But your Generosity is above all Gratitude, and your Favours above all Merit, like as your Learning is above Contradiction: And I pray God your University may flourish to the end of the World, for the Service of the Church, the Truth of Religion, the

Salvation of Souls, the instruction of Youth, the preservation of Health, and prolonging of Life, and for the increase of profitable Arts and Sciences: so as your several studies may be, like several Magistrates, united for the good and benefit of the whole Common-wealth, nay, the whole World. May Heaven prosper you, the World magnifie you, and Eternity record your same; Which are the hearty wishes and prayers of,

Your most obliged Servant

M. NEWCASTLE.

A PREFACE TO THE READER.

Worthy Readers,

I did not write this Book out of delight, love or humour to contradiction; for I would rather praise, then contradict any Person or Persons that are ingenious; but by reason Opinion is free, and may pass without a pass-port, I took the liberty to declare my own opinions as other Philosophers do, and to that purpose I have here set down several famous and learned Authors opinions, and my answers to them in the form of Letters, which was the easiest way for me to write; and by so doing, I have done that, which I would have done unto me; for I am as willing to have my opinions contradicted, as I do contradict others: for I love Reason so well, that whosoever can bring most rational and probable arguments, shall have my vote, although against my own opinion. But you may say, If contradictions were frequent, there would be no agreement amongst Mankind. I answer; it is very true: Wherefore

Contradictions are better in general Books, then in particular Families, and in Schools better then in Publick States, and better in Philosophy then in Divinity. All which considered, I shun, as much as I can, not to discourse or write of either Church or State. But I desire so much favour, or rather Justice of you, *Worthy Readers*, as not to interpret my objections or answers any other ways then against several opinions in Philosophy; for I am confident there is not any body, that doth esteem, respect and honour learned and ingenious Persons more then I do: Wherefore judg me neither to be of a contradicting humor, nor of a vain-glorious mind for differing from other mens opinions, but rather that it is done out of love to Truth, and to make my own opinions the more intelligible, which cannot better be done then by arguing and comparing other mens opinions with them. The Authors whose opinions I mention, I have read, as I found them printed, in my native Language, except *Des Cartes*, who being in Latine, I had some few places translated to me out of his works; and I must confess, that since I have read the works of these learned men, I understand the names and terms of Art a little better then I did before; but it is not so much as to make me a Scholar, nor yet so little, but that, had I read more before I did begin to write my other Book called *Philosophical Opinions*, they would have been more intelligible; for my error was, I began to write so early, that I had not liv'd so long as to be able to read many Authors; I cannot say, I divulged my opinions as soon as I had conceiv'd them, but yet I divulged them too soon to have them artificial and methodical. But since what is past, cannot be recalled, I must desire you to excuse those faults, which were committed for want of experience and

learning. As for School-learning, had I applied my self to it, yet I am confident I should never have arrived to any; for I am so uncapable of Learning, that I could never attain to the knowledge of any other Language but my native, especially by the Rules of Art: wherefore I do not repent that I spent not my time in Learning, for I consider, it is better to write wittily then learnedly; nevertheless, I love and esteem Learning, although I am not capable of it. But you may say, I have expressed neither Wit nor Learning in my Writings: Truly, if not, I am the more sorry for it; but self-conceit, which is natural to mankind, especially to our Sex, did flatter and secretly perswade me that my Writings had Sense and Reason, Wit and Variety; but Judgment being not called to Counsel, I yielded to Self-conceits flattery, and so put out my Writings to be Printed as fast as I could, without being reviewed or Corrected: Neither did I fear any censure, for Self-conceit had perswaded me, I should be highly applauded; wherefore I made such haste, that I had three or four Books printed presently after each other.

But to return to this present Work, I must desire you, *worthy Readers*, to read first my Book called *Philosophical and Physical Opinions*, before you censure this, for this Book is but an explanation of the former, wherein is contained the Ground of my Opinions, and those that will judge well of a Building, must first consider the Foundation; to which purpose I will repeat some few Heads and Principles of my Opinions, which are these following: First, That Nature is Infinite, and the Eternal Servant of God: Next, That she is Corporeal, and partly self-moving, dividable and composable; that all and every particular Creature, as also all perception and variety in Nature, is made by corporeal self-motion,

which I name sensitive and rational matter, which is life and knowledg, sense and reason. Again, That these sensitive and rational parts of matter are the purest and subtilest parts of Nature, as the active parts, the knowing, understanding and prudent parts, the designing, architectonical and working parts, nay, the Life and Soul of Nature, and that there is not any Creature or part of nature without this Life and Soul; and that not onely Animals, but also Vegetables, Minerals and Elements, and what more is in Nature, are endued with this Life and Soul, Sense and Reason: and because this Life and Soul is a corporeal Substance, it is both dividable and composable; for it divides and removes parts from parts, as also composes and joyns parts to parts, and works in a perpetual motion without rest; by which actions not any Creature can challenge a particular Life and Soul to it self, but every Creature may have by the dividing and composing nature of this self-moving matter more or fewer natural souls and lives.

These and the like actions of corporeal Nature or natural Matter you may find more at large described in my afore-mentioned Book of *Philosophical Opinions*, and more clearly repeated and explained in this present. 'Tis true, the way of arguing I use, is common, but the Principles, Heads and Grounds of my Opinions are my own, not borrowed or stolen in the least from any; and the first time I divulged them, was in the year 1653: since which time I have reviewed, reformed and reprinted them twice; for at first, as my Conceptions were new and my own, so my Judgment was young, and my Experience little, so that I had not so much knowledge as to declare them artificially and methodically; for as I mentioned before, I was always unapt to learn by the Rules of Art. But although they may be defective for want of

Terms of Art, and artificial expressions, yet I am sure they are not defective for want of Sense and Reason: And if any one can bring more Sense and Reason to disprove these my opinions, I shall not repine or grieve, but either acknowledge my errour, if I find my self in any, or defend them as rationally as I can, if it be but done justly and honestly, without deceit, spight, or malice; for I cannot chuse but acquaint you, *Noble Readers*, I have been informed, that if I should be answered in my Writings, it would be done rather under the name and cover of a Woman, then of a Man, the reason is, because no man dare or will set his name to the contradiction of a Lady; and to confirm you the better herein, there has one Chapter of my Book called *The Worlds Olio*, treating of a Monastical Life, been answer'd already in a little Pamphlet, under the name of a woman, although she did little towards it; wherefore it being a Hermaphroditical Book, I judged it not worthy taking notice of. The like shall I do to any other that will answer this present work of mine, or contradict my opinions indirectly with fraud and deceit. But I cannot conceive why it should be a disgrace to any man to maintain his own or others opinions against a woman, so it be done with respect and civility; but to become a cheat by dissembling, and quit the Breeches for a Petticoat, meerly out of spight and malice, is base, and not fit for the honour of a man, or the masculine sex. Besides, it will easily be known; for a Philosopher or Philosopheress is not produced on a sudden. Wherefore, although I do not care, nor fear contradiction, yet I desire it may be done without fraud or deceit, spight and malice; and then I shall be ready to defend my opinions the best I can, whilest I live, and after I am dead, I hope those that are just and honorable will also defend me from

all sophistry, malice, spight and envy, for which Heaven will bless them. In the mean time, *Worthy Readers*, I should rejoyce to see that my Works are acceptable to you, for if you be not partial, you will easily pardon those faults you find, when you do consider both my sex and breeding; for which favour and justice, I shall always remain,

Your most obliged Servant,

M. N.

Philosophical Letters.

SECT. I.

I.

MADAM,

You have been pleased to send me the Works of four Famous and Learned Authors, to wit, of two most Famous Philosophers of our Age, *Des Cartes*, and *Hobbs*, and of that Learned Philosopher and Divine Dr. *More*, as also of that Famous Physician and Chymist *Van Helmont*. Which Works you have sent me not onely to peruse, but also to give my judgment of them, and to send you word by the usual way of our Correspondence, which is by Letters, how far, and wherein I do dissent from these Famous Authors, their Opinions in *Natural Philosophy*. To tell you truly, *Madam*, your Commands did at first much

affright me, for it did appear, as if you had commanded me to get upon a high Rock, and fling my self into the Sea, where neither a Ship, nor a Plank, nor any kind of help was near to rescue me, and save my life; but that I was forced to sink, by reason I cannot swim: So I having no Learning nor Art to assist me in this dangerous undertaking, thought, I must of necessity perish under the rough censures of my Readers, and be not onely accounted a fool for my labour, but a vain and presumptuous person, to undertake things surpassing the ability of my performance; but on the other side I considered first, that those Worthy Authors, were they my censurers, would not deny me the same liberty they take themselves; which is, that I may dissent from their Opinions, as well as they dissent from others, and from amongst themselves: And if I should express more Vanity then Wit, more Ignorance then Knowledg, more Folly then Discretion, it being according to the Nature of our Sex, I hoped that my Masculine Readers would civilly excuse me, and my Female Readers could not justly condemn me. Next I considered with my self, that it would be a great advantage for my Book called *Philosophical Opinions*, as to make it more perspicuous and intelligible by the opposition of other Opinions, since two opposite things placed near each other, are the better discerned; for I must confess, that when I did put forth my Philosophical Work at first, I was not so well skilled in the Terms or Expressions usual in *Natural Philosophy*; and therefore for want of their knowledg, I could not declare my meaning so plainly and clearly as I ought to have done, which may be a sufficient argument to my Readers, that I have not read heretofore any *Natural Philosophers*, and taken some Light from them; but that my Opinions did

meerly issue from the Fountain of my own Brain, without any other help or assistance. Wherefore since for want of proper Expressions, my named Book of *Philosophy* was accused of obscurity and intricacy, I thought your Commands would be a means to explain and clear it the better, although not by an Artificial way, as by Logical Arguments or Mathematical Demonstrations, yet by expressing my Sense and Meaning more properly and clearly then I have done heretofore: But the chief reason of all was, the Authority of your Command, which did work so powerfully with me, that I could not resist, although it were to the disgrace of my own judgment and wit; and therefore I am fully resolved now to go on as far, and as well as the Natural strength of my Reason will reach: But since neither the strength of my Body, nor of my understanding, or wit, is able to mark every line, or every word of their works, and to argue upon them, I shall onely pick out the ground Opinions of the aforementioned Authors, and those which do directly dissent from mine, upon which I intend to make some few Reflections, according to the ability of my Reason; and I shall meerly go upon the bare Ground of *Natural Philosophy*, and not mix Divinity with it, as many Philosophers use to do, except it be in those places, where I am forced by the Authors Arguments to reflect upon it, which yet shall be rather with an expression of my ignorance, then a positive declaration of my opinion or judgment thereof; for I think it not onely an absurdity, but an injury to the holy Profession of Divinity to draw her to the Proofs in *Natural Philosophy*; wherefore I shall strictly follow the Guidance of *Natural Reason*, and keep to my own ground and Principles as much as I can; which that I may perform the better, I humbly desire the help and assistance of your Favour, that

according to that real and intire Affection you bear to me, you would be pleased to tell me unfeignedly, if I should chance to err or contradict but the least probability of truth in any thing; for I honor Truth so much, as I bow down to its shadow with the greatest respect and reverence; and I esteem those persons most, that love and honor Truth with the same zeal and fervor, whether they be Ancient or Modern Writers.

Thus, *Madam*, although I am destitute of the help of Arts, yet being supported by your Favour and wise Directions, I shall not fear any smiles of scorn, or words of reproach; for I am confident you will defend me against all the mischievous and poisonous Teeth of malicious detractors. I shall besides, implore the assistance of the Sacred Church, and the Learned Schools, to take me into their Protection, and shelter my weak endeavours: For though I am but an ignorant and simple Woman, yet I am their devoted and honest Servant, who shall never quit the respect and honor due to them, but live and die theirs, as also,

MADAM,

Your Ladiships

humble and faithful Servant.

M. N.

II.

MADAM,

Before I begin my Reflections upon the Opinions of

those Authors you sent me, I will answer first your Objection concerning the Ground of my Philosophy, which is Infinite Matter: For you were pleased to mention, That you could not well apprehend, how it was possible, that many Infinites could be contained in one Infinite, since one Infinite takes up all Place Imaginary, leaving no room for any other; Also, if one Infinite should be contained in an other Infinite, that which contains, must of necessity be bigger then that which is contained, whereby the Nater of Infinite would be lost; as having no bigger nor less, but being of an Infinite quantity.

First of all, *Madam*, there is no such thing as All in Infinite, nor any such thing as All the Place, for Infinite is not circumscribed nor limited: Next, as for that one Infinite cannot be in an other Infinite, I answer, as well as one Finite can be in another Finite; for one Creature is not onely composed of Parts, but one Part lies within another, and one Figure within another, and one Motion within another. As for example, Animal Kind, have they not Internal and External Parts, and so Internal and External Motions? And are not Animals, Vegetables and Minerals inclosed in the Elements? But as for Infinites, you must know, *Madam*, that there are several kindes of Infinites. For there is first Infinite in quantity or bulk, that is such a big and great Corporeal substance, which exceeds all bounds and limits of measure, and may be called Infinite in Magnitude. Next there is Infinite in Number, which exceeds all numeration and account, and may be termed Infinite in Multitude; Again there is Infinite in Quality; as for example, Infinite degrees of softness, hardness, thickness, thinness, heat and cold, &c. also Infinite degrees of Motion, and so Infinite Creations, Infinite Compositions, Dissolutions,

Contractions, Dilations, Digestions, Expulsions; also Infinite degrees of Strength, Knowledg, Power, &c. Besides there is Infinite in Time, which is properly named Eternal. Now, when I say, that there is but one Infinite, and that Infinite is the Onely Matter, I mean infinite in bulk and quantity. And this Onely matter, because it is Infinite in bulk, must of necessity be divisible into infinite Parts, that is, infinite in number, not in bulk or quantity; for though Infinite Parts in number make up one infinite in quantity, yet they considered in themselves, cannot be said Infinite, because every Part is of a certain linked and circumscribed Figure, Quantity and Proportion, whereas Infinite hath no limits nor bounds: besides it is against the nature of a single Part to be Infinite, or else there would be no difference between the Part and the whole, the nature of a Part requiring that it must be less then its whole, but all what is less hath a determined quantity, and so becomes finite. Therefore it is no absurdity to say, that an Infinite may have both Finite and Infinite Parts, Finite in Quantity, Infinite in Number. But those that say, if there were an Infinite Body, that each of its Parts must of necessity be Infinite too, are much mistaken; for it is a contradiction in the same Terms to say One Infinite Part, for the very Name of a Part includes a Finiteness, but take all parts of an Infinite Body together, then you may rightly say they are infinite. Nay Reason will inform you plainly, for example: Imagine an Infinite number of grains of Corn in one heap, surely if the number of Grains be Infinite, you must grant of necessity the bulk or body, which contains this infinite number of grains, to be Infinite too; to wit, Infinite in quantity, and yet you will find each Grain in it self to be Finite. But you will say, an

Infinite Body cannot have parts, for if it be Infinite, it must be Infinite in Quantity, and therefore of one bulk, and one continued quantity, but Infinite parts in number make a discrete quantity. I answer it is all one; for a Body of a continued quantity may be divided and severed into so many Parts either actually, or mentally in our Conceptions or thoughts; besides nature is one continued Body, for there is no such *Vacuum* in Nature, as if her Parts did hang together like a linked Chain; nor can any of her Parts subsist single and by it self, but all the Parts of Infinite Nature, although they are in one continued Piece, yet are they several and discerned from each other by their several Figures. And by this, I hope, you will understand my meaning, when I say, that several Infinites may be included or comprehended in one Infinite; for by the one Infinite, I understand Infinite in Quantity, which includes Infinite in Number, that is Infinite Parts; then Infinite in Quality, as Infinite degrees of Rarity, Density, Swiftness, Slowness, Hardness, Softness, &c. Infinite degrees of Motions, Infinite Creations, Dissolutions, Contractions, Dilations, Alterations, &c. Infinite degrees of Wisdom, Strength, Power, &c., and lastly Infinite in Time or Duration, which is Eternity, for Infinite and Eternal are inseparable; All which Infinites are contained in the Onely Matter as many Letters are contained in one Word, many Words in one Line, many Lines in one Book. But you will say perhaps, if I attribute an Infinite Wisdom, Strength, Power, Knowledg, &c. to Nature; then Nature is in all coequal with God, for God has the same Attributes: I answer, Not at all; for I desire you to understand me rightly, when I speak of Infinite Nature, and when I speak of the Infinite Deity, for there is great difference between them, for it is one thing a Deitical

or Divine Infinite, and another a Natural Infinite; You know, that God is a Spirit, and not a bodily substance, again that Nature is a Body, and not a Spirit, and therefore none of these Infinites can obstruct or hinder each other, as being different in their kinds, for a Spirit being no Body, requires no place, Place being an attribute which onely belongs to a Body, and therefore when I call Nature Infinite, I mean an Infinite extension of Body, containing an Infinite number of Parts; but what doth an Infinite extension of Body hinder the Infiniteness of God, as an Immaterial Spiritual being? Next, when I do attribute an Infinite Power, Wisdom, Knowledg, &c. to Nature, I do not understand a Divine, but a Natural Infinite Wisdom and Power, that is, such as properly belongs to Nature, and not a supernatural, as is in God; For Nature having Infinite parts of Infinite degrees, must also have an Infinite natural wisdom to order her natural Infinite parts and actions, and consequently an Infinite natural power to put her wisdom into act; and so of the rest of her attributes, which are all natural: But Gods Attributes being supernatural, transcend much these natural infinite attributes; for God, being the God of Nature, has not onely Natures Infinite Wisdom and Power, but besides, a Supernatural and Incomprehensible Infinite Wisdom and Power; which in no wayes do hinder each other, but may very well subsist together. Neither doth Gods Infinite Justice and his Infinite Mercy hinder each other; for Gods Attributes, though they be all several Infinites, yet they make but one Infinite.

But you will say, If Nature's Wisdom and Power extends no further then to natural things, it is not Infinite, but limited and restrained. I answer, That doth not take away the Infiniteness of Nature; for

there may be several kinds of Infinites, as I related before, and one may be as perfect an Infinite as the other in its kind. For example: Suppose a Line to be extended infinitely in length, you will call this Line Infinite, although it have not an Infinite breadth; Also, if an infinite length and breadth joyn together, you will call it, an infinite Superficies, although it wants an infinite depth; and yet every Infinite, in its kinde, is a Perfect Infinite, if I may call it so: Why then shall not Nature also be said to have an Infinite Natural Wisdom and Power, although she has not a Divine Wisdom and Power? Can we say, Man hath not a free Will, because he hath not an absolute free Will, as God hath? Wherefore, a Natural Infinite, and the Infinite God, may well stand together, without any opposition or hinderance, or without any detracting or derogating from the Omnipotency and Glory of God; for God remains still the God of Nature, and is an Infinite Immaterial Purity, when as Nature is an Infinite Corporeal Substance; and Immaterial and Material cannot obstruct each other. And though an Infinite Corporeal cannot make an Infinite Immaterial, yet an Infinite Immaterial can make an Infinite Corporeal, by reason there is as much difference in the Power as in the Purity: And the disparity between the Natural and Divine Infinite is such, as they cannot joyn, mix, and work together, unless you do believe that Divine Actions can have allay.

But you may say, Purity belongs onely to natural things, and none but natural bodies can be said purified, but God exceeds all Purity. 'Tis true: But if there were infinite degrees of Purity in Matter, Matter might at last become Immaterial, and so from an Infinite Material turn to an Infinite Immaterial, and from Nature to be God: A great, but an

impossible Change. For I do verily believe, that there can be but one Omnipotent God, and he cannot admit of addition, or diminution; and that which is Material cannot be Immaterial, and what is Immaterial cannot become Material, I mean, so, as to change their natures; for Nature is what God was pleased she should be; and will be what she was, until God be pleased to make her otherwise. Wherefore there can be no new Creation of matter, motion, or figure; nor any annihilation of any matter, motion, or figure in Nature, unless God do create a new Nature: For the changing of Matter into several particular Figures, doth not prove an annihilation of particular Figures; nor the cessation of particular Motions an annihilation of them: Neither doth the variation of the Onely Matter produce an annihilation of any part of Matter, nor the variation of figures and motions of Matter cause an alteration in the nature of Onely Matter: Wherefore there cannot be new Lives, Souls or Bodies in Nature; for, could there be any thing new in Nature, or any thing annihilated, there would not be any stability in Nature, as a continuance of every kind and sort of Creatures, but there would be a confusion between the new and old matter, motions, and figures, as between old and new Nature; In truth, it would be like new Wine in old Vessels, by which all would break into disorder. Neither can supernatural and natural effects be mixt together, no more then material and immaterial things or beings: Therefore it is probable, God has ordained Nature to work in her self by his Leave, Will, and Free Gift. But there have been, and are still strange and erroneous Opinions, and great differences amongst Natural Philosophers, concerning the Principles of Natural things; some will have them *Atoms*, others will have

the first Principles to be *Salt, Sulphur* and *Mercury*; some will have them to be the four Elements, as *Fire, Air, Water,* and *Earth*; and others will have but one of these Elements also some will have *Gas* and *Blas, Ferments, Ideas* and the like; but what they believe to be Principles and Causes of natural things, are onely Effects; for in all Probability it appears to humane sense and reason, that the cause of every particular material Creature is the onely and Infinite Matter, which has Motions and Figures inseparably united; for Matter, Motion and Figure, are but one thing, individable in its Nature. And as for Immaterial Spirits, there is surely no such thing in Infinite Nature, to wit, so as to be Parts of Nature; for Nature is altogether Material, but this opinion proceeds from the separation or abstraction of Motion from Matter, *viz.* that man thinks matter and motion to be dividable from each other, and believes motion to be a thing by its self, naming it an Immaterial thing, which has a being, but not a bodily substance: But various and different effects do not prove a different Matter or Cause, neither do they prove an unsetled Cause, onely the variety of Effects hath obscured the Cause from the several parts, which makes Particular Creatures partly Ignorant, and partly knowing. But in my opinion, Nature is material, and not any thing in Nature, what belongs to her, is immaterial; but whatsoever is Immaterial, is Supernatural, Therefore Motions, Forms, Thoughts, Ideas, Conceptions, Sympathies, Antipathies, Accidents, Qualities, as also Natural Life, and Soul, are all Material: And as for Colours, Sents, Light, Sound, Heat, Cold, and the like, those that believe them not to be substances or material things, surely their brain or heart (take what place you will for the forming of Conceptions) moves very Irregularly, and they might as well say,

Our sensitive Organs are not material; for what Objects soever, that are subject to our senses, cannot in sense be denied to be Corporeal, when as those things that are not subject to our senses, can be conceived in reason to be Immaterial? But some Philosophers striving to express their wit, obstruct reason; and drawing Divinity to prove Sense and Reason, weaken Faith so, as their mixed Divine Philosophy becomes meer Poetical Fictions, and Romancical expressions, making material Bodies immaterial Spirits, and immaterial Spirits material Bodies; and some have conceived some things neither to be Material nor Immaterial but between both. Truly, *Madam*, I wish their Wits had been less, and their Judgments more, as not to jumble Natural and Supernatural things together, but to distinguish either clearly, for such Mixtures are neither Natural nor Divine; But as I said, the Confusion comes from their too nice abstractions, and from the separation of Figure and Motion from Matter, as not conceiving them individable; but if God, and his servant Nature were as Intricate and Confuse in their Works, as Men in their Understandings and Words, the Universe and Production of all Creatures would soon be without Order and Government, so as there would be a horrid and Eternal War both in Heaven, and in the World, and so pittying their troubled Brains, and wishing them the Light of Reason, that they may clearly perceive the Truth, I rest

Madam,

Your real Friend

and faithful Servant.

III.

MADAM,

It seems you are offended at my Opinion, that *Nature* is Eternal without beginning, which, you say, is to make her God, or at least coequal with God; But, if you apprehend my meaning rightly, you will say, I do not: For first, God is an Immaterial and Spiritual Infinite Being, which Propriety God cannot give away to any Creature, nor make another God in Essence like to him, for Gods Attributes are not communicable to any Creature; Yet this doth not hinder, that God should not make Infinite and Eternal Matter, for that is as easie to him, as to make a Finite Creature, Infinite Matter being quite of another Nature then God is, to wit, Corporeal, when God is Incorporeal, the difference whereof I have declared in my former Letter. But as for *Nature*, that it cannot be Eternal without beginning, because God is the Creator and Cause of it, and that the Creator must be before the Creature, as the Cause before the Effect, so, that it is impossible for *Nature* to be without a beginning; if you will speak naturally, as human reason guides you, and bring an Argument concluding from the Priority of the *Cause* before the *Effect*, give me leave to tell you, that God is not tied to Natural Rules, but that he can do beyond our Understanding, and therefore he is neither bound up to time, as to be before, for if we will do this, we must not allow, that the Eternal Son of God is Coeternal with the Father, because nature requires a Father to exist before the Son, but in God is no time, but all Eternity; and if you allow, that God hath made some Creatures, as Supernatural Spirits, to live Eternally, why should he not as well have made a Creature from all Eternity? for Gods making is not

our making, he needs no Priority of Time. But you may say, the Comparison of the Eternal Generation of the Son of God is Mystical and Divine, and not to be applied to natural things: I answer, The action by which God created the World or made Nature, was it natural or supernatural? surely you will say it was a Supernatural and God-like action, why then will you apply Natural Rules to a God-like and Supernatural Action? for what Man knows, how and when God created Nature? You will say, the Scripture doth teach us that, for it is not Six thousand years, when God created this World, I answer, the holy Scripture informs us onely of the Creation of this Visible World, but not of Nature and natural Matter; for I firmly believe according to the Word of God, that this World has been Created, as is described by *Moses,* but what is that to natural Matter? There may have been worlds before, as many are of the opinion that there have been men before *Adam*, and many amongst Divines do believe, that after the destruction of this World God will Create a new World again, as a new Heaven, and a new Earth; and if this be probable, or at least may be believed without any prejudice to the holy Scripture, why may it not be probably believed that there have been other worlds before this visible World? for nothing is impossible with God; and all this doth derogate nothing from the Honour and Glory of God, but rather increases his Divine Power. But as for the Creation of this present World, it is related, that there was first a rude and indigested Heap, or Chaos, without form, void and dark; and God said, *Let it be light; Let there be a Firmament in the midst of the Waters, and let the Waters under the Heaven be gathered together, and let the dry Land appear; Let the Earth bring forth Grass, the Herb yielding seed, and the*

Fruit-tree yielding Fruit after its own kind; and let there be Lights in the Firmament, the one to rule the Day, and the other the Night; and let the Waters bring forth abundantly the moving Creature that hath life; and let the Earth bring forth living Creatures after its kinde; and at last God said, Let us make Man, and all what was made, God saw it was good. Thus all was made by Gods Command, and who executed his Command but the Material servant of God, Nature? which ordered her self-moving matter into such several Figures as God commanded, and God approved of them. And thus, *Madam*, I verily believe the Creation of the World, and that God is the Sole and omnipotent Creator of Heaven and Earth, and of all Creatures therein; nay, although I believe Nature to have been from Eternity, yet I believe also that God is the God and Author of Nature, and has made Nature and natural Matter in a way and manner proper to his Omnipotency and Incomprehensible by us: I will pass by natural Arguments and Proofs, as not belonging to such an Omnipotent Action; as for example, how the nature of relative terms requires, that they must both exist at one point of Time, *viz.* a Master and his Servant, and a King and his Subjects; for one bearing relation to the other, can in no ways be considered as different from one another in formiliness or laterness of Time; but as I said, these being meerly natural things, I will nor cannot apply them to Supernatural and Divine Actions; But if you ask me, how it is possible that *Nature*, the Effect and Creature of God, can be Eternal without beginning? I will desire you to answer me first, how a Creature can be Eternal without end, as, for example. Supernatural Spirits are, and then I will answer you, how a Creature can be Eternal without beginning; For Eternity consists herein, that it has neither beginning nor end; and if

it be easie for God to make a Being without end, it is not difficult for Him to make a Being without beginning. One thing more I will add, which is, That if *Nature* has not been made by God from all Eternity, then the Title of God, as being a Creator, which is a Title and action, upon which our Faith is grounded, (for it is the first Article in our Creed) has been accessory to God, as I said, not full Six thousand years ago; but there is not any thing accessory to God; he being the Perfection himself. But, *Madam*, all what I speak, is under the liberty of Natural Philosophy, and by the Light of Reason onely, not of Revelation; and my Reason being not infallible; I will not declare my Opinions for an infallible Truth: Neither do I think, that they are offensive either to Church or State, for I submit to the Laws of One, and believe the Doctrine of the Other, so much, that if it were for the advantage of either, I should be willing to sacrifice my Life, especially for the Church; yea, had I millions of Lives, and every Life was either to suffer torment or to live in ease, I would prefer torment for the benefit of the Church; and therefore, if I knew that my Opinions should give any offence to the Church, I should be ready every minute to alter them: And as much as I am bound in all duty to the obedience of the Church, as much am I particularly bound to your Ladiship, for your entire love and sincere affection towards me, for which I shall live and die,

Madam,

Your most faithful Friend,

and humble Servant.

IV.

MADAM,

I have chosen, in the first place, the Work of that famous Philosopher *Hobbs* called *Leviathan*, wherein I find he sayes,[1] *That the cause of sense or sensitive perception is the external body or Object, which presses the Organ proper to each Sense*. To which I answer, according to the ground of my own *Philosophical Opinions*, That all things, and therefore outward objects as well as sensitive organs, have both Sense and Reason, yet neither the objects nor the organs are the cause of them; for Perception is but the effect of the Sensitive and rational Motions, and not the Motions of the Perception; neither doth the pressure of parts upon parts make Perception; for although Matter by the power of self-motion is as much composeable as divideable, and parts do joyn to parts, yet that doth not make perception; nay, the several parts, betwixt which the Perception is made, may be at such a distance, as not capable to press: As for example, Two men may see or hear each other at a distance, and yet there may be other bodies between them, that do not move to those perceptions, so that no pressure can be made, for all pressures are by some constraint and force; wherefore, according to my Opinion, the Sensitive and Rational free Motions, do pattern out each others object, as Figure and Voice in each others Eye and Ear; for Life and Knowledge, which I name Rational and Sensitive Matter, are in every Creature, and in all parts of every Creature, and make all perceptions in Nature, because they are the self-moving parts of Nature, and according as those Corporeal, Rational, and Sensitive Motions move, such or such perceptions are made: But these self-

moving parts being of different degrees (for the Rational matter is purer then the Sensitive) it causes a double perception in all Creatures, whereof one is made by the Rational corporeal motions, and the other by the Sensitive; and though both perceptions are in all the body, and in every part of the body of a Creature, yet the sensitive corporeal motions having their proper organs, as Work-houses, in which they work some sorts of perceptions, those perceptions are most commonly made in those organs, and are double again; for the sensitive motions work either on the inside or on the out-side of those organs, on the inside in Dreams, on the out-side awake; and although both the Rational and the Sensitive matter are inseparably joyned and mixed together, yet do they not always work together, for oftentimes the Rational works without any sensitive paterns, and the sensitive again without any rational paterns. But mistake me not, *Madam*, for I do not absolutely confine the sensitive perception to the Organs, nor the rational to the Brain, but as they are both in the whole body, so they may work in the whole body according to their own motions. Neither do I say, that there is no other perception in the Eye but sight, in the Ear but hearing, and so forth, but the sensitive organs have other perceptions besides these; and if the sensitive and rational motions be irregular in those parts, between which the perception is made, as for example, in the two fore-mentioned men, that see and hear each other, then they both neither see nor hear each other perfectly; and if one's motions be perfect, but the other's irregular and erroneous, then one sees and hears better then the other; or if the Sensitive and Rational motions move more regularly and make perfecter paterns in the Eye then in the Ear, then they see better then they hear; and if more

regularly and perfectly in the Ear then in the Eye, they hear better then they see: And so it may be said of each man singly, for one man may see the other better and more perfectly, then the other may see him; and this man may hear the other better and more perfectly, then the other may hear him; whereas, if perception were made by pressure, there would not be any such mistakes; besides the hard pressure of objects, in my opinion, would rather annoy and obscure, then inform. But as soon as the object is removed, the Perception of it, made by the sensitive motions in the Organs, ceaseth, by reason the sensitive Motions cease from paterning, but yet the Rational Motions do not always cease so suddenly, because the sensitive corporeal Motions work with the Inanimate Matter, and therefore cannot retain particular figures long, whereas the Rational Matter doth onely move in its own substance and parts of matter, and upon none other, as my Book of Philosophical Opinions will inform you better. And thus Perception, in my opinion, is not made by Pressure, nor by Species, nor by matter going either from the Organ to the Object, or from the Object into the Organ. By this it is also manifest, that Understanding comes not from Exterior Objects, or from the Exterior sensitive Organs; for as Exterior Objects do not make Perception, so they do neither make Understanding, but it is the rational matter that doth it, for Understanding may be without exterior objects and sensitive organs; And this in short is the opinion of

Madam,

Your faithful Friend

and Servant.

[1] *Part.* 1. *ch.* 1.

V.

Madam,

Your Authours opinion is,[1] that *when a thing lies still, unless somewhat else stir it, it will lie still for ever; but when a thing is in motion, it will eternally be in motion, unless somewhat else stay it; the reason is,* saith he, *because nothing can change it self*; To tell you truly, *Madam*, I am not of his opinion, for if Matter moveth it self, as certainly it doth, then the least part of Matter, were it so small as to seem Individable, will move it self; 'Tis true, it could not desist from motion, as being its nature to move, and no thing can change its Nature; for God himself, who hath more power then self-moving Matter, cannot change himself from being God; but that Motion should proceed from another exterior Body, joyning with, or touching that body which it moves, is in my opinion not probable; for though Nature is all Corporeal, and her actions are Corporeal Motions, yet that doth not prove, that the Motion of particular Creatures or Parts is caused by the joining, touching or pressing of parts upon parts; for it is not the several parts that make motion, but motion makes them; and yet Motion is not the cause of Matter, but Matter is the cause of Motion, for Matter might subsist without Motion, but not Motion without Matter, onely there could be no perception without Motion, nor no Variety, if Matter were not self-moving; but Matter, if it were all Inanimate and void of Motion, would lie as a dull, dead and senseless heap; But that all Motion comes by joining or pressing of other parts, I deny, for if sensitive and rational perceptions, which are sensitive and rational motions, in the body, and

in the mind, were made by the pressure of outward objects, pressing the sensitive organs, and so the brain or interior parts of the Body, they would cause such dents and holes therein, as to make them sore and patched in a short time; Besides, what was represented in this manner, would always remain, or at least not so soon be dissolved, and then those pressures would make a strange and horrid confusion of Figures, for not any figure would be distinct; Wherefore my opinion is, that the sensitive and rational Matter doth make or pattern out the figures of several Objects, and doth dissolve them in a moment of time; as for example, when the eye seeth the object first of a Man, then of a Horse, then of another Creature, the sensitive motions in the eye move first into the figure of the Man, then straight into the figure of the Horse, so that the Mans figure is dissolved and altered into the figure of the Horse, and so forth; but if the eye sees many figures at once, then so many several figures are made by the sensitive Corporeal Motions, and as many by the Rational Motions, which are Sight and Memory, at once: But in sleep both the sensitive and rational Motions make the figures without patterns, that is, exterior objects, which is the cause that they are often erroneous, whereas, if it were the former Impression of the Objects, there could not possibly be imperfect Dreams or Remembrances, for fading of Figures requires as much motion, as impression, and impression and fading are very different and opposite motions; nay, if Perception was made by Impression, there could not possibly be a fading or decay of the figures printed either in the Mind or Body, whereas yet, as there is alteration of Motions in self-moving Matter, so there is also an alteration of figures made by these motions. But you will say, it

doth not follow, if Perception be made by Impression, that it must needs continue and not decay; for if you touch and move a string, the motion doth not continue for ever, but ceaseth by degrees; I answer, There is great difference between Prime self-motion, and forced or Artificial Motions; for Artificial Motions are onely an Imitation of Natural Motions, and not the same, but caused by Natural Motions; for although there is no Art that is not made by Nature, yet Nature is not made by Art; Wherefore we cannot rationally judg of Perception by comparing it to the motion of a string, and its alteration to the ceasing of that motion, for Nature moveth not by force, but freely. 'Tis true, 'tis the freedom in Nature for one man to give another a box on the Ear, or to trip up his heels, or for one or more men to fight with each other; yet these actions are not like the actions of loving Imbraces and Kissing each other; neither are the actions one and the same, when a man strikes himself, and when he strikes another; and so is likewise the action of impression, and the action of self-figuring not one and the same, but different; for the action of impression is forced, and the action of self-figuring is free; Wherefore the comparison of the forced motions of a string, rope, watch, or the like, can have no place here; for though the rope, made of flax or hemp, may have the perception of a Vegetable, yet not of the hand, or the like, that touched or struck it; and although the hand doth occasion the rope to move in such a manner, yet it is not the motion of the hand, by which it moveth, and when it ceases, its natural and inherent power to move is not lessened; like as a man, that hath left off carving or painting, hath no less skill then he had before, neither is that skill lost when he plays upon the Lute or Virginals, or plows, plants, and the like,

but he hath onely altered his action, as from carving to painting, or from painting to playing, and so to plowing and planting, which is not through disability but choice. But you will say, it is nevertheless a cessation of such a motion. I grant it: but the ceasing of such a motion is not the ceasing of self-moving matter from all motions, neither is cessation as much as annihilation, for the motion lies in the power of the matter to repeat it, as oft it will, if it be not overpowred, for more parts, or more strength, or more motions may over-power the less; Wherefore forced, or artificial and free Natural motions are different in their effects, although they have but one Cause, which is the self-moving matter, and though Matter is but active and passive, yet there is great Variety, and so great difference in force and liberty, objects and perceptions, sense and reason, and the like. But to conclude, perception is not made by the pressure of objects, no more then hemp is made by the Rope-maker, or metal by the Bell-founder or Ringer, and yet neither the rope nor the metal is without sense and reason, but the natural motions of the metal, and the artificial motions of the Ringer are different; wherefore a natural effect in truth cannot be produced from an artificial cause, neither can the ceasing of particular forced or artificial motions be a proof for the ceasing of general, natural, free motions, as that matter it self should cease to move; for there is no such thing as rest in Nature, but there is an alteration of motions and figures in self-moving matter, which alteration causeth variety as well in opinions, as in every thing else; Wherefore in my opinion, though sense alters, yet it doth not decay, for the rational and sensitive part of matter is as lasting as matter it self, but that which is named decay of sense, is onely the alteration of motions,

and not an obscurity of motions, like, as the motions of memory and forgetfulness, and the repetition of the same motions is called remembrance. And thus much of this subject for the present, to which I add no more but rest

Madam,

your faithful Friend,

and Servant.

[1] *Leviathan, Part.* 1. *c.* 2.

VI.

MADAM,

Your Authour discoursing of Imagination, saith,[1] *That as soon as any object is removed from our Eyes, though the Impression that is made in us remain, yet other objects more present succeeding and working on us, the Imagination of the past is obscured and made weak*. To which I answer, first, that he conceives Sense and Imagination to be all one, for he says, *Imagination is nothing else, but a fading or decaying sense*; whereas in my opinion they are different, not onely their matter, but their motions also being distinct and different; for Imagination is a rational perception, and Sense a sensitive perception; wherefore as much as the rational matter differs from the sensitive, as much doth Imagination differ from Sense. Next I say, that Impressions do not remain in the body of sensitive matter, but it is in its power to make or repeat the like figures; Neither is Imagination less, when the object is absent, then when present, but the figure patterned out in the

sensitive organs, being altered, and remaining onely in the Rational part of matter, is not so perspicuous and clear, as when it was both in the Sense and in the Mind: And to prove that Imagination of things past doth not grow weaker by distance of time, as your Authour says, many a man in his old age, will have as perfect an Imagination of what is past in his younger years, as if he saw it present. And as for your Authours opinion, that *Imagination and Memory are one and the same*, I grant, that they are made of one kind of Matter; but although the Matter is one and the same, yet several motions in the several parts make Imagination and Memory several things: As for Example, a Man may Imagine that which never came into his Senses, wherefore Imagination is not one and the same thing with Memory. But your Authour seems to make all Sense, as it were, one Motion, but not all Motion Sense, whereas surely there is no Motion, but is either Sensitive or Rational; for Reason is but a pure and refined Sense, and Sense a grosser Reason. Yet all sensitive and rational Motions are not one and the same; for forced or Artificial Motions, though they proceed from sensitive matter, yet are they so different from the free and Prime Natural Motions, that they seem, as it were, quite of another nature: And this distinction neglected is the Cause, that many make Appetites and Passions, Perceptions and Objects, and the like, as one, without any or but little difference. But having discoursed of the difference of these Motions in my former Letter, I will not be tedious to you with repeating it again, but remain,

Madam,

Your faithful Friend

and Servant.

[1] *Leviathan, part.* 1. *c.* 2.

VII.

MADAM,

Your Authours opinion, concerning Dreams,[1] seemeth to me in some part very rational and probable, in some part not; For when he sayes, that *Dreams are onely Imaginations of them that sleep, which imaginations have been before either totally or by parcels in the Sense; and that the organs of Sense, as the Brain and the Nerves, being benumb'd in sleep, as not easily to be moved by external objects, those Imaginations proceed onely from the agitation of the inward parts of mans body, which for the connexion they have with the Brain, and other organs, when they be distemper'd, do keep the same in motion, whereby the Imaginations there formerly made, appear as if a man were waking*; This seems to my Reason not very probable: For, first, Dreams are not absolutely Imaginations, except we do call all Motions and Actions of the Sensitive and Rational Matter, Imaginations. Neither is it necessary, that all Imaginations must have been before either totally or by parcels in the Sense; neither is there any benumbing of the organs of Sense in sleep. But Dreams, according to my opinion, are made by the Sensitive and Rational Corporeal Motions, by figuring several objects, as awake; onely the difference is, that the Sensitive motions in Dreams work by rote and on the inside of the Sensitive organs, when as awake they work according to the patterns of outward objects, and exteriously or on the outside of the sensitive Organs,

so that sleep or dreams are nothing else but an alteration of motions, from moving exteriously to move interiously, and from working after a Pattern to work by rote: I do not say that the body is without all exterior motions, when asleep, as breathing and beating of the Pulse (although these motions are rather interior then exterior,) but that onely the sensitive organs are outwardly shut, so as not to receive the patterns of outward Objects, nevertheless the sensitive Motions do not cease from moving inwardly; or on the inside of the sensitive Organs; But the rational matter doth often, as awake, so asleep or in dreams, make such figures, as the sensitive did never make either from outward objects, or of its own accord; for the sensitive hath sometimes liberty to work without Objects, but the Rational much more, which is not bound either to the patterns of Exterior objects, or of the sensitive voluntary Figures. Wherefore it is not divers distempers, as your Authour sayes, that cause different Dreams, or Gold, or Heat; neither are Dreams the reverse of our waking Imaginations, nor all the Figures in Dreams are not made with their heels up, and their heads downwards, though some are; but this error or irregularity proceeds from want of exterior Objects or Patterns, and by reason the sensitive Motions work by rote; neither are the Motions reverse, because they work inwardly asleep, and outwardly awake, for Mad-men awake see several Figures without Objects. In short, sleeping and waking, is somewhat after that manner, when men are called either out of their doors, or stay within their houses; or like a Ship, where the Mariners work all under hatches, whereof you will find more in my Philosophical Opinions; and so taking my leave, I rest,

Madam,

Your faithful Friend

and Servant.

[1] *Leviathan, Part.* 1. *c.* 2.

VIII.

MADAM,

Your Authour going on in his discourse of Imagination, says,[1] *That, as we have no Imagination, whereof we have not formerly had sense, in whole or in parts; so we have not Transition from one Imagination to another, whereof we never had the like before in our senses*. To which my answer is in short, that the Rational part of Matter in One composed figure, as in Man, or the like Creature, may make such figures, as the senses did never make in that composed Figure or Creature; And though your Authour reproves those that say,[2] *Imaginations rise of themselves*; yet, if the self-moving part of Matter, which I call Rational, makes Imaginations, they must needs rise of themselves; for the Rational part of matter being free and self-moving, depends upon nothing, neither Sense nor Object, I mean, so, as not to be able to work without them. Next, when your Author, defining *Understanding*, says that it is nothing else, but[3] *an Imagination raised by words or other voluntary signs*, My Answer is, that Understanding, and so Words and Signs are made by self-moving Matter, that is, Sense and Reason, and not Sense and Reason by Words and Signs; wherefore Thoughts are not like[4] *Water upon a plain Table, which is drawn*

and guided by the finger this or that way, for every Part of self-moving matter is not alwayes forced, perswaded or directed, for if all the Parts of Sense and Reason were ruled by force or perswasion, not any wounded Creature would fail to be healed, or any disease to be cured by outward Applications, for outward Applications to Wounds and Diseases might have more force, then any Object to the Eye: But though there is great affinity and sympathy between parts, yet there is also great difference and antipathy betwixt them, which is the cause that many objects cannot with all their endeavours work such effects upon the Interiour parts, although they are closely press'd, for Impressions of objects do not always affect those parts they press. Wherefore, I am not of your Author's opinion, that all Parts of Matter press one another; It is true, *Madam*, there cannot be any part single, but yet this doth not prove, that parts must needs press each other: And as for his *Train of Thoughts*, I must confess, that Thoughts for the most part are made orderly, but yet they do not follow each other like Geese, for surely, man has sometimes very different thoughts; as for Example, a man sometime is very sad for the death of his Friend, and thinks of his own death, and immediately thinks of a wanton Mistress, which later thought, surely, the thought of Death did not draw in; wherefore, though some thought may be the Ring-leader of others, yet many are made without leaders. Again, your Author in his description of the Mind sayes, that *the discourse of the mind, when it is govern'd by design, is nothing but seeking, or the Faculty of Invention; a hunting out of the Causes of some Effects, present or past; or of the Effects of some present or past Cause. Sometimes a man seeks what he has lost, and from that Place and Time wherein he misses it, his mind runs back from place to place, and*

time to time, to find where and when he had it, that is to say, to find some certain and limited Time and Place, in which to begin a method of Seeking. And from thence his thoughts run over the same places and times to find what action or other occasion might make him lose it. This we call Remembrance or calling to mind. Sometimes a man knows a place determinate, within the compass whereof he is to seek, and then his thoughts run over all the Parts thereof in the same manner as one would sweep a room to find a Jewel, or as a Spaniel ranges the field till he find a sent; or as a Man should run over the Alphabet to start a Rime. Thus far your Author: In which discourse I do not perceive that he defineth what the Mind is, but I say, that if, according to his opinion, nothing moves it self, but one thing moves another, then the Mind must do nothing, but move backward and forward, nay, onely forward, and if all actions were thrusting or pressing of parts, it would be like a crowd of People, and there would be but little or no motion, for the crowd would make a stoppage, like water in a glass, the mouth of the Glass being turned downwards, no water can pass out, by reason the numerous drops are so closely press'd, as they cannot move exteriously. Next, I cannot conceive how the Mind can run back either to Time or Place, for as for Place, the mind is inclosed in the body, and the running about in the parts of the body or brain will not inform it of an Exterior place or object; besides, objects being the cause of the minds motion, it must return to its Cause, and so move until it come to the object, that moved it first, so that the mind must run out of the body to that object, which moved it to such a Thought, although that object were removed out of the World (as the phrase is:) But for the mind to move backward, to Time past, is more then it can do; Wherefore in my opinion, Remembrance, or the

like, is onely a repetition of such Figures as were like to the Objects; and for Thoughts in Particular, they are several figures, made by the mind, which is the Rational Part of matter, in its own substance, either voluntarily, or by imitation, whereof you may see more in my Book of Philosophical Opinions. Hence I conclude, that Prudence is nothing else, but a comparing of Figures to Figures, and of the several actions of those Figures; as repeating former Figures, and comparing them to others of the like nature, qualities, proprieties, as also chances, fortunes, &c. Which figuring and repeating is done actually, in and by the Rational Matter, so that all the observation of the mind on outward Objects is onely an actual repetition of the mind, as moving in such or such figures and actions; and when the mind makes voluntary Figures with those repeated Figures, and compares them together, this comparing is Examination; and when several Figures agree and joyn, it is Conclusion or Judgment: likewise doth Experience proceed from repeating and comparing of several Figures in the Mind, and the more several Figures are repeated and compared, the greater the experience is. One thing more there is in the same Chapter, which I cannot let pass without examination; Your Authour says, That *things Present onely have a being in Nature, things Past onely a being in the Memory, but things to come have no being at all*; Which how it possibly can be, I am not able to conceive; for certainly, if nothing in nature is lost or annihilated, what is past, and what is to come, hath as well a being, as what is present; and, if that which is now, had its being before, why may it not also have its being hereafter? It might as well be said, that what is once forgot, cannot be remembred; for whatsoever is in Nature, has as much a being as the

Mind, and there is not any action, or motion, or figure, in Nature, but may be repeated, that is, may return to its former Figure, When it is altered and dissolved; But by reason Nature delights in variety, repetitions are not so frequently made, especially of those things or creatures, which are composed by the sensitive corporeal motions in the inanimate part of Matter, because they are not so easily wrought, as the Rational matter can work upon its own parts, being more pliant in its self, then the Inanimate matter is; And this is the reason, that there are so many repetitions of one and the same Figure in the Rational matter, which is the Mind, but seldom any in the Gross and inanimate part of Matter, for Nature loves ease and freedom: But to conclude, *Madam*, I perceive your Author confines Sense onely to Animal-kind, and Reason onely to Man-kind: Truly, it is out of self-love, when one Creature prefers his own Excellency before another, for nature being endued with self-love, all Creatures have self-love too, because they are all Parts of Nature; and when Parts agree or disagree, it is out of Interest and Self-love; but Man herein exceeds all the rest, as having a supernatural Soul, whose actions also are supernatural; To which I leave him, and rest,

Madam,

Your faithful Friend,

and Servant.

[1] *Leviathan, part.* 1. *c.* 3.

[2] *part.* 1. *c.* 2.

[3] *ibid. c.* 3.

[4] *ibid.*

IX.

MADAM,

When your Author discourseth of the use of *Speech or Words and Names*, he is pleas'd to say,[1] *That their use is to serve for marks and notes of Remembrance*; Whereof to give you my opinion, I say, That Speech is natural to the shape of Man; and though sometimes it serves for marks or notes of remembrance, yet it doth not always, for all other Animals have Memory without the help of Speech, and so have deaf and dumb men, nay more then those that hear and speak: Wherefore, though Words are useful to the mind, and so to the memory, yet both can be without them, whereas Words cannot be without Memory; for take a Bird, and teach him to speak, if he had not Memory, before he heard the words, he could never learn them. You will ask me, *Madam*, What then, is Memory the Cause of Speech? I answer, Life and Knowledg, which is Sense and Reason, as it creates and makes all sorts of Creatures, so also amongst the rest it makes Words: And as I said before, that Memory may be without the help of Speech or Words, so I say also, that there is a possibility of reckoning of numbers, as also of magnitudes, of swiftness, of force, and other things without words, although your Author denies it: But some men are so much for Art, as they endeavour to make Art, which is onely a Drudgery-maid of Nature, the chief Mistress, and Nature her Servant, which is as much as to prefer Effects before the Cause, Nature before God, Discord before Unity and Concord.

Again, your *Author*, in his Chapter of Reason,[2] defines *Reason* to be nothing else but *Reckoning*: I answer, That in my opinion Reckoning is not Reason

it self, but onely an effect or action of Reason; for Reason, as it is the chiefest and purest degree of animate matter, works variously and in divers motions, by which it produces various and divers effects, which are several Perceptions, as Conception, Imagination, Fancy, Memory, Remembrance, Understanding, Judgment, Knowledg, and all the Passions, with many more: Wherefore this Reason is not in one undivided part, nor bound to one motion, for it is in every Creature more or less, and moves in its own parts variously; and in some Creatures, as for example, in some men, it moves more variously then in others, which is the cause that some men are more dull and stupid, then others; neither doth Reason always move in one Creature regularly, which is the cause, that some men are mad or foolish: And though all men are made by the direction of Reason, and endued with Reason, from the first time of their birth, yet all have not the like Capacities, Understandings, Imaginations, Wits, Fancies, Passions, &c. but some more, some less, and some regular, some irregular, according to the motions of Reason or Rational part of animate matter; and though some rational parts may make use of other rational Parts, as one man of another mans Conceptions, yet all these parts cannot associate together; as for example, all the Material parts of several objects, no not their species, cannot enter or touch the eye without danger of hurting or loosing it, nevertheless the eye makes use of the objects by patterning them out, and so doth the rational matter, by taking patterns from the sensitive; And thus knowledg or perception of objects, both sensitive and rational, is taken without the pressure of any other parts; for though parts joyn to parts, (for no part can be single) yet this joining doth not necessarily infer

the pressure of objects upon the sensitive organs; Whereof I have already discoursed sufficiently heretofore, to which I refer you, and rest

Madam,

Your faithful Friend

and Servant.

[1] *Leviathan, part.* 1. *c.* 4.

[2] *Ch.* 5.

X.

MADAM,

Understanding says your Author,[1] *is nothing else but Conception caused by speech, and therefore, if speech be peculiar to man, (as, for ought I know, it is) then is understanding peculiar to him also.* Where he confineth Understanding onely to speech and to Mankind; But, by his leave, *Madam*, I surely believe, that there is more understanding in Nature, then that, which is in speech, for if there were not, I cannot conceive, how all the exact forms in Generations could be produced, or how there could be such distinct degrees of several sorts and kinds of Creatures, or distinctions of times and seasons, and so many exact motions and figures in Nature: Considering all this, my reason perswadeth me, that all Understanding, which is a part of Knowledg, is not caused by speech, for all the motions of the Celestial Orbs are not made by speech, neither is the knowledg or understanding which a man hath, when sick, as to know or understand he is sick, made by speech, nor by

outward objects, especially in a disease he never heard, nor saw, nor smelt, nor tasted, nor touched; Wherefore all Perception, Sensation, Memory, Imagination, Appetite, Understanding, and the like, are not made nor caused by outward objects, nor by speech. And as for names of things, they are but different postures of the figures in our mind or thoughts, made by the Rational matter; But Reasoning is a comparing of the several figures with their several postures and actions in the Mind, which joyned with the several words, made by the sensitive motions, inform another distinct and separate part, as an other man, of their minds conceptions, understanding, opinions, and the like.

Concerning Addition and Subtraction, wherein your *Author* sayes Reasoning consists, I grant, that it is an act of Reasoning, yet it doth not make Sense or Reason, which is Life and Knowledge, but Sense and Reason which is self-motion, makes addition and subtraction of several Parts of matter; for had matter not self-motion, it could not divide nor compose, nor make such varieties, without great and lingring retardments, if not confusion. Wherefore all, what is made in Nature, is made by self-moving matter, which self-moving matter doth not at all times move regularly, but often irregularly, which causes false Logick, false Arithmetick, and the like; and if there be not a certainty in these self-motions or actions of Nature, much less in Art, which is but a secundary action; and therefore, neither speech, words, nor exterior objects cause Understanding or Reason. And although many parts of the Rational and Sensitive Matter joyned into one, may be stronger by their association, and over-power other parts that are not so well knit and united, yet these are not the less pure; onely these Parts and Motions being not equal

in several Creatures, make their Knowledge and Reason more or less: For, when a man hath more Rational Matter well regulated, and so more Wisdom then an other, that same man may chance to over-power the other, whose Rational Matter is more irregular, but yet not so much by strength of the united Parts, as by their subtilty; for the Rational Matter moving regularly, is more strong with subtilty, then the sensitive with force; so that Wisdom is stronger then Life, being more pure, and so more active; for in my opinion, there is a degree of difference between Life and Knowledge, as my Book of *Philosophical Opinions* will inform you.

Again, your *Author* sayes, *That Man doth excel all other Animals in this faculty, that when he conceives any thing whatsoever, he is apt to enquire the Consequences of it, and what effects he can do with it: Besides this* (sayes he) *Man hath an other degree of Excellence, that he can by Words reduce the Consequences he finds to General Rules called Theoremes or Aphorisms, that is, he can reason or reckon not onely in Number, but in all other things, whereof one may be added unto, or substracted from an other.* To which I answer, That according to my Reason I cannot perceive, but that all Creatures may do as much; but by reason they do it not after the same manner or way as Man, Man denies, they can do it at all; which is very hard; for what man knows, whether Fish do not Know more of the nature of Water, and ebbing and flowing, and the saltness of the Sea? or whether Birds do not know more of the nature and degrees of Air, or the cause of Tempests? or whether Worms do not know more of the nature of Earth, and how Plants are produced? or Bees of the several sorts of juices of Flowers, then Men? And whether they do not make there Aphorismes and

Theoremes by their manner of Intelligence? For, though they have not the speech of Man, yet thence doth not follow, that they have no Intelligence at all. But the Ignorance of Men concerning other Creatures is the cause of despising other Creatures, imagining themselves as petty Gods in Nature, when as *Nature* is not capable to make one God, much less so many as Mankind; and were it not for Mans supernatural Soul, Man would not be more Supreme, then other Creatures in Nature, *But* (says your *Author*) *this Priviledge in Man is allay'd by another, which is, No living Creature is subject to absurdity, but onely Man.* Certainly, *Madam*, I believe the contrary, to wit, that all other Creatures do as often commit mistakes and absurdities as Man, and if it were not to avoid tediousness, I could present sufficient proofs to you: Wherefore I think, not onely Man but also other Creatures may be Philosophers and subject to absurdities as aptly as Men; for Man doth, nor cannot truly know the Faculties, and Abilities or Actions of all other Creatures, no not of his own Kind as Man-Kind, for if he do measure all men by himself he will be very much mistaken, for what he conceives to be true or wise, an other may conceive to be false and foolish. But Man may have one way of Knowledge in Philosophy and other Arts, and other Creatures another way, and yet other Creatures manner or way may be as Intelligible and Instructive to each other as Man's, I mean, in those things which are Natural. Wherefore I cannot consent to what your *Author* says, *That Children are not endued with Reason at all, till they have attained to the use of Speech*; for Reason is in those Creatures which have not Speech, witness Horses, especially those which are taught in the manage, and many other Animals. And as for the weak understanding in Children, I have discoursed

thereof in my Book of Philosophy; The rest of this discourse, lest I tire you too much at once, I shall reserve for the next, resting in the mean time,

Madam,

Your faithful Friend,

and Servant.

[1] *Leviathan, part.* 1. *c.* 4.

XI.

Madam,

I sent you word in my last, that your *Author's* opinion is, *That Children are not endued with Reason at all, until they have attained to the use of Speech,* in the same Chapter[1] he speaks to the same purpose thus: *Reason is not as Sense and Memory born with us, nor gotten by experience onely, as Prudence is, but attained by industry.* To which I reply onely this, That it might as well be said, a Child when new born hath not flesh and blood, because by taking in nourishment or food, the Child grows to have more flesh and blood; or, that a Child is not born with two legs, because he cannot go, or with two arms and hands, because he cannot help himself; or that he is not born with a tongue, because he cannot speak: For although Reason doth not move in a Child as in a Man, in Infancy as in Youth, in Youth as in Age, yet that doth not prove that Children are without Reason, because they cannot run and prate: I grant, some other Creatures appear to have more Knowledg when new born then others; as for example, a young Foal has more knowledg than a young Child, because a Child

cannot run and play; besides a Foal knows his own Dam, and can tell where to take his food, as to run and suck his Dam, when as an Infant cannot do so, nor all beasts, though most of them can, but yet this doth not prove, that a Child hath no reason at all; Neither can I perceive that man is a Monopoler of all Reason, or Animals of all Sense, but that Sense and Reason are in other Creatures as well as in Man and Animals; for example, Drugs, as Vegetables and Minerals, although they cannot slice, pound or infuse, as man can, yet they can work upon man more subtilly, wisely, and as sensibly either by purging, vomiting, spitting, or any other way, as man by mincing, pounding and infusing them, and Vegetables will as wisely nourish Men, as Men can nourish Vegetables; Also some Vegetables are as malicious and mischievous to Man, as Man is to one another, witness Hemlock, Nightshade, and many more; and a little Poppy will as soon, nay sooner cause a Man to sleep, though silently, then a Nurse a Child with singing and rocking; But because they do not act in such manner or way as Man, Man judgeth them to be without sense and reason; and because they do not prate and talk as Man, Man believes they have not so much wit as he hath; and because they cannot run and go, Man thinks they are not industrious; the like for Infants concerning Reason. But certainly, it is not local motion or speech that makes sense and reason, but sense and reason makes them; neither is sense and reason bound onely to the actions of Man, but it is free to the actions, forms, figures and proprieties of all Creatures; for if none but Man had reason, and none but Animals sense, the World could not be so exact, and so well in order as it is: but Nature is wiser then Man with all his Arts, for these are onely produced through the variety of

Natures actions, and disputes through the superfluous varieties of Mans follies or ignorances, not knowing Natures powerful life and knowledg: But I wonder, *Madam*, your *Author* says in this place, *That Reason is not born with Man*, when as in another place,[2] he says, *That every man brought Philosophy, that is Natural reason with him into the World*; Which how it agree, I will leave to others to judg, and to him to reconcile it, remaining in the meantime,

Madam,

Your Constant Friend

and Faithful Servant.

[1] *Ch.* 4.

[2] In his *Elements of Philosophy, part.* 1. *c.* 1. *art.* 1.

XII.

Madam,

Two sorts of motions, I find your *Author*[1] doth attribute to Animals, *viz. Vital and Animal, the Vital motions*, says he, *are begun in Generation, and continued without Interruption through their whole life, and those are the Course of the Blood, the Pulse, the Breathing, Conviction, Nutrition, Excretion, &c. to which motions there needs no help of Imaginations; But the animal Motions, otherwise called voluntary Motions, are to go, to speak, to move any of our limbs, in such manner as is first fancied in our minds: And because going, speaking, and the like voluntary motions, depend always upon a precedent thought of whither, which way,*

and what, it is evident, that the Imagination is the first Internal beginning of all voluntary Motion. Thus far your *Author*. Whereof in short I give you my opinion, first concerning Vital Motions, that it appears improbable if not impossible to me, that Generation should be the cause and beginning of Life, because Life must of necessity be the cause of Generation, life being the Generator of all things, for without life motion could not be, and without motion not any thing could be begun, increased, perfected, or dissolved. Next, that Imagination is not necessary to Vital Motions, it is probable it may not, but yet there is required Knowledg, which I name Reason; for if there were not Knowledg in all Generations or Productions, there could not any distinct Creature be made or produced, for then all Generations would be confusedly mixt, neither would there be any distinct kinds or sorts of Creatures, nor no different Faculties, Proprieties, and the like. Thirdly, concerning *Animal Motions*, which your *Author* names *Voluntary Motions, as to go, to speak, to move any of our limbs, in such manner as is first fancied in our minds, and that they depend upon a precedent thought of whither, which way, and what, and that Imagination is the first Internal beginning of them*; I think, by your *Authors* leave, it doth imply a contradiction, to call them Voluntary Motions, and yet to say they are caused and depend upon our Imagination; for if the Imagination draws them this way, or that way, how can they be voluntary motions, being in a manner forced and necessitated to move according to Fancy or Imagination? But when he goes on in the same place and treats of Endeavour, Appetite, Desire, Hunger, Thirst, Aversion, Love, Hate, and the like, he derives one from the other, and treats well as a Moral Philosopher; but whether it be according to the truth

or probability of Natural Philosophy, I will leave to others to judge, for in my opinion Passions and Appetites are very different, Appetites being made by the motions of the sensitive Life, and Passions, as also Imagination, Memory, &c. by the motions of the rational Life, which is the cause that Appetites belong more to the actions of the Body then the Mind: 'Tis true, the Sensitive and Rational self-moving matter doth so much resemble each other in their actions, as it is difficult to distinguish them. But having treated hereof at large in my other Philosophical Work, to cut off repetitions, I will refer you to that, and desire you to compare our opinions together: But certainly there is so much variety in one and the same sort of Passions, and so of Appetites, as it cannot be easily express'd. To conclude, I do not perceive that your *Author* tells or expresses what the cause is of such or such actions, onely he mentions their dependance, which is, as if a man should converse with a Nobleman's Friend or Servant, and not know the Lord himself. But leaving him for this time, it is sufficient to me, that I know your Ladyship, and your Ladyship knows me, that I am,

Madam,

Your faithful Friend, and humble Servant.

[1] *Leviathan, part.* 1. *c.* 6.

XIII.

Madam,

Having obey'd your Commands in giving you my

opinion of the First Part of the Book of that famous and learned *Author* you sent me, I would go on; but seeing he treats in his following Parts of the Politicks, I was forced to stay my Pen, because of these following Reasons. First, That a Woman is not imployed in State Affairs, unless an absolute Queen. Next, That to study the Politicks, is but loss of Time, unless a man were sure to be a Favourite to an absolute Prince. Thirdly, That it is but a deceiving Profession, and requires more Craft then Wisdom. All which considered, I did not read that part of your *Author*: But as for his *Natural Philosophy*, I will send you my opinion so far as I understand it: For what belongs to Art, as to Geometry, being no Scholar, I shall not trouble my self withal. And so I'l take my leave of you, when I have in two or three words answered the Question you sent me last, which was, Whether Nature be the Art of God, Man the Art of Nature, and a Politick Government the Art of Man? To which I answer, 'Tis probable it may be so; onely I add this, That Nature doth not rule God, nor Man Nature, nor Politick Government Man; for the Effect cannot rule the Cause, but the Cause doth rule the Effect: Wherefore if men do not naturally agree, Art cannot make unity amongst them, or associate them into one Politick Body and so rule them; But man thinks he governs, when as it is Nature that doth it, for as nature doth unite or divide parts regularly or irregularly, and moves the several minds of men and the several parts of mens bodies, so war is made or peace kept: Thus it is not the artificial form that governs men in a Politick Government, but a natural power, for though natural motion can make artificial things, yet artificial things cannot make natural power; and we might as well say, nature is governed by the art of nature, as to say man is ruled by the art

and invention of men. The truth is, Man rules an artificial Government, and not the Government Man, just like as a Watch-maker rules his Watch, and not the Watch the Watch-maker. And thus I conclude and rest,

Madam,

Your faithful Friend

and Servant.

XIV.

MADAM,

Concerning the other Book of that learned Author *Hobbs* you sent me, called *Elements of Philosophy*, I shall likewise according to your desire, give you my judgment and opinion of it as I have done of the former, not that I intend to prejudice him any ways thereby, but onely to mark those places wherein I seem to dissent from his opinions, which liberty, I hope, he will not deny me; And in order to this, I have read over the first Chapter of the mentioned Book, treating of Philosophy in General, wherein amongst the rest, discoursing of the Utility of Natural Philosophy, and relating the commodities and benefits which proceed from so many arts and sciences, he is pleased to say,[1] that they are *injoyed almost by all people of* Europe, Asia, *and some of* Africa, *onely the Americans, and those that live neer the Poles do want them: But why*, says he, *have they sharper wits then these? Have not all men one kind of soul, and the same faculties of mind?* To which, give me leave, *Madam*, to add, That my opinion is, that

there is a difference between the Divine and the Natural soul of man, and though the natural mind or soul is of one kind, yet being made of rational matter, it is divideable and composeable, by which division and composition, men may have more or less wit, or quicker and slower wit; the like for Judgments, Imaginations, Fancies, Opinions, &c. For were the natural rational mind individeable, all men would have the like degree of wit or understanding, all men would be Philosophers or fools, which by reason they are not, it proves the natural rational mind is divideable and composeable, making variations of its own several parts by self-motion; for it is not the several outward objects, or forreign instructions, that make the variety of the mind; neither is wit or ingenuity alike in all men; for some are natural Poets, Philosophers, and the like, without learning, and some are far more ingenious then others, although their breeding is obscure and mean, Neither will learning make all men Scholars, for some will continue Dunces all their life time; Neither doth much experience make all men wise, for some are not any ways advanced in their wisdom by much and long experiences; And as for Poetry, it is according to the common Proverb; a *Poet is born, not made*; Indeed learning doth rather hurt Fancy, for great Scholars are not always good Poets, nor all States-men Natural Philosophers, nor all Experienced Men Wise Men, nor all Judges Just, nor all Divines Pious, nor all Pleaders or Preachers Eloquent, nor all Moral Philosophers Vertuous; But all this is occasioned by the various Motions of the rational self-moving matter, which is the Natural Mind. And thus much for the present of the difference of wits and faculties of the mind; I add no more, but rest,

Madam,

Your faithful Friend,

and Servant.

[1] *Art.* 7.

XV.

MADAM,

My Discourse for the present shall be of *Infinite*, and the question shall be first *Whether several Finite parts, how many soever there be, can make an Infinite.* Your Author says,[1] *that several Finite parts when they are all put together make a whole Finite*; which, if his meaning be of a certain determinate number, how big soever, of finite parts, I do willingly grant, for all what is determinate and limited, is not Infinite but Finite; neither is there any such thing, as Whole or All in Infinite; but if his meaning be, that no Infinite can be made of finite parts, though infinite in number, I deny it; Next he says *there can be no such thing as One in Infinite, because No thing can be said One, except there be another to compare it withal*; which in my opinion doth not follow, for there is but One God, who is Infinite, and hath none other to be compared withal, and so there may be but one Onely Infinite in Nature, which is Matter. But when he says, *there cannot be an Infinite and Eternal Division*, is very true, *viz.*, in this sense, that one single part cannot be actually infinitely divided, for the Compositions hinder the Divisions in Nature, and the Divisions the Compositions, so that Nature, being Matter, cannot be composed so, as not to have parts, nor divided so, as that her parts should not be composed, but there are nevertheless infinite divided parts in Nature, and

in this sense there may also be infinite divisions, as I have declared in my Book of Philosophy[2]. And thus there are Infinite divisions of Infinite parts in Nature, but not Infinite actual divisions of one single part; But though Infinite is without end, yet my discourse of it shall be but short and end here, though not my affection, which shall last and continue with the life of

Madam,

Your Faithful Friend

and Humble Servant.

[1] *Elem. of Philos. c.* 7. *a.* 1 2.

[2] *P.* 1. *c.* 8.

XVI.

MADAM,

An *Accident*, says your *Author*,[1] *is nothing else, but the manner of our Conception of body, or that Faculty of any body, by which it works in us a Conception of it self*; To which I willingly consent; but yet I say, that these qualities cannot be separated from the body, for as impossible it is that the essence of Nature should be separable from Nature, as impossible is it that the various modes or alterations, either of Figures or Motions, should be separable from matter or body; Wherefore when he goes on, and says,[2] *An accident is not a body, but in a body, yet not so, as if any thing were contained therein, as if for example, redness were in blood in the same manner as blood is in a bloody cloth; but as magnitude is in that which is great, rest in*

that which resteth, motion in that which is moved; I answer, that in my opinion, not any thing in Nature can be without a body, and that redness is as well in blood, as blood is in a bloody cloth, or any other colour in any thing else; for there is no colour without a body, but every colour hath as well a body as any thing else, and if Colour be a separable accident, I would fain know, how it can be separated from a subject, being bodiless, for that which is no body is nothing, and nothing cannot be taken away from any thing; Wherefore as for natural Colour it cannot be taken away from any creature, without the parts of its substance or body; and as for artificial Colours, when they are taken away, it is a separation of two bodies, which joyned together; and if Colour, or Hardness, or Softness do change, it is nothing else but an alteration of motions and not an annihilation, for all changes and alterations remain in the power of Corporeal motions, as I have said in other places; for we might as well say, life doth not remain in nature, when a body turns from an animal to some other figure, as believe that those, they name accidents, do not remain in Corporeal Motions; Wherefore I am not of your *Authors* mind, when he says,[3] that *when a White thing is made black, the whiteness perishes*; for it cannot perish, although it is altered from white to black, being in the power of the same matter, to turn it again from black to white, so as it may make infinite Repetitions of the same thing; but by reason nature takes delight in variety, she seldom uses such repetitions; nevertheless that doth not take away the Power of self-moving matter, for it doth not, and it cannot, are two several things, and the latter doth not necessarily follow upon the former; Wherefore not any, the least thing, can perish in Nature, for if this were possible, the whole

body of nature might perish also, for if so many Figures and Creatures should be annihilated and perish without any supply or new Creation, Nature would grow less, and at last become nothing; besides it is as difficult for Nature to turn something into nothing, as to Create something out of nothing; Wherefore as there is no annihilation or perishing in Nature, so there is neither any new Creation in Nature. But your *Author* makes a difference between bodies and accidents, saying, *that bodies are things and not generated, but accidents are Generated and not things.* Truly, *Madam*, these accidents seem to me to be like *Van Helmont's* Lights, Gases, Blazes and Ideas; and Dr *More's* Immaterial Substances or Dæmons, onely in this Dr *More* hath the better, that his Immaterial Substances, are beings, which subsist of themselves, whereas accidents do not, but their existence is in other bodies; But what they call Accidents, are in my opinion nothing else but Corporeal Motions, and if these accidents be generated, they must needs be bodies, for how nothing can be Generated in nature, is not conceivable, and yet your *Author* denies,[4] that *Accidents are something, namely some part of a natural thing*; But as for Generations, they are onely various actions of self-moving matter, or a variety of Corporeal Motions, and so are all Accidents whatsoever, so that there is not any thing in nature, that can be made new, or destroyed, for whatsoever was and shall be, is in nature, though not always in act, yet in power, as in the nature and power of Corporeal motions, which is self-moving matter, And as there is no new Generation of Accidents, so there is neither a new Generation of Motions; wherefore when your *Author* says,[5] *That, when the hand, being moved, moveth the pen, the motion doth not go out of*

the hand into the pen, for so the writing might be continued, though the hand stood still, but a new motion is generated in the pen, and is the pens motion: I am of his opinion, that the motion doth not go out of the hand into the pen, and that the motion of the pen, is the pens own motion; but I deny, that after holding the hand a little while still, and beginning to write again, a new motion of the pen is generated; for it is onely a repetition, and not a new generation, for the Hand, Pen and Ink, repeat but the same motion or action of writing: Besides, Generation is made by Connexion or Conjunction of parts, moving by consent to such or such Figures, but the motion of the Hand or the Pen is always one and the same; wherefore it is but the variation and repetition in and of the same motion of the Hand, or Pen, which may be continued in that manner infinitely, just as the same Corporeal Motions can make infinite variations and repetitions of one and the same Figure, repeating it as oft as they please, as also making Copy of Copy; And although I do not deny, but there are Generations in Nature, yet not annihilations or perishings, for if any one motion or figure should perish, the matter must perish also; and if any one part of matter can perish, all the matter in nature may perish also; and if there can any new thing be made or created in nature, which hath not been before, there may also be a new Nature, and so by perishings and new Creations, this World would not have continued an age; But surely whatsoever is in Nature, hath been existent always. Wherefore to conclude, it is not the generation and perishing of an Accident that makes its subject to be changed, but the production and alteration of the Form, makes it said to be generated or destroyed, for matter will change its motions and figures without perishing or

annihilating; and whether there were words or not, there would be such causes and effects; But having not the art of Logick to dispute with artificial words, nor the art of Geometry to demonstrate my opinions by Mathematical Figures, I fear they will not be so well received by the Learned; However, I leave them to any mans unprejudiced Reason and Judgment, and devote my self to your service, as becomes,

Madam,

Your Ladiships

humble and faithful Servant.

[1] *Elem. of Philos. c.* 8. *art.* 2.

[2] *Art.* 3.

[3] *Art.* 20.

[4] *Art.* 2.

[5] *Art.* 21.

XVII.

MADAM,

Your *Author* concerning Place and Magnitude says, [1], that *Place is nothing out of the mind, nor Magnitude any thing within it; for Place is a meer Phantasme of a body of such quantity and figure, and Magnitude a peculiar accident of the body*; but this doth not well agree with my reason, for I believe that Place, Magnitude and Body are but one thing, and that Place is as true an extension as Magnitude, and not a feigned one; Neither am I of his opinion, *that Place is Immoveable*, but that place moves, according as the body moveth, for not any body wants place, because

place and body is but one thing, and wheresoever is body, there is also place, and wheresoever is place, there is body, as being one and the same; Wherefore *Motion cannot be a relinquishing of one place and acquiring another*,[2] for there is no such thing as place different from body, but what is called change of place, is nothing but change of corporeal motions; for, say an house stands in such a place, if the house be gone, the place is gone also, as being impossible that the place of the house should remain, when the house is taken away; like as a man when he is gone out of his chamber, his place is gone too; 'Tis true, if the ground or foundation do yet remain, one may say, there stood such an house heretofore, but yet the place of the house is not there really at that present, unless the same house be built up again as it was before, and then it hath its place as before; Nevertheless the house being not there, it cannot be said that either place or house are annihilated, *viz.*, when the materials are dissolved, no not when transformed into millions of several other figures, for the house remains still in the power of all those several parts of matter; and as for *space*, it is onely a distance betwixt some parts or bodies; But an *Empty place* signifies to my opinion Nothing, for if place and body are one and the same, and empty is as much as nothing; then certainly these two words cannot consist together, but are destructive to one another. Concerning, that your *Author* says,[3] *Two bodies cannot be together in the same place, nor one body in two places at the same time*, is very true, for there are no more places then bodies, nor more bodies then places, and this is to be understood as well of the grosser, as the purest parts of nature, of the mind as well as of the body, of the rational and sensitive animate matter as well as of the inanimate, for there

is no matter, how pure and subtil soever, but is imbodied, and all that hath body hath place. Likewise I am of his opinion,[4] *That one body hath always one and the same magnitude*; for, in my opinion, magnitude, place and body do not differ, and as place, so magnitude can never be separated from body. But when he speaks of *Rest*, I cannot believe there is any such thing truly in Nature, for it is impossible to prove, that any thing is without Motion, either consistent, or composing, or dissolving, or transforming motions, or the like, although not altogether perceptible by our senses, for all the Matter is either moving or moved, and although the moved parts are not capable to receive the nature of self-motion from the self-moving parts, yet these self-moving parts, being joyned and mixt with all other parts of the moved matter, do always move the same; for the Moved or Inanimate part of Matter, although it is a Part of it self, yet it is so intermixt with the self-moving Animate Matter, as they make but one Body; and though some parts of the Inanimate may be as pure as the Sensitive Animate Matter, yet they are never so subtil as to be self-moving; Wherefore the Sensitive moves in the Inanimate, and the Rational in the Sensitive, but often the Rational moves in it self. And, although there is no rest in nature, nevertheless Matter could have been without Motion, when as it is impossible that Matter could be without place or magnitude, no more then Variety can be without motion; And thus much at this present: I conclude, and rest,

Madam,

Your Faithful Friend

and Servant.

[1] *Part.* 2. *c.* 8. *a.* 5.

[2] *Art.* 10.

[3] *Art.* 8.

[4] *Art.* 5.

XVIII.

MADAM,

Passing by those Chapters of your *Authors*, that treat of *Power and Act, Identy and Difference, Analogisme, Angle and Figure, Figures deficient, dimension of Circles*, and several others, most of which belong to art, as to Geometry, and the like; I am come to that wherein he discourses of *Sense* and *Animal Motion*, saying,[1] *That some Natural bodies have in themselves the patterns almost of all things, and others of none at all*; Whereof my opinion is, that the sensitive and rational parts of Matter are the living and knowing parts of Nature, and no part of nature can challenge them onely to it self, nor no creature can be sure, that sense is onely in Animal-kind, and reason in Man-kind; for can any one think or believe that Nature is ignorant and dead in all her other parts besides Animals? Truly this is a very unreasonable opinion; for no man, as wise as he thinks himself, nay were all Man-kind joyned into one body, yet they are not able to know it, unless there were no variety of parts in nature, but onely one whole and individeable body, for other Creatures may know and perceive as much as Animals, although they have not the same Sensitive Organs, nor the same manner or way of Perception. Next your *Author* says,[2] *The*

cause of Sense or Perception consists herein, that the first organ of sense is touched and pressed; For when the uttermost part of the organ is pressed, it no sooner yields, but the part next within it is pressed also, and in this manner the pressure or motion is propagated through all the parts of the organ to the innermost. And thus also the pressure of the uttermost part proceeds from the pressure of some more remote body, and so continually, till we come to that, from which, as from its fountain, we derive the Phantasme or Idea, that is made in us by our sense: And this, whatsoever it be, is that we commonly call the object; Sense therefore is some Internal motion in the Sentient, generated by some Internal motion of the Parts of the object, and propagated through all the media to the innermost part of the organ. Moreover there being a resistance or reaction in the organ, by reason of its internal motion against the motion propagated from the object, there is also an endeavour in the organ opposite to the endeavour proceeding from the object, and when that endeavour inwards is the last action in the act of sense, then from the reaction a Phantasme or Idea has its being. This is your *Authors* opinion, which if it were so, perception could not be effected so suddenly, nay I think the sentient by so many pressures in so many perceptions, would at last be pressed to death, besides the organs would take a great deal of hurt, nay totally be removed out of their places, so as the eye would in time be prest into the centre of the brain; And if there were any Resistance, Reaction or Indeavour in the organ, opposite to the Endeavour of the object, there would, in my opinion, be always a war between the animal senses and the objects, the endeavour of the objects pressing one way, and the senses pressing the other way, and if equal in their strengths, they would make a stop, and the sensitive

organs would be very much pained. Truly, *Madam*, in my opinion, it would be like that Custom which formerly hath been used at *Newcastle*, when a man was married, the guests divided themselves, behind and before the Bridegroom, the one party driving him back, the other forwards, so that one time a Bridegroom was killed in this fashion; But certainly Nature hath a more quick and easie way of giving intelligence and knowledg to her Creatures, and doth not use such constraint and force in her actions; Neither is sense or sensitive perception a meer Phantasme or Idea, but a Corporeal action of the sensitive and rational matter, and according to the variation of the objects or patterns, and the sensitive and rational motions, the perception also is various, produced not by external pressure, but by internal self-motion, as I have declared heretofore; and to prove, that the sensitive and rational corporeal motions are the onely cause of perception; I say, if those motions in an animal move in another way, and not to such perceptions, then that animal can neither hear, see, taste, smell nor touch, although all his sensitive organs be perfect, as is evident in a man falling into a swoon, where all the time he is in a swoon, the pressure of the objects is made without any effect; Wherefore, as the sensitive and rational corporeal motions make all that is in nature; so likewise they make perception, as being perception it self, for all self-motion is perception, but all perception is not animal perception; or after an animal way; and therefore sense cannot decay nor die, but what is called a decay or death, is nothing else but a change or alteration of those Motions. But you will say, *Madam*, it may be, that one body, as an object, leaves the print of its figure, in the next adjoyning body, until it comes to the organ of sense,

I answer that then soft bodies onely must be pressed, and the object must be so hard as to make a print, and as for rare parts of matter, they are not able to retain a print without self-motion; Wherefore it is not probable that the parts of air should receive a print, and print the same again upon the adjoyning part, until the last part of the air print it upon the eye; and that the exterior parts of the organ should print upon the interior, till it come to the centre of the Brain, without self-motion. Wherefore in my opinion, Perception is not caused either by the printing of objects, nor by pressures, for pressures would make a general stop of all natural motions, especially if there were any reaction or resistence of sense; but according to my reason, the sensitive and rational corporeal motions in one body, pattern out the Figure of another body, as of an exterior object, which may be done easily without any pressure or reaction; I will not say, that there is no pressure or reaction in Nature, but pressure and reaction doth not make perception, for the sensitive and rational parts of matter make all perception and variety of motion, being the most subtil parts of Nature, as self-moving, as also divideable, and composeable, and alterable in their figurative motions, for this Perceptive matter can change its substance into any figure whatsoever in nature, as being not bound to one constant figure. But having treated hereof before, and being to say more of it hereafter, this shall suffice for the present, remaining always,

Madam,

Your constant Friend,

and faithful Servant.

[1] *C.* 25. *a.* 1.

[2] *Art.* 2.

XIX.

MADAM,

To discourse of the World and Stars, is more then I am able to do, wanting the art of Astronomy and Geometry; wherefore passing by that Chapter of your Author, I am come to that[1] wherein he treats of Light, Heat and Colours; and to give you my opinion of Light, I say, it is not the light of the Sun, that makes an Animal see, for we can see inwardly in Dreams without the Suns light, but it is the sensitive and rational Motions in the Eye and Brain that make such a figure as Light; For if Light did press upon the Eye, according to your *Authors* opinion, it might put the Eye into as much pain as Fire doth, when it sticks its points into our skin or flesh. The same may be said of Colours, for the sensitive motions make such a figure, which is such a Colour, and such a Figure, which is such a Colour; Wherefore Light, Heat and Colour, are not bare and bodiless qualities, but such figures made by corporeal self-motions, and are as well real and corporeal objects as other figures are; and when these figures change or alter, it is onely that their motions alter, which may alter and change heat into cold, and light into darkness, and black colour into white. But by reason the motions of the Sun are so constant, as the motions of any other kind of Creatures, it is no more subject to be altered then all the World, unless Nature did it by the command of God; for though the Parts of self-moving Matter be alterable, yet all are not altered; and this is the

reason, that the figure of Light in our eye and brain is altered, as well as it is alterable, but not the real figure of the Sun, neither doth the Sun enter our eyes; and as the Light of the Sun is made or patterned in the eye, so is the light of Glow-worms-tails, and Cats-eyes, that shine in the dark, made not by the Sun's, but their own motions in their own parts; The like when we dream of Light, the sensitive corporeal motions working inwardly, make the figure of light on the inside of the eye, as they did pattern out the figure of light on the outside of the eye when awake, and the objects before them; for the sensitive motions of the eye pattern out the figure of the object in the eye, and the rational motions make the same figure in their own substance. But there is some difference between those figures that perceive light, and those that are light themselves; for when we sleep, there is made the figure of light, but not from a copy; but when the eye seeth light, that figure is made from a copy of the real figure of the Sun; but those lights which are inherent, as in Glow-worms-tails, are original lights, in which is as much difference as between a Man and his Picture; and as for the swiftness of the Motions of light, and the violence of the Motions of fire, it is very probable they are so, but they are a certain particular kind or sort of swift and violent motions; neither will all sorts of swift and violent motions make fire or light, as for example the swift and violent Circular motion of a Whirlewind neither makes light nor fire; Neither is all fire light, nor all light fire, for there is a sort of dead fire, as in Spices, Spirits, Oyles, and the like; and several sorts of lights, which are not hot, as the light which is made in Dreams, as also the inherent lights in Glow-worms, Cats-eyes, Fish-bones, and the like; all which several fires and lights are made by

the self-moving matter and motions distinguishable by their figures, for those Motions make such a figure for the Suns light, such a figure for Glow-worms light, such a figure for Cats-eyes light, and so some alteration in every sort of light; The same for Fire, onely Fire-light is a mixt figure, as partly of the figure of Fire, and partly of the figure of Light: Also Colours are made after the like manner, *viz.* so many several Colours, so many several Figures; and as these Figures are less or more different, so are the Colours.

Thus, *Madam*, whosoever will study Nature, must consider the Figures of every Creature, as well as their Motions, and must not make abstractions of Motion and Figure from Matter, nor of Matter from Motion and Figure, for they are inseparable, as being but one thing, *viz.* Corporeal Figurative Motions; and whosoever conceives any of them as abstract, will, in my opinion, very much erre; but men are apt to make more difficulties and enforcements in nature then nature ever knew. But to return to Light: There is no better argument to prove that all objects of sight are figured in the Eye, by the sensitive, voluntary or self-motions, without the pressure of objects, but that not onely the pressure of light would hurt the tender Eye, but that the eye doth not see all objects according to their Magnitude, but sometimes bigger, sometimes less: as for example, when the eye looks through a small passage, as a Perspective-glass, by reason of the difficulty of seeing a body through a small hole, and the double figure of the glass being convex and concave, the corporeal motions use more force, by which the object is enlarged, like as a spark of fire by force is dilated into a great fire, and a drop of water by blowing into a bubble; so the corporeal motions do double and

treble their strength, making the Image of the object exceeding large in the eye; for though the eye be contracted, yet the Image in the eye is enlarged to a great extension; for the sensitive and rational matter is extremely subtil, by reason it is extreamly pure, by which it hath more means and ways of magnifying then the Perspective-glass. But I intend to write more of this subject in my next, and so I break off here, resting,

Madam,

Your Faithful Friend

and Servant.

[1] *Ch.* 27.

XX.

MADAM,

Some perhaps will question the truth or probability of my saying, that Light is a Body, objecting that if light were a body, when the Sun is absent or retires under our Horizon, its light would leave an empty place, or if there were no empty place but all full, the light of the Sun at its return would not have room to display it self, especially in so great a compass as it doth, for two bodies cannot be in one place at one time. I *answer*, all bodies carry their places along with them, for body and place go together and are inseparable, and when the light of the Sun is gone, darkness succeeds, and when darkness is gone, light succeeds, so that it is with light and darkness as with all Creatures else; For you cannot believe, that if the whole World were removed, there would be a place

of the world left, for there cannot be an empty nothing, no more then there can be an empty something; but if the world were annihilated, the place would be annihilated too, place and body being one and the same thing; and therefore in my opinion, there be no more places then there are bodies, nor no more bodies then there are places.

Secondly, They will think it absurd that I say, the eye can see without light; but in my opinion it seems not absurd, but very rational, for we may see in dreams, and some do see in the dark, not in their fancy or imagination, but really; and as for dreams, the sensitive corporeal motions make a light on the inside of the organ of sight really, as I have declared in my former Letter. But that we do not see ordinarily without exterior Light, the reason is, that the sensitive Motions cannot find the outward objects to pattern out without exterior light, but all perception doth not proceed from light, for all other perception besides animal sight requires not light. Neither in my opinion, doth the Perception of sight in all Creatures but Animals, but yet Animals do often see in the dark, and in sleep: I will not say but that the animate matter which by self-motion doth make the Perception of light with other perceptive Figures, and so animal perceptive light may be the presenter or ground perceptive figure of sight; yet the sensitive corporeal motions can make other figures without the help of light, and such as light did never present: But when the eye patterns out an exterior object presented by light, it patterns also out the object of light; for the sensitive motions can make many figures by one act, not onely in several organs, but in one organ; as for example, there is presented to sight a piece of Imbroydery, wherein is silk, silver and gold upon Sattin in several forms or

figures, as several flowers, the sensitive motions streight by one and the same act, pattern out all those several figures of flowers, as also the figures of Silk, Silver, Gold and Sattin, without any pressure of these objects, or motions in the medium, for if they all should press, the eye would no more see the exterior objects, then the nose, being stopt, could smell a presented perfume.

Thirdly, They may ask me, if sight be made in the eye, and proceeds not from the outward object, what is the reason that we do not see inwardly, but outwardly as from us? I answer, when we see objects outwardly, as from us, then the sensitive motions work on the outside of the organ, which organ being outwardly convex, causes us to see outwardly, as from us, but in dreams we see inwardly; also the sensitive motions do pattern out the distance together with the object: But you will say, the body of the distance, as the air, cannot be perceived, and yet we can perceive the distance; I answer, you could not perceive the distance, but by such or such an object as is subject to your sight; for you do not see the distance more then the air, or the like rare body, that is between grosser objects; for if there were no stars, nor planets, nor clouds, nor earth, nor water, but onely air, you would not see any space or distance; but light being a more visible body then air, you might figure the body of air by light, but so, as in an extensive or dilating way; for when the mind or the rational matter conceives any thing that hath not such an exact figure, or is not so perceptible by our senses; then the mind uses art, and makes such figures, which stand like to that; as for example, to express infinite to it self, it dilates it parts without alteration, and without limitation or circumference; Likewise, when it will conceive a constant succession

of Time, it draws out its parts into the figure of a line; and if eternity, it figures a line without beginning, and end. But as for Immaterial, no mind can conceive that, for it cannot put it self into nothing, although it can dilate and rarifie it self to an higher degree, but must stay within the circle of natural bodies, as I within the circle of your Commands, to express my self

Madam,

Your faithful Friend,

and obedient Servant.

XXI.

MADAM,

Heat and Cold, according to your *Authors* opinion, are made by Dilation and Contraction: for says he,[1] *When the Motion of the ambient æthereal substance makes the spirits and fluid parts of our bodies tend outwards, we acknowledg heat, but by the indeavour inwards of the same spirits and humors we feel cold: so that to cool is to make the exterior parts of the body endeavour inwards, by a motion contrary to that of calefaction, by which the internal parts are called outwards. He therefore that would know the cause of Cold, must find by what motion the exterior parts of any body endeavour to retire inwards.* But I desire you to consider, *Madam*, that there be moist Colds, and dry Heats, as well as dry Colds, and moist Heats; wherefore all sorts of Cold are not made by the retyring of parts inwards, which is contraction or attraction; neither are all sorts of Heat made by parts

tending outwards, which is dilation or rarefaction; for a moist cold is made by dilation, and a dry heat by contraction, as well as a moist heat is made by dilation, and a dry cold by contraction: But your *Author* makes not this difference, but onely a difference between a dilated heat, and a contracted cold; but because a cold wind is made by breath blown thorow pinched or contracted lips, and an hot wind by breath through opened and extended lips, should we judg that all heat and cold must be made after one manner or way? The contracted mouth makes Wind as well as the dilated, but yet Wind is not made that way, as heat and cold; for it may be, that onely the air pressed together makes wind, or it may be that the corporeal motions in the air may change air into wind, as they change water into vapour, and vapour into air; or it may be something else that is invisible and rare, as air; and there may be several sorts of wind, air, heat, cold, as of all other Creatures, more then man is capable to know. As for your *Authors* opinion concerning the congealing of Water, and how Ice is made, I will not contradict it, onely I think nature hath an easier way to effect it, then he describes; Wherefore my opinion is, that it is done by altering motions; as for example, the corporeal motions making the figure of water by dilation in a Circle figure, onely alter from such a dilating circular figure into a contracted square, which is Ice, or into such a contracted triangle, as is snow: And thus water and vapour may be changed with ease, without any forcing, pressing, raking, or the like. The same may be said of hard and bent bodies; and of restitution, as also of air, thunder and lightning, which are all done by an easie change of motion, and changing into such or such a figure is not the motion of Generation, which is to build a

new house with old materials, but onely a Transformation; I say a new house with old materials; not that I mean there is any new Creation in nature, of any thing that was not before in nature; for nature is not God, to make new beings out of nothing, but any thing may be called new, when it is altered from one figure into another. I add no more at this time, but rest,

Madam,

Your faithful Friend

and Servant.

[1] *C.* 28. *a.* 1.

XXII.

MADAM,

The Generation of sound, according to your worthy *Authors* opinion, is as follows: *As Vision,* says he,[1] *so hearing is Generated by the medium, but not in the same manner; for sight is from pressure, that is, from an endeavour, in which there is no perceptible progression of any of the parts of the medium, but one part urging or thrusting on another, propagateth that action successively to any distance whatsoever; whereas the motion of the medium, by which sound is made, is a stroke; for when we hear, the drum of the Ear, which is the first organ of hearing, is strucken, and the drum being stricken, the* Pia Mater *is also shaken, and with it the arteries inserted into it, by which the action propagated to the heart it self, by the reaction of the heart a Phantasme is made which we call Sound.* Thus far your *Author*: To which give me leave to reply,

that I fear, if the Ear was bound to hear any loud Musick, or another sound a good while, it would soundly be beaten, and grow sore and bruised with so many strokes; but since a pleasant sound would be rendred very unpleasant in this manner, my opinion is, that like as in the Eye, so in the Ear the corporeal sensitive motions do pattern out as many several figures, as sounds are presented to them; but if these motions be irregular, then the figure of the sound in the ear is not perfect according to the original; for if it be, that the motions are tyred with figuring, or the object of sound be too far distant from the sensitive organ, then they move slowly and weakly, not that they are tyred or weak in strength, but with working and repeating one and the same object, and so through love to variety, change from working regularly to move irregularly, so as not to pattern outward objects as they ought, and then there are no such patterns made at all, which we call to be deaf; and sometimes the sensitive motions do not so readily perceive a soft sound near, as a stronger farther off. But to prove it is not the outward object of sound with its striking or pressing motion, nor the medium, that causes this perception of sense, if there be a great solid body, as a wall, or any other partition betwixt two rooms, parting the object and the sensitive organ, so, as the sound is not able to press it, nevertheless the perception will be made; And as for pipes to convey sounds, the perception is more fixt and perfecter in united then in dilated or extended bodies, and then the sensitive motions can make perfecter patterns; for the stronger the objects are, the more perfect are the figures and patterns of the objects, and the more perfect is the perception. But when the sound is quite out of the ear, then the sensitive motions have altered the patterning of such

figures to some other action; and when the sound fadeth by degrees, then the figure or pattern alters by degrees; but for the most part the sensitive corporeal motions alter according as the objects are presented, or the perception patterns out. Neither do they usually make figures of outward objects, if not perceived by the senses, unless through Irregularities as in Mad men, which see such and such things, when as these things are not neer, and then the sensitive motions work by rote, or after their own voluntary invention. As for Reflexion, it is a double perception, and so a double figure of one object; like as many pictures of one man, where some are more perfect then others, for a copy of a copy is not so perfect as a copy of an original. But the recoyling of sound is, that the sensitive motions in the ear begin a new pattern, before they dissolved the former, so as there is no perfect alteration or change, from making to dissolving, but pattern is made upon pattern, which causes a confusion of figures, the one being neither perfectly finished, nor the other perfectly made. But it is to be observed, that not always the sensitive motions in the organs take their pattern from the original, but from copies; as for example, the sensitive motions in the eye, pattern out the figure of an eye in a glass, and so do not take a pattern from the original it self, but by an other pattern, representing the figure of the eye in a Looking-glass; The same doth the Ear, by patterning out Ecchoes, which is but a pattern of a pattern; But when as a man hears himself speak or make a sound, then the corporeal sensitive motions in the Ear, pattern out the object or figure made by the motions of the tongue and the throat, which is voice; By which we may observe, that there may be many figures made by several motions from one original;

as for example, the figure of a word is made in a mans mouth, then the copy of that figure is made in the ear, then in the brain, and then in the memory, and all this in one Man: Also a word being made in a mans mouth, the air takes a copy or many copies thereof; but the Ear patterns them both out, first the original coming from the mouth, and then the copy made in the air, which is called an Eccho, and yet not any strikes or touches each others parts, onely perceives and patterns out each others figure. Neither are their substances the same, although the figures be alike; for the figure of a man may be carved in wood, then cut in brass, then in stone, and so forth, where the figure may be always the same, although the substances which do pattern out the figure are several, *viz.* Wood, Brass, Stone, &c. and so likewise may the figure of a stone be figured in the fleshy substance of the Eye, or the figure of light or colour, and yet the substance of the Eye remains full the same; neither doth the substantial figure of a stone, or tree, patterned out by the sensitive corporeal motions, in the flesh of an animal eye, change from being a vegetable or mineral, to an animal, and if this cannot be done by nature, much less by art; for if the figure of an animal be carved in wood or stone, it doth not give the wood or stone any animal knowledg, nor an animal substance, as flesh, bones, blood, &c. no more doth the patterning or figuring of a Tree give a vegetable knowledg, or the substance of wood to the eye, for the figure of an outward object doth not alter the substance that patterns it out or figures it, but the patterning substance doth pattern out the figure, in it self, or in its own substance, so as the figure which is pattern'd, hath the same life and knowledg with the substance by and in which it is figured or pattern'd, and the

inherent motions of the same substance; and according as the sensitive and rational self-moving matter moves, so figures are made; and thus we see, that lives, knowledges, motions and figures are all material, and all Creatures are indued with life, knowledg, motion and figure, but not all alike or after the same manner. But to conclude this discourse of perception of Sound, the Ear may take the object of sound afar off, as well as at a near distance; not onely if many figures of the same sound be made from that great distance, but if the interposing parts be not so thick, close, or many as to hinder or obscure the object from the animal Perception in the sensitive organ; for if a man lays his Ear near to the Ground, the Ear may hear at a far distance, as well as the Eye can see, for it may hear the noise of a troop afar off, perception being very subtil and active; Also there may several Copies be made from the Original, and from the last Copy nearest to the Ear, the Ear may take a pattern, and so pattern out the noise in the organ, without any strokes to the Ear, for the subtil matter in all Creatures doth inform and perceive. But this is well to be observed, that the figures of objects are as soon made, as perceived by the sensitive motions in their work of patterning. And this is my Opinion concerning the Perception of Sound, which together with the rest I leave to your Ladyships and others wiser Judgment, and rest,

Madam,

Your faithful Friend

and Servant.

[1] *Ch.* 29. *a.* 1.

XXIII.

MADAM,

I perceive by your last, that you cannot well apprehend my meaning, when I say that the print or figure of a Body Printed or Carved, is not made by the motions of the body Printing or Carving it, but by the motions of the body or substance Printed or Carved; for say you, Doth a piece of Wood carve it self, or a black Patch of a Lady cut its own figure by its own motions? Before I answer you, *Madam*, give me leave to ask you this question, whether it be the motion of the hand, or the Instrument, or both, that print or carve such or such a body? Perchance you will say, that the motion of the hand moves the Instrument, and the Instrument moves the Wood which is to be carved: Then I ask, whether the motion that moves the Instrument, be the Instruments, or the Hands? Perchance you will say the Hands; but I answer, how can it be the Hands motion, if it be in the Instrument? You will say, perhaps, the motion of the hand is transferred out of the hand into the instrument, and so from the instrument into the carved figure; but give me leave to ask you, was this motion of the hand, that was transferred, Corporeal or Incorporeal? If you say, Corporeal, then the hand must become less and weak, but if Incorporeal, I ask you, how a bodiless motion can have force and strength to carve and cut? But put an Impossible proposition, as that there is an Immaterial motion, and that this Incorporeal motion could be transferred out of one body into another; then I ask you, when the hand and instrument cease to move, what is become of the motion? Perhaps you will say, the motion perishes or is annihilated, and when the hand and the instrument do move again, to

the carving or cutting of the figure, then a new Incorporeal Motion is created; Truly then there will be a perpetual creation and annihilation of Incorporeal motions, that is, of that which naturally is nothing; for an Incorporeal being is as much as a natural No-thing, for Natural reason cannot know nor have naturally any perception or Idea of an Incorporeal being: besides, if the motion be Incorporeal, then it must needs be a supernatural Spirit, for there is not any thing else Immaterial but they, and then it will be either an Angel or a Devil, or the Immortal Soul of man; but if you say it is the supernatural Soul, truly I cannot be perswaded that the supernatural Soul should not have any other imployment then to carve or cut prints, or figures, or move in the hands, or heels, or legs, or arms of a Man; for other animals have the same kind of Motions, and then they might have a Supernatural Soul as well as Man, which moves in them. But if you say, that these transferrable motions are material, then every action whereby the hand moves to the making or moving of some other body, would lessen the number of the motions in the hand, and weaken it, so that in the writing of one letter, the hand would not be able to write a second letter, at least not a third. But I pray, *Madam*, consider rationally, that though the Artificer or Workman be the occasion of the motions of the carved body, yet the motions of the body that is carved, are they which put themselves into such or such a figure, or give themselves such or such a print as the Artificer intended; for a Watch, although the Artist or Watch-maker be the occasional cause that the Watch moves in such or such an artificial figure, as the figure of a Watch, yet it is the Watches own motion by which it moves; for when you carry the Watch about you,

certainly the Watch-makers hand is not then with it as to move it; or if the motion of the Watch-makers hand be transferred into the Watch, then certainly the Watch-maker cannot make another Watch, unless there be a new creation of new motions made in his hands; so that God and Nature would be as much troubled and concerned in the making of Watches, as in the making of a new World; for God created this World in six days, and rested the seventh day, but this would be a perpetual Creation; Wherefore I say that some things may be Occasional causes of other things, but not the Prime or Principal causes; and this distinction is very well to be considered, for there are no frequenter mistakes then to confound these two different causes, which make so many confusions in natural Philosophy; and this is the Opinion of,

Madam,

Your Faithful Friend

and Servant.

XXIV.

MADAM,

In answer to your question, What makes Eccho, I say, it is that which makes all the effects of Nature, *viz.* self-moving matter; I know, the common opinion is, that Eccho is made like as the figure of a Face, or the like, in a Looking-glass, and that the Reverberation of sound is like the Reflection of sight in a Looking-glass; But I am not of that opinion, for both Eccho, and that which is called the Reflection in a Looking-

glass, are made by the self-moving matter, by way of patterning and copying out. But then you will ask me, whether the glass takes the copy of the face, or the face prints its copy on the glass, or whether it be the *medium* of light and air that makes it? I answer, although many Learned men say, that as all perception, so also the seeing of ones face in a Looking-glass, and Eccho, are made by impression and reaction; yet I cannot in my simplicity conceive it, how bodies that come not near, or touch each other, can make a figure by impression and reaction: They say it proceeds from the motions of the *Medium* of light, or air, or both, *viz.* that the *Medium* is like a long stick with two ends, whereof one touches the object, the other the organ of sense, and that one end of it moving, the other moves also at the same point of Time, by which motions it may make many several figures; But I cannot conceive, how this motion of pressing forward and backward should make so many figures, wherein there is so much variety and curiosity. But, say light and air are as one figure, and like as a seal do print another body; I answer, if any thing could print, yet it is not probable, that so soft and rare bodies as light and air, could print such solid bodies as glass, nor could air by reverberation make such a sound as Eccho. But mistake me not, for, *I do not say*, that the Corporeal motions of light or air, cannot, or do not pencil, copie, or pattern out any figure, for both light and air are very active in such sorts of Motions, but I say, they cannot do it on any other bodies but their own. But to cut off tedious and unnecessary disputes, I return to the expressing of my own opinion, and believe, that the glass in its own substance doth figure out the copy of the face, or the like, and from that copy the sensitive motions in the eyes take

another copy, and so the rational from the sensitive; and in this manner is made both rational and sensitive perception, sight and knowledg. The same with Ecchoes; for the air patterns out the copy of the sound, and then the sensitive corporeal motions in the ear pattern again this copy from the air, and so do make the perception and sense of hearing. You may ask me, *Madam*, if it be so, that the glass and the air copy out the figure of the face and of sound, whether the Glass may be said to see and the Air to speak? I answer, I cannot tell that; for though I say, that the air repeats the words, and the glass represents the face, yet I cannot guess what their perceptions are, onely this I may say, that the air hath an elemental, and the glass a mineral, but not an animal perception. But if these figures were made by the pressures of several objects or parts, and by reaction, there could not be such variety as there is, for they could but act by one sort of motion: Likewise is it improbable, that sounds, words or voices, should like a company of Wild-Geese fly in the air, and so enter into the ears of the hearers, as they into their nests: Neither can I conceive, how in this manner a word can enter so many ears, that is, be divided into every ear, and yet strike every ear with an undivided vocal sound; You will say, as a small fire doth heat and warm all those that stand by; for the heat issues from the fire, as the light from the Sun. I answer, all what issues and hath motion, hath a Body, and yet most learned men deny that sound, light and heat have bodies: But if they grant of light that it has a body, they say it moves and presses the air, and the air the eye, and so of heat; which if so, then the air must not move to any other motion but light, and onely to one sort of light, as the Suns light; for if it did move in any other motion,

it would disturb the light; for if a Bird did but fly in the air, it would give all the region of air another motion, and so put out, or alter the light, or at least disturb it; and wind would make a great disturbance in it. Besides, if one body did give another body motion, it must needs give it also substance, for motion is either something or nothing, body or no body, substance or no substance; if nothing, it cannot enter into another body; if something, it must lessen the bulk of the body it quits, and increase the bulk of the body it enters, and so the Sun and Fire with giving light and heat, would become less, for they cannot both give and keep at once, for this is as impossible, as for a man to give to another creature his human Nature, and yet to keep it still. Wherefore my opinion is for heat, that when many men stand round about a fire, and are heated and warmed by it, the fire doth not give them any thing, nor do they receive something from the fire, but the sensitive motions in their bodies pattern out the object of the fires heat, and so they become more or less hot according as their patterns are numerous or perfect; And as for air, it patterns out the light of the Sun, and the sensitive motions in the eyes of animals pattern out the light in the air. The like for Ecchoes, or any other sound, and for the figures which are presented in a Looking-glass. And thus millions of parts or creatures may make patterns of one or more objects, and the objects neither give nor loose any thing. And this I repeat here, that my meaning of Perception may be the better understood, which is the desire of,

Madam,

Your faithful Friend,

and Servant.

XXV.

MADAM

I perceive you are not fully satisfied with my former Letter concerning Eccho, and a figure presented in a Looking-glass; for you say, how is it possible, if Eccho consists in the ears patterning out of a voice or sound, but that it will make a confusion in all the parts of the air? My answer is, that I doe not say that Eccho is onely made by the patterning out of the voice or sound, but by repeating the same voice or sound, which repetition is named an Eccho, for millions of ears in animals may pattern out a voice or words, and yet never repeat them, and so may millions of parts of the air; wherefore Eccho doth not consist in the bare patterning out, but in the repetition of the same sound or words, which are pattern'd out; and so some parts of the air may at one and the same time pattern out a sound and not repeat it, and some may both pattern out, and repeat it, but some may neither pattern out, nor repeat it, and therefore the Repetition, not the bare Patterning out is called Eccho: Just as when two or more men do answer or mock each other, and repeat each others words, it is not necessary, if there were a thousand standers by, that they should all do the same. And as for the figure presented in a Looking-glass, I cannot conceive it to be made by pressure and reaction; for although there is both pressure and reaction in nature, and those very frequent amongst natures Parts, yet they do neither make perception nor production, although both pressure and reaction are made by corporeal self-motions; Wherefore the figure presented in a Looking-glass, or any other smooth glassie body, is, in my opinion, onely made by the motions of the Looking-glass, which do both

pattern out, and present the figure of an external object in the Glass: But you will say, why do not the motions of other bodies pattern out, and present the figures of external objects, as well as smooth glassie bodies do? I answer, they may pattern out external objects, for any thing I know; but the reason that their figures are not presented to our eyes, lies partly in the presenting subject it self, partly in our sight; for it is observed, that two things are chiefly required in a subject that will present the figure of an external object; first it must be smooth, even and glassie, next it must not be transparent: the first is manifest by experience; for the subject being rough and uneven, will never be able to present such a figure; as for example, A piece of steel rough and unpolished, although it may perhaps pattern out the figure of an external object, yet it will never present its figure, but as soon as it is polished, and made smooth and glassie, the figure is presently perceived. But this is to be observed, that smooth and glassie bodies do not always pattern out exterior objects exactly, but some better, some worse; like as Painters have not all the same ingenuity; neither do all eyes pattern out all objects exactly; which proves that the perception of sight is not made by pressure and reaction, otherwise there would be no difference, but all eyes would see alike. Next I say, it is observed, that the subject which will present the figure of an external object, must not be transparent; the reason is, that the figure of Light being a substance of a piercing and penetrating quality, hath more force on transparent, then on other solid dark bodies, and so disturbs the figure of an external object pattern'd out in a transparent body, and quite over-masters it. But you will say, you have found by experience, that if you hold a burning Candle before a Transparent-

glass, although it be in an open Sun-light, yet the figure of light and flame of the Candle will clearly be seen in the Glass. I answer, that it is an other thing with the figure of Candle-light, then of a duskish or dark body; for a Candle-light, though it is not of the same sort as the Suns light, yet it is of the same nature and quality, and therefore the Candle-light doth resist and oppose the light of the Sun, so that it cannot have so much power over it, as over the figures of other bodies patterned out and presented in Transparent-glass. Lastly, I say, that the fault oftentimes lies in the perceptive motions of our sight, which is evident by a plain and Concave-glass; for in a plain Looking-glass, the further you go from it, the more your figure presented in the glass seems to draw backward; and in a Concave-glass, the nearer you go to it, the more seems your figure to come forth: which effects are like as an house or tree appears to a Traveller; for, as the man moves from the house or tree, so the house or tree seems to move from the man; or like one that sails upon a Ship, who imagines that the Ship stands still, and the Land moves; when as yet it is the Man and the Ship that moves, and not the House, or Tree, or the Land; so when a Man turns round in a quick motion, or when his head is dizzie, he imagines the room or place, where he is, turns round. Wherefore it is the Inherent Perceptive motions in the Eye, and not the motions in the Looking-glass, which cause these effects. And as for several figures that are presented in one glass, it is absurd to imagine that so many several figures made by so many several motions should touch the eye; certainly this would make such a disturbance, if all figures were to enter or but to touch the eye, as the eye would not perceive any of them, at lead not distinctly; Wherefore it is most probable that the

glass patterns out those figures, and the sensitive corporeal motions in the eye take again a pattern from those figures patterned out by the glass, and so make copies of copies; but the reason why several figures are presented in one glass in several places, is, that two perfect figures cannot be in one point, nor made by one motion, but by several corporeal motions. Concerning a Looking-glass, made in the form or shape of a Cylinder, why it represents the figure of an external object in an other shape and posture then the object is, the cause is the shape and form of the Glass, and not the patterning motions in the Glass. But this discourse belongs properly to the Opticks, wherefore I will leave it to those that are versed in that Art, to enquire and search more after the rational truth thereof. In the mean time, my opinion is, that though the object is the occasion of the figure presented in a Looking-glass, yet the figure is made by the motions of the glass or body that presents it, and that the figure of the glass perhaps may be patterned out as much by the motions of the object in its own substance, as the figure of the object is patterned out and presented by the motions of the glass in its own body or substance. And thus I conclude and rest,

Madam,

Your Faithful Friend

and Servant.

XXVI.

MADAM,

Since I mentioned in my last that Light did disturb the figures of External objects presented in Transparent bodies; you were pleased to ask, Whether light doth penetrate transparent bodies? I answer, for anything I know, it may; for when I consider the subtil, piercing and penetrating nature of light, I believe it doth; but again, when I consider that light is presented to our sight by transparent bodies onely, and not by duskish and dark bodies, and yet that those duskish bodies are more porous then the transparent bodies, so that the light hath more passage to pass through them, then through transparent bodies; but that on the contrary, those dark bodies, as Wood, and the like, do quite obscure the light, when as transparent bodies, as Glass, &c. transmit it, I am half perswaded that the transparent bodies, as Glass, rather present the Light by patterning it out, then by giving it passage: Also I am of a mind, that the air in a room may pattern out the Light from the Glass, for the Light in a room doth not appear so clear as in the Glass; also if the Glass be any way defective, it doth not present the Light so perfectly, whereas, if it were the penetration of light through the glass, the light would pass through all sorts of glass alike, which it doth not, but is more clearly seen through some, and more obscurely through others, according to the goodness or purity of the glass. But you may say, that the light divulges the imperfection or goodness of the glass; I answer, so it doth of any other objects perceived by our sight; for light is the presenter of objects to the sense and perception of sight, and for any thing I know, the corporeal optick motions make the figure of light, the ground figure of all other figures patterned out by the corporeal optick motions, as in dreams, or when as some do see in the dark, that is, without the

help of exterior light. But you may say, That if the glass and the air in a room did pattern out the figure of light, those patterns of light would remain when light is absent: I answer, That is not usual in nature; for when the object removes, the Pattern alters; I will not say but that the corporeal optick motions may work by rote without objects, but that is irregular, as in some distempers. And thus, *Madam*, I have given you my opinion also to this your question; if you have any more scruples, I pray let me know of them, and assure your self that I shall be ready upon all occasions to express my self,

Madam,

Your humble and faithful Servant.

XXVII.

MADAM,

Your desire is to know, why sound is louder in a Vault, and in a large Room then in a less? I answer, A Vault or arched Figure is the freest from obstruction, as being without corners and points, so as the sensitive and rational corporeal motions of the Ear can have a better perception; like as the Eye can see farthest from a hill then being upon a level ground, because the prospect is freer from the hill, as without obstruction, unless it be so cloudy that the clouds do hinder the perception; And as the eye can have a better prospect upon a hill, so the ear a stronger perception in a Vault; And as for sound, that it is better perceived in a large, then in a little close room or place, it is somewhat like the perception of

sent, for the more the odorous parts are bruised, the stronger is that perception of sent, as being repeated double or treble, which makes the perception stronger, like as a thick body is stronger then a thin one; So likewise the perception of sound in the air; for though not all the parts of the air make repetitions, yet some or many make patterns of the sound; the truth is, Air is as industrious to divulge or present a sound, by patterns to the Ear, as light doth objects to the Eye. But then you may ask me, Why a long hollow pipe doth convey a voice to the ear more readily, then any large and open place? My answer is, That the Parts of the air in a long pipe are more Composed and not at liberty to wander, so that upon necessity they must move onely to the patterning out of the sound, having no choice, which makes the sound much stronger, and the perception of the Ear perfecter; But as for Pipes, Vaults, Prospects, as also figures presented in a room through a little hole, inverted, and many the like, belongs more to Artists then to my study, for though Natural Philosophy gives or points out the Ground, and shews the reason, yet it is the Artist that Works; Besides it is more proper for Mathematicians to discourse of, which study I am not versed in; and so leaving it to them, I rest,

Madam,

Your faithful Friend

and Servant.

XXVIII.

MADAM,

From Sound I am come to Sent, in the discourse whereof, your *Author*[1] is pleased to set down these following propositions: 1. *That smelling is hindred by cold and helped by heat*: 2. *That when the Wind bloweth from the object, the smell is the stronger, and when it blows from the sentient towards the object, the weaker, which by experience is found in dogs, that follow the track of beasts by the Sent*: 3. *That such bodies as are last pervious to the fluid medium, yield less smell then such as are more pervious*: 4. *That such bodies as are of their own nature odorous, become yet more odorous, when they are bruised*: 5. *That when the breath is stopped (at least in man) nothing can be smelt*: 6. *That the Sense of smelling is also taken away by the stopping of the nostrils, though the mouth be left open.* To begin from the last, I say, that the nose is like the other sensitive organs, which if they be stopt, the corporeal sensitive motions cannot take copies of the exterior objects, and therefore must alter their action of patterning to some other, for when the eye is shut and cannot perceive outward objects then it works to the Sense of Touch, or on the inside of the organ to some phantasmes; and so do the rest of the Senses. As for the stopping of breath, why it hinders the Sent, the cause is, that the nostrils and the mouth are the chief organs, to receive air and to let out breath: but though they be common passages for air and breath, yet taste is onely made in the mouth and tongue, and sent in the nose; not by the pressure of meat, and the odoriferous object, but by patterning out the several figures or objects of sent and taste, for the nose and the mouth will smell and taste one, nay several things at the same time, like as the eye will see light, colour, and other objects at once, which I think can hardly be done by pressures; and

the reason is, that the sensitive motions in the sensitive organs make patterns of several objects at one time, which is the cause, that when flowers, and such like odoriferous bodies are bruised, there are as many figures made as there are parts bruised or divided, and by reason of so many figures the sensitive knowledg is stronger; but that stones, minerals, and the like, seem not so strong to our smell, the reason is, that their parts being close and united, the sensitive motions in the organ cannot so readily perceive and pattern them out, as those bodies which are more porous and divided. But as for the wind blowing the sent either to or from the sentient, it is like a window or door that by the motion of opening and shutting, hinders or disturbeth the sight; for bodies coming between the object and the organ, make a stop of that perception. And as for the Dogs smelling out the track of Beasts, the cause is, that the earth or ground hath taken a copy of that sent, which copy the sensitive motions in the nose of the Dog do pattern out, and so long as that figure or copy lasts, the Dog perceives the sent, but if he doth not follow or hunt readily, then there is either no perfect copy made by the ground, or otherwise he cannot find it, which causes him to seek and smell about until he hath it; and thus smell is not made by the motion of the air, but by the figuring motions in the nose: Where it is also to be observed, that not onely the motions in one, but in millions of noses, may pattern out one little object at one time, and therefore it is not, that the object of sent fills a room by sending out the sent from its substance, but that so many figures are made of that object of sent by so many several sensitive motions, which pattern the same out; and so the air, or ground, or any other creature, whose sensitive motions pattern out the

object of sent, may perceive the same, although their sensitive organs are not like to those of animal Creatures; for if there be but such sensitive motions and perceptions, it is no matter for such organs. Lastly, it is to be observed, That all Creatures have not the same strength of smelling, but some smell stronger, some weaker, according to the disposition of their sensitive motions: Also there be other parts in the body, which pattern out the object of sent, besides the nose, but those are interior parts, and take their patterns from the nose as the organ properly designed for it; neither is their resentment the same, because their motions are not alike, for the stomack may perceive and pattern out a sent with aversion, when the nose may pattern it out with pleasure. And thus much also of Sent; I conclude and rest,

Madam,

Your faithful Friend,

and Servant.

[1] *Ch.* 29. *art.* 12.

XXIX.

MADAM,

Concerning your Learned Authors discourse of Density and Rarity, he defines[1] *Thick to be that, which takes up more parts of a space given; and thin, which containes fewer parts of the same magnitude: not that there is more matter in one place then in an other equal place, but a greater quantity of some named body; wherefore the multitude and paucity of the parts*

contained within the same space do constitute density and rarity. Whereof my opinion is, That there is no more nor less space or place then body according to its dilation or contraction, and that space and place are dilated and contracted with the body, according to the magnitude of the body, for body, place and magnitude are the same thing, only place is in regard of the several parts of the body, and there is as well space betwixt things distant a hairs breadth from one another, as betwixt things distant a million of miles, but yet this space is nothing from the body; but it makes, that that body has not the same place with this body, that is, that this body is not that body, and that this bodies place is not that bodies place. Next your *Author* sayes,[2] *He hath already clearly enough demonstrated, that there can be no beginning of motion, but from an external and moved body, and that heavy bodies being once cast upwards cannot be cast down again, but by external motion.* Truly, *Madam*, I will not speak of your *Authors* demonstrations, for it is done most by art, which I have no knowledg in, but I think I have probably declared, that all the actions of nature are not forced by one part, driving, pressing, or shoving another, as a man doth a wheel-barrow, or a whip a horse; nor by reactions, as if men were at foot-ball or cuffs, or as men with carts meeting each other in a narrow lane. But to prove there is no self-motion in nature, he goes on and says; *To attribute to created bodies the power to move themselves, what is it else, then to say that there be creatures which have no dependance upon the Creator?* To which I answer, That if man (who is but a single part of nature) hath given him by God the power and a free will of moving himself, why should not God give it to Nature? Neither can I see, how it can take off the dependance upon God, more then Eternity; for, if there be an

Eternal Creator, there is also an Eternal Creature, and if an Eternal Master, an Eternal Servant, which is Nature; and yet Nature is subject to Gods Command, and depends upon him; and if all Gods Attributes be Infinite, then his Bounty is Infinite also, which cannot be exercised but by an Infinite Gift, but a Gift doth not cause a less dependance. I do not say, That man hath an absolute Free-will, or power to move, according to his desire; for it is not conceived, that a part can have an absolute power: nevertheless his motion both of body and mind is a free and self-motion, and such a self-motion hath every thing in Nature according to its figure or shape; for motion and figure, being inherent in matter, matter moves figuratively. Yet do I not say, That there is no hindrance, obstruction and opposition in nature; but as there is no particular Creature, that hath an absolute power of self-moving; so that Creature which hath the advantage of strength, subtilty, or policy, shape, or figure, and the like, may oppose and over-power another which is inferior to it, in all this; yet this hinderance and opposition doth not take away self-motion. But I perceive your *Author* is much for necessitation, and against free-will, which I leave to Moral Philosophers and Divines. And as for the ascending of light, and descending of heavy bodies, there may be many causes, but these four are perceiveable by our senses, as bulk, or quantity of body, grossness of substance, density, and shape or figure, which make heavy bodies descend: But little quantity, purity of substance, rarity, and figure or shape make light bodies ascend. Wherefore I cannot believe, that there are[3] *certain little bodies as atoms, and by reason of their smallness, invisible, differing from one another in consistence, figure, motion and magnitude, intermingled with the air*, which should be

the cause of the descending of heavy bodies. And concerning air,[4] *whether it be subject to our senses or not*, I say, that if air be neither hot, nor cold, it is not subject; but if it be, the sensitive motions will soon pattern it out, and declare it. I'le conclude with your *Authors* question,[5] *What the cause is, that a man doth not feel the weight of Water in Water?* and answer, it is the dilating nature of Water. But of this question and of Water I shall treat more fully hereafter, and so I rest,

Madam,

Your faithful Friend

and Servant.

[1] *C.* 30. *a.* 1.

[2] *Art.* 2.

[3] *Art.* 3.

[4] *Art.* 14.

[5] *Art.* 6.

XXX.

MADAM,

I am reading now the works of that Famous and most Renowned *Author, Des Cartes,* out of which I intend to pick out onely those discourses which I like best, and not to examine his opinions, as they go along from the beginning to the end of his books; And in order to this, I have chosen in the first place, his discourse of motion, and do not assent to his opinion,[1] when he defines *Motion to be onely a Mode of a thing, and not the thing or body it selfe*; for,

in my opinion, there can be no abstraction made of motion from body, neither really, nor in the manner of our conception, for how can I conceive that which is not, nor cannot be in nature, that is, to conceive motion without body? Wherefore Motion is but one thing with body, without any separation or abstraction soever. Neither doth it agree with my reason, that[2] *one body can give or transferr motion into another body; and as much motion it gives or transferrs into that body, as much loses it: As for example, in two hard bodies thrown against one another, where one, that is thrown with greater force, takes the other along with it, and loses as much motion as it gives it.* For how can motion, being no substance, but onely a mode, quit one body, and pass into another? One body may either occasion, or imitate anothers motion, but it can neither give nor take away what belongs to its own or another bodies substance, no more then matter can quit its nature from being matter; and therefore my opinion is, that if motion doth go out of one body into another, then substance goes too; for motion, and substance or body, as afore-mentioned, are all one thing, and then all bodies that receive motion from other bodies, must needs increase in their substance and quantity, and those bodies which impart or transferr motion, must decrease as much as they increase: Truly, *Madam*, that neither Motion nor Figure should subsist by themselves, and yet be transferable into other bodies, is very strange, and as much as to prove them to be nothing, and yet to say they are something. The like may be said of all others, which they call accidents, as skill, learning, knowledge, &c. saying, they are no bodies, because they have no extension, but inherent in bodies or substances as in their subjects; for although the body may subsist without them, yet

they being always with the body, body and they are all one thing: And so is power and body, for body cannot quit power, nor power the body, being all one thing. But to return to Motion, my opinion is, That all matter is partly animate, and partly inanimate, and all matter is moving and moved, and that there is no part of Nature that hath not life and knowledg, for there is no Part that has not a comixture of animate and inanimate matter; and though the inanimate matter has no motion, nor life and knowledg of it self, as the animate has, nevertheless being both so closely joyned and commixed as in one body, the inanimate moves as well as the animate, although not in the same manner; for the animate moves of it self, and the inanimate moves by the help of the animate, and thus the animate is moving and the inanimate moved; not that the animate matter transfers, infuses, or communicates its own motion to the inanimate; for this is impossible, by reason it cannot part with its own nature, nor alter the nature of inanimate matter, but each retains its own nature; for the inanimate matter remains inanimate, that is, without self-motion, and the animate loses nothing of its self-motion, which otherwise it would, if it should impart or transferr its motion into the inanimate matter; but onely as I said heretofore, the inanimate works or moves with the animate, because of their close union and commixture; for the animate forces or causes the inanimate matter to work with her; and thus one is moving, the other moved, and consequently there is life and knowledg in all parts of nature, by reason in all parts of nature there is a commixture of animate and inanimate matter: and this Life and Knowledg is sense and reason, or sensitive and rational corporeal motions, which are all one thing with animate matter without any

distinction or abstraction, and can no more quit matter, then matter can quit motion. Wherefore every creature being composed of this commixture of animate and inanimate matter, has also selfe-motion, that is life and knowledg, sense and reason, so that no part hath need to give or receive motion to or from another part; although it may be an occasion of such a manner of motion to another part, and cause it to move thus or thus: as for example, A Watch-maker doth not give the watch its motion, but he is onely the occasion, that the watch moves after that manner, for the motion of the watch is the watches own motion, inherent in those parts ever since that matter was, and if the watch ceases to move after such a manner or way, that manner or way of motion is never the less in those parts of matter, the watch is made of, and if several other figures should be made of that matter, the power of moving in the said manner or mode, would yet still remain in all those parts of matter as long as they are body, and have motion in them. Wherefore one body may occasion another body to move so or so, but not give it any motion, but every body (though occasioned by another, to move in such a way) moves by its own natural motion; for self-motion is the very nature of animate matter, and is as much in hard, as in fluid bodies, although your *Author* denies it, saying,[3] *The nature of fluid bodies consists in the motion of those little insensible parts into which they are divided, and the nature of hard bodies, when those little particles joyned closely together, do rest*; for there is no rest in nature; wherefore if there were a World of Gold, and a World of Air, I do verily believe, that the World of Gold would be as much interiously active, as the World of Air exteriously; for Natures motions are not all external or perceptible by our senses, neither are

they all circular, or onely of one sort, but there is an infinite change and variety of motions; for though I say in my Philosophical opinions,[4] *As there is but one onely Matter, so there is but one onely Motion*; yet I do not mean, there is but one particular sort of motions, as either circular, or straight, or the like, but that the nature of motion is one and the same, simple and intire in it self, that is, it is meer motion, or nothing else but corporeal motion; and that as there are infinite divisions or parts of matter, so there are infinite changes and varieties of motions, which is the reason that I call motion as well infinite as matter; first that matter and motion are but one thing, and if matter be infinite, motion must be so too; and secondly, that motion is infinite in its changes and variations, as matter is in its parts. And thus much of motion for this time; I add no more, but rest,

Madam,

Your faithful Friend,

and Servant.

[1] *Philos. p.* 2. *Art.* 25.

[2] *Art.* 40.

[3] *Philos. part.* 2. *a.* 54.

[4] *Part.* 1. *c.* 5.

XXXI.

MADAM,

I observe your *Author* in his discourse of Place makes a difference[1] betwixt an *Interior and Exterior place*,

and that according to this distinction, *one body may be said to change, and not to change its place at the same time, and that one body may succeed into anothers place*. But I am not of this opinion, for I believe not that there is any more place then body; as for example, Water being mix'd with Earth, the water doth not take the Earths place, but as their parts intermix, so do their places, and as their parts change, so do their places, so that there is no more place, then there is water and earth; the same may be said of Air and Water, or Air and Earth, or did they all mix together; for as their bodies join, so do their places, and as they are separated from each other, so are their places. Say a man travels a hundred miles, and so a hundred thousand paces; but yet this man has not been in a hundred thousand places, for he never had any other place but his own, he hath joined and separated himselfe from a hundred thousand, nay millions of parts, but he has left no places behind him. You will say, if he travel the same way back again, then he is said to travel thorow the same places. I answer, It may be the vulgar way of expression, or the common phrase; but to speak properly, after a Philosophical way, and according to the truth in nature, he cannot be said to go back again thorow the same places he went, because he left none behind him, or els all his way would be nothing but place after place, all the hundred miles along; besides if place should be taken so, as to express the joyning to the neerest bodies which compass him about, certainly he would never find his places again; for the air being fluid, changes or moves continually, and perchance the same parts of the air, which compassed him once, will never come near him again. But you may say, If a man be hurt, or hath some mischance in his body, so as to

have a piece of flesh cut out, and new flesh growing there; then we say, because the adjoyning parts do not change, that a new piece of flesh is grown in the same place where the former flesh was, and that the place of the former flesh cut or fallen out, is the same of this new grown flesh. I answer, In my opinion, it is not, for the parts being not the same, the places are not, but every one hath its own place. But if the wound be not filled or closed up with other new flesh, you will say, that according to my opinion there is no place then at all. I say, Yes, for the air or any thing else may be there, as new parts joyning to the other parts; nevertheless, the air, or that same body which is there, hath not taken the fleshes place, which was there before, but hath its own; but, by reason the adjoyning parts remain, man thinks the place remains there also which is no consequence. 'Tis true, a man may return to the same adjoining bodies, where he was before, but then he brings his place with him again, and as his body, so his place returnes also, and if a mans arm be cut off, you may say, there was an arm heretofore, but you cannot say properly, this is the place where the arm was. But to return to my first example of the mixture of Water, and Earth or Air; Suppose water is not porous, but onely dividable, and hath no other place but what is its own bodies, and that other parts of water intermix with it by dividing and composing; I say, there is no more place required, then what belongs to their own parts, for if some contract, others dilate, some divide, others joyn, the places are the same according to the magnitude of each part or body. The same may be said of all kinds or sorts of mixtures, for one body hath but one place; and so if many parts of the same nature joyn into one body and increase the bulk of the body, the place of that same

body is accordingly; and if they be bodies of different natures which intermix and joyne, each several keeps its place; And so each body and each particular part of a body hath its place, for you cannot name body or part of a body, but you must also understand place to be with them, and if a point should dilate to a world, or a world contract to a point, the place would always be the same with the body. And thus I have declared my opinion of this subject, which I submit to the correction of your better judgment, and rest,

Madam,

Your Ladiships

faithful Friend and humble Servant.

[1] *Philos. p.* 2. *a.* 10, 11, 12, 13, 14.

XXXII.

MADAM,

In my last, I hope, I have sufficiently declared my opinion, That to one body belongs but one place, and that no body can leave a place behind it, but wheresoever is body, there is place also. Now give me leave to examine this question: when a bodies figure is printed on snow, or any other fluid or soft matter, as air, water, and the like; whether it be the body, that prints its own figure upon the snow, or whether it be the snow, that patterns the figure of the body? My answer is, That it is not the body, which prints its figure upon the snow, but the snow that patterns out the figure of the body; for if a seal be printed upon wax, 'tis true, it is the figure of the

seal, which is printed on the wax, but yet the seal doth not give the wax the print of its own figure, but it is the wax that takes the print or pattern from the seal, and patterns or copies it out in its own substance, just as the sensitive motions in the eye do pattern out the figure of an object, as I have declared heretofore. But you will say, perhaps, A body being printed upon snow, as it leaves its print, so it leaves also its place with the print in the snow. I answer, That doth not follow; For the place remains still the bodies place, and when the body removes out of the snow, it takes its place along with it: Just like a man, whose picture is drawn by a Painter, when he goes away, he leaves not his place with his picture, but his place goes with his body; and as the place of the picture is the place of the colour or paint, and the place of the copie of an exterior object patterned out by the sensitive corporeal motions is the place of the sensitive organ, so the place of the print in snow, is the snows place; or else, if the print were the bodies place that is printed, and not the snow's, it might as well be said, that the motion and shape of a watch were not the motion and shape of the watch, but of the hand of him that made it. And as it is with snow, so it is with air, for a mans figure is patterned out by the parts and motions of the air, wheresoever he moveth; the difference is onely, that air being a fluid body doth not retain the print so long, as snow or a harder body doth, but when the body removes, the print is presently dissolved. But I wonder much, your *Author* denies, that there can be two bodies in one place, and yet makes two places for one body, when all is but the motions of one body: Wherefore a man sailing in a Ship, cannot be said to keep place, and to change his place; for it is not place he changes, but onely the adjoyning parts, as leaving some, and

joyning to others; and it is very improper, to attribute that to place which belongs to parts, and to make a change of place out of change of parts. I conclude, repeating once again, that figure and place are still remaining the same with body; For example; let a stone be beat to dust, and this dust be severally dispersed, nay, changed into numerous figures; I say, as long as the substance of the stone remains in the power of those dispersed and changed parts, and their corporeal motions, the place of it continues also; and as the corporeal motions change and vary, so doth place, magnitude and figure, together with their parts or bodies, for they are but one thing. And so I conclude, and rest,

Madam,

Your Faithful Friend

and Servant.

XXXIII.

MADAM,

I am absolutely of your *Authors* opinion, when he sayes,[1] *That all bodies of this Universe are of one and the same matter, really divided into many parts, and that these parts are diversly moved*: But that these motions should be circular more then of any other sort, I cannot believe, although he thinks that this is the most probable way, to find out the causes of natural effects: for nature is not bound to one sort of motions more then to another, and it is but in vain to indeavour to know how, and by what motions God did make the World, since Creation is an action of

God, and Gods actions are incomprehensible; Wherefore his æthereal Whirlpools, and little particles of matter, which he reduceth to three sorts and calls them the three elements of the Universe, their circular motions, several figures, shavings, and many the like, which you may better read, then I rehearse to you, are to my thinking, rather Fancies, then rational or probable conceptions; for how can we imagine that the Universe was set a moving as a Top by a Whip, or a Wheele by the hand of a Spinster, and that the vacuities were fill'd up with shavings? for these violent motions would rather have disturbed and disordered Nature; and though Nature uses variety in her motions or actions, yet these are not extravagant, nor by force or violence, but orderly, temperate, free, and easie, which causes me to believe, the Earth turns about rather then the Sun; and though corporeal motions for variety make Whirl-winds, yet Whirl-winds are not constant, Neither can I believe that the swiftness of motion could make the matter more subtil and pure then it was by nature, for it is the purity and subtilty of the matter, that causes motion, and makes it swifter or slower, and not motion the subtilty and purity of matter; motion being onely the action of matter; and the self-moving part of matter is the working part of nature, which is wise, and knows how to move and form every creature without instruction; and this self-motion is as much her own as the other parts of her body, matter and figure, and is one and the same with her self, as a corporeal, living, knowing, and inseparable being, and a part of her self. As for the several parts of matter, I do believe, that they are not all of one and the same bigness, nor of one and the same figure, neither do I hold their figures to be unalterable; for if all parts in nature be corporeal,

they are dividable, composable, and intermixable, and then they cannot be always of one and the same sort of figure; besides nature would not have so much work if there were no change of figures: and since her onely action is change of motion, change of motion must needs make change of figures: and thus natural parts of matter may change from lines to points, and from points to lines, from squares to circles, and so forth, infinite ways, according to the change of motions; but though they change their figures, yet they cannot change their matter; for matter as it has been, so it remaines constantly in each degree, as the Rational, Sensitive and Inanimate, none becomes purer, none grosser then ever it was, notwithstanding the infinite changes of motions, which their figures undergo; for Motion changes onely the figure, not the matter it self, which continues still the same in its nature, and cannot be altered without a confusion or destruction of Nature. And this is the constant opinion of,

Madam,

Your faithful Friend

and humble Servant.

[1] *Philos. part.* 3. *a.* 40.

XXXIV.

MADAM,

That *Rarefaction* is onely a *change of figure*, according to your *Authors* opinion,[1] is in my reason very probable; but when he sayes, that *in rarified bodies are little intervals or pores filled up with some other*

subtil matter, if he means that all rarified bodies are porous, I dissent from him; for it is not necessary that all rarified bodies should be porous, and all hard bodies without pores: but if there were a probability of pores, I am of opinion, it would be more in dense and hard, than in rare and soft bodies; as for example, rarifying and dilating motions are plaining, smoothing, spreading and making all parts even, which could not well be, if there were holes or pores; Earth is dense and hard, and yet is porous, and flame is rare and dilating, and yet is not porous; and certainly Water is not so porous as Earth. Wherefore pores, in my opinion, are according to the nature or form of the figure, and not according to the rarity or thinness, and density or thickness of the substance. As for his thin and subtil matter filling up the pores of porous bodies, I assent to your *Author* so far, that I meane, thin and thick, or rare and dense substances are joyned and mixed together. As for plaining, smoothing and spreading, I do not mean so much artificial plaining and spreading; as for example, when a piece of gold is beaten into a thin plate, and a board is made plain and smooth by a Joyners tool, or a napkin folded up is spread plain and even, although, when you observe these arts, you may judge somewhat of the nature of natural dilations; for a folded cloth is fuller of creases then when plain, and the beating of a thin plate is like to the motion of dilation, which is to spread out, and the forme of rarifying is thinning and extending. I add onely this, that I am not of your *Authors* opinion, that Rest is the Cause or Glue which keeps the parts of dense or hard bodies together, but it is retentive motions. And so I conclude, resting,

Madam,

Your Faithful Friend

and Servant.

[1] *Philos. part.* 2. *a.* 6, 7.

XXXV.

MADAM,

That the Mind, according to your *Authors* opinion, *is a substance really distinct from the body, and may be actually separated from it and subsist without it*: If he mean the natural mind and soul of Man, not the supernatural or divine, I am far from his opinion; for though the mind moveth onely in its own parts, and not upon, or with the parts of inanimate matter, yet it cannot be separated from these parts of matter, and subsist by its self as being a part of one and the same matter the inanimate is of, (for there is but one onely matter, and one kind of matter, although of several degrees,) onely it is the self-moving part; but yet this cannot impower it, to quit the same natural body, whose part it is. Neither can I apprehend, that the Mind's or Soul's seat should be in the *Glandula* or kernel of the Brain, and there sit like a Spider in a Cobweb, to whom the least motion of the Cobweb gives intelligence of a Flye, which he is ready to assault, and that the Brain should get intelligence by the animal spirits as his servants, which run to and fro like Ants to inform it; or that the Mind should, according to others opinions, be a light, and imbroidered all with Ideas, like a Heraulds Coat; and that the sensitive organs should have no knowledg in themselves, but serve onely like peeping-holes for the mind, or barn-dores to receive bundles of

pressures, like sheaves of Corn; For there being a thorow mixture of animate, rational and sensitive, and inanimate matter, we cannot assign a certain seat or place to the rational, another to the sensitive, and another to the inanimate, but they are diffused and intermixt throughout all the body; And this is the reason, that sense and knowledg cannot be bound onely to the head or brain; But although they are mixt together, nevertheless they do not lose their interior nature, by this mixture, nor their purity and subtilty, nor their proper motions or actions, but each moves according to its nature and substance, without confusion; The actions of the rational part in Man, which is the Mind or Soul, are called Thoughts, or thoughtful perceptions, which are numerous, and so are the sensitive perceptions; for though Man, or any other animal hath but five exterior sensitive organs, yet there be numerous perceptions made in these sensitive organs, and in all the body; nay, every several Pore of the flesh is a sensitive organ, as well as the Eye, or the Ear. But both sorts, as well the rational as the sensitive, are different from each other, although both do resemble another, as being both parts of animate matter, as I have mentioned before: Wherefore I'le add no more, onely let you know, that I constantly remain,

Madam,

Your faithful Friend,

and Servant.

XXXVI.

MADAM,

That all other animals, besides man, want reason, your *Author* endeavours to prove in his *discourse of method*, where his chief argument is, That other animals cannot express their mind, thoughts or conceptions, either by speech or any other signs, as man can do: For, sayes he, *it is not for want of the organs belonging to the framing of words, as we may observe in Parrats and Pies, which are apt enough to express words they are taught, but understand nothing of them.* My answer is, That one man expressing his mind by speech or words to an other, doth not declare by it his excellency and supremacy above all other Creatures, but for the most part more folly, for a talking man is not so wise as a contemplating man. But by reason other Creatures cannot speak or discourse with each other as men, or make certain signs, whereby to express themselves as dumb and deaf men do, should we conclude, they have neither knowledge, sense, reason, or intelligence? Certainly, this is a very weak argument; for one part of a mans body, as one hand, is not less sensible then the other, nor the heel less sensible then the heart, nor the legg less sensible then the head, but each part hath its sense and reason, and so consequently its sensitive and rational knowledg; and although they cannot talk or give intelligence to each other by speech, nevertheless each hath its own peculiar and particular knowledge, just as each particular man has his own particular knowledge, for one man's knowledge is not another man's knowledge; and if there be such a peculiar and particular knowledg in every several part of one animal creature, as man, well may there be such in Creatures of different kinds and sorts: But this particular knowledg belonging to each creature, doth not prove that there

is no intelligence at all betwixt them, no more then the want of humane Knowledg doth prove the want of Reason; for Reason is the rational part of matter, and makes perception, observation, and intelligence different in every creature, and every sort of creatures, according to their proper natures, but perception, observation and intelligence do not make reason, Reason being the cause, and they the effects. Wherefore though other Creatures have not the speech, nor Mathematical rules and demonstrations, with other Arts and Sciences, as Men; yet may their perceptions and observations be as wise as Men's, and they may have as much intelligence and commerce betwixt each other, after their own manner and way, as men have after theirs: To which I leave them, and Man to his conceited prerogative and excellence, resting,

Madam,

Your faithful Friend,

and Servant.

XXXVII.

MADAM,

Concerning *Sense* and *Perception*, your *Authors* opinion is,[1] That it is made by a *motion or impression from the object upon the sensitive organ, which impression, by means of the nerves, is brought to the brain, and so to the mind or soul, which onely perceives in the brain*: Explaining it by the example[2] of a Man being blind, or walking in dark, who by the help of his stick can perceive when he touches a

Stone, a Tree, Water, Sand, and the like; which example he brings to make a comparison with the perception of Light; *For*, says he, *Light in a shining body, is nothing else but a quick and lively motion or action, which through the air and other transparent bodies tends towards the eye, in the same manner as the motion or resistance of the bodies, the blind man meets withal, tends thorow the stick towards the hand; wherefore it is no wonder that the Sun can display its rays so far in an instant, seeing that the same action, whereby one end of the stick is moved, goes instantly also to the other end, and would do the same if the stick were as long as Heaven is distant from Earth.* To which I answer first, That it is not onely the Mind that perceives in the kernel of the Brain, but that there is a double perception, rational and sensitive, and that the mind perceives by the rational, but the body and the sensitive organs by the sensitive perception; and as there is a double perception, so there is also a double knowledg, rational and sensitive, one belonging to the mind, the other to the body; for I believe that the Eye, Ear, Nose, Tongue, and all the Body, have knowledg as well as the Mind, onely the rational matter, being subtil and pure, is not incumbred with the grosser part of matter, to work upon, or with it, but leaves that to the sensitive, and works or moves onely in its own substance, which makes a difference between thoughts, and exterior senses. Next I say, That it is not the Motion or Reaction of the bodies, the blind man meets withal, which makes the sensitive perception of these objects, but the sensitive corporeal motions in the hand do pattern out the figure of the Stick, Stone, Tree, Sand, and the like. And as for comparing the perception of the hand, when by the help of the stick it perceives the objects, with the perception of light,

I confess that the sensitive perceptions do all resemble each other, because all sensitive parts of matter are of one degree, as being sensible parts, onely there is a difference according to the figures of the objects presented to the senses; and there is no better proof for perception being made by the sensitive motions in the body, or sensitive organs, but that all these sensitive perceptions are alike, and resemble one another; for if they were not made in the body of the sentient, but by the impression of exterior objects, there would be so much difference betwixt them, by reason of the diversity of objects, as they would have no resemblance at all. But for a further proof of my own opinion, did the perception proceed meerly from the motion, impression and resistance of the objects, the hand could not perceive those objects, unless they touched the hand it self, as the stick doth; for it is not probable, that the motions of the stone, water, sand, &c. should leave their bodies and enter into the stick, and so into the hand; for motion must be either something or nothing; if something, the stick and the hand would grow bigger, and the objects touched less, or else the touching and the touched must exchange their motions, which cannot be done so suddenly, especially between solid bodies; But if motion has no body, it is nothing, and how nothing can pass or enter or move some body, I cannot conceive. 'Tis true there is no part that can subsist singly by it self, without dependance upon each other, and so parts do always joyn and touch each other, which I am not against; but onely I say perception is not made by the exterior motions of exterior parts of objects, but by the interior motions of the parts of the body sentient. But I have discoursed hereof before, and so I take my leave, resting,

Madam,

Your faithful Friend

and Servant.

[1] *Philos. part.* 4. *a.* 189.

[2] *Diopt. c.* 1. *a.* 2, 3. & *c.* 4. *a.* 1.

XXXVIII.

MADAM,

I cannot conceive why your *Author* is so much for little and insensible parts, out of which the Elements and all other bodies are made; for though Nature is divideable, yet she is also composeable; and I think there is no need to dissect every creature into such little parts, to know their nature, but we can do it by another way as well; for we may dissect or divide them into never so little parts, and yet gain never the more knowledg by it. But according to these principles he describing amongst the rest the nature of Water, says,[1] *That those little parts, out of which Water consists, are in figure somewhat long, light and slippery like little Eeles, which are never so closely joyned and entangled, but may easily be separated.* To which I answer, That I observe the nature and figure of water to be flowing, dilating, divideable and circular; for we may see, in Tides, overflowings, and breaking into parts, as in rain, it will always move in a round and circular figure; And I think, if its parts were long and entangled like a knot of Eeles, it could never be so easily contracted and denced into snow or ice. Neither do I think, That *Salt-water hath a mixture of somewhat grosser parts, not so apt to bend*;[2]

for to my observation and reason, the nature of salt-water consists herein, that its circle-lines are pointed, which sharp and pointed figure makes it so penetrating; yet may those points be separated from the circle lines of water, as it is seen in the making of Salt. But I am not of your *Authors* opinion, That those little points do stick so fast in flesh, as little nails, to keep it from putrefaction; for points do not always fasten; or else fire, which certainly is composed of sharp-pointed parts, would harden, and keep other bodies from dissolving, whereas on the contrary, it separates and divides them, although after several manners. But Putrefaction is onely a dissolving and separating of parts, after the manner of dilation; and the motion of salt is contracting as well as penetrating, for we may observe, what flesh soever is dry-salted, doth shrink and contract close together; I will not say, but the pointed parts of salt may fasten like nayls in some sorts of bodies, but not in all they work on. And this is the reason also, that Sea-water is of more weight then fresh-water, for being composed of points, those points stick within each other, and so become more strong; But yet do they not hinder the circular dilating motion of water, for the circle-lines are within, and the points without, but onely they make it more strong from being divided by other exterior bodies that swim upon it. And this is the cause that Salt-water is not so easily forced or turned to vapour, as Fresh, for the points piercing into each other, hold it more strongly together; but this is to be considered, that the points of salt are on the outside of the watery Circle, not on the inside, which causes it to be divideable from the watery Circles. I will conclude, when I have given the reason why water is so soon suckt up by sand, lime, and the like bodies, and say that it is the nature

of all spongy, dry and porous bodies, meeting with liquid and pliable bodies as water, do draw and suck them up, like as animal Creatures being thirsty, do drink: And so I take my leave, and rest,

Madam,

Your Faithful Friend

and Servant.

[1] *Of Meteor. c.* 1. *a.* 3.

[2] *C.* 3. *a.* 1.

XXXIX.

MADAM,

Concerning Vapour, Clouds, Wind and Rain, I am of your *Authors* opinion,[1] That *Water is changed into Vapour, and Vapour into Air, and that dilated Vapours make Wind, and condensed Vapours, Clouds and Mists*; But I am not for his little particles, *whereof*, he says, *Vapours are made, by the motion of a rare and subtil matter in the pores of terrestrial bodies*; which certainly I should conceive to be loose atoms, did he not make them of several figures and magnitude: for, in my opinion, there are no such things in nature, which like little Flyes or Bees do fly up into the air; and although I grant, that in Nature are several parts, whereof some are more rare, others more dense, according to the several degrees of matter, yet they are not single, but all mixt together in one body, and the change of motions in those joyned parts, is the cause of all changes of figures whatever, without the assistance of any forreign parts: And thus Water of it

self is changed to Snow, Ice, or Hail, by its inherent figurative Motions; that is, the circular dilation of Water by contraction, changes into the figure of Snow, Ice, or Hail or by rarifying motions it turns into the figure of Vapour, and this Vapour again by contracting motions into the figure of hoar frost; and when all these motions change again into the former, then the figure of Ice, Snow, Hail, Vapour and Frost, turns again into the figure of Water: And this in all sense and reason is the most facil and probable way of making Ice, Snow, Hail, &c. As for rarefaction and condensation, I will not say that they may be forced by forreign parts, but yet they are made by change and alteration of the inherent motions of their own parts, for though the motions of forreign parts, may be the occasion of them, yet they are not the immediate cause or actors thereof. And as for *Thunder*, that clouds of Ice and Snow, the uppermost being condensed by heat, and so made heavy, should fall upon another and produce the noise of thunder, is very improbable; for the breaking of a little small string, will make a greater noise then a huge shower of snow with falling, and as for Ice being hard, it may make a great noise, one part falling upon another, but then their weight would be as much as their noise, so that the clouds or roves of Ice would be as soon upon our heads, if not sooner, as the noise in our Eares; like as a bullet shot out of a Canon, we may feel the bullet as soon as we hear the noise. But to conclude, all densations are not made by heat, nor all noises by pressures, for sound is oftener made by division then pressure, and densation by cold then by heat: And this is all for the present, from,

Madam,

Your faithful Friend,

and Servant.

[1] *Of Meteor., c.* 2, 4, 5, 6.

XL.

MADAM,

I cannot perceive the Rational Truth of your *Authors* opinion, concerning *Colours*, made *by the agitation of little spherical bodies of an Æthereal matter, transmitting the action of Light*; for if colours were made after this manner, there would, in my opinion, not be any fixed or lasting colour, but one colour would be so various, and change faster then every minute; the truth is, there would be no certain or perfect colour at all: wherefore it seems altogether improbable, that such liquid, rare and disunited bodies should either keep or make inherent and fixed colours; for liquid and rare bodies, whose several parts are united into one considerable bulk of body, their colours are more apt to change then the colours of those bodies that are dry, solid and dense; the reason is, that rare and liquid bodies are more loose, slack, and agil, then solid and dry bodies, in so much, as in every alteration of motion their colours are apt to change: And if united rare and liquid bodies be so apt to alter and change, how is it probable, that those bodies, which are small and not united, should either keep or make inherent fixed colours? I will not say, but that such little bodies may range into such lines and figures, as make colours, but then they cannot last, being not united into a lasting body, that is, into a solid, substantial body, proper to make such figures as colours. But I desire you not to mistake me,

Madam, for I do not mean, that the substance of colours is a gross thick substance, for the substance may be as thin and rare as flame or light, or in the next degree to it; for certainly the substance of light, and the substance of colours come in their degrees very neer each other; But according to the contraction of the figures, colours are paler or deeper, or more or less lasting. And as for the reason, why colours will change and rechange, it is according as the figures alter or recover their forms; for colours will be as animal Creatures, which sometimes are faint, pale, and sick, and yet recover; but when as a particular colour is, as I may say, quite dead, then there is no recovering of it. But colours may seem altered sometimes in our eyes, and yet not be altered in themselves; for our eyes, if perfect, see things as they are presented; and for proof, if any animal should be presented in an unusual posture or shape, we could not judg of it; also if a Picture, which must be viewed side-wards, should be looked upon forwards, we could not know what to make of it; so the figures of colours, if they be not placed rightly to the sight, but turned topsie-turvie as the Phrase is, or upside-down, or be moved too quick, and this quick motion do make a confusion with the lines of Light, we cannot possibly see the colour perfectly. Also several lights or shades may make colours appear otherwise then in themselves they are, for some sorts of lights and shades may fall upon the substantial figures of colours in solid bodies, in such lines and figures, as they may over-power the natural or artificial inherent colours in solid bodies, and for a time make other colours, and many times the lines of light or of shadows will meet and sympathize so with inherent colours, and place their lines so exactly, as they will make those inherent

colours more splendorous then in their own nature they are, so that light and shadows will add or diminish or alter colours very much. Likewise some sorts of colours will be altered to our sight, not by all, but onely by some sorts of light, as for example, blew will seem green, and green blew by candle light, when as other colours will never appear changed, but shew constantly as they are; the reason is, because the lines of candle light fall in such figures upon the inherent colours, and so make them appear according to their own figures; Wherefore it is onely the alteration of the exterior figures of light and shadows, that make colours appear otherwise, and not a change of their own natures; And hence we may rationally conclude, that several lights and shadows by their spreading and dilating lines may alter the face or out-side of colours, but not suddenly change them, unless the power of heat, and continuance of time, or any other cause, do help and assist them in that work of metamorphosing or transforming of colours; but if the lines of light be onely, as the phrase is, Skin-deep; that is, but lightly spreading and not deeply penetrating, they may soon wear out or be rubbed off; for though they hurt, yet they do not kill the natural colour, but the colour may recover and reassume its former vigour and lustre: but time and other accidental causes will not onely alter, but destroy particular colours as well as other creatures, although not all after the same manner, for some will last longer then others. And thus, *Madam*, there are three sorts of Colours, Natural, Artificial, and Accidental; but I have discoursed of this subject more at large in my Philosophical Opinions, to which I refer you, and rest,

Madam,

Your faithful Friend

and Servant.

XLI.

MADAM,

My answer to your *Authors* question, *Why flame ascends in a pointed figure?*[1] is, That the figure of fire consists in points, and being dilated into a flame, it ascends in lines of points slope-wayes from the fired fuel; like as if you should make two or more sticks stand upright and put the upper ends close together, but let the lower ends be asunder, in which posture they will support each other, which, if both their ends were close together, they could not do. The second question is, *Why fire doth not alwayes flame?*[2] I answer, Because all fuel is not flameable, some being so moist, as it doth oppose the fires dryness, and some so hard and retentive, as fire cannot so soon dissolve it; and in this contest, where one dissipates, and the other retains, a third figure is produced, *viz.* smoak, between the heat of one, and the moisture of the other; and this smoak is forced by the fire out of the fuel, and is nothing else but certain parts of fuel, raised to such a degree of rarefaction; and if fire come near, it forces the smoak into flame, the smoak changing it self by its figurative motions into flame; but when smoak is above the flame, the flame cannot force the smoak to fire or enkindle it self, for the flame cannot so well encounter it; which shews, as if smoak had a swifter motion then flame, although flame is more rarified then smoak; and if moisture predominate, there is

onely smoak, if fire, then there is flame: But there are many figures, that do not flame, until they are quite dissolved, as Leather, and many other things. Neither can fire work upon all bodies alike, but according to their several natures, like as men cannot encounter several sorts of creatures after one and the same manner; for not any part in nature hath an absolute power, although it hath self-motion; and this is the reason, that wax by fire is melted, and clay hardened. The third question is, *Why some few drops of water sprinkled upon fire, do encrease its flame?* I answer, by reason of their little quantity, which being over-powred by the greater quantity and force of fire, is by its self-motions converted into fire; for water being of a rare nature, and fire, for the most part, of a rarifying quality, it cannot suddenly convert it self into a more solid body then its nature is, but following its nature by force it turns into flame. The fourth question is, *Why the flame of spirit of Wine doth consume the Wine, and yet cannot burn or hurt a linnen cloth?* I answer, The Wine is the fuel that feeds the flame, and upon what it feeds, it devoureth, and with the food, the feeder; but by reason Wine is a rarer body then Oyle, or Wood, or any other fuel, its flame is also weaker. And thus much of these questions, I rest,

Madam,

Your Faithful Friend

and Servant.

[1] *P.* 4. *art.* 97.

[2] *Art.* 107.

XLII.

MADAM,

To conclude my discourse upon the Opinions of these two famous and learned Authors, which I have hitherto sent you in several Letters, I could not chuse but repeat the ground of my own opinions in this present; which I desire you to observe well, lest you mistake any thing, whereof I have formerly discoursed. First I am for self-moving matter, which I call the sensitive and rational matter, and the perceptive and architectonical part of nature, which is the life and knowledg of nature. Next I am of an opinion, That all Perception is made by corporeal, figuring self-motions, and that the perception of forreign objects is made by patterning them out: as for example, The sensitive perception of forreign objects is by making or taking copies from these objects, so as the sensitive corporeal motions in the eyes copy out the objects of sight, and the sensitive corporeal motions in the ears copy out the objects of sound; the sensitive corporeal motions in the nostrils, copy out the objects of sent; the sensitive corporeal motions in the tongue and mouth, copy out the objects of taste, and the sensitive corporeal motions in the flesh and skin of the body copy out the forreign objects of touch; for when you stand by the fire, it is not that the fire, or the heat of the fire enters your flesh, but that the sensitive motions copy out the objects of fire and heat. As for my Book of Philosophy, I must tell you, that it treats more of the production and architecture of Creatures then of their perceptions, and more of the causes then the effects, more in a general then peculiar way, which I thought necessary to inform you of, and so I remain,

Madam,

Your faithful Friend

and Servant.

XLIII.

MADAM,

I received your questions in your last: the first was, *Whether there be more body compact together in a heavy then in a light thing?* I answer, That purity, rarity, little quantity, exteriour shape, as also motion cause lightnesse; and grossness of bulk, density, much quantity, exterior figure and motion cause heaviness, as it may be confirmed by many examples: but lightness and heaviness are onely conceptions of man, as also ascent and descent; and it may be questioned, whether there be such things really in nature; for change of motions of one and the same body will make lightness, and heaviness, as also rarity and density: besides, the several figures and compositions of bodies will cause them to ascend or descend, for Snow is a light body and yet descends from the clouds, and Water is a heavie body, and yet ascends in springs out of the Earth; Dust is a dense body and yet is apt to ascend, Rain or Dew is a rare body and yet is apt to descend; Also a Bird ascends by his shape, and a small worm although of less body and lighter will fall down; and there can be no other proof of light and heavy bodies but by their ascent and descent; But as really there is no such thing as heavie or light in nature more then words, and comparisons of different corporeal motions, so there

is no such thing, as high or low, place or time, but onely words to make comparisons and to distinguish different corporeal motions. The second question was; *When a Bason with water is wasted into smoak, which fills up a whole Room, Whether the air in the room doth, as the sensitive motions of the eye, pattern out the figure of the smoak; or whether all the room is really fill'd with the vapour or smoak?* I answer, If it be onely the pattern or figure of smoak or vapour, the extension and dilation is not so much as man imagines; but why may not the air, which in my opinion hath self-motion, pattern out the figure of smoak as well as the eye; for that the eye surely doth it, may be proved; because smoak, if it enter the eye, makes it not onely smart and water much, but blinds it quite for the present; wherefore smoak doth not enter the eye, when the eye seeth it, but the eye patterns out the figure of smoak, and this is perception; In the same manner may the air pattern out the figure of smoak. The third question was, *Whether all that they name qualities of bodies, as thickness, thinness, hardness, softness, gravity, levity, transparentness and the like, be substances?* I answer, That all those, they call qualities, are nothing else but change of motion and figure of the same body, and several changes of motions are not several bodies, but several actions of one body; for change of motion doth not create new matter or multiply its quantity: for though corporeal motions may divide and compose, contract and dilate, yet they cannot create new matter, or make matter any otherwise then it is by nature, neither can they add or substract any thing from its nature. And therefore my opinion is, not that they are things subsisting by themselves without matter, but that there can no abstraction be made of motion and figure from matter, and that

matter and motion being but one thing and inseparable, make but one substance. Wherefore density and rarity, gravity and levity, &c. being nothing else but change of motions, cannot be without matter, but a dense or rare, heavie or light matter is but one substance or body; And thus having obeyed your commands, I rest,

Madam,

Your faithful Friend,

and Servant.

XLIV.

MADAM,

I am very ready to give you my opinion of those two questions you sent me, whereof the first was, *Whether that, which is rare and subtil, be not withal pure?* To which I answer, That all rare bodies are not subtil, nor pure, and that all which is dense is not gross and dull: As for example, Puddle-water, or also clear water, is rarer then Quicksilver, and yet not so subtil and pure as Quicksilver; the like of Gold; for Quicksilver and Gold may be rarified to a transparentness, and yet be so dense, as not to be easily dissolved; and Quicksilver is very subtil and searching, so as to be able to force other bodies to divide as well as it can divide and compose its own parts. Wherefore my opinion is, that the purest and subtilest degree of matter in nature, is that degree of matter which can dilate and contract, compose and divide into any figure by corporeal self-motion. Your second question was, *Why a man's hand cannot break*

a little hard body, as a little nail, whereas yet it is bigger then the nail? I answer, It is not because the hand is softer then the nail, for one hard body will not break suddenly another hard body, and a man may easily break an iron nail with his hand, as I have bin informed; but it is some kind of motion which can easier do it, then another: for I have seen a strong cord wound about both a man's hands, who pulled his hands as hard and strongly asunder as he could, and yet was not able to break it; when as a Youth taking the same cord, and winding it about his hands as the former did, immediately broke it; the cause was, that he did it with another kind of motion or pulling, then the other did, which though he used as much force and strength, as he was able, yet could not break it, when the boy did break it with the greatest ease, and turning onely his hands a little, which shews, that many things may be done by a slight of motion, which otherwise a great strength and force cannot do. This is my answer and opinion concerning your proposed questions; if you have any more, I shall be ready to obey you, as,

Madam,

Your faithful Friend

and humble Servant.

XLV.

MADAM,

I understand by your last, that you are very desirous to know, *Whether there be not in nature such animal creatures both for purity and size, as we are not capable*

to perceive by our sight. Truly, *Madam*, in my opinion it is very probable there may be animal creatures of such rare bodies as are not subject to our exterior senses, as well, as there are elements which are not subject to all our exterior senses: as for example, fire is onely subject to our sight and feeling, and not to any other sense, water is subject to our sight, taste, touch and hearing, but not to smelling; and earth is subject to our sight, taste, touch and smelling, but not to our hearing; and vapour is onely subject to our sight, and wind onely to our hearing; but pure air is not subject to any of our senses, but onely known by its effects: and so there may likewise be animal creatures which are not subject to any of our senses both for their purity and life; as for example, I have seen pumpt out of a water pump small worms which could hardly be discerned but by a bright Sun-light, for they were smaller then the smallest hair, some of a pure scarlet colour and some white, but though they were the smallest creatures that ever I did see, yet they were more agil and fuller of life, then many a creature of a bigger size, and so small they were, as I am confident, they were neither subject to tast, smell, touch nor hearing, but onely to sight, and that neither without difficulty, requiring both a sharp sight and a clear light to perceive them; and I do verily believe that these small animal creatures may be great in comparison to others which may be in nature. But if it be probable that there may be such small animal creatures in nature, as are not subject to our exterior senses, by reason of their littleness; it is also probable, that there may be such great and big animal creatures in nature as are beyond the reach and knowledg of our exterior senses; for bigness and smallness are not to be judged by our exterior senses, onely; but as sense and reason inform

us, that there are different degrees in Purity and Rarity, so also in shapes, figures and sizes in all natural creatures. Next you desired to know, *Whether there can be an artificial Life, or a Life made by Art?* My answer is, Not; for although there is Life in all natures parts, yet not all the parts are life, for there is one part of natural matter which in its nature is inanimate or without life, and though natural Life doth produce Art, yet Art cannot produce natural Life, for though Art is the action of Life, yet it is not Life it self: not but that there is Life in Art, but not art in life, for Life is natural, and not artificial; and thus the several parts of a watch may have sense and reason according to the nature of their natural figure, which is steel, but not as they have an artificial shape, for Art cannot put Life into the watch, Life being onely natural, not artificial. Lastly your desire was to know, *Whether a part of matter may be so small, as it cannot be made less?* I answer, there is no such thing in nature as biggest or least, nature being Infinite as well in her actions as in her substance; and I have mentioned in my book of Philosophy, and in a letter, I sent you heretofore concerning Infinite, that there are several sorts of Infinites, as Infinite in quantity or bulk, Infinite in number, Infinite in quality, as Infinite degrees of hardness, softness, thickness, thinness, swiftness, slowness, &c. as also Infinite compositions, divisions, creations, dissolutions, &c. in nature; and my meaning is, that all these Infinite actions do belong to the Infinite body of nature, which being infinite in substance must also of necessity be infinite in its actions; but although these Infinite actions are inherent in the power of the Infinite substance of nature, yet they are never put in act in her parts, by reason there being contraries in nature, and every one of the

aforementioned actions having its opposite, they do hinder and obstruct each other so, that none can actually run into infinite; for the Infinite degrees of compositions hinder the infinite degrees of divisions; and the infinite degrees of rarity, softness, swiftness, &c. hinder the infinite degrees of density, hardness, slowness, &c. all which nature has ordered with great wisdom and Prudence to make an amiable combination between her parts; for if but one of these actions should run into infinite, it would cause a horrid confusion between natures parts, nay an utter destruction of the whole body of nature, if I may call it whole: as for example, if one part should have infinite compositions, without the hinderance or obstruction of division, it would at last mount and become equal to the Infinite body of nature, and so from a part change to a whole, from being finite to infinite, which is impossible; Wherefore, though nature hath an Infinite natural power, yet she doth not put this power in act in her particulars; and although she has an infinite force or strength, yet she doth not use this force or strength in her parts. Moreover when I speak of Infinite divisions and compositions, creations and dissolutions, &c. in nature, I do not mean so much the infinite degrees of compositions and divisions, as the actions themselves to be infinite in number; for there being infinite parts in nature, and every one having its compositions and divisions, creations and dissolutions, these actions must of necessity be infinite too, to wit, in number, according to the Infinite number of parts, for as there is an Infinite number of parts in nature, so there is also an infinite number and variety of motions which are natural actions. However let there be also infinite degrees of these natural actions, in the body or substance of infinite nature; yet, as I said, they are

never put in act, by reason every action hath its contrary or opposite, which doth hinder and obstruct it from running actually into infinite. And thus I hope, you conceive cleerly now, what my opinion is, and that I do not contradict my self in my works, as some have falsly accused me, for they by misapprehending my meaning, judge not according to the truth of my sense, but according to their own false interpretation, which shews not onely a weakness in their understandings and passions, but a great injustice and injury to me, which I desire you to vindicate when ever you chance to hear such accusations and blemishes laid upon my works, by which you will Infinitely oblige,

Madam,

Your humble and faithful Servant.

SECT. II.

I.

MADAM,

Being come now to the Perusal of the Works of that learned *Author* Dr. *Moor*, I find that the onely design of his Book called *Antidote*, is *to prove the Existence* of a God, and to refute, or rather convert Atheists; which I wonder very much at, considering, he says himself,[1] That *there is no man under the cope of Heaven but believes a God*; which if so, what needs there to make so many arguments to no purpose? unless it be to shew Learning and wit; In my opinion,

it were better to convert Pagans to be Christians, or to reform irregular Christians to a more pious life, then to prove that, which all men believe, which is the way to bring it into question. For certainly, according to the natural Light of Reason, there is a God, and no man, I believe, doth doubt it; for though there may be many vain words, yet I think there is no such atheistical belief amongst man-kind, nay, not onely amongst men, but also, amongst all other creatures, for if nature believes a God, all her parts, especially the sensitive and rational, which are the living and knowing parts, and are in all natural creatures, do the like, and therefore all parts and creatures in nature do adore and worship God, for any thing man can know to the contrary; for no question, but natures soule adores and worships God as well as man's soule; and why may not God be worshipped by all sorts and kinds of creatures as well, as by one kind or sort? I will not say the same way, but I believe there is a general worship and adoration of God; for as God is an Infinite Deity, so certainly he has an Infinite Worship and Adoration, and there is not any part of nature, but adores and worships the only omnipotent God, to whom belongs Praise and Glory from and to all eternity: For it is very improbable, that God should be worshipped onely in part, and not in whole, and that all creatures were made to obey man, and not to worship God, onely for man's sake, and not for God's worship, for man's use, and not God's adoration, for mans spoil and not God's blessing. But this Presumption, Pride, Vain-glory and Ambition of man, proceeds from the irregularity of nature, who being a servant, is apt to commit errors; and cannot be so absolute and exact in her devotion, adoration and worship, as she ought, nor so well observant of God

as God is observing her: Nevertheless, there is not any of her parts or creatures, that God is not acknowledged by, though not so perfectly as he ought, which is caused by the irregularities of nature, as I said before. And so God of his mercy have mercy upon all Creatures; To whose protection I commend your Ladiship, and rest,

Madam,

Your faithful Friend

and Servant.

[1] *Antidote, Book* I. *c.* 10. *a.* 5.

II.

MADAM,

Since I spake in my last of the adoration and worship of God, you would faine know, whether we can have an Idea of God? I answer, That naturally we may, and really have a knowledge of the existence of God, as I proved in my former letter, to wit, that there is a God, and, that he is the *Author* of all things, who rules and governs all things, and is also the God of Nature: but I dare not think, that naturally we can have an Idea of the essence of God, so as to know what God is in his very nature and essence; for how can there be a finite Idea of an Infinite God? You may say, As well as of Infinite space. I answer, Space is relative, or has respect to body, but there is not any thing that can be compared to God; for the Idea of Infinite nature is material, as being a material creature of Infinite material Nature. You will say, How can a finite part have an Idea of infinite nature?

I answer, Very well, by reason the Idea is part of Infinite Nature, and so of the same kind, as material; but God being an Eternal, Infinite, Immaterial, Individable Being, no natural creature can have an Idea of him. You will say, That the Idea of God in the mind is immaterial; I answer, I cannot conceive, that there can be any immaterial Idea in nature; but be it granted, yet that Immaterial is not a part of God, for God is individable, and hath no parts; wherefore the Mind cannot have an Idea of God, as it hath of Infinite nature, being a part of nature; for the Idea of God cannot be of the essence of God, as the Idea of nature is a corporeal part of nature: and though nature may be known in some parts, yet God being Incomprehensible, his Essence can by no wayes or means be naturally known; and this is constantly believed, by

Madam,

Your faithful Friend,

and Servant.

III.

MADAM,

Although I mentioned in my last, that it is impossible to have an Idea of God, yet your *Author* is pleased to say,[1] That *he will not stick to affirm, that the Idea or notion of God is as easie, as any notion else whatsoever, and that we may know as much of him as of any thing else in the world*. To which I answer, That in my opinion, God is not so easily to be known by any creature, as man may know himself; nor his

attributes so well, as man can know his own natural proprieties: for Gods Infinite attributes are not conceivable, and cannot be comprehended by a finite knowledg and understanding, as a finite part of nature; for though nature's parts may be Infinite in number, and as they have a relation to the Infinite whole, if I may call it so, which is Infinite nature, yet no part is infinite in it self, and therefore it cannot know so much as whole nature: and God being an Infinite Deity, there is required an Infinite capacity to conceive him; nay, Nature her self although Infinite, yet cannot possibly have an exact notion of God, by reason of the disparity between God and her self; and therefore it is not probable, if the Infinite servant of God is not able to conceive him, that a finite part or creature of nature, of what kind or sort soever, whether Spiritual, as your *Author* is pleased to name it, or Corporeal, should comprehend God. Concerning my belief of God, I submit wholly to the Church, and believe as I have bin informed out of the *Athanasian* Creed, that the Father is Incomprehensible, the Sonne Incomprehensible, and the Holy Ghost Incomprehensible; and that there are not three, but one Incomprehensible God; Wherefore if any man can prove (as I do verily believe he cannot) that God is not Incomprehensible, he must of necessity be more knowing then the whole Church, however he must needs dissent from the Church. But perchance your *Author* may say, I raise new and prejudicial opinions, in saying that matter is eternal. I answer, The Holy Writ doth not mention Matter to be created, but onely Particular Creatures, as this Visible World, with all its Parts, as the history or description of the Creation of the World in *Genesis* plainly shews; For *God said, Let it be Light, and there was Light; Let there be a Firmament in the midst of the*

Waters, and let it divide the Waters from the Waters; and Let the Waters under the Heaven be gathered together unto one place, and let the dry Land appear; and let the Earth bring forth Grass, the Herb yielding Seed, and the Fruit-tree yielding Fruit after his kind; and let there be Lights in the Firmament of the Heaven, to divide the Day from the Night, &c. Which proves, that all creatures and figures were made and produced out of that rude and desolate heap or chaos which the Scripture mentions, which is nothing else but matter, by the powerful Word and Command of God, executed by his Eternal Servant, Nature; as I have heretofore declared it in a Letter I sent you in the beginning concerning Infinite Nature. But least I seem to encroach too much upon Divinity, I submit this Interpretation to the Church; However, I think it not against the ground of our Faith; for I am so far from maintaining any thing either against Church or State, as I am submitting to both in all duty, and shall do so as long as I live, and rest,

Madam,

Your Faithful Friend

and Servant.

[1] *Of the Immortality of the Soul, pt.* 1., *c.* 4.

IV.

MADAM,

Since your *Worthy* and *Learned Author* is pleased to mention,[1] That an *ample experience both of Men and Things doth enlarge our Understanding*, I have taken occasion hence to enquire, how a mans Understanding may be encreased or inlarged. The Understanding must either be in Parts, or it must be Individable as one; if in Parts, then there must be so many Understandings as there are things understood; but if Individable, and but one Understanding, then it must dilate it self upon so many several objects. I for my part, assent to the first, That Understanding increases by Parts, and not by Dilation, which Dilation must needs follow, if the Mind or Understanding of man be indivisible and without parts; but if the Mind or Soul be Individable, then I would fain know, how Understanding, Imagination, Conception, Memory, Remembrance, and the like, can be in the mind? You will say, perhaps, they are so many faculties or properties of the Incorporeal Mind, but, I hope, you do not intend to make the Mind or Soul a Deity, with so many attributes, Wherefore, in my opinion, it is safer to say, That the Mind is composed of several active Parts: but of these Parts I have treated in my Philosophy, where you will find, that all the several Parts of Nature are Living and Knowing, and that there is no part that has not Life and Knowledg, being all composed of rational and sensitive matter, which is the life and

soul of Nature; and that Nature being Material, is composable and dividable, which is the cause of so many several Creatures, where every Creature is a part of Nature, and these Infinite parts or creatures are Nature her self; for though Nature is a self-moving substance, and by self-motion divides and composes her self several manners or ways into several forms and figures, yet being a knowing, as well as a living substance, she knows how to order her parts and actions wisely; for as she hath an Infinite body or substance, so she has an Infinite life and knowledg; and as she hath an Infinite life and knowledg, so she hath an infinite wisdom: But mistake me not, *Madam*; I do not mean an Infinite Divine Wisdom, but an Infinite Natural Wisdom, given her by the Infinite bounty of the Omnipotent God; but yet this Infinite Wisdom, Life and Knowledg in Nature make but one Infinite. And as Nature hath degrees of matter, so she has also degrees and variety of corporeal motions; for some parts of matter are self-moving, and some are moved by these self-moving parts of matter; and all these parts, both the moving and moved, are so intermixed, that none is without the other, no not in any the least Creature or part of Nature we can conceive; for there is no Creature or part of Nature, but has a comixture of those mentioned parts of animate and inanimate matter, and all the motions are so ordered by Natures wisdom, as not any thing in Nature can be otherwise, unless by a Supernatural Command and Power of God; for no part of corporeal matter and motion can either perish, or but rest; one part may cause another part to alter its motions, but not to quit motion, no more then one part of matter can annihilate or destroy another; and therefore matter is not meerly Passive, but always Active, by reason of

the thorow mixture of animate and inanimate matter; for although the animate matter is onely active in its nature, and the inanimate passive, yet because they are so closely united and mixed together that they make but one body, the parts of the animate or self-moving matter do bear up and cause the inanimate parts to move and work with them; and thus there is an activity in all parts of matter moving and working as one body, without any fixation or rest, for all is moveable, moving and moved. All which, *Madam*, if it were well observed, there would not be so many strange opinions concerning nature and her actions, making the purest and subtillest part of matter immaterial or incorporeal, which is as much, as to extend her beyond nature, and to rack her quite to nothing. But I fear the opinion of Immaterial substances in Nature will at last bring in again the Heathen Religion, and make us believe a god *Pan, Bacchus, Ceres, Venus,* and the like, so as we may become worshippers of Groves and shadows, Beans and Onions, as our Forefathers. I say not this, as if I would ascribe any worship to Nature, or make her a Deity, for she is onely a servant to God, and so are all her parts or creatures, which parts or creatures, although they are transformed, yet cannot be annihilated, except Nature her self be annihilated, which may be, whensoever the Great God pleases; for her existence and resolution, or total destruction, depends upon Gods Will and Decree, whom she fears, adores, admires, praises and prayes unto, as being her God and Master; and as she adores God, so do all her parts and creatures, and amongst the rest Man, so that there is no Atheist in Infinite Nature, at least not in the opinion of,

Madam,

Your faithful Friend

and Servant.

[1] *Antid. Book.* 2. *Ch.* 2. *a.* 1.

V.

MADAM,

I cannot well conceive what your *Author* means by the *Common Laws of Nature*;[1] But if you desire my opinion how many Laws Nature hath, and what they are; I say Nature hath but One Law, which is a wise Law, to keep Infinite matter in order, and to keep so much Peace, as not to disturb the Foundation of her Government: for though Natures actions are various, and so many times opposite, which would seem to make wars between several Parts, yet those active Parts, being united into one Infinite body, cannot break Natures general Peace; for that which Man names War, Sickness, Sleep, Death, and the like, are but various particular actions of the onely matter; not, as your *Author* imagines, in a confusion, like Bullets, or such like things juggled together in a mans Hat, but very orderly and methodical; And the Playing motions of nature are the actions of Art, but her serious actions are the actions of Production, Generation and Transformation in several kinds, sorts and particulars of her Creatures, as also the action of ruling and governing these her several active Parts. Concerning the Pre-eminence and Prerogative of *Man*, whom your *Author* calls[2] *The flower and chief of all the products of nature upon this Globe of the earth*; I answer, That Man cannot well be judged of himself, because he is a Party, and so may

be Partial; But if we observe well, we shall find that the Elemental Creatures are as excellent as Man, and as able to be a friend or foe to Man, as Man to them, and so the rest of all Creatures; so that I cannot perceive more abilities in Man then in the rest of natural Creatures; for though he can build a stately House, yet he cannot make a Honey-comb; and though he can plant a Slip, yet he cannot make a Tree; though he can make a Sword, or Knife, yet he cannot make the Mettal. And as Man makes use of other Creatures, so other Creatures make use of Man, as far as he is good for any thing: But Man is not so useful to his neighbour or fellow-creatures, as his neighbour or fellow-creatures to him, being not so profitable for use, as apt to make spoil. And so leaving him, I rest,

Madam,

Your faithful Friend

and Servant.

[1] *Antid. Book.* 2. *c.* 2.

[2] *C.* 3.

VI.

MADAM,

Your *Author* demands,[1] *Whether there was ever any man, that was not mortal, and whether there be any mortal that had not a beginning?* Truly, if nature be eternal, all the material figures which ever were, are, and can be, must be also eternal in nature; for the figures cannot be annihilated, unless nature be

destroyed; and although a Creature is dissolved and transformed into numerous different figures, yet all these several figures remain still in those parts of matter, whereof that creature was made, for matter never changes, but is always one and the same, and figure is nothing else but matter transposed or transformed by motion several modes or ways. But if you conceive Matter to be one thing, Figure another, and Motion a third, several, distinct and dividable from each other, it will produce gross errors, for, matter, motion, and figure, are but one thing. And as for that common question, whether the Egg was before the Chick, or the Chick before the Egg, it is but a thred-bare argument, which proves nothing, for there is no such thing as First in Eternity, neither doth Time make productions or generations, but Matter; and whatsoever matter can produce or generate, was in matter before it was produced; wherefore the question is, whether Matter, which is Nature, had a beginning, or not? I say not: for put the case, the figures of Earth, Air, Water, and Fire, Light and Colours, Heat and Cold, Animals, Vegetables and Minerals, &c. were not produced from all Eternity, yet those figures have nevertheless been in Matter, which is Nature, from all eternity, for these mentioned Creatures are onely made by the corporeal motions of Matter, transforming Matter into such several figures; Neither can there be any perishing or dying in Nature, for that which Man calls so, is onely an alteration of Figure. And as all other productions are but a change of Matters sensitive motions, so all irregular and extravagant opinions are nothing but a change of Matters rational motions; onely productions by rational motions are interior, and those by sensitive motions exterior. For the Natural Mind is not less material then the body,

onely the Matter of the Mind is much purer and subtiller then the Matter of the Body. And thus there is nothing in Nature but what is material; but he that thinks it absurd to say, the World is composed of meer self-moving Matter, may consider, that it is more absurd to believe Immaterial substances or spirits in Nature, as also a spirit of Nature, which is the Vicarious power of God upon Matter; For why should it not be as probable, that God did give Matter a self-moving power to her self, as to have made another Creature to govern her? For Nature is not a Babe, or Child, to need such a Spiritual Nurse, to teach her to go, or to move; neither is she so young a Lady as to have need of a Governess, for surely she can govern her self; she needs not a Guardian for fear she should run away with a younger Brother, or one that cannot make her a Jointure. But leaving those strange opinions to the fancies of their Authors, I'le add no more, but that I am,

Madam,

Your faithful Friend,

and Servant.

[1] *Antid. l.* 3. *c.* 15. *a.* 3.

VII.

MADAM,

Your *Author* being very earnest in arguing against those that maintain the opinion of Matter being self-moving, amongst the rest of his arguments brings in this:[1] *Suppose*, says he, *Matter could move it self,*

would meer Matter with self-motion amount to that admirable wise contrivance of things which we see in the World?—All the evasion I can imagine, our adversaries may use here, will be this: That Matter is capable of sense, and the finest and most subtil of the most refined sense; and consequently of Imagination too, yea happily of Reason and Understanding. I answer, it is very probable, that not onely all the Matter in the World or Universe hath Sense, but also Reason; and that the sensitive part of matter is the builder, and the rational the designer; whereof I have spoken of before, and you may find more of it in my Book of Philosophy. *But,* says your Author, *Let us see, if all their heads laid together can contrive the anatomical Fabrick of any Creature that liveth?* I answer, all parts of Nature are not bound to have heads or tayls; but if they have, surely they are wiser then many a man's. *I demand*, says he, *Has every one of these Particles, that must have a hand in the framing of the body of an animal, the whole design of the work by the Impress of some Phantasme upon it? or as they have several offices, so have they several parts of the design?* I answer, All the actions of self-moving Matter are not Impresses, nor is every part a hand-labourer, but every part unites by degrees into such or such a Figure. Again, says he, *How is it conceiveable that any one Particle of Matter, or many together, (there not existing, yet in Nature an animal) can have the Idea Impressed of that Creature they are to frame?* I answer, all figures whatsoever have been, are, or can be in Nature, are existent in nature. *How*, says he, *can they in framing several parts confer notes? by what language or speech can they communicate their Counsels one to another?* I answer, Knowledg doth not always require speech, for speech is an effect and not a cause, but knowledg is a cause and not an effect; and nature hath infinite

more ways to express knowledg then man can imagine, *Wherefore*, he concludes, *that they should mutually serve one another in such a design, is more impossible, then that so many men, blind and dumb from their nativity, should joyn their forces and wits together to build a Castle, or carve a statue of such a Creature, as none of them knew any more in several, then some one of the smallest parts thereof, but not the relation it bore to the whole.* I answer, Nature is neither blind nor dumb, nor any ways defective, but infinitely wise and knowing; for blindness and dumbness are but effects of some of her particular actions, but there is no defect in self-moving matter, nor in her actions in general; and it is absurd to conceive the Generality of wisdom according to an Irregular effect or defect of a particular Creature; for the General actions of Nature are both life and knowledg, which are the architects of all Creatures, and know better how to frame all kinds and sorts of Creatures then man can conceive; and the several parts of Matter have a more easie way of communication, then Mans head hath with his hand, or his hand with pen, ink, and paper, when he is going to write; which later example will make you understand my opinion the better, if you do but compare the rational part of Matter to the head, the sensitive to the hand, the inanimate to pen, ink and paper, their action to writing, and their framed figures to those figures or letters which are written; in all which is a mutual agreement without noise or trouble. But give me leave, *Madam*, to tell you, That self-moving Matter may sometimes erre and move irregularly, and in some parts not move so strong, curious, or subtil at sometimes, as in other parts, for Nature delights in variety; Nevertheless she is more wise then any Particular Creature or part can conceive, which is the cause that Man thinks Nature's

wise, subtil and lively actions, are as his own gross actions, conceiving them to be constrained and turbulent, not free and easie, as well as wise and knowing; Whereas Nature's Creating, Generating and Producing actions are by an easie connexion of parts to parts, without Counterbuffs, Joggs and Jolts, producing a particular figure by degrees, and in order and method, as humane sense and reason may well perceive: And why may not the sensitive and rational part of Matter know better how to make a Bee, then a Bee doth how to make Honey and Wax? or have a better communication betwixt them, then Bees that fly several ways, meeting and joyning to make their Combes in their Hives? But pardon, *Madam*, for I think it a Crime to compare the Creating, Generating and producing Corporeal Life and Wisdom of Nature unto any particular Creature, although every particular Creature hath their share, being a part of Nature. Wherefore those, in my opinion, do grossly err, that bind up the sensitive matter onely to taste, touch, hearing, seeing, and smelling; as if the sensitive parts of Nature had not more variety of actions, then to make five senses; for we may well observe, in every Creature there is difference of sense and reason according to the several modes of self-motion; For the Sun, Stars, Earth, Air, Fire, Water, Plants, Animals, Minerals; although they have all sense and knowledg, yet they have not all sense and knowledg alike, because sense and knowledg moves not alike in every kind or sort of Creatures, nay many times very different in one and the same Creature; but yet this doth not cause a general Ignorance, as to be altogether Insensible or Irrational, neither do the erroneous and irregular actions of sense and reason prove an annihilation of sense and reason; as for example, a man may become

Mad or a Fool through the irregular motions of sense and reason, and yet have still the Perception of sense and reason, onely the alteration is caused through the alteration of the sensitive and rational corporeal motions or actions, from regular to irregular; nevertheless he has Perceptions, Thoughts, Ideas, Passions, and whatsoever is made by sensitive and rational Matter, neither can Perception be divided from Motion, nor Motion from Matter; for all sensation is Corporeal, and so is Perception. I can add no more, but take my leave, and rest,

Madam,

Your faithful Friend

and Servant.

[1] *Of the Immortality of the Soul, l.* 1. *c.* 12.

VIII.

MADAM,

Your *Author* is pleased to say,[1] that *Matter is a Principle purely passive, and no otherwise moved or modified, then as some other thing moves and modifies it, but cannot move it self at all; which is most demonstrable to them that contend for sense and perception in it: For if it had any such perception, it would, by vertue of its self-motion withdraw its self from under the knocks of hammers, or fury of the fire; or of its own accord approach to such things as are most agreeable to it, and pleasing, and that without the help of muscles, it being thus immediately endowed with a self-moving power.* By his leave, *Madam*, I must tell you, that I see no consequence in this argument;

Because some parts of matter cannot withdraw themselves from the force and power of other parts, therefore they have neither sense, reason, nor perception: For put the case, a man should be over-powr'd by some other men, truely he would be forced to suffer, and no Immaterial Spirits, I think, would assist him. The very same may be said of other Creatures or parts of Nature; for some may over-power others, as the fire, hammer and hand doth over-power a Horse-shooe, which cannot prevail over so much odds of power and strength; And so likewise it is with sickness and health, life and death; for example, some corporeal motions in the body turning Rebels, by moving contrary to the health of an animal Creature, it must become sick; for not every particular creature hath an absolute power, the power being in the Infinite whole, and not in single divided parts: Indeed, to speak properly, there is no such thing as an absolute power in Nature; for though Nature hath power to move it self, yet not beyond it self. But mistake me not, for I mean by an absolute Power; not a circumscribed and limited, but an unlimited power, no ways bound or confined, but absolutely or every way Infinite, and there is not anything that has such an absolute power but God alone: neither can Nature be undividable, being Corporeal or Material; nor rest from motion being naturally self-moving, and in a perpetual motion. Wherefore though Matter is self-moving, and very wise, (although your *Author* denies it, calling those Fools that maintain this opinion)[2] yet it cannot go beyond the rules of its Nature, no more then any Art can go beyond its Rules and Principles: And as for what your *Author* says, That every thing would approach to that, which is agreeable and pleasant; I think I need no

demonstration to prove it; for we may plainly see it in all effects of Nature, that there is Sympathy and Antipathy, and what is this else, but approaching to things agreeable and pleasant, and withdrawing it self from things disagreeable, and hurtful or offensive? But of this subject I shall discourse more hereafter, wherefore I finish here, and rest,

Madam,

Your Faithful Friend

and Servant.

[1] *Of the Immortality of the Soul, l.* 2., *c.* 1. *a.* 3.

[2] *In the Append. to the Antid. c.* 3. *a.* 10.

IX.

MADAM,

Your *Authors* opinion is,[1] That *Matter being once actually divided as far as possibly it can, it is a perfect contradiction it should be divided any further.* I answer, Though Nature is Infinite, yet her actions are not all dilative nor separative, but some divide and some compose, some dilate and some contract, which causes a mean betwixt Natures actions or motions. Next your *Author* says, That *as Infinite Greatness has no Figure, so Infinite Littleness hath none also.* I answer, Whatsoever hath a body, has a figure; for it is impossible that *substance*, or *body*, and *figure*, should be separated from each other, but wheresoever is body or substance, there is also figure, and if there be an infinite substance, there must also be an

infinite figure, although not a certain determined or circumscribed figure, for such a figure belongs onely to finite particulars; and therefore I am of your *Authors* mind, That it is a contradiction to say an Infinite Cube or Triangle, for a Cube and a Triangle is a perfect circumscribed figure, having its certain compass and circumference, be it never so great or little; wherefore to say an Infinite Cube, would be as much as to say a Finite Infinite. But as for your *Authors* example of *Infinite matter, space or duration, divided into three equal parts, all which he says must needs be Infinite, or else the whole will not be so, and then the middle part of them will seem both Finite and Infinite.* I answer, That Matter is not dividable into three equal parts, for three is a finite number and so are three equal parts; but I say that Matter being an Infinite body, is dividable into Infinite parts, and it doth not follow, as your *Author* says, That one of those infinite parts must be infinite also, for else there would be no difference betwixt the whole and its parts; I say whole for distinctions and better expressions sake, and do not mean such a whole which hath a certain number of parts, and is of a certain and limited figure, although never so great; but an Infinite whole, which expression I must needs use, by reason I speak of Infinite parts; and that each one of these Infinite parts in number may be finite in substance or figure, is no contradiction, but very probable and rational; nay, I think it rather absurd to say that each part is infinite; for then there would be no difference betwixt parts and whole, as I said before. Onely this is to be observed, that the Infinite whole is Infinite in substance or bulk, but the parts are Infinite in number, and not in bulk, for each part is circumscribed, and finite in its exterior figure and substance. But mistake me not, when I speak of

circumscribed and finite single parts; for I do not mean, that each part doth subsist single and by it self, there being no such thing as an absolute single part in Nature, but Infinite Matter being by self-motion divided into an infinite number of parts, all these parts have so near a relation to each other, and to the infinite whole, that one cannot subsist without the other; for the Infinite parts in number do make the Infinite whole, and the Infinite whole consists in the Infinite number of parts; wherefore it is onely their figures which make a difference betwixt them; for each part having its proper figure different from the other, which is circumscribed and limited, it is called a finite single part; and such a part cannot be said Infinitely dividable, for infinite composition and division belong onely to the Infinite body of Nature, which being infinite in substance may also be infinitely divided, but not a finite and single part: Besides, Infinite composition doth hinder the Infinite division, and Infinite division hinders the Infinite composition; so that one part cannot be either infinitely composed, or infinitely divided; and it is one thing to be dividable, and another to be divided. And thus, when your *Author* mentions in another place,[2] That *if a body be divisible into Infinite Parts, it hath an Infinite number of extended parts:* If by extension he mean corporeal dimension, I am of his opinion; for there is no part, be it never so little in Nature, but is material; and if material, it has a body; and if a body, it must needs have a bodily dimension; and so every part will be an extended part: but since there is no part but is finite in its self, it cannot be divisible into infinite parts; neither can any part be infinitely dilated or contracted; for as composition and division do hinder and obstruct each other from running into Infinite, so doth dilation hinder the

Infinite contraction, and contraction the Infinite dilation, which, as I said before, causes a mean betwixt Nature's actions; nevertheless, there are Infinite dilations and contractions in Nature, because there are Infinite contracted and dilated parts, and so are infinite divisions because there are infinite divided parts; but contraction, dilation, extension, composition, division, and the like, are onely Nature's several actions; and as there can be no single part in Nature that is Infinite, so there can neither be any single Infinite action. But as for Matter, Motion and Figure, those are Individable and inseparable, and make but one body or substance; for it is as impossible to divide them, as impossible it is to your *Author* to separate the essential proprieties, which he gives, from an Immortal Spirit; And as Matter, Motion and Figure are inseparable; so is likewise Matter, Space, Place and Duration; For Parts, Motion, Figure, Place and Duration, are but one Infinite body; onely the Infinite parts are the Infinite divisions of the Infinite body, and the Infinite body is a composition of the Infinite parts; but figure, place and body are all one, and so is time, and duration, except you will call time the division of duration, and duration the composition of time; but infinite time, and infinite duration is all one in Nature: and thus Nature's Principal motions and actions are dividing, composing, and disposing or ordering, according to her Natural wisdom, by the Omnipotent God's leave and permission. Concerning the *Sun*, which your *Author* speaks of in the same place, and denies him to be a *Spectator of our particular affairs upon Earth*; saying, there is no such divine Principle in him, whereby he can do it. I will speak nothing again it, nor for it; but I may say, that the Sun hath such a Principle as other Creatures

have, which is, that he has sensitive and rational corporeal motions, as well as animals or other Creatures, although not in the same manner, nor the same organs; and if he have sensitive and rational motions, he may also have sensitive and rational knowledg or perception, as well as man, or other animals and parts of Nature have, for ought any body knows; for it is plain to humane sense and reason, that all Creatures must needs have rational and sensitive knowledg, because they have all sensitive and rational matter and motions. But leaving the Sun for Astronomers to contemplate upon, I take my leave, and rest,

Madam,

Your faithful Friend,

and Servant.

[1] *In the Preface before the Imm. of the Soul.*

[2] *Antid. Book.* 2. *c.* 4.

X.

MADAM,

Your *Author* in his arguments against *Motion*, being a *Principle of Nature*,[1] endeavours to prove, that Beauty, Colour, Symmetry, and the like, in Plants, as well as in other Creatures, are no result from the meer motion of the matter; and forming this objection, *It may be said*, says he, *That the regular motion of the matter made the first plant of every kind; but we demand, What regulated the motion of it, so as to guide it, to form it self into such a state?* I answer, The

Wisdom of Nature or infinite Matter did order its own actions so, as to form those her Parts into such an exact and beautiful figure, as such a Tree, or such a Flower, or such a Fruit, and the like; and some of her Parts are pleased and delighted with other parts, but some of her parts are afraid or have an aversion to other parts; and hence is like and dislike, or sympathy and antipathy, hate and love, according as nature, which is infinite self-moving matter, pleases to move; for though Natural Wisdom is dividable into parts, yet these parts are united in one infinite Body, and make but one Being in it self, like as the several parts of a man make up but one perfect man; for though a man may be wise in several causes or actions, yet it is but one wisdom; and though a Judg may shew Justice in several causes, yet it is but one Justice; for Wisdom and Justice, though they be practised in several causes, yet it is but one Wisdom, and one Justice; and so, all the parts of a mans body, although they move differently, yet are they but one man's bodily actions; Just as a man, if he carve or cut out by art several statues, or draw several Pictures, those statues or pictures are but that one man's work. The like may be said of Natures Motions and Figures; all which are but one self-active or self-moving Material Nature. But Wise Nature's Ground or Fundamental actions are very Regular, as you may observe in the several and distinct kinds, sorts and particulars of her Creatures, and in their distinct Proprieties, Qualities, and Faculties, belonging not onely to each kind and sort, but to each particular Creature; and since man is not able to know perfectly all those proprieties which belong to animals, much less will he be able to know and judg of those that are in Vegetables, Minerals and Elements; and yet these Creatures, for any thing Man knows, may be as

knowing, understanding, and wise as he; and each as knowing of its kind or sort, as man is of his; But the mixture of ignorance and knowledg in all Creatures proceeds from thence, that they are but Parts; and there is no better proof, that the mind of man is dividable, then that it is not perfectly knowing; nor no better proof that it is composeable, then that it knows so much: but all minds are not alike, but some are more composed then others, which is the cause, some know more then others; for if the mind in all men were alike, all men would have the same Imaginations, Fancies, Conceptions, Memories, Remembrances, Passions, Affections, Understanding, and so forth: The same may be said of their bodies; for if all mens sensitive parts were as one, and not dividable and composeable, all their Faculties, Proprieties, Constitutions, Complexions, Appetites, would be the same in every man without any difference; but humane sense and reason doth well perceive, that neither the mind, life nor body are as one piece, without division and composition. Concerning the divine Soul, I do not treat of it; onely this I may say, That all are not devout alike, nor those which are, are not at all times alike devout. But to conclude: some of our modern Philosophers think they do God good service, when they endeavour to prove Nature, as Gods good Servant, to be stupid, ignorant, foolish and mad, or any thing rather then wise, and yet they believe themselves wise, as if they were no part of Nature; but I cannot imagine any reason why they should rail on her, except Nature had not given them as great a share or portion, as she hath given to others; for children in this case do often rail at their Parents, for leaving their Brothers and Sisters more then themselves. However, Nature can do more then any of her

Creatures: and if Man can Paint, Imbroider, Carve, Ingrave curiously; why may not Nature have more Ingenuity, Wit and Wisdom then any of her particular Creatures? The same may be said of her Government. And so leaving Wise Nature, I rest,

Madam,

Your faithful Friend

and Servant.

[1] *Append. to the Antid. c.* 11.

XI.

MADAM,

To your *Authors* argument,[1] That *if Motion belong naturally to Matter, Matter being Uniform, it must be alike moved in every part or particle imaginable of it, by reason this Motion being natural and essential to Matter, is alike every way*. I answer, That this is no more necessary, then that the several actions of one body, or of one part of a body should be alike; for though Matter is one and the same in its Nature, and never changes, yet the motions are various, which motions are the several actions of one and the same Natural Matter; and this is the cause of so many several Creatures; for self-moving matter by its self-moving power can act several ways, modes or manners; and had not natural matter a self-acting power, there could not be any variety in Nature; for Nature knows of no rest, there being no such thing as rest in Nature; but she is in a perpetual motion, I mean self-motion, given her from God: Neither do I think it Atheistical (as your *Author* deems) to maintain this

opinion of self-motion, as long as I do not deny the Omnipotency of God; but I should rather think it Irreligious to make so many several Creatures as Immaterial Spirits, like so many severall Deities, to rule and govern Nature and all material substances in Nature; for what Atheism doth there lie in saying, that natural matter is naturally moving, and wise in her self? Doth this oppose the omnipotency and Infinite wisdom of God? It rather proves and confirms it; for all Natures free power of moving and wisdom is a gift of God, and proceeds from him; but I must confess, it destroys the power of Immaterial substances, for Nature will not be ruled nor governed by them, and to be against Natural Immaterial substances, I think, is no Atheisme, except we make them Deities; neither is Atheisme to contradict the opinion of those, that believe such natural incorporeal Spirits, unless man make himself a God. But although Nature is wise, as I said before, and acts methodically, yet the variety of motions is the cause of so many Irregularities in Nature, as also the cause of Irregular opinions; for all opinions are made by self-moving matters motions, or (which is all one) by corporeal self-motion, and some in their opinions do conceive Nature according to the measure of themselves, as that Nature can, nor could not do more, then they think, nay, some believe they can do as much as Nature doth; which opinions, whether they be probable or regular, I'le let any man judg; adding onely this, that to humane sense and reason it appears plainly, that as God has given Nature a power to act freely, so he doth approve of her actions, being wise and methodical in all her several Productions, Generations, Transformations and Designs: And so I conclude for the present, onely subscribe my self, as really I am,

Madam,

Your faithful Friend,

and Servant.

[1] *Antid. l.* 2. *c.* 1.

XII.

MADAM,

I am of your *Authors* opinion, concerning self-activity or self-motion,[1] *That what is Active of it self, can no more cease to be active then to be*: And I have been always of this opinion, even from the first beginning of my conceptions in natural Philosophy, as you may see in my first Treatise of Natural Philosophy, which I put forth eleven years since; where I say, That self-moving Matter is in a Perpetual motion; But your *Author* endeavors from thence to conclude, That *Matter is not self active, because it is reducible to rest.* To which I answer, That there is no such thing as Rest in Nature: Not do I say, that all sorts of motions are subject to our senses, for those that are subject to our sensitive Perceptions, are but gross Motions, in comparison to those that are not subject to our exterior senses: as for example; We see some bodies dilate, others consume, others corrupt; yet we do not see how they dilate, nor how they consume, nor how they corrupt: Also we see some bodies contract, some attract, some condense, some consist, &c. yet we do not see their contracting, attracting, condensing, consisting or retenting motions; and yet we cannot say, they are not corporeal motions, because not subject to our exterior senses; for if there were not

contracting, attracting, retenting or consistent corporeal self-motions, it had been impossible that any creature could have been composed into one united figure, much less stayed and continued in the same figure without a general alteration. But your *Author* says, *If Matter, as Matter, had Motion, nothing would hold together, but Flints, Adamants, Brass, Iron, yea, this whole Earth, would suddenly melt into a thinner substance then the subtil Air, or rather it never had been condensated together to this consistency we find it.* But I would ask him, what reason he can give, that corporeal self-motion should make all matter rare and fluid, unless he believe there is but one kind of motion in Nature, but this, human sense and reason will contradict; for we may observe there are Infinite changes of Motion, and there is more variety and curiosity in corporeal motions, then any one single Creature can imagine, much less know; but I suppose he conceives all corporeal matter to be gross, and that not any corporeal motion can be subtil, penetrating, contracting and dilating; and that whatsoever is penetrating, contracting and dilating, is Individable: But by his leave, *Madam*, this doth not follow; for though there be gross degrees of Matter, and strong degrees of Corporeal Motions, yet there are also pure and subtil degrees of Matter and Motions; to wit, that degree of Matter, which I name sensitive and rational Matter, which is natural Life and Knowledg, as sensitive Life and rational Knowledg. Again, your *Author* askes, *What glue or cement holds the parts of hard matter in Stones and Metals together?* I answer, Consistent or retentive corporeal motions, by an agreeable union and conjunction in the several parts of Metal or Stone; and these retentive or consistent motions, are as strong and active, if not more, then some dilative or

contractive motions; for I have mentioned heretofore, that, as sensitive and rational corporeal motions are in all Creatures, so also in Stone, Metal, and any other dense body whatsoever; so that not any one Creature or part of Matter is without Motion, and therefore not any thing is at rest. But, *Madam*, I dare say, I could bring more reason and sense to prove, that sensitive and rational Matter is fuller of activity, and has more variety of motion, and can change its own parts of self-moving Matter more suddenly, and into more exterior figures, then Immaterial Spirits can do upon natural Matter. But your *Author* says, That Immaterial Spirits are endued with Sense and Reason; I say, My sensitive and rational corporeal Matter is Sense and Reason it self, and is the Architect or Creator of all figures of Natural matter, for though all the parts of Matter are not self-moving, yet there is not any part that is not moving or moved, by and with the mover, which is animate matter. And thus I conclude, and rest constantly,

Madam,

Your Faithful Friend

and Servant.

[1] *Of the Immortality of the Soul, l.* 1. *c.* 7.

XIII.

MADAM,

That Matter is uncapable of Sense, your *Author* proves by the example of dead Carcasses;[1] *For,* says he, *Motion and Sense being really one and the same*

thing, it must needs follow, that where there is motion, there is also sense and perception; but on the contrary, there is Reaction in dead Carcasses, and yet no Sense. I answer shortly, That it is no consequence, because there is no animal sense nor exterior perceptible local motion in a dead Carcass, therefore there is no sense at all in it; for though it has not animal sense, yet it may nevertheless have sense according to the nature of that figure, into which it did change from being an animal. Also he says, *If any Matter have sense, it will follow, that upon reaction all shall have the like; and that a Bell while it is ringing, and a Bow while it is bent, and every Jack-in-a-box, that School-boys play with, shall be living animals.* I answer, It is true, if reaction made sense; but reaction doth not make sense, but sense makes reaction; and though the Bell hath not an animal knowledg, yet it may have a mineral life and knowledg, and the Bow, and the Jack-in-a-box a vegetable knowledg; for the shape and form of the Bell, Bow, and Jack-in-a-box, is artificial; nevertheless each in its own kind may have as much knowledg as an animal in his kind; onely they are different according to the different proprieties of their Figures: And who can prove the contrary that they have not? For certainly Man cannot prove what he cannot know; but Mans nature is so, that knowing but little of other Creatures, he presently judges there is no more knowledg in Nature, then what Man, at least Animals, have; and confines all sense onely to Animal sense, and all knowledg to Animal knowledg. Again says your Author, *That Matter is utterly uncapable of such operations as we find in our selves, and that therefore there is something in us Immaterial or Incorporeal; for we find in our selves that one and the same thing, both hears, and sees, and tastes, and perceives all the variety*

of objects that Nature manifests unto us. I answer, That is the reason there is but one matter, and that all natural perception is made by the animate part of matter; but although there is but one matter in Nature, yet there are several parts or degrees, and consequently several actions of that onely matter, which causes such a variety of perceptions, both sensitive and rational: the sensitive perception is made by the sensitive corporeal motions, copying out the figures of forreign objects in the sensitive organs of the sentient; and if those sensitive motions do pattern out forreign objects in each sensitive organ alike at one and the same time, then we hear, see, taste, touch and smell, at one and the same time: But Thoughts and Passions, as Imagination, Conception, Fancy, Memory, Love, Hate, Fear, Joy, and the like, are made by the rational corporeal motions in their own degree of matter, to wit, the rational. And thus all perception is made by one and the same matter, through the variety of its actions or motions, making various and several figures, both sensitive and rational. But all this variety in sense and reason, or of sensitive and rational perceptions, is not made by parts pressing upon parts, but by changing their own parts of matter into several figures by the power of self-motion: For example, I see a Man or Beast; that Man or Beast doth not touch my eye, in the least, neither in it self, nor by pressing the adjoyning parts: but the sensitive corporeal motions streight upon the sight of the Man or Beast make the like figure in the sensitive organ, the Eye, and in the eyes own substance or matter, as being in the eye as well as the other degrees of matter, to wit, the rational and inanimate, for they are all mixt together. But this is to be observed, That the rational matter can and doth move in its own substance, as being the purest

and subtillest degree of matter; but the sensitive being not so pure and subtil, moves always with the inanimate Matter, and so the perceptive figures which the rational Matter, or rational corporeal Motions make, are made in their own degree of Matter; but those figures which the sensitive patterns out, are made in the organs or parts of the sentient body proper to such or such a sense or perception: as in an animal Creature, the perception of sight is made by the sensitive corporeal motions in the Eye; the perception of hearing, in the Ear, and so forth. As for what your *Author* says, *That we cannot conceive any portion of Matter, but is either hard or soft*; I answer, That these are but effects of Matters actions, and so is rare, and dense, and the like; but there are some Creatures which seem neither perfectly rare, nor dense, nor hard, nor soft, but of mixt qualities; as for example, Quicksilver seems rare, and yet is dense; soft, and yet is hard; for though liquid Quicksilver is soft to our touch, and rare to our sight, yet it is so dense and hard, as not to be readily dissolved from its nature; and if there be such contraries and mixtures in one particular creature made of self-moving Matter, what will there not be in Matter it self, according to the old saying: *If the Man such praise shall have; What the Master that keeps the knave?* So if a particular Creature hath such opposite qualities and mixtures of corporeal motions, what will the Creator have which is self-moving Matter? Wherefore it is impossible to affirm, that self-moving Matter is either all rare, or all dense, or all hard, or all soft; because by its self-moving power it can be either, or both, and so by the change and variety of motion, there may be soft and rare Points, and hard and sharp Points, hard and contracted Globes, and soft and rare Globes; also there may be

pressures of Parts without printing, and printing without pressures. Concerning that part of Matter which is the *Common Sensorium*, your *Author* demands, *Whether some point of it receive the whole Image of the object, or whether it be wholly received into every point of it?* I answer, first, That all sensitive Matter is not in Points; Next, That not any single part can subsist of it self; and then that one Part doth not receive all parts or any part into it self; but that Parts by the power of self-motion can and do make several figures of all sizes and sorts, and can Epitomize a great object into a very little figure; for outward objects do not move the body, but the sensitive and rational matter moves according to the figures of outward objects: I do not say always, but most commonly; *But*, says your Author, *How can so smal a Point receive the Images of so vast or so various objects at once, without obliteration or confusion.* First, I answer, That, as I said before, sensitive Matter is not bound up to a Point, nor to be a single self-subsisting Part. Next, as for confusion, I say, that the sensitive matter makes no more confusion, then an Engraver, when he engraves several figures in a small stone, and a Painter draws several figures in a small compass; for a Carver will cut out several figures in a Cherry-stone, and a Lady in a little black Patch; and if gross and rude Art is able to do this, what may not Ingenious and Wise Nature do? And as Nature is ingenious and knowing in her self, so in her Parts, and her Parts in her; for neither whole nor Parts are ignorant, but have a knowledg, each according to the motion of its own Parts; for knowledg is in Motion, and Motion in Matter; and the diversity and variety of motion is the diversity and variety of knowledg, so that every particular figure and motion hath its particular knowledg, as well as its proper and

peculiar parts; and as the parts join or divide, so doth knowledg, which many times causes Arts to be lost and found, and memory and remembrance in Particular Creatures: I do not say, they are utterly lost in nature, but onely in respect to particular Creatures, by the dissolving and dividing of their particular figures. For the rational matter, by reason it moves onely in its own parts, it can change and rechange into several figures without division of parts, which makes memory and remembrance: But men not considering or believing there might be such a degree of onely matter, namely rational, it has made them erre in their judgments. Nevertheless there is a difference between sensitive and rational parts and motions, and yet they are agreeable most commonly in their actions, though not always. Also the rational can make such figures as the sensitive cannot, by reason the rational has a greater power and subtiler faculty in making variety, then the sensitive; for the sensitive is bound to move with the inanimate, but the rational moves onely in its own parts; for though the sensitive and rational oftentimes cause each other to move, yet they are not of one and the same degree of matter, nor have they the same motions. And this rational Matter is the cause of all Notions, Conceptions, Imaginations, Deliberation, Determination, Memory, and any thing else that belongs to the Mind; for this matter is the mind of Nature, and so being dividable, the mind of all Creatures, as the sensitive is the life; and it can move, as I said, more subtilly, and more variously then the sensitive, and make such figures as the sensitive cannot, without outward examples and objects. But all diversity comes by change of motion, and motions are as sympathetical and agreeing, as antipathetical and disagreeing; And though Nature's

artificial motions, which are her Playing motions, are sometimes extravagant, yet in her fundamental actions there is no extravagancy, as we may observe by her exact rules in the various generations, the distinct kinds and sorts, the several exact measures, times, proportions and motions of all her Creatures, in all which her wisdom is well exprest, and in the variety her wise pleasure: To which I leave her, and rest,

Madam,

Your faithful Friend,

and Servant.

[1] *Of the Immortality of the Soul, l.* 2. *c.* 2.

XIV.

MADAM,

If there be any sense and perception in Matter, says your Author,[1] *it must needs be Motion or Reaction of one part of matter against another; and that all diversity of sense and perception doth necessarily arise from the diversity of the Magnitude, Figure, Posture, Vigour and Direction of Motion in Parts of the Matter; In which variety of perceptions, Matter hath none, but such, as are impressed by corporeal motions, that is to say, that are perceptions of some actions, or modificated Impressions of parts of matter bearing one against another.* I have declared, *Madam*, my opinion concerning Perception in my former Letters, that all Perception is not Impression and Reaction, like as a Seal is printed on Wax: For example, the corporeal rational motions in the mind do not print, but move

figuratively; but the sensitive motions do carve, print, engrave, and, as it were, pencil out, as also move figuratively in productions, and do often take patterns from the rational figures, as the rational motions make figures according to the sensitive patterns; But the rational can move without patterns, and so the sensitive: For surely, were a man born blind, deaf, dumb, and had a numb palsie in his exterior parts, the sensitive and rational motions would nevertheless move both in body and mind according to the nature of his figure; for though no copies were taken from outward objects, yet he would have thoughts, passions, appetites, and the like; and though he could not see exterior objects, nor hear exterior sounds, yet no question but he would see and hear interiously after the manner of dreams, onely they might not be any thing like to what is perceiveable by man in the World; but if he sees not the Sun-light, yet he would see something equivalent to it; and if he hears not such a thing as Words, yet he would hear something equivalent to words; for it is impossible, that his sensitive and rational faculties should be lost for want of an Ear, or an Eye; so that Perception may be without exterior object, or marks, or patterns: for although the sensitive Motions do usually pattern out the figures of exterior objects, yet that doth not prove, but they can make interior figures without such objects. Wherefore Perception is not always Reaction, neither is Perception and Reaction really one thing; for though Perception and Action is one and the same, yet not always Reaction; but did Perception proceed from the reaction of outward objects, a blind and deaf man would not so much as dream; for he would have no interior motion in the head, having no other exterior sense but touch, which, if the body was

troubled with a painful disease, he would neither be sensible of, but to feel pain, and interiously feel nothing but hunger and fulness; and his Mind would be as Irrational as some imagine Vegetables and Minerals are. To which opinion I leave them, and rest,

Madam,

Your Faithful Friend

and Servant.

[1] *Of the Immortality of the Soul, l.* 2. *c.* 1. *a.* 1, 6, 7.

XV.

MADAM,

Your *Author* is pleased, in Mirth, and to disgrace the opinion of those which hold, that Perception is made by figuring, to bring in this following example:[1] *Suppose*, says he, *one Particle should shape it self into a* George on Horse-back *with a Lance in his hand, and another into an Inchanted Castle; this* George on Horse-back *must run against the Castle, to make the Castle receive his impress and similitude: But what then? Truly the Encounter will be very Unfortunate, for S.* George *indeed may easily break his Lance, but it is impossible that he should by justling against the Particle in the form of a Castle, conveigh the intire shape of himself and his Horse thereby, such as we find our selves able to imagine of a man on Horse-back; which is a Truth as demonstrable as any Theorem in Mathematicks.* I answer, first, That there is no Particle single and alone by it self; Next, I say, It is more easie for the

rational matter to put it self into such figures, and to make such encounters, then for an Immaterial mind or substance to imagine it; for no imagination can be without figure, and how should an Immaterial created substance present such Figures, but by making them either in it self or upon matter? For S. *George* and the *Castle* are figures, and their encounters are real fighting actions, and how such figures and actions can be in the mind or memory, and yet not be, is impossible to conceive; for, as I said, those figures and actions must be either in the incorporeal mind, or in the corporeal parts of matter; and if the figures and motions may be in an incorporeal substance, much more is it probable for them to be in a corporeal; nay if the figures and their actions can be in gross corporeal matter, why should they not be in the purest part of matter, which is the rational matter? And as for being made known to the whole body, and every part thereof, it is not necessary, no more then it is necessary, that the private actions of every Man or Family should be made known to the whole Kingdom, or Town, or Parish: But my opinion of self-corporeal motion and perception, may be as demonstrable as that of Immaterial Natural Spirits, which, in my mind, is not demonstrable at all, by reason it is not corporeal or material; For how can that be naturally demonstrable, which naturally is nothing? But your *Author* believes the Mind or rational Soul to be individable, and therefore concludes, that the Parts of the same Matter, although at great distance, must of necessity know each Particular act of each several Part; but that is not necessary; for if there were not ignorance through the division of Parts, every man and other creatures would know alike; and there is no better proof, that matter, or any particular

creature in nature is not governed by a created Immaterial Spirit, then that knowledg is in parts; for the hand doth not know what pain the head feels, which certainly it would do, if the mind were not dividable into parts, but an individable substance. But this is well to be observed, that some parts in some actions agree generally in one body, and some not; as for example, temperance and appetite do not agree; for the corporeal actions of appetite desire to join with the corporeal actions of such or such other parts, but the corporeal actions of temperance do hinder and forbid it; whereupon there is a faction amongst the several parts: for example, a Man desires to be drunk with Wine; this desire is made by such corporeal actions as make appetite; the rational corporeal motions or actions which make temperance, oppose those that make appetite, and that sort of actions which hath the better, carryes it, the hand and other parts of the body obeying the strongest side; and if there be no wine to satisfie the appetite, yet many times the appetite continues; that is, the parts continue in the same motions that make such an appetite; but if the appetite doth not continue, then those parts have changed their motions; or when by drinking, the appetite is satisfied, and ceases, then those parts that made the appetite, have altered their former motions. But oftentimes the rational corporeal motions may so agree with the sensitive, as there may be no opposition or crossing at all, but a sympathetical mutual agreement betwixt them, at least an approvement; so that the rational may approve what the sensitive covet or desire: Also some motions of the rational, as also of the sensitive matter, may disagree amongst themselves, as we see, that a man will often have a divided mind; for he will love and

hate the same thing, desire and not desire one and the same thing, as to be in Heaven, and yet to be in the World: Moreover, this is to be observed, That all rational perceptions or cogitations, are not so perspicuous and clear as if they were Mathematical Demonstrations, but there is some obscurity, more or less in them, at least they are not so well perceivable without comparing several figures together, which proves, they are not made by an individable, immaterial Spirit, but by dividable corporeal parts: As for example, Man writes oftentimes false, and seldom so exact, but he is forced to mend his hand, and correct his opinions, and sometimes quite to alter them, according as the figures continue or are dissolved and altered by change of motion, and according as the actions are quick or slow in these alterations, the humane mind is setled or wavering; and as figures are made, or dissolved and transformed, Opinions, Conceptions, Imaginations, Understanding, and the like, are more or less; And according as these figures last, so is constancy or inconstancy, memory or forgetfulness, and as those figures are repeated, so is remembrance; but sometimes they are so constant and permanent, as they last as long as the figure of the body, and sometimes it happens not once in an age, that the like figures are repeated, and sometimes they are repeated every moment: As for example; a man remembers or calls to mind the figure of another man, his friend, with all his qualities, dispositions, actions, proprieties, and the like, several times in an hour, and sometimes not once in a year, and so as often as he remembers him, as often is the figure of that man repeated; and as oft as he forgets him, so often is his figure dissolved. But some imagine the rational motions to be so gross as the Trotting of a

Horse, and that all the motions of Animate matter are as rude and course as renting or tearing asunder, or that all impressions must needs make dents or creases. But as Nature hath degrees of corporeal matter, so she hath also degrees of corporeal motions, Matter and Motion being but one substance; and it is absurd to judg of the interior motions of self-moving matter, by artificial or exterior gross motions, as that all motions must be like the tearing of a sheet of Paper, or that the printing and patterning of several figures of rational and sensitive matter must be like the printing of Books; nay, all artificial Printings are not so hard, as to make dents and impresses; witness Writing, Painting, and the like; for they do not disturb the ground whereon the letters are written, or the picture drawn, and so the curious actions of the purest rational matter are neither rude nor rough; but although this matter is so subtil and pure, as not subject to exterior human senses and organs, yet certainly it is dividable, not onely in several Creatures, but in the several parts of one and the same Creature, as well as the sensitive, which is the Life of Nature, as the other is the Soul; not the Divine, but natural Soul; neither is this Soul Immaterial, but Corporeal; not composed of raggs and shreds, but it is the purest, simplest and subtillest matter in Nature. But to conclude, I desire you to remember, *Madam*, that this rational and sensitive Matter in one united and finite Figure or particular Creature, has both common and particular actions, for as there are several kinds and sorts of Creatures, and particulars in every kind and sort: so the like for the actions of the rational and sensitive matter in one particular Creature. Also it is to be noted, That the Parts of rational matter, can more suddenly give and take Intelligence to and from each

other, then the sensitive; nevertheless, all Parts in Nature, at least adjoyning parts, have Intelligence between each other, more or less, because all parts make but one body; for it is not with the parts of Matter, as with several Constables in several Hundreds, or several Parishes, which are a great way distant from each other, but they may be as close as the combs of Bees, and yet as partable and as active as Bees. But concerning the Intelligence of Natures Parts, I have sufficiently spoken in other places; and so I'le add no more, but that I unfeignedly remain;

Madam,

Your faithful Friend

and Servant.

[1] *In the second Book of the Immortality of the Soul, ch.* 6.

XVI.

MADAM,

Sensation in corporeal motion is first, and Perception follows, sayes your *Author*:[1] to which opinion I give no assent, but do believe that Perception and Sensation are done both at one and the same time, as being one and the same thing without division, either in reason or sense, and are performed without any knocks, or jolts, or hitting against. But let me tell you, *Madam*, there arises a great mistake by many, from not distinguishing well, sensitive Motion, and rational Motion; for though all motions are in one onely matter, yet that matter doth not move always in the same manner, for then there could be no

variety in Nature; and truly, if man, who is but a part of Nature, may move diversly, and put himself into numerous postures; Why may not Nature? But concerning Motions, and their variety, to avoid tedious repetitions, I must still referr you to my Book of *Philosophical Opinions*; I'le add onely this, that it is well to be observed, That all Motions are not Impressions, neither do all Impressions make such dents, as to disturb the adjoyning Parts: Wherefore those, in my opinion, understand *Nature* best, which say, that Sensation and Perception are really one and the same; but they are out, that say, there can be no communication at a distance, unless by pressing and crowding; for the patterning of an outward object, may be done without any inforcement or disturbance, jogging or crowding, as I have declared heretofore; for the sensitive and rational motions in the sensitive and rational parts of matter in one creature, observing the exterior motions in outward objects, move accordingly, either regularly or irregularly in patterns; and if they have no exterior objects, as in dreams, they work by rote. And so to conclude, I am absolutely of their opinion, who believe, that there is nothing existent in Nature, but what is purely Corporeal, for this seems most probable in sense and reason to me,

Madam,

Your Faithful Friend

and Servant.

[1] *In the Pref. of the Imm. of the Soul.*

XVII.

MADAM,

Outward Objects, as I have told you before, do not make Sense and Reason, but Sense and Reason do perceive and judg of outward objects; For the Sun doth not make sight, nor doth sight make light; but sense and reason in a Man, or any other creature, do perceive and know there are such objects as Sun, and Light, or whatsoever objects are presented to them. Neither doth Dumbness, Deafness, Blindness, &c. cause an Insensibility, but Sense through irregular actions causes them; I say, through Irregular actions, because those effects do not properly belong to the nature of that kind of Creatures; for every Creature, if regularly made, hath particular motions proper to its figure; for natural Matters wisdom makes distinctions by her distinct corporeal motions, giving every particular Creature their due Portion and Proportion according to the nature of their figures, and to the rules of her actions, but not to the rules of Arts, Mathematical Compasses, Lines, Figures, and the like. And thus the Sun, Stars, Meteors, Air, Fire, Water, Earth, Minerals, Vegetables and Animals, may all have Sense and Reason, although it doth not move in one kind or sort of Creatures, or in one particular, as in another: For the corporeal motions differ not onely in kinds and sorts, but also in Particulars, as is perceivable by human sense and reason; Which is the cause, that Elements have elemental sense and knowledg, and Animals animal sense and knowledg, and so of Vegetables, Minerals, and the like. Wherefore the Sun and Stars may have as much sensitive and rational life and knowledg as other Creatures, but such as is according to the nature of their figures, and not animal, or vegetable, or mineral sense and knowledg. And so leaving them, I rest,

Madam,

Your faithful Friend

and Servant.

XVIII.

MADAM,

Your *Author* denying that Fancy, Reason and Animadversion are seated in the Brain, and that the Brain is figured into this or that Conception:[1] *I demand*, says he, *in what knot, loop or interval thereof doth this faculty of free Fancy and active Reason reside?* My answer is, that in my opinion, Fancy and Reason are not made in the Brain, as there is a Brain, but as there is sensitive and rational matter, which makes not onely the Brain, but all Thoughts, Conceptions, Imaginations, Fancy, Understanding, Memory, Remembrance, and whatsoever motions are in the Head, or Brain: neither doth this sensitive and rational matter remain or act in one place of the Brain, but in every part thereof; and not onely in every part of the Brain, but in every part of the Body; nay, not onely in every part of a Mans Body, but in every part of Nature. But, *Madam*, I would ask those, that say the Brain has neither sense, reason, nor self-motion, and therefore no Perception; but that all proceeds from an Immaterial Principle, as an Incorporeal Spirit, distinct from the body, which moveth and actuates corporeal matter; I would fain ask them, I say, where their Immaterial Ideas reside, in what part or place of the Body? and whether they be little or great? Also I would ask them, whether

there can be many, or but one Idea of God? If they say many, then there must be several, distinct Deitical Ideas; if but one, Where doth this Idea reside? If they say in the head, then the heart is ignorant of God; if in the heart, then the head is ignorant thereof, and so for all parts of the body; but if they say, in every part, then that Idea may be disfigured by a lost member; if they say, it may dilate and contract, then I say it is not the Idea of God, for God can neither contract nor extend; nor can the Idea it self dilate and contract, being immaterial; for contraction and dilation belong onely to bodies, or material beings: Wherefore the comparisons betwixt Nature and a particular Creature, and between God and Nature, are improper; much more betwixt God and Natures particular motions and figures, which are various and changeable, although methodical. The same I may ask of the Mind of Man, as I do of the Idea in the Mind. Also I might ask them, what they conceive the natural mind of man to be, whether material or immaterial? If material, their opinion is rational, and so the mind is dividable and composable; if immaterial, then it is a Spirit; and if a Spirit, it cannot possibly dilate nor contract, having no dimension nor divisibility of parts, (although your *Author* proves it by the example of Light; but I have exprest my meaning heretofore, that *light* is divisible) and if it have no dimension, how can it be confined in a material body? Wherefore when your *Author* says, the mind is a substance, it is to my reason very probable; but not when he says, it is an immaterial substance, which will never agree with my sense and reason; for it must be either something, or nothing, there being no *medium* between, in Nature. But pray mistake me not, *Madam*, when I say Immaterial is nothing; for I mean nothing Natural, or so as to be a

part of Nature; for God forbid, I should deny, that God is a Spiritual Immaterial substance, or Being; neither do I deny that we can have an Idea, notion, conception, or thought of the existence of God; for I am of your *Authors* opinion, That there is no Man under the cope of Heaven, that doth not by the light of Nature, know, and believe there is a God; but that we should have such a perfect Idea of God, as of any thing else in the World, or as of our selves, as your *Author* says, I cannot in sense and reason conceive to be true or possible. Neither am I against those Spirits, which the holy Scripture mentions, as Angels and Devils, and the divine Soul of Man; but I say onely, that no Immaterial Spirit belongs to Nature, so as to be a part thereof; for Nature is Material, or Corporeal; and whatsoever is not composed of matter or body, belongs not to Nature; nevertheless, Immaterial Spirits may be in Nature, although not parts of Nature. But there can neither be an Immaterial Nature, nor a Natural Immaterial; Nay, our very thoughts and conceptions of Immaterial are Material, as made of self-moving Matter. Wherefore to conclude, these opinions in Men proceed from a Vain-glory, as to have found out something that is not in Nature; to which I leave them, and their natural Immaterial Substances, like so many Hobgoblins to fright Children withal, resting in the mean time,

Madam,

Your faithful Friend,

and Servant.

[1] *Antid. lib.* 1. *c.* 11.

XIX.

MADAM,

There are various opinions concerning the seat of Common Sense, as your *Author* rehearseth them in his Treatise of the Immortality of the Soul;[1] But my opinion is, That common sense hath also a common place; for as there is not any part of the body that hath not sense and reason, so sense and reason is in all parts of the body, as it is observable by this, that every part is subject to pain and pleasure, and all parts are moveable, moving and moved; also appetites are in every part of the body: As for example, if any part itches, it hath an appetite to be scratched, and every part can pattern out several objects, and so several touches; and though the rational part of matter is mixt in all parts of the body, yet it hath more liberty to make variety of Motions in the head, heart, liver, spleen, stomack, bowels, and the like, then in the other parts of the body; nevertheless, it is in every part, together with the sensitive: but they do not move in every part alike, but differ in each part more or less, as it may be observed; and although every part hath some difference of knowledg, yet all have life and knowledg, sense and reason, some more, some less, and the whole body moves according to each part, and so do all the bodily Faculties and Proprieties, and not according to one single part; the rational Soul being in all parts of the body: for if one part of the body should have a dead Palsie, it is not, that the Soul is gone from that part, but that the sensitive and rational matter has altered its motion and figure from animal to some other kind; for certainly, the rational Soul, and so life, is in every part, as well in the Pores of the skin, as in the ventricles of the brain,

and as well in the heel as in the head; and every part of the body knows its own office, what it ought to do, from whence follows an agreement of all the parts: And since there is difference of knowledg in every part of one body, well may there be difference between several kinds and sorts, and yet there is knowledg in all; for difference of knowledg is no argument to prove they have no knowledg at all. Wherefore I am not of the opinion, that that which moves the whole body, is as a Point, or some such thing in a little kernel or *Glandula* of the Brain, as an Ostrich-egge is hung up to the roof of a Chamber; or that it is in the stomack like a single penny in a great Purse; neither is it in the midst of the heart, like a Lady in a Lobster; nor in the blood, like as a Menow, or Sprat in the Sea; nor in the fourth Ventricle of the Brain, as a lousie Souldier in a Watch-tower. But you may say, it is like a farthing Candle in a great Church: I answer, That Light will not enlighten the by Chappels of the Church, nor the Quest-house, nor the Belfrey; neither doth the Light move the Church, though it enlightens it: Wherefore the Soul after this manner doth not move the corporeal body, no more then the Candle moves the Church, or the Lady moves the Lobster, or the Sprat the Sea as to make it ebb and flow. But this I desire you to observe, *Madam*, that though all the body of man or any other Creature, hath sense and reason, which is life and knowledg, in all parts, yet these parts being all corporeal, and having their certain proportions, can have no more then what is belonging or proportionable to each figure: As for example; if a Man should feed, and not evacuate some ways or other, he could not live; and if he should evacuate and not feed, he could not subsist: wherefore in all Natures parts there is ingress and egress, although

not always perceived by one creature, as Man; but all exterior objects do not enter into Man, or any other Creature, but are figured by the rational, and some by the sensitive parts or motions in the body; wherefore it is not rational to believe, that exterior objects take up any more room, then if there were none presented to the sensitive organs: Nor is there any thing which can better prove the mind to be corporeal, then that there may be several Figures in several parts of the body made at one time, as Sight, Hearing, Tasting, Smelling, and Touching, and all these in each several organ, as well at one, as at several times, either by patterns, or not; which figuring without Pattern, may be done as well by the sensitive motions in the organs, as by the rational in the mind, and is called remembrance. As for example: a Man may hear or see without an object; which is, that the sensitive and rational matter repeat such figurative actions, or make others in the sensitive organs, or in the mind: and Thoughts, Memory, Imagination, as also Passion, are no less corporeal actions then the motion of the hand or heel; neither hath the rational matter, being naturally wise, occasion to jumble and knock her parts together, by reason every part knows naturally their office what they ought to do, or what they may do. But I conclude, repeating onely what I have said oft before, that all Perceptions, Thoughts, and the like, are the Effects, and Life and Knowledg, the Nature and Essence of self-moving Matter. And so I rest,

Madam,

Your Faithful Friend

and Servant.

[1] *Lib.* 2. *c.* 4.

XX.

MADAM,

I am not able to conceive how the Mind of Man can be compared to a Table-book, in which nothing is writ;[1] nor how to a Musician, who being asleep, doth not so much as dream of any Musick, but being jogg'd and awakend by another, who tells him two or three words of a Song, and desires him to sing it, presently recovers himself, and sings upon so slight an Intimation: For such intimations are nothing else but outward objects, which the interior sense consents to, and obeys; for interior sense and reason doth often obey outward objects: and in my opinion there is no rest in Nature, and so neither in the Mind or natural Soul of Man, which is in a perpetual motion, and needs therefore no jogging to put it into any actual motion; for it hath actual motion and knowledg in it self, because it is a self-moving substance, actually knowing, and Material or Corporeal, not Immaterial, as your *Author* thinks: and this material or corporeal Mind is nothing else but what I call the rational matter, and the corporeal life is the sensitive matter. But this is to be observed, that the motions of the corporeal Mind do often imitate the motions of the sensitive Life, and these again the motions of the mind: I say oftentimes; for they do it not always, but each one can move without taking any pattern from the other. And all this I understand of the Natural Soul of Man; not of the Divine Soul, and her powers and faculties, for I leave that to Divines to inform us of; onely this I say, that men not conceiving the distinction between this natural and divine Soul, make such a confusion

betwixt those two Souls and their actions, which causes so many disputes and opinions. But if Nature hath power from God to produce all kinds of Vegetables, Minerals, Elements, Animals, and other sorts of Creatures, Why not also Man? Truly if all Creatures are natural Creatures, Man must be so too; and if Man is a natural Creature, he must needs have natural sense and reason, as well as other Creatures, being composed of the same matter they are of. Neither is it requisite, that all Creatures, being of the same matter, must have the same manner of sensitive and rational knowledg; which if so, it is not necessary for Corn to have Ears to hear the whistling or chirping of Birds, nor for Stones to have such a touch of feeling as animals have, and to suffer pain, as they do, when Carts go over them; as your *Author* is pleased to argue out of *Æsopes* Tales; or for the Heliotrope to have eyes to see the Sun: for what necessity is there that they should have humane sense and reason? which is, that the rational and sensitive matter should act and move in them as she doth in man or animals: Certainly if there must be any variety in nature, it is requisite she should not; wherefore all Vegetables, Minerals, Elements, and Animals, have their proper motions different from each others, not onely in their kinds and sorts, but also in their particulars. And though Stones have no progressive motion to withdraw themselves from the Carts going over them, which your *Author* thinks they would do, if they had sense, to avoid pain: nevertheless they have motion, and consequently sense and reason, according to the nature and propriety of their figure, as well as man has according to his. But this is also to be observed, that not any humane Creature, which is accounted to have the perfectest sense and reason, is able always

to avoid what is hurtful or painful, for it is subject to it by Nature: Nay, the Immaterial Soul it self, according to your *Author*,[2] cannot by her self-contracting faculty withdraw her self from pain. Wherefore there is no manner of consequence to conclude from the sense of Animals to the sense of Minerals, they being as much different as their Figures are; And saying this, I have said enough to express the opinion and mind of,

Madam,

Your faithful Friend

and Servant.

[1] *Antid. Book* 1. *c.* 5.

[2] *Append. to the Antid. ch.* 3.

XXI.

MADAM,

Your *Author* endeavours very much to prove the existency of a *Natural Immaterial Spirit*, whom he defines to be an *Incorporeal substance, Indivisible, that can move it self, can penetrate, contract and dilate it self, and can also move and alter the matter.* Whereof, if you will have my opinion, I confess freely to you, that in my sense and reason I cannot conceive it to be possible, that these is any such thing in Nature; for all that is a substance in Nature, is a body, and what has a body, is corporeal; for though there be several degrees of matter, as in purity, rarity, subtilty, activity; yet there is no degree so pure, rare and subtil, that can go beyond its nature, and change

from corporeal to incorporeal, except it could change from being something to nothing, which is impossible in Nature. Next, there is no substance in Nature that is not divisible; for all that is a body, or a bodily substance, hath extension, and all extension hath parts, and what has parts, is divisible. As for self-motion, contraction and dilation, these are actions onely of Natural Matter; for Matter by the Power of God is self-moving, and all sorts of motions, as contraction, dilation, alteration, penetration, &c. do properly belong to Matter; so that natural Matter stands in no need to have some Immaterial or Incorporeal substance to move, rule, guide and govern her; but she is able enough to do it all her self, by the free Gift of the Omnipotent God; for why should we trouble our selves to invent or frame other unconceivable substances, when there is no need for it, but Matter can act, and move as well without them and of it self? Is not God able to give such power to Matter, as to an other Incorporeal substance? But I suppose this opinion of natural Immaterial Spirits doth proceed from Chymistry, where the extracts are vulgarly called Spirits; and from that degree of Matter, which by reason of its purity, subtilty and activity, is not subject to our grosser senses; However, these are not Incorporeal, be they never so pure and subtil. And I wonder much that men endeavour to prove Immaterial Spirits by corporeal Arts, when as Art is not able to demonstrate Nature and her actions; for Art is but the effect of Nature, and expresses rather the variety, then the truth of natural motions; and if Art cannot do this, much less will it be able to express what is not in Nature, or what is beyond Nature; as to *trace the Visible* (or rather Invisible) *footsteps of the divine Councel and Providence*,[1] or to demonstrate things

supernatural, and which go beyond mans reach and capacity. But to return to Immaterial Spirits, that they should rule and govern infinite corporeal matter, like so many demy-Gods, by a dilating nod, and a contracting frown, and cause so many kinds and sorts of Corporeal Figures to arise, being Incorporeal themselves, is Impossible for me to conceive; for how can an Immaterial substance cause a Material corporeal substance, which has no motion in it self, to form so many several and various figures and creatures, and make so many alterations, and continue their kinds and sorts by perpetual successions of Particulars? But perchance the Immaterial substance gives corporeal matter motion. I answer, My sense and reason cannot understand, how it can give motion, unless motion be different, distinct and separable from it; nay, if it were, yet being no substance or body it self, according to your *Authors* and others opinion, the question is, how it can be transmitted or given away to corporeal matter? Your *Author* may say, That his Immaterial and Incorporeal spirit of Nature, having self-motion, doth form Matter into several Figures: I answer, Then that Immaterial substance must be transformed and metamorphosed into as many several figures as there are figures in Matter; or there must be as many spirits, as there are figures; but when the figures change, what doth become of the spirits? Neither can I imagine, that an Immaterial substance, being without body, can have such a great strength, as to grapple with gross, heavy, dull, and dead Matter; Certainly, in my opinion, no Angel, nor Devil, except God Impower him, would be able to move corporeal Matter, were it not self-moving, much less any Natural Spirit. But God is a Spirit, and Immovable; and if created natural Immaterial participate of that

Nature, as they do of the Name, then they must be Immovable also. Your *Author, Madam*, may make many several degrees of Spirits; but certainly not I, nor I think any natural Creature else, will be able naturally to conceive them. He may say, perchance, There is such a close conjunction betwixt Body and Spirit, as I make betwixt rational, sensitive, and inanimate Matter. I answer, That these degrees are all but one Matter, and of one and the same Nature as meer Matter, different onely in degrees of purity, subtilty, and activity, whereas Spirit and Body are things of contrary Natures. In fine, I cannot conceive, how a Spirit should fill up a place or space, having no body, nor how it can have the effects of a body, being none it self; for the effects flow from the cause; and as the cause is, so are its effects: And so confessing my ignorance, I can say no more, but rest,

Madam,

Your Faithful Friend

and Servant.

[1] *Antid. lib.* 2. *ch.* 2.

XXII.

MADAM,

Your *Author* having assigned Indivisibility to the Soul or Spirit that moves and actuates matter, I desire to know, how one Indivisible Spirit can be in so many dividable parts? For there being Infinite parts in Nature, they must either have one Infinite Spirit to move them, which must be dilated infinitely, or this Spirit must move severally in every part of Nature: If

the first, then I cannot conceive, but all motion must be uniform, or after one and the same manner; nay, I cannot understand, how there can be any dilation and contraction, or rather any motion of the same spirit, by reason if it dilate, then, (being equally spread out in all the parts of Matter,) it must dilate beyond Matter; and if it contract, it must leave some parts of matter void, and without motion. But if the Spirit moves every part severally, then he is divisible; neither can I think, that there are so many Spirits as there are Parts in Nature; for your *Author* says, there is but one Spirit of Nature; I will give an easie and plain example: When a Worm is cut into two or three parts, we see there is sensitive life and motion in every part, for every part will strive and endeavour to meet and joyn again to make up the whole body; now if there were but one indivisible Life, Spirit, and Motion, I would fain know, how these severed parts could move all by one Spirit. Wherefore, Matter, in my opinion, has self-motion in it self, which is the onely soul and life of Nature, and is dividable as well as composable, and full of variety of action; for it is as easie for several parts to act in separation, as in composition, and as easie in composition as in separation; Neither is every part bound to one kind or sort of Motions; for we see in exterior local motions, that one man can put his body into several shapes and postures, much more can Nature. But is it not strange, *Madam*, that a man accounts it absurd, ridiculous, and a prejudice to Gods Omnipotency, to attribute self-motion to Matter, or a material Creature, when it is not absurd, ridiculous, or any prejudice to God, to attribute it to an Immaterial Creature? What reason of absurdity lies herein? Surely I can conceive none, except it be absurd and ridiculous to make that, which no man can know or

conceive what it is, *viz.* an immaterial natural Spirit, (which is as much as to say, a natural No-thing) to have motion, and not onely motion, but self-motion; nay, not onely self-motion, but to move, actuate, rule, govern, and guide Matter, or corporeal Nature, and to be the cause of all the most curious varieties and effects in nature: Was not God able to give self-motion as well to a Material, as to an Immaterial Creature, and endow Matter with a self-moving power? I do not say, *Madam*, that Matter hath motion of it self, so, that it is the prime cause and principle of its own self-motion; for that were to make Matter a God, which I am far from believing; but my opinion is, That the self-motion of Matter proceeds from God, as well as the self-motion of an Immaterial Spirit; and that I am of this opinion, the last Chapter of my Book of Philosophy will enform you, where I treat of the Deitical Centre, as the Fountain from whence all things do flow, and which is the supream Cause, Author, Ruler and Governor of all. Perhaps you will say, it is, because I make Matter Eternal. 'Tis true, *Madam*, I do so: but I think Eternity doth not take off the dependance upon God, for God may nevertheless be above Matter, as I have told you before. You may ask me how that can be? I say, As well as any thing else that God can do beyond our understanding: For I do but tell you my opinion, that I think it most probable to be so, but I can give you no Mathematical Demonstrations for it: Onely this I am sure of, That it is not impossible for the Omnipotent God; and he that questions the truth of it, may question Gods Omnipotency. Truly, *Madam*, I wonder how man can say, God is Omnipotent, and can do beyond our Understanding, and yet deny all that he is not able to comprehend with his reason. However, as I said, it is my opinion, That Matter is

self-moving by the power of God; Neither can Animadversion, and Perception, as also the variety of Figures, prove, that there must be another external Agent or Power to work all this in Matter; but it proves rather the contrary; for were there no self-motion in Matter, there would be no Perception, nor no variety of Creatures in their Figures, Shapes, Natures, Qualities, Faculties, Proprieties, as also in their Productions, Creations or Generations, Transformations, Compositions, Dissolutions, and the like, as Growth, Maturity, Decay, &c. and for Animals, were not Corporeal Matter self-moving, dividable and composable; there could not be such variety of Passions, Complexions, Humors, Features, Statures, Appetites, Diseases, Infirmities, Youth, Age, &c. Neither would they have any nourishing Food, healing Salves, soveraign Medicines, reviving Cordials, or deadly Poysons. In short, there is so much variety in Nature, proceeding from the self-motion of Matter, as not possible to be numbred, nor thorowly known by any Creature: Wherefore I should labour in vain, if I endeavoured to express any more thereof; and this is the cause that I break off here, and onely subscribe my self,

Madam,

Your faithful Friend

and Servant.

XXIII.

MADAM,

Concerning the comparison, your *Author* makes

between an Immaterial Spirit, and Light,[1] That, *as Light is contractive and dilative, and yet not divisible, so is also an Immaterial substance.* Give me leave to tell you, that in my opinion, all that is contractive and dilative, is also dividable, and so is light: As for example; when a Candle is snuff'd, the Snuffers do not onely clip the wick, but also the light: The like when a dark body is interposed, or crosses the rays of the Sun; it cuts those rays asunder, which by reason they cannot joyn together again, because of the interposed body, the light cut off, suddenly goeth out; that is, the matter of light is altered from the figure of light, to some other thing, but not annihilated: And since no more light can flow into the room from the Fountain or Spring of Light, the Sun, because the passage is stopt close, the room remaineth dark: For Light is somewhat of the nature of Water; so long as the Spring is open, the Water flows, and whatsoever is taken away, the Spring supplies; and if another body onely presses thorow it, it immediately joyns and closes its severed parts again, without any difficulty or loss; The same doth Light; onely the difference is, that the substance of Light is extraordinary rare, and pure; for as Air is so much rarer then Water, so Light is so much rarer and purer then Air, and its matter may be of so dilating a nature, as to dilate from a point into numerous rayes. As for ordinary Fire-light, it doth not last longer, then it hath fuel to feed it, and so likewise it is with the light of the Sun; for Light is according to the substance that feeds it; and though it is a substance it self, yet it increases and decreases, according as it hath something that succours or nourishes it. But some may object, that if Light were a body, and did contract and dilate, as I say, it is impossible that it could display it self in so great and vast a compass,

and remove so suddenly and instantly as it doth. To which objection, I answer, first, That although I say, Light is a real corporeal substance, and doth contract and dilate it self from a point into numerous rayes, as also in another Letter I sent you before,[2] That Light and Darkness do succeed each other; nevertheless, as for the perception of Light, I am not so eager in maintaining this opinion, as if it was an Infallible Truth, and impossible to be otherwise; but I say onely, That, to my sense and reason, it seems very probable, that it may be so, that the light of the Sun doth really dilate it self into so vast a compass as we see, and that light and darkness do really succeed each other, as all other Creatures do: But yet it seems also probable to mee, that the parts of the Air may onely pattern out the figure of light, and that the light we see in the Air may be onely patterns taken from the real figure of the light of the Sun: And therefore, if it be according to the former opinion, to wit, That the light of the Sun doth really dilate it self into so vast a compass, My answer is, That contraction and dilation are natural corporeal actions or motions, and that there is no alteration of motion in Nature, but is done in Time, that is, successively, not instantly; for Time is nothing else but the alteration of motion: Besides, I do not perceive any so sudden and swift alteration and succession of light, but that it is done by degrees: As for example; in the morning, when it begins to dawn and grow light, it appears clearly to our sight how light doth come forth, and darkness remove by degrees; and so at night, when it grows dark, how light removes, and darkness succeeds; nay, if there be any such sudden change of the motions of Light, I desire you to consider, *Madam*, that light is a very subtil, rare, piercing and active body, and therefore its motions

are much quicker then those of grosser bodies, and cannot so well be perceived by our gross exterior senses. But if it be, that the Air doth pattern out the light of the Sun, then the framed objection can prove nothing, because there is not then such a real dilation or succession of light, but the corporeal figurative motions of the Air do make patterns of the light of the Sun, and dissolve those patterns or figures again, more suddenly and quickly then man can shut and open his eyes, as being more subtil then his gross exterior senses. But it may be said, that if Air did pattern out the light of the Sun, the light would increase by these numerous patterns. I answer, that cannot appear to our Eyes; for we see onely the pattern'd figure of light, and that a great compass is enlightned; also that the further the air is from the Sun, the darker it is; nevertheless, I do verily believe, that the body of the Sun is far brighter then the light we see, and that the substance of light, and the patterns taken from light, are not one and the same, but very different. And thus much of light. As for Penetration, I conceive it to be nothing else but division; as when some parts pierce and enter through other parts, as Duellers run each other thorow, or as water runs through a sieve. And this is the opinion of,

Madam,

Your faithful Friend,

and Servant.

[1] *In the Append. to the Antid. c.* 3. and *Of the Immortality of the Soul, l.* 1. *c.* 5.

[2] *Sect.* 1. *Let.* 20.

XXIV.

MADAM,

Having given you my opinion, both of the substance and perception of Light, in my last Letter, I perceive your desire is to know how *Shadows* are made. Truly, *Madam*, to my sense and reason, it appears most probable, that shadows are made by the way of patterning: As for example; when a Man's, or Trees, or any other the like Creature's shadow is made upon the Ground, or Wall, or the like; those bodies, as the Ground, or Wall, do, in my opinion, pattern out the interposing body that is between the light and them: And the reason that the shadow is longer or shorter, or bigger or less, is according as the light is nearer or further off; for when the light is perpendicular, the interposing body cannot obscure the light, because the light surrounding the interposing body by its brightness, rather obscures the body, then the body the light; for the numerous and splendorous patterns of light taken from the body of the Sun, do quite involve the interposing body. Next, you desire to know, *Whether the light we see in the Moon, be the Moons own natural light, or a borrowed light from the Sun*: I answer, that in my opinion, it is a borrowed light; to wit, that the Moon doth pattern out the light of the Sun: and the proof of it is, that when the Sun is in an Eclipse, we do plainly perceive that so much of the Sun is darkned as the Moon covers; for though those parts of the Moon, that are next the Sun, may, for any thing we know, pattern out the light of the Sun, yet the Moon is dark on that side which is from the Sun. I will not say, but that part of the Moon which is towards the Earth, may pattern out the Earth, or the shadow of the Earth, which may make the Moon appear more dark and sullen; But when the

Moon is in an Eclipse, then it is plainly perceived that the Moon patterns out the Earth, or the shadow of the Earth. Besides, those parts of the Moon that are farthest from the Sun, are dark, as we may observe when as the Moon is in the Wane, and enlightened when the Sun is nearer. But I will leave this argument to observing Astrologers, and rest,

Madam,

Your faithful Friend

and Servant.

XXV.

MADAM,

If according to your *Authors* opinion,[1] *In every particular world, such as Man is especially, his own Soul* (which is a Spirit) *be the peculiar and most perfective architect of the Fabrick of his Body, as the Soul of the world is of it*: Then I cannot conceive in my reason, how the separation is made in death; for I see, that all animals, and so man-kind, have a natural desire to live, and that life and soul are unwilling to part; And if the power lies in the Soul, why doth she not continue with the Body, and animate, move and actuate it, as she did before, or order the matter so, as not to dissolve? But if the dissolution lies in the body, then the body has self-motion: Yet it is most probable, if the soul be the architect of the body, it must also be the dissolver of it; and if there come not another soul into the parts of matter, the body must either be annihilated, or lie immoved as long as the world lasts, which is improbable; for surely all the

bodies of men, or other animals, are imployed by Nature to some use or other: However, it is requisite, that the soul must stay so long in the body, until it be turned into dust and ashes; otherwise, the body having no self-motion, would remain as it was when the soul left it, that is, entire and undissolved: As for example; when a man dies, if there be no motion in his body, and the soul, which was the mover, be gone, it cannot possibly corrupt; for certainly, that we call corruption, is made by motion, and the body requires as much motion to be dissolved or divided, as it doth to be framed or composed; Wherefore a dead body would remain in the same state continually, it had no self-motion in it: And if another soul should enter into the body, and work it to another figure, then certainly there must be many more souls then bodies, because bodies are subject to change into several forms; but if the animal spirits, which are left in the body after the soul is gone, are able to dissolve it without the help of the soul, then it is probable they could have fram'd it without the help of the soul; and so they being material, it must be granted, that matter is self-moving: But if corporeal matter have corporeal self-motion, a self-moving Immaterial Spirit, by reason of their different natures, would make great obstruction, and so a general confusion; for the corporeal and incorporeal motions would hinder and oppose each other, their natures being quite different; and though they might subsist together without disturbance of each other, yet it is not probable they should act together, and that in such a conjunction, as if they were one united body; for it is, in my opinion, more probable, that one material should act upon another material, or one immaterial upon another immaterial, then that an immaterial should act upon a material or

corporeal. Thus the consideration or contemplation of immaterial natural Spirits puts me always into doubts, and raises so many contradictions in my sense and reason, as I know not, nor am not able to reconcile them: However, though I am doubtful of them, yet I can assure your self that I continue,

Madam,

Your Faithful Friend

and Servant.

[1] *Of the Immortality of the Soul, l.* 2. *c.* 10.

XXVI.

MADAM,

By reason the *Soul* is a *Spirit*, and therefore *Contractible* and *Dilatable*, your *Authors* opinion is,[1] That *it begins within less compass at first in organising the fitly prepared matter, and so bears it self on in the same tenour of work, till the body hath attained its full growth; and that the Soul dilates it self in the dilating of the Body, and so possesses it through all the members thereof.* Truly, *Madam*, as for the contraction and dilation of an immaterial Spirit, if I heard never so many arguments, I should hardly be able to conceive the possibility of it; For in my opinion, dilating and contracting are motions and actions of Nature, which belong to natural material Creatures, and to none else; for dilation and contraction cannot be without extension, but extension belongs to parts which an immaterial Spirit hath not: But suppose it be so, then the Soul must contract and dilate, extend and shrink together, and so grow less and bigger, according to

the extension of the body; and when the body dies, the soul, in my opinion, must contract to a very point; and if one part of the body die before the other, the soul must by degrees withdraw out of those parts: also when a part of the body is cut off, the soul must needs contract, and grow less; the like when a man is let blood. Which contracting of the soul, by your *Authors* leave, doth seem, to my imagination, just like the contracting of Hodmandod into her shell. Besides, if the soul be individable, and equally spread all over the body, then, to my opinion, she must necessarily be of a human shape; and if the body be deformed, the soul must be deformed also; and if the body be casually extended, as by taking Poyson into the body, the soul must be so too, as being individable and filling every part; and if a man be born with six fingers or toes, the soul must be so too; or if a dwarf, the soul must be a dwarf also; and if he be born deaf and dumb, the soul must be so too. But if two Twins, as it may fall out, should be born united in one body, I would fain know then, whether they would have two souls, or but one? As for example, if they should have but one body, and one stomack, liver, heart, spleen, lungs, bowels, and yet have four legs, four hands, and two heads: It seems, to my opinion, that then two Immaterial Souls must be joyned as into one; neither do I know yet how this could well be, the monster having but one body, nor how that Immaterial Soul can be divided, being inseparably double, when the body dies. But, *Madam*, all this I speak of the Natural Soul of Man, not of the Divine Soul, which is not subject to natural imperfections, and corporeal errors, being not made by Nature, but a supernatural and divine gift of the Omnipotent God, who surely will not give any thing that is not perfect. Wherefore

it is not probable, this Divine Soul, being not subject to Nature, should be an architect of the body, as having an higher and more divine imployment, *viz.* to fix her self on her Creator, and being indued with supernatural faculties, and residing in the body in a supernatural manner; all which I leave to the Church: for I should be loth to affirm any thing contrary to their Doctrine, or the Information of the holy Scripture, as grounding my belief onely upon the sacred Word of God, and its true Interpretation made by the Orthodox Church; but not upon the opinions of particular persons: for particular mens opinions are not authentical, being so different and various, as a man would be puzled which to adhere to. Thus, *Madam*, I avoid, as much as ever I can, not to mix Divinity with Natural Philosophy; for I consider, that such a mixture would breed more confusion in the Church, then do any good to either; witness the doctrine of the Soul of Man, whereof are so many different opinions: The onely cause, in my opinion, is, that men do not conceive the difference between the Divine, and Natural material Soul of Man, making them both as one, and mixing or confounding their faculties and proprieties, which yet are quite different; thus they make a Hodg-podg, Bisk or Olio of both; proving Divinity by Nature, and Faith by Reason; and bringing Arguments for Articles of Faith, and sacred Mysteries out of Natural Arts and Sciences; whereas yet Faith and Reason are two contrary things, and cannot consist together; according to the Proverb, Where Reason ends, Faith begins. Neither is it possible that Divinity can be proved by Mathematical Demonstrations; for if Nature be not able to do it, much less is Art: Wherefore it is inconvenient to mix supernatural Spirits with Air, Fire, Light, Heat, Cold, &c. and to

apply corporeal actions and qualities to them; and the Divine Soul, with the Brain, Blood, Flesh, Animal Spirits, Muscles, Nerves, Bones, &c. of Man; all which makes a confusion betwixt the Mind or Natural Soul of Man, and the Supernatural and Divine Soul inspired into him by God; for both their faculties and proprieties are different, and so are their effects, as proceeding from so different causes. And therefore, *Madam*, as for Divinity, I pray devoutly, and believe without disputing; but as for Natural Philosophy, I reason freely, and argue without believing, or adhering to any ones particular opinion, which I think is the best and safest way to choose for,

Madam,

Your faithful Friend,

and Servant.

[1] *Of the Immortality of the Soul, l.* 2. *c.* 10.

XXVII.

MADAM,

Your *Author* in the continuation of his discourse concerning the Immaterial Soul of Man, demonstrating, that her seat is not bound up in a certain place of the body, but that she pervades all the body and every part thereof, takes, amongst the rest, an argument from Passions and Sympathies: *Moreover*, says he,[1] *Passions and Sympathies, in my judgment, are more easily to be resolved into this hypothesis of the Soul's pervading the whole Body, then in restraining its essential presence to one part thereof.— But it is evident that they arise in us against both our*

will and appetite; For who would bear the tortures of fears and jelousies, if he could avoid it? Concerning Passions, *Madam*, I have given my opinion at large in my Book of Philosophy, and am of your *Authors* mind, that Passions are made in the Heart, but not by an Immaterial spirit, but by the Rational soul which is material; and there is no doubt, but that many Passions, as Fear, Jealousie &c. arise against our will and appetite; for so may forreign Nations invade any Kingdom without the will or desire of the Inhabitants, and yet they are corporeal men: The same may be said of Passions; and several parts of matter may invade each other, whereof one may be afraid of the other, yet all this is but according as corporeal matter moves, either Generally, or Particularly: Generally, that is, when many parts of Matter unite or joyn together, having the like appetites, wills, designs; as we may observe, that there are general agreements amongst several parts, in Plagues, as well as Wars, which Plagues are not onely amongst Men, but amongst Beasts; and sometimes but in one sort of animals, as a general Rot amongst Sheep, a general Mange amongst Dogs, a general Farcy amongst Horses, a general Plague amongst Men; all which could not be without a general Infection, one part infecting another, or rather one part imitating the motions of the other, that is next adjoyning to it; for such infections come by the neer adhesion of parts, as is observable, which immaterial and individable natural Spirits could not effect; that is, to make such a general infection in so many several parts of so many several Creatures, to the Creatures dissolution: Also there will be several Invasions at one time, as Plague, and War, amongst neighbouring and adjoining Creatures or Parts. But this is to be observed, That the sensitive corporeal

motions make all diseases, and not the Rational, although the Rational are many times the occasion, that the sensitive do move into such or such a disease; for all those that are sick by conceit, their sicknesses are caused by the rational corporeal motions. But being loth to make tedious repetitions hereof, having discoursed of diseases, and passions in my mentioned Book of *Philosophy*, I will refer you thither, and rest,

Madam,

Your Faithful Friend

and Servant.

[1] *Immort. of the Soul. Book* 2. *c.* 10

XXVIII.

MADAM,

Concerning *Dimness* of *Sight*, which your *Author* will have to *proceed from the deficiency of the Animal Spirits*,[1] My meaning in short is, That when sight is dim, though the sensitive organs are perfect, this dimness is caused by the alteration onely of the sensitive motions in the organs, not moving to the nature of sight. And so is made Deafness, Dumbness, Lameness, and the like, as also Weariness; for the Relaxation of strength in several parts, is onely an alteration of such sorts of motions which make the nerves strong; and if a man be more dull at one time, then at another, it is that there are not so many changes of motions, nor so quick motions at that time, as at another; for Nature may use more or less force as she pleases: Also she can and doth often use

opposite actions, and often sympathetical and agreeable actions, as she pleases; for Nature having a free power to move, may move as she will; but being wise, she moves as she thinks best, either in her separating or uniting motions, for continuance, as well as for variety. But if, according to your *Author*, the Immaterial Soul should determinate matter in motion, it would, in my opinion, make a confusion; for the motions of the Matter would often oppose and cross the motions of the Immaterial Soul, and so they would disagree, as a King and his Subjects, (except God had given the Soul an absolute power of command, and restrained matter to an irrisistible and necessitated obedience; which, in my opinion, is not probable:) By which disagreement, Nature, and all that is in Nature, would have been quite ruined at this time; for no kinds, sorts, or particulars, would keep any distinction, if Matter did not govern it self, and if all the parts did not know their own affairs, abilities, offices, and functions: Besides, it would, to my thinking, take up a great deal of time, to receive commands in every several action, at least so much, that for example, a man could not have so many several thoughts in so short a time, as he hath. But concerning the Animal Spirits, which your *Author* calls the Instruments, Organs and Engines of the Incorporeal Soul; I would fain know, whether they have no motion but what comes from the Soul, or whether they have their own motion of themselves? If the first, then the Soul must, in my opinion, be like a Deity, and have a divine Power, to give and impart Motion; if the second, then the spirits being material, it follows that Matter hath motion of it self, or is self-moving; But if the Immaterial natural Soul can transfer her gifts upon corporeal matter, then it must give numerous sorts of motions, with all their

degrees; as also the faculty of figuring, or moving figuratively in all corporeal Matter: Which power, in my judgment, is too much for a Creature to give. If you say, the Immaterial Soul hath this power from God; I answer, Matter may have the same; and I cannot imagine why God should make an Immaterial Spirit to be the Proxy or Vice-gerent of his Power, or the *Quarter-master General of his Divine Providence*, as your *Author* is pleased to style it,[2] when he is able to effect it without any Under-Officers, and in a more easie and compendious way, as to impart immediately such self-moving power to Natural Matter, which man attributes to an Incorporeal Spirit. But to conclude, if the Animal Spirits be the Instruments of the Incorporeal Soul, then the Spirits of Wine are more powerful then the Animal Spirits, nay, then the Immaterial Soul her self; for they can put them and all their actions quite out of order: the same may be done by other material things, Vegetables, Minerals, and the like. And so leaving this discourse to your better consideration, I take my leave for this time, and rest,

Madam,

Your faithful and affectionate Friend,

and Servant.

[1] *Immort. of the Soul. Book* 2. *ch.* 8.

[2] *Immort. of the Soul. Book* 3. *c.* 13.

XXIX.

MADAM,

Touching the State or Condition of the Supernatural and Divine Soul, both in, and after this life, I must crave your excuse that I can give no account of it; for I dare affirm nothing; not onely that I am no professed Divine, and think it unfit to take any thing upon me that belongs not to me, but also that I am unwilling to mingle Divinity and Natural Philosophy together, to the great disadvantage and prejudice of either; for if each one did contain himself within the circle of his own Profession, and no body did pretend to be a Divine Philosopher, many absurdities, confusions, contentions, and the like, would be avoided, which now disturb both Church and Schools, and will in time cause their utter ruine and destruction; For what is Supernatural, cannot naturally be known by any natural Creature; neither can any supernatural Creature, but the Infinite and Eternal God, know thorowly everything that is in Nature, she being the Infinite servant of the Infinite God, whom no finite Creature, of what degree soever, whether natural or supernatural, can conceive; for if no Angel nor Devil can know our thoughts, much less will they know Infinite Nature; nay, one finite supernatural Creature cannot, in my opinion, know perfectly another supernatural Creature, but God alone, who is all-knowing; And therefore all what is said of supernatural Spirits, I believe, so far as the Scripture makes mention of them; further I dare not presume to go; the like of the supernatural or divine Soul: for all that I have writ hitherto to you of the Soul, concerns the natural Soul of Man, which is material, and not the supernatural or divine Soul; neither do I contradict any thing concerning this divine soul, but I am onely against those opinions, which make the natural soul of man an immaterial natural spirit, and confound

supernatural Creatures with natural, believing those spirits to be as well natural Creatures and parts of Nature, as material and corporeal beings are; when as there is great difference betwixt them, and nothing in Nature to be found, but what is corporeal. Upon this account I take all their relations of Dæmons, of the Genii, and of the Souls after the departure from humane Bodies, their Vehicles, Shapes, Habitations, Converses, Conferences, Entertainments, Exercises, Pleasures, Pastimes, Governments, Orders, Laws, Magistrates, Officers, Executioners, Punishments, and the like, rather for Poetical Fictions, then Rational Probabilities; containing more Fancy, then Truth and Reason, whether they concern the divine or natural Soul: for as for the divine Soul, the Scripture makes no other mention of it, but that immediately after her departure out of this natural life, she goeth either to Heaven or Hell, either to enjoy Reward, or to suffer Punishment, according to man's actions in this life. But as for the Natural Soul, she being material, has no need of any Vehicles, neither is natural death any thing else but an alteration of the rational and sensitive motions, which from the dissolution of one figure go to the formation or production of another. Thus the natural soul is not like a Traveller, going out of one body into another, neither is air her lodging; for certainly, if the natural humane soul should travel through the airy regions, she would at last grow weary, it being so great a journey, except she did meet with the soul of a Horse, and so ease her self with riding on Horse-back. Neither can I believe Souls or Dæmons in the Air have any Common-wealth, Magistrates, Officers and Executioners in their airy Kingdom; for wheresoever are Governments, Magistrates and Executioners,

there are also Offences, and where there is power to offend, as well as to obey, there may and will be sometimes Rebellions and Civil Wars; for there being different sorts of Spirits, it is impossible they should all so well agree, especially the good and evil Genii, which certainly will fight more valiantly then *Hector* and *Achilles*, nay, the Spirits of one sort would have more Civil Wars then ever the *Romans* had; and if the Soul of *Cæsar* and *Pompey* should meet, there would be a cruel fight between those two Heroical souls; the like between *Augustus's* and *Antonius's* Soul. But, *Madam*, all these, as I said, I take for fancies proceeding from the Religion of the Gentiles, not fit for Christians to embrace for any truth; for if we should, we might at last, by avoiding to be Atheists, become Pagans, and so leap out of the Frying-pan into the Fire, as turning from Divine Faith to Poetical Fancy; and if *Ovid* should revive again, he would, perhaps, be the chief head or pillar of the Church. By this you may plainly see, *Madam*, that I am no Platonick; for this opinion is dangerous, especially for married Women, by reason the conversation of the Souls may be a great temptation, and a means to bring Platonick Lovers to a neerer acquaintance, not allowable by the Laws of Marriage, although by the sympathy of the Souls. But I conclude, and desire you, not to interpret amiss this my discourse, as if I had been too invective against Poetical Fancies; for that I am a great lover of them, my Poetical Works will witness; onely I think it not fit to bring Fancies into Religion: Wherefore what I have writ now to you, is rather to express my zeal for God and his true Worship, then to prejudice any body; and if you be of that same Opinion, as above mentioned, I wish my Letter may convert you, and so I should not account my labour lost, but judg my self happy, that any

good could proceed to the advancement of your Soul, from,

Madam,

Your faithful Friend

and Servant.

XXX.

MADAM,

I sent you word in my last, I would not meddle with writing any thing of the Divine Soul of Man, by reason it belongs to Faith and Religion, and not to Natural Philosophy; but since you desire my opinion concerning the Immortality of the Divine Soul, I cannot but answer you plainly, that first I did wonder much you made question of that, whose truth, in my opinion, is so clear, as hardly any rational man will make a doubt of it; for I think there is almost no Christian in the world, but believes the Immortality of the Soul, no not Christians onely, but Mahometans and Jews: But I left to wonder at you, when I saw Wise and Learned Men, and great Divines, take so much pains as to write whole volumes, and bring so many arguments to prove the Immortality of the Soul; for this was a greater Miracle to me, then if Nature had shewed me some of her secret and hidden effects, or if I had seen an Immaterial Spirit. Certainly, *Madam*, it seems as strange to me to prove the Immortality of the Soul, as to convert Atheists; for it [is] impossible, almost, that any Atheist should be found in the World: For what Man would be so senceless as to deny a God?

Wherefore to prove either a God, or the Immortality of the Soul, is to make a man doubt of either: for as Physicians and Surgeons apply strengthening Medicines onely to those parts of the body which they suppose the weakest, so it is with proofs and arguments, those being for the most part used in such subjects, the truth of which is most questionable. But in things Divine, Disputes do rather weaken Faith, then prove Truth, and breed several strange opinions; for Man being naturally ambitious, and endeavouring to excel each other, will not content himself with what God has been pleased to reveal in his holy Word; but invents and adds something of his own; and hence arise so many monstrous expressions and opinions, that a simple man is puzzled, not knowing which to adhere to; which is the cause of so many schismes, sects, and divisions in Religion: Hence it comes also, that some pretend to know the very nature and essence of God, his divine Counsels, all his Actions, Designs, Rules, Decrees, Power, Attributes, nay, his Motions, Affections, and Passions, as if the Omnipotent Infinite God were of a humane shape; so that there are already more divisions then Religions, which disturb the peace and quiet both of mind and body; when as the ground of our belief consists but in some few and short Articles, which clearly explained, and the moral part of Divinity well pressed upon the People, would do more good, then unnecessary and tedious disputes, which rather confound Religion, then advance it: but if man had a mind to shew Learning, and exercise his Wit, certainly there are other subjects, wherein he can do it with more profit, and less danger, then by proving Christian Religion by Natural Philosophy, which is the way to destroy them both. I could wish, *Madam*, that every one

would but observe the Command of Christ, and give to God what is Gods, and to *Cæsar* what is *Cæsars*, and so distinguish what belongs to the actions of Nature, and what to the actions of Religion; for it appears to my Reason, that God hath given Nature, his eternal Servant, a peculiar freedom of working and acting, as a self-moving Power from Eternity; but when the Omnipotent God acts, he acts supernaturally, as beyond Nature; of which divine actions none but the holy Church, as one united body, mind and soul, should discourse, and declare the truth of them, according to the Revelation made by God in his holy Word, to her Flock the Laity, not suffering any one single person, of what profession or degree soever, indifferently to comment, interpret, explain, and declare the meaning or sense of the Scripture after his own fancy. And as for Nature's actions, let those whom Nature hath indued with such a proportion of Reason, as is able to search into the hidden causes of natural effects, contemplate freely, without any restraint or confinement; for Nature acts freely, and so may natural Creatures, and amongst the rest Man, in things which are purely natural; but as for things supernatural, man cannot act freely, by reason they are beyond his sphere of conception and understanding, so as he is forced to set aside Reason, and onely to work by Faith. And thus, *Madam*, you see the cause why I cannot give you a full description of the Divine Soul of Man, as I mentioned already in my last, but that I do onely send you my opinion of the natural soul, which I call the rational soul; not that I dare say, the supernatural soul is without natural reason, but natural reason is not the divine soul; neither can natural reason, without Faith, advance the divine soul to Heaven, or beget a pious zeal, without divine

and supernatural Grace: Wherefore Reason, or the rational Soul is onely the Soul of Nature, which being material, is dividable, and so becomes numerous in particular natural Creatures; like as the sensitive life being also material and dividable, becomes numerous, as being in every Creature, and in every part of every Creature; for as there is life in every Creature, so there is also a soul in every Creature; nay, not onely in every Creature, but in every particle of every Creature, by reason every Creature is made of rational and sensitive Matter; and as all Creatures or parts of Nature are but one infinite body of Nature, so all their particular souls and lives make but one infinite soul and life of Nature; and this natural soul hath onely natural actions, not supernatural; nor has the supernatural soul natural actions; for although they subsist both together in one body, yet each works without disturbance to the other; and both are Immortal; for of the supernatural soul there is no question, and of the natural soul, I have said before, that nothing is perishable or subject to annihilation in nature, and so no death, but what is called by the name of death, is onely an alteration of the corporeal natural motions of such a figure to another figure; and therefore as it is impossible, that one part of Matter should perish in Nature, so is it impossible, that the natural or rational soul can perish, being material: The natural humane soul may alter, so as not to move in an animal way, or not to have animal motions, but this doth not prove her destruction or annihilation, but onely a change of the animal figure and its motions, all remaining still in Nature. Thus my Faith of the Divine, and my opinion of the Natural Soul, is, that they are both Immortal; as for the immediate actions of the Divine Soul, I leave you

to the Church, which are the Ministers of God, and the faithful dispensers of the sacred mysteries of the Gospel, the true Expounders of the Word of God, Reformers of mens lives, and Tutors of the Ignorant, to whom I submit my self in all that belongs to the salvation of my Soul, and the regulating of the actions of my life, to the honour and glory of God. And I hope they will not take any offence at the maintaining and publishing my opinions concerning Nature and Natural effects, for they are as harmless, and as little prejudicial to them, as my designs; for my onely and chief design is, and ever hath been to understand Nature rightly, obey the Church exactly, Believe undoubtedly, Pray zealously, Live vertuously, and Wish earnestly, that both Church and Schools may increase and flourish in the sacred knowledg of the true Word of God, and that each one may live peaceable and happily in this world, die quietly, and rise blessedly and gloriously to everlasting Life and happiness: Which happiness I pray God also to confer upon your Ladiship; Till then, I rest,

Madam,

Your faithful and constant

Friend, to serve you.

XXXI.

MADAM,

I will leave the Controversie of Free-Will and Necessity, which your *Author* is discoursing of,[1] to Divines to decide it, onely I say this, that Nature hath a natural Free-will and power of self-moving, and is

not necessitated; but yet that this Free-will proceeds from God, who hath given her both will and power to act freely. But as for the question, whether there be nothing in the Universe, but meer body?[2] I answer, My opinion is not, that there is nothing in the world but meer Body; but that Nature is purely material or corporeal, and that there is no part of Nature, or natural Creature, which is not Matter, or Body, or made of Matter; also, that there is not any thing else mixt with body, as a copartner in natural actions, which is distinct from Body or Matter; nevertheless, there may be supernatural spiritual beings or substances in Nature, without any hinderance to Matter or corporeal Nature. The same I may say of the natural material, and the divine and supernatural Soul; for though the divine Soul is in a natural body, and both their powers and actions be different, yet they cause no ruine or disturbance to each other, but do in many cases agree with each other, without incroachment upon each others powers or actions; for God, as he is the God of all things, so the God of Order. Wherefore it is not probable, that created Immaterial or Incorporeal beings should order Corporeal Nature, no more then Corporeal Nature orders Immaterial or Incorporeal Creatures. Neither can, in my opinion, Incorporeal Creatures be clearly conceived by Corporeals, although they may really exist and subsist in Nature; onely, as I said before, it is well to be considered, that there is difference betwixt being in Nature, and being a part of Nature; for bodiless things, and so spiritual substances, although they may exist in Nature, yet they are not natural, nor parts of Nature, but supernatural, Nature being meerly corporeal, and Matter the ground of Nature; and all that is not built upon this material ground, is nothing in Nature. But

you will say, The divine Soul is a part of Man, and Man a part of Nature, wherefore the divine Soul must needs be a part of Nature. I answer, Not: For the divine Soul is not a part of Nature, but supernatural, as a supernatural Gift from God onely to Man, and to no other Creature: and although in this respect it may be called a part of Man, yet it is no natural or material part of Man; neither doth this supernatural Gift disturb Nature or natural Matter, or natural Matter this supernatural Gift. And so leaving them both, I rest,

Madam,

Your faithful Friend

and Servant.

[1] *Of the Immortality of the Soul. l.* 1. *c.* 3.

[2] *Lib.* 2. *c.* 2.

XXXII.

MADAM,

If you desire my opinion concerning Witches, whereof your Learned *Author* hath many Discourses and Stories:[1] I will tell you really, that in my sense and reason, I do not believe any, except it be the witch of *Endor*, which the Scripture makes mention of; for though I believe that there is a Devil, as the Word of God and the Church inform me, yet I am not of the opinion, that God should suffer him to have such a familiar conjunction, and make such contracts with Man, as to impower him to do mischief and hurt to others, or to foretell things to come, and the like; for I believe that all things Immaterial, as Spirits, Angels, Devils, and the divine Soul of Man, are no parts of Nature, but Supernatural, Nature knowing of no Creature that belongs to her, but what is material; and since incorporeal Creatures are no parts of Nature, they neither have natural actions, nor are they concerned as co-partners or co-agents in the actions of Nature and natural Creatures; but as their substances, so their actions are supernatural, and beyond our conceivement. As for Faires, I will not say, but there may be such Creatures in Nature, and have airy bodies, and be of a humane shape, and have humane actions, as I have described in my Book of Poems; for there are many things, in Nature, whereof Man hath no knowledg at all, and it would

be a great folly for any one to deny what he doth not see, or to ascribe all the unusual effects in Nature to Immaterial Spirits; for Nature is so full of variety, that she can and doth present sometimes such figures to our exterior senses, as are not familiar to us, so as we need not to take our refuge to Immaterial Spirits: nay, even those that are so much for Incorporeal Spirits, must confess, that they cannot be seen in their own natures, as being Invisible, and therefore have need to take vehicles of some grosser bodies to manifest themselves to men: and if Spirits cannot appear without bodies, the neerest way is to ascribe such unusual effects or apparitions, as happen sometimes, rather to matter that is already corporeal, and not to go so far as to draw Immaterial Spirits to Natural actions, and to make those Spirits take vehicles fit for their purposes: for Nature takes sometimes delight in unusual Varieties. Concerning those stories which your *Author* relates[2] of the strange effects of Food received into a mans body, how they did work upon the Imagination, and change and transform the humors of those that did feed upon them, those, I say, seem very probable to me. As for example; of a *Wench who being struck into an Epilepsy, upon the seeing of a Malefactors Head cut off, was advised to drink Cats-blood; which being done, she not long after degenerated into the nature and property of that Animal, cried and jump'd like a Cat, and hunted Mice with the same silence and watchfulness as they do. Then of a Man, being long fed with Swines-blood, which took a special pleasure in wallowing and tumbling himself in the mire. Also of a Girle, which being nourished up with Goats-milk, would skip like a Goat, and brouze on Trees as Goats use to do. And of a Man, who by eating the brains of a Bear, became of a Bear-like disposition.* All these stories I believe to be true;

for naturally the motions of a Man may sometimes Sympathize so much with the received food, as to make an alteration in his humour or disposition. But although it be natural, yet it is not regular, at least not usual, but proceeds from an irregular and unusual change of motions, like as the conception and generation of a Monster; For if it were ordinary, then those which drink much of the blood of beasts, would also degenerate into a beastly nature, the contrary whereof is sufficiently known: Likewise those that drink much of Cows-milk, would change into their humors and natures. But certainly, some kinds of meats do not onely cause sickness, but madness, and strange Imaginations; all which unnatural or unusual accidents are caused by Matter's irregular motions; Whereof I have declared my opinion in other places; and so I rest,

Madam,

Your faithful and constant

Friend, to serve you.

[1] *Antid. lib.* 3.

[2] *In his discourse of Enthusiasm.*

XXXIII.

MADAM,

You will have my opinion of the Book that treats of *the Pre-existence of Souls*, and the *Key that unlocks the Divine Providence*; but I have told you heretofore, that there are so many different opinions concerning the Soul, as I do not know which to embrace, for the

multiplicity confounds my choice: and the cause of these various opinions, in my simple judgment, is, that most men make no difference between the Divine, and Natural Soul. As for the Natural Soul, humane sense and reason may perceive, that it consists of Matter, as being Material; but as for the Divine Soul, being not material, no humane sense and reason is able naturally to conceive it; for there cannot possibly be so much as an Idea of a natural nothing, or an immaterial being, neither can sense and reason naturally conceive the Creation of an Immaterial substance; for as the Creation of material Creatures, as of this World, belongs to Faith, and not to Reason, so doth also the Creation of Immaterial substances, as Spirits; nay, it is more difficult to understand a Natural Nothing to be made out of nothing, then a Natural Something out of nothing. And as for the *Progress of Immaterial Souls*, which the same *Author* mentions, I cannot conceive how Nothing can make a Progress, and therefore I suppose, it is an Improper, or Metaphorical expression. The truth is, what is Immaterial, belongs not to a Natural knowledg or understanding, but is Supernatural, and goes beyond a natural reach or capacity. Concerning *the Key of Divine Providence*, I believe God did never give or lend it to any man; for surely, God, who is infinitely Wise, would never intrust so frail and foolish a Creature as Man, with it, as to let him know his secret Counsels, Acts, and Decrees. But setting aside Pride and Presumption, Sense and Reason may easily perceive, that Man, though counted the best of Creatures, is not made with such infinite Excellence, as to pierce into the least secrets of God; Wherefore I am in a maze when I hear of such men, which pretend to know so much, as if they had plundered the Celestial Cabinet of the Omnipotent God; for

certainly, had they done it, they could not pretend to more knowledg then they do. But I, *Madam*, confess my Ignorance, as having neither divine Inspirations, nor extraordinary Visions, nor any divine or humane learning, but what Nature has been pleased to bestow upon me; Yet in all this Ignorance, I know that I am, and ought to be,

Madam,

Your humble and

faithful Servant.

XXXIV.

MADAM,

Since in my former Letters I have discoursed of Immaterial Spirits, and declared my meaning, that I do not believe them to be natural Creatures, or parts of Nature; you are of opinion, as if I did contradict my self, by reason that in the first Edition of my Book called *Philosophical Opinions*, I name the rational and sensitive Matter, rational and sensitive Spirits. To which I answer, first, That when I did write my first Conceptions in Natural Philosophy, I was not so experienced, nor had I those observations which I have had since; Neither did I give those first Conceptions time to digest, and come to a maturity or perfect growth, but forced them forth as soon as conceived, and this made the first publishing of them so full of Imperfections, which I am much sorry for; But since that time, I have not onely reviewed, but corrected and altered them in several places, so that the last Impression of my *Philosophical Opinions*, you

will find more perfect and exact then the former. Next, I pray you to take notice, *Madam*, that in the mentioned first Edition, by the word Spirits, I meant Material, not Immaterial Spirits; for observing, that Learned Men do discourse much of Animal Spirits, which are Material, and that also high extracts in Chymistry are called Spirits; I used that word purposely, thinking it most proper and convenient to express my sense and meaning of that degree of matter which I call rational and sensitive. But considering again, that my opinions, being new, would be subject to misapprehensions and mis-interpretations; to prevent those, I thought it fitter to leave out the word *Spirits* in the second, as also in the last Edition of my named Book of *Philosophy*, lest my Readers should think I meant Immaterial Spirits; for I confess really, that I never understood, nor cannot as yet apprehend Immaterial Spirits; for though I believe the Scripture, and the Church, that there are Spirits, and do not doubt the existency of them, yet I cannot conceive the nature of Immaterial Spirits, and what they are; Wherefore I do onely treat of natural material substances, and not of incorporeal; also my discourse is of the Infinite servant of the Infinite God, which servant is corporeal or material Nature: God is onely to be admired, adored, and worshipped; but not ungloriously to be discoursed of; Which Omnipotent God, I pray of his Infinite Mercy to give me Faith to believe in him, and not to let presumption prevail with me so, as to liken vain and idle conceptions to that Incomprehensible Deity. These, *Madam*, are my humble Prayers to God; and my request to you is, that I may continue the same in your love and affection, which I have been hitherto; so shall I live content, and rest,

Madam,

Your faithful Friend

and Servant.

SECT. III.

I.

MADAM,

I have discharged my duty thus far, that in obedience to your commands, I have given you my answers to the opinions of three of those famous and learned *Authors* you sent me, *viz. Hobbes, Des Cartes*, and *More*, and explained my own opinions by examining theirs; My onely task shall be now to proceed in the same manner with that famous Philosopher and Chymist, *Van Helmont*; But him I find more difficult to be understood then any of the forementioned, not onely by reason of the Art of Chymistry, which I confess myself not versed in, but especially, that he has such strange terms and unusual expressions as may puzle any body to apprehend the sense and meaning of them: Wherefore, if you receive not that full satisfaction you expect from me, in examining his opinions and arguments, I beg your pardon before-hand, and desire you to remember, that I sent you word in the beginning, I did undertake this work more out of desire to clear my own opinions, then a quarrelsome humor to contradict others; which if I do but obtain, I have my aim. And so to the business: When as your *Author* discourses of the causes and beginnings of Natural things, he is pleased to say,[1]

That *Souls and Lives, as they know no Degrees, so they know no Parts*; which opinion is very different from mine: For although I confess, that there is but one kind of Life, and one kind of Soul in Nature, which is the sensitive Life, and the rational Soul, both consisting not onely of Matter, but of one kind of Matter, to wit, Animate; nevertheless they are of different degrees, the matter of the rational Soul being more agil, subtil and active, then the matter of the sensitive Life; which is the reason that the rational can act in its own substance or degree of matter, and make figures in it self, and its own parts; when as the sensitive, being of somewhat a grosser degree then the rational, and not so subtil and active, is confined to work with and upon the Inanimate matter. But mistake me not, *Madam*, for I make onely a difference of the degrees of Subtilty, Activity, Agility, Purity, betwixt rational and sensitive Matter; but as for the rational Matter it self, it has no degrees of Purity, Subtilty and Activity in its own Nature or Parts, but is always one and the same in its substance in all Creatures, and so is the sensitive. You will ask me, How comes then the difference of so many Parts and Creatures in Nature, if there be no degrees of Purity, Activity, and Subtilty in the substance of the rational, and in the substance of the sensitive Matter? As for example: if there were no such degrees of the Parts of rational Matter amongst themselves, as also of the Parts of the sensitive, there would be no difference betwixt Animals, Vegetables, Minerals, and Elements, but all Creatures would be alike without distinction, and have the same manner of sense and reason, life and knowledg. I answer, That although each sort or degree of animate Matter, rational as well as sensitive, has in it self or its own substance no degrees of purity, rarity, and subtilty,

but is one and the same in its nature or essence; nevertheless, each has degrees of quantity, or parts, which degrees of quantity do make the onely difference betwixt the several creatures or parts of Nature, as well in their general, as particular kinds; for both the rational and sensitive matter being corporeal, and so dividable into parts, some creatures do partake more, some less of them, which makes them to have more or less, and so different sense and reason, each according to the nature of its kind: Nay this difference of the degrees of quantity or parts in the substance of the rational and sensitive Matter, makes also the difference betwixt particulars in every sort of Creatures, as for example, between several particular Men: But as I said, the nature or essence of the sensitive and rational Matter is the same in all; for the difference consists not in the Nature of Matter, but onely in the degrees of quantity, and parts of Matter, and in the various and different actions or motions of this same Matter. And thus Matter being dividable, there are numerous lives and souls in Nature, according to the variousness of her several Parts and Creatures. Next your *Author*, mentioning the *Causes and Principles of natural Bodies*, assigns two first or chief beginnings and corporeal causes of every Creature, to wit, the *Element of Water*, and the *Ferment or Leaven*; which Ferment he calls a formal created being; neither a substance, nor an accident, but a neutral thing. Truly, *Madam*, my reason is not able to conceive this neutral Being; for it must either be something or nothing in Nature: and if he makes it any thing betwixt both, it is a strange Monster; and will produce monstrous effects: and for Water, if he doth make it a Principle of Natural things, I see no reason why he excludes the rest of the Elements: But, in my

opinion, Water, and the rest of the Elements, are but effects of Nature, as other Creatures are, and so cannot be prime causes. The like the Ferment, which, to my sense and reason, is nothing else, but a natural effect of natural matter. Concerning his opinion, That *Causes and Beginnings* are all one, or that there is but little difference betwixt them, I do readily subscribe unto it; but when he speaks of those *things, which are produced without life*, my reason cannot find out, what, or where they should be; for certainly, in Nature they are not, Nature being Life and Soul her self, and all her parts being enlivened and soulified, so that there can be no generation or natural production without Life. Neither is my sense and reason capable to understand his meaning, when he says, That the *Seeds of things, and the Spirits, as the Dispensers thereof, are divided from the Material Cause*: For I do see no difference betwixt the Seed, and the material Cause, but they are all one thing, it being undeniable, that the seed is the matter of that which is produced. But your *Author* was pleased to say heretofore, that there are but two beginnings or causes of natural things, and now he makes so many more; for, says he, Of *Efficient and Seminal Causes, some are efficiently effecting, and others effectively effecting*: which nice distinctions, in my opinion, do but make a confusion in natural knowledg, setting a mans brain on the rack; for who is able to conceive all those *Chymæras* and Fancies of the *Archeus, Ferment,* various *Ideas, Blas, Gas,* and many more, which are neither something nor no-thing in Nature, but betwixt both, except a man have the same Fancies, Visions and Dreams, your *Author* had? Nature is easie to be understood, and without any difficulty, so as we stand in no need to frame so many strange names, able to fright any body. Neither

do natural bodies know many prime causes and beginnings, but there is but one onely chief and prime cause from which all effects and varieties proceed, which cause is corporeal Nature, or natural self-moving Matter, which forms and produces all natural things; and all the variety and difference of natural Creatures arises from her various actions, which are the various motions in Nature; some whereof are Regular, some Irregular: I mean Irregular, as to particular Creatures, not as to Nature her self, for Nature cannot be disturbed or discomposed, or else all would run into confusion; Wherefore Irregularities do onely concern particular Creatures, not Infinite Nature; and the Irregularities of some parts may cause the Irregularities of other Parts, as the Regularities of some parts do cause the Regularities of others: And thus according as Regularities and Irregularities have power, they cause either Peace or War, Sickness or Health, Delight and Pleasure, or Grief and Pain, Life or Death, to particular Creatures or parts of Nature; but all these various actions are but various Effects, and not prime Causes; which is well to be observed, lest we confound Causes with Effects. And so leaving this discourse for the present, I rest,

Madam,

Your Faithful Friend

and Servant.

[1] Van Helm, *in his Book intituled*, Physick Refined, *ch.* 4. *of the Causes and beginning of natural things.*

II.

MADAM,

It is no wonder, your *Author* has so many odd and strange opinions in Philosophy, since they do not onely proceed from strange Visions, Apparitions, and Dreams, but are built upon so strange grounds and principles as *Ideas, Archeus, Gas, Blas, Ferment,* and the like, the names of which sound so harsh and terrifying, as they might put any body easily into a fright, like so many Hobgoblins or Immaterial spirits; but the best is, they can do no great harm, except it be to trouble the brains of them, that love to maintain those opinions; for though they are thought to be powerful beings, yet being not corporeal substances, I cannot imagine wherein their power should consist; for Nothing can do nothing. But to mention each apart; first his *Archeus* he calls[1] *the Spirit of Life; a vital gas or Light; the Balsam preferring from Corruption; the* Vulcan *or Smith of Generation; the stirrer up, and inward director of generation; an Air; a skiey or airy Spirit; cloathing himself presently with a bodily cloathing, in things soulified, walking through all the dens and retiring places of the seed, and transforming the matter according to the perfect act of its own Image, remaining the president and overseer or inward ruler of his bounds even till death; the Principle of Life: the Inn of Life, the onely immediate Witness, Executor, and Instrument of Life; the Prince and Center of Life; the Ruler of the Stern; the Keeper of Life, and promoter of Transmutations; the Porter of the Soul; a Fountainous being; a Flint.*[2] These, and many more names your *Author* attributes to his *Archeus*, but what properly it is, and what its Nature and its peculiar office, I am not able to conceive. In the next place, *Gas* and *Blas* are to your *Author* also true Principles

of Natural things; for[3] *Gas is the Vapour into which Water is dissolved by Cold, but yet it is a far more fine and subtil thing then Vapour*; which he demonstrates by the Art of Chymistry. This *Gas* in another place he calls[4] a *Wild Spirit, or Breath, unknown hitherto; which can neither be constrained by Vessels, nor reduced into a visible body; in some things it is nothing but Water, as for example in Salt, in Fruits, and the like.* But[5] *Blas proceeds from the local and alterative motion of the Stars, and is the general beginning of motion, producing heat and cold, and that especially with the changing of the Winds.* There is also[6] *Blas in all sublunary things*; witness Amulets or preserving Pomanders, whereby they do constrain objects to obey them; *Which Incorporeal Blas of Government acts without a Corporeal Efflux, even as the Moon makes the Sea to swell; but the fleshly generation*[7] *hath a Blas of its own, and it is twofold, one which existeth by a natural Motion, the other voluntary, which existeth as a mover to it self by an Internal Willing.* There is also a *Blas of the Heart*, which is *the fuel of the Vital Spirit, and consequently of its heat.* The *Ferment*[8] he describes to be *A true Principle or Original beginning of things, to wit, a Formal Created beginning, which is neither a substance, nor an accident, but a Neutral being, framed from the beginning of the World in the places of its own Monarchy, in the manner of Light, Fire, the magnal or sheath of the Air, Forms, &c. that it may prepare, stir up, and go before the Seeds.* Lastly, his *Ideas* are *Certain formal seminal Lights,*[9] *mutually piercing each other without the adultery of Union; For*, says he, *although at first, that, which is imagined, is nothing, but a meer being of reason, yet it doth not remain such; for truely the Fancy is a sealifying vertue, and in this respect is called Imaginative, because it forms the Images of Likenesses, or Ideas of things conceived,*

and doth characterize them in its own Vital Spirit, and therefore that Idea is made a spiritual or seminal powerful being, to perform things of great moment. And those Ideas he makes various and numerous; as *Archeal Ideas, Ideas of Diseases, Sealifying Ideas, Piercing Ideas, Forreign and strange Ideas, Mad Ideas, Irrational and Incorrigible Ideas, Staggering Ideas,* and a hundred others: the like of *Gas, Blas,* and the rest. Thus, *Madam*, I have made a rehearsal of your *Authors* strange, and hitherto unknown, Principles (as his Confession is) of Natural things, which, to my sense and reason, are so obscure, intricate and perplex, as is almost impossible exactly to conceive them; when as Principles ought to be easie, plain, and without any difficulty to be understood; Wherefore what with his Spirits, meer-beings, *non*-beings, and neutral-beings, he troubles Nature, and puzles the brains of his Readers so, that, I think, if all men were of his opinion, or did follow the way of his Philosophy, Nature would desire God she might be annihilated: Onely, of all other, she doth not fear his Non-beings, for they are the weakest of all, and can do her the least hurt, as not being able to obstruct real and corporeal actions of Nature; for Nature is a corporeal substance, and without a substance Motion cannot be, and without Motion opposition cannot be made, nor any action in Nature, whether Prints, Seals, Stamps, Productions, Generations, Thoughts, Conceptions, Imaginations, Passions, Appetites, or the like: and if motions cannot be without substance; then all Creatures, their properties, faculties, natures, &c., being made by corporeal motions, cannot be *Non*-beings, no nor anything else that is in Nature; for *non*-beings are not in the number of Natural things, Nature containing nothing within her, but what is substantially, really, and corporeally existent.

But your Authors *Ideal Entity*, (whereof he is speaking in another place of his Works,)[10] which performs all the Works of Nature, seems to me, as if it were the Jack of all Offices, or like the Jack in a Clock, that makes every Wheel move; for it hath an admirable power to put off and on Corporeality and Incorporeality, and to make it self Something and Nothing as often as it has occasion; but if this *Proteus* have such power, it may well be named the Magick of Nature. Your *Author* saith, it is not the Devil, nor any effect thereof: but certainly, in my opinion, according to its description, and the effects laid to its performance, it must be more then the Devil; wherefore, in my Reason, I cannot conceive it, neither am I able to understand his *Phantastick Activity, Fancy of Forms, the Souls acting by an insensible way,* and many more such like expressions. But I conceive that all these can be nothing else but the several motions of the sensitive and rational matter, which is the Active, Ingenious, Distinguishing, Knowing, Wise and Understanding part of Infinite corporeal Nature; and though Infinite Matter hath Infinite parts in general, yet there is a finiteness in every part considered by it self: not that I think a Part can really subsist single and by it self, but it is onely considered so in the manner of our Conception, by reason of the difference and variousness of natural Creatures: for these being different from each other in their figures, and not all alike, so that we can make a distinction betwixt them; this difference and distinction causes us to conceive every part of a different figure by it self: but properly and according to the Truth of Nature, there is no part by it self subsisting; for all parts are to be considered, not onely as parts of the whole, but as parts of other parts, all parts being joyned in Infinite

Nature, and tied by an inseparable tie one way or other, although we do not altogether perceive it. But to return to *Ideas*: I had almost forgot to tell you, *Madam*, of another kind of *Ideas*, by your *Author* named, *Bewitching* or *Inchanting Ideas*,[11] which are for the most part found in Women, against which I cannot but take exception in the behalf of our Sex: For, says he, *Women stamp Ideas on themselves, whereby they, no otherwise then Witches driven about with a malignant spirit of despair, are oftentimes governed or snatched away unto those things, which otherwise they would not, and do bewail unto us their own and unvoluntary Madness: These Ideas are hurtful to themselves, and do, as it were, Inchant, Infatuate, and weaken themselves; for so (as* Plutarch *witnesses) a desire of death by hanging took hold of all the young Maids in the Island* Chios. By this it appears, that your *Author* has never been in Love, or else he would have found, that Men have as well bewitching *Ideas* as Women, and that they are as hurtful to Men, as to Women. Neither can I be perswaded to believe, that men should not have as well Mad *Ideas* as Women; for to mention no other example, some, (I will not speak of your *Author*) their Writings and strange Opinions in Philosophy do sufficiently witness it; but whence those Ideas do proceed, whether from the Bride-bed of the Soul, or the Splene, your *Author* doth not declare. As for the young Maids in *Chios*, I must confess, it is a very strange example; but I think there have been as many Men that have killed themselves, as Women, if not more: However, I hope, by the Grace of God, the young Maids in this Kingdom are better advised; for if they should do the like, it would be a sad fate for all young Men. To conclude, *Madam*, all these rehearsed opinions of your *Author*, concerning the Grounds or Principles of

Natural Philosophy, if you desire my Unfeigned Judgment, I can say no more, but that they shew more Fancy, then Reason and Truth, and so do many others; and, perhaps, my opinions may be as far from Truth as his, although their Ground is Sense and Reason; for there is no single Creature in Nature, that is able to know the perfectest Truth: but some opinions, to humane sense and reason, may have more probability then others, and every one thinks his to be most probable, according to his own fancy and imagination, and so I think of mine; nevertheless, I leave them to the censure of those, that are endued with solid judgment and reason, and know how to discern betwixt things of fancy and reason, and amongst the rest, I submit them to the censure of your *Ladiship*, whose solid and wise Judgment is the rule of all the actions of,

Madam,

Your Faithful Friend

and Servant.

[1] *In his* ch. *called* The Fiction of Elementary Complexions and Mixtures.

[2] *In the* ch. of the Birth and Original of Forms. *In the* ch. Of the Ideas of Diseases. *See his* ch. *called* The Seat of Diseases in the Soul is confirmed. Ch. of Archeal Diseases. Ch. *called* The Subject of inhering of Diseases is in the point of Life, &c.

[3] *In the* ch. Of the Gas of the Water.

[4] *In the* ch. of the Fiction of Elementary Complexions and Mixtures.

[5] *In the* ch. Of the Blas of Meteors.

[6] *In the* ch. Of the unknown action of Government.

[7] *In the* ch. Of the Blas of Man.

[8] Of the Causes and beginnings of Natural things.

[9] Of the Ideas of Diseases.

[10] Of the Magnetick cure of Wounds.

[11] Of things Conceived, or Conceptions.

III.

MADAM,

Your *Author* relating how he dissents from the *false Doctrine*, as he terms it, *of the Schools*, concerning the Elements, and their Mixtures, Qualities, Temperaments, Discords, &c. in order to Diseases, is pleased to say as follows:[1] *I have sufficiently demonstrated, that there are not four Elements in Nature, and by consequence, if there are onely three, that four cannot go together, or encounter; and that the fruits which Antiquity hath believed to be mixt bodies, and those composed from a concurrence of four elements, are materially of one onely Element; also that those three Elements are naturally cold; nor that native heat is any where in things, except from Light, Life, Motion, and an altering Blas: In like manner, that all actual moisture is of Water, but all virtual moisture from the property of the seeds: Likewise, that dryness is by it self in the Air and Earth, but in Fruits by reason of the Seeds and Coagulations; and that there are not Contraries in Nature.* To give you my opinion hereof, first I think it too great a presumption in any man, to feign himself so much above the rest, as to accuse all others of ignorance, and that none but he alone hath

the true knowledg of all things as infallible and undeniable, and that so many Learned, Wise and Ingenious Men in so many ages have been blinded with errors; for certainly, no particular Creature in Nature can have any exact or perfect knowledg of Natural things, and therefore opinions cannot be infallible truths, although they may seem probable; for how is it possible that a single finite Creature should know the numberless varieties and hidden actions of Nature? Wherefore your *Author* cannot say, that he hath demonstrated any thing, which could not be as much contradicted, and perhaps with more reason, then he hath brought proofs and demonstrations: And thus when he speaks of Elements, that there are not four in Nature, and that they cannot go together, or encounter, it may be his opinion; but others have brought as many reasons to the contrary, and I think with more probability; so as it is unnecessary to make a tedious discourse thereof, and therefore I'le refer you to those that have treated of it more learnedly and solidly then I can do. But I perceive your *Author* is much for Art, and since he can make solid bodies liquid, and liquid bodies solid, he believes that all bodies are composed out of the Element of Water, and that Water therefore is the first Principle of all things; when as Water, in my opinion, is but an Effect, as all other natural Creatures, and therefore cannot be a cause or principle of them. Concerning the *Natural coldness of Water, Air, and Earth,* it may be, or not be so, for any thing your *Author* can truly know; but to my sense and reason, it seems probable that there are things naturally hot and moist, and hot and dry, as well as cold and moist, and cold and dry: But all these are but several effects produced by the several actions of Natural Matter, which Natural Matter is the onely

Principle of all Natural Effects and Creatures whatever; and this Principle, I am confident your *Author* can no more prove to be Water, then he can prove that Heat, Light, Life, Motion, and *Blas*, are not material. Concerning what he saith, That *Native Heat is no where in things, except from Light, Life, Motion, and an altering Blas*: I believe that motion of life makes not onely heat, but all effects whatsoever; but this native heat is not produced onely from the motions of Particular lives in particular Creatures, but it is made by the motions of Natures life; which life, in all probability, is the self-moving Matter, which no doubt, can and doth make Light and Blas without Heat, and Heat without Light or Blas; Wherefore Light and Blas are not principles of native Heat, no more then native Heat is the principle of Light and Blas. Neither is Water the Principle of Actual moisture, nor the propriety of seeds the Principle of all Virtual moisture; but self-moving Matter is the Principle of all, and makes both actual and virtual moisture, and there is no question but there are many sorts of moistures. As for *Dryness*, which he says, *is by it self in the Air and Earth, and in Fruits by reason of the Seeds and Coagulations*: I cannot conceive how any thing can be by it self in Nature, by reason there is nothing alone and single in Nature, but all are inseparable parts of one body: perchance, he means, it is naturally and essentially inherent in Air and Earth; but neither can that be in my reason, because all Creatures and Effects of Nature are Intermixt, and there is as much dryness in other Creatures, as in Air and Earth. Lastly, as for his opinion, That *there are no Contraries in Nature*; I believe not in the essence or nature of Matter; but sense and reason inform us, that there are Contraries in Natures actions, which are Corporeal motions,

which cause mixtures, qualities, degrees, discords, as also harmonious conjunctions and concords, compositions, divisions, and the like effects whatsoever. But though your *Author* seems to be an enemy to the mixtures of Elements, yet he makes such a mixture of Divinity, and natural Philosophy, that all his Philosophy is nothing but a meer Hotch-potch, spoiling one with the other. And so I will leave it to those that delight in it, resting,

Madam,

Your faithful Friend

and Servant.

[1]*In his Treatise called*, A passive deceiving of the Schools of the Humourists.

IV.

MADAM,

Water, according to your *Authors* opinion,[1] *is frozen into Snow, Ice, or Hail, not by Cold, but by its own Gas.* But since I am not able to conceive what his Gas is, being a term invented by him self, I will briefly declare my own opinion, which is, That Snow, Ice, and Hail, in my judgment, are made in the like manner, as Passions or Colours are made and raised in Man; for a sad discourse, or a cruel object will make a Man pale and cold, and a fearful object, will make him tremble; whereas a wanton and obscene discourse will make some red and hot. But yet these discourses and objects are onely external, occasional, and not immediate efficient causes of such alterations. Also when a Man eats or drinks any thing

that is actually hot or cold, or enters into a cold or hot room, bath, or air, he becomes hot or cold by the actions of those external agents that work upon him, or rather whose motions the sensitive motions of his body do pattern out. The like for diseases; for they may be caused either by hearing ill reports, or by taking either hurtful or superfluous food into the Body, or by Infections inwardly or outwardly, and many other ways. Likewise may Colours be made different ways; And so may Snow, Ice, and Hail; for all loose, rare, and porous Bodies are more apt to alter and change then close, solid, and dense bodies; and not onely to change from what they are, but to rechange to what they were. But, *Madam*, many studious persons study Nature more in her own substance, then in her various actions, which is the cause they arrive to no knowledg of Natures Works; for the same parts of Matter may act or work several ways: Like as a Man, or other animal creature, may put one part of his body into various and several postures, and move it many different ways. Your *Author* may say, that although several Creatures may be changed to our sight or perception, yet they are not really changed in Nature. I answer, Their Principle, which is a natural matter, of which all Creatures are made, cannot be changed, because it is one, simple, and unalterable in its Nature; but the figures of several Creatures are changed continually by the various motions of this matter; not from being matter, but onely from such or such a figure into another; and those figures which do change, in their room are others produced to keep up the certain kinds of Creatures by a continual successive alteration. And as there are changes of parts, so there are also mixtures of several parts, figures and motions in one and the same Matter; for there are

not different kinds in the nature of Matter: But, although Matter is of several degrees, as partly animate and partly inanimate, and the animate Matter is partly rational, and partly sensitive; Nevertheless, in all those degrees it remains the same onely or meer Matter; that is, it is nothing else but Matter, and the onely ground in which all changes are made. And therefore I cannot perceive it to be impossible in Nature, as to your *Author* it seems, That *Water should not be transchangeable into Air*; for, that he says, *The Air would have increased into a huge bulk, and all Water would have long since failed*: It is no consequence, because there is a Mutual transmutation of all figures and parts of Nature, as I declared above; and when one part is transchanged into another, that part is supplied again by the change of another, so that there can be no total mutation of kinds or sorts of figures, but onely a mutual change of the particulars. Neither is it of any consequence, when your *Author* says, That *if Water should once be turned into Air, it would always remain Air, because a returning agent is wanting, which may turn Air again into Water*. For he might as well say, a Man cannot go or turn backward, being once gone forward. And although he brings a General Rule, That *every thing, as much as in it lies, doth desire to remain in it self*; Yet it is impossible to be done, by reason there is no rest in Nature, she being in a perpetual motion, either working to the consistance of a figure, or to the uniting of several parts, or to the dissolving or dividing of several parts, or any other ways. By dissolving, I do not mean annihilating, but such a dissolving of parts as is proper for the altering of such a figure into one or many other figures. But rather then your Author will consent to the transchanging of Water into Air, he

will feign several grounds, soils or pavements in the Air, which he calls *Peroledes*, and so many Flood-gates and Folding-dores, and make the Planets their Key-keepers; which are pretty Fancies, but not able to prove any thing in Natural Philosophy. And so leaving them to their Author, I rest,

Madam,

Your humble and

faithful Servant.

[1] *Ch.* Of the Gas of Water.

V.

MADAM,

I cannot in reason give my consent to your *Authors* opinion,[1] That *Fishes do by the force or vertue of an inbred Seed transchange simple water into fat, bones, and their own flesh, and that materially they are nothing but water transchanged, and that they return into water by art.* For though my opinion is, that bodies change and alter from one figure into another, yet they do not all change into water, neither is water changed into all other figures; and certainly Fishes do not live nor subsist meerly by Water, but by several other meats, as other animals do; either by feeding upon other Fishes, the stronger devouring the weaker, or upon Mud, and Grass, and Weeds, in the bottom of Seas, Rivers and Ponds, and the like: As for example, put Fish into a Pool or Sluce, wherein there is not any thing but clear, pure water, and in a short time they will be starved to death for want of Food; and as they cannot live onely by water, so neither can

they breed by the power of water, but by the power of their food, as a more solid substance: And if all Creatures be nourished by those things whereof they consist, then Fishes do not consist of water, being not nourished by water; for it is not the transchanging of water, by which Fishes live, and by which they produce; but it is the transchange of food, proceeding from other Creatures, as I mentioned above. 'Tis true, Water is a proper element for them to live in, but not to live on; and though I have neither learning, nor experience in *Chymistry*, yet I believe, that your *Author*, with all the subtilest Art he had, could not turn or convert all Creatures into pure and simple water, but there would have been dregs and several mixtures left: I will not say, that the Furnace may not rarifie bodies extreamly, but not convert them into such a substance or form as Nature can. And although he thinks Gold is made of Water, yet I do not believe he could convert it into Water by the help of Fire; he might make it soluble, fluid and rare, but all things that are supple, soluble, flowing and liquid, are not Water; I am confident no *Gas* or *Blas* will, or can transform it, nor no Art whatsoever; what Nature may do, I know not. But since your *Authors* opinion is, that Air is also a Primigenial Element, and in its nature a substance, Why doth he not make it a Principle of natural bodies, as well as Water? I think it had not been so improper to liken Juices to Water; but to make the onely Principle of the composition and dissolution of all Creatures to be Water, seems to me very improbable. Neither can I admit in reason that the Elements should be called, first, pure, and simple beings; we might as well call all other creatures, first, pure, and simple beings: for although the word Element sounds as much as Principle, yet they are in my reason no more

Principles of Nature, then other Creatures are, there being but one Principle in Nature, out of which all things are composed, *viz.* the onely matter, which is a pure and simple corporeal substance; and what Man names impure dregs and filths, these are onely irregular and cross motions of that matter, in respect to the nature of such or such a figure; or such motions as are not agreeable and sympathetical to our Passions, Humors, Appetites, and the like. Concerning the Contrarieties, Differences and Wars in Nature, which your *Author* denies, I have spoken thereof already, and though he endeavours in a long discourse to prove, that there is no War in nature; yet, in my opinion, it is to little purpose, and it makes but a war in the thoughts of the Reader; I know not what it did in his own. But I observe he appeals often to Divinity to bear him up in Natural Philosophy; but how the Church doth approve his Interpretations of the Scripture, I know not: Wherefore I will not meddle with them, lest I offend the Truth of the Divine Scripture, wherein I desire to submit to the Judgment of the Church, which is much wiser then I, or any single Person can be. However, for all what your *Author* says, I do nevertheless verily believe, there is a war between Natural motions: For example; between the Regular motions of Health, and the Irregular motions of Sickness; and that things applied do oftentimes give assistance to one side or other, but many times in the conflict, the applied remedies are destroyed, and sometimes they are forced to be Neutrals: Wherefore though the nature of Infinite Matter is simple, and knows of no discord, yet her actions may be cross and opposite: the truth is, Nature could never make such variety, did her actions never oppose each other, but live in a constant Peace and Unity. And

thus leaving them to agree, I am confident your *Ladiship* and I shall never disagree; for as long as my life doth last, I shall always prove,

Madam,

Your constant Friend,

and faithful Servant.

[1] *Ch.* The Fiction of Elementary Complexions and Mixtures.

VI.

MADAM,

Your *Author* condemns the *Schools* for saying,[1] That *Air is moist*, or that it may be *converted into Water by pressing it together*; bringing an example of an *Iron Pipe, wherein Air has been pressed together, which afterwards in its driving out has, like a Hand-gun discharged with Gun-powder, sent a bullet thorow a board or plank*. Truly, *Madam*, concerning the moisture of Air, I am against it, but the transchanging of Air into Water I do verily believe, *viz.* that some sorts of Air may be contracted or condensed into Water, and that Water again may be dilated into Air, but not readily, commonly and easily by Art, but onely by Nature. Wherefore your *Authors* Experiment can serve for no proof; for an artificial trial cannot be an infallible natural demonstration, the actions of Art, and the actions of Nature being for the most part very different, especially in productions and transmutations of natural things: Neither can an alteration of parts, cause an utter destruction of the whole, because

when some parts change from their figures, other parts of matter change again into the like figures, by which successive change the continuation of the whole is kept up. Next your *Author* reproves the Schools for maintaining the opinion, that *Air is hot*; for says he, *Water, Air, and Earth, are cold by Creation, because without Light, Heat, and the partaking of Life.* He might, in my opinion, conclude, as well, that Man is cold by Creation, because a Chameleon, or a Fish is cold, being all of animal kind: But why may not some sorts of Air, Water and Earth be hot, and some be cold, as well as some sorts of Light are hot, and some cold; and so several other Creatures? His Reasons prove nothing: for Light doth not make Heat, nor is it the principle of Heat; and it is no consequence to say, all that is without Light is without Heat, there being many things without Light, which nevertheless are Hot; But to say, Water, Air, and Earth are cold, because they are without heat, is no proof, but a meer begging of the principle; for it is but the same thing, as if I should say, this is no Stone, because it is no Glass. And that Water, Air and Earth, do not partake of Life, must be proved first, for that is not granted as yet, there being, according to my opinion, not one Creature that wants Life in all Nature. Again: your *Author* is of opinion, That *Water is the first and chief Principle of all Natural things.* But this I can no more believe, then that *Water should never change or degenerate from its essence*: nay, if your *Author* means, there shall always be Water in Nature, it is another thing; but if he thinks that not any part of water doth or can change or degenerate in its nature, and is the principle and chief producer of all other Creatures; then he makes Water rather a Creator then a Creature; and it seems, that those Gentiles which did worship Water, were of the same

opinion, whereas yet he condemns all Pagan opinions and all those that follow them. Moreover, I cannot subscribe to his opinion, That *Gas and Blas from the Stars do make heat*: For heat is made several ways, according to its several sorts; for there is a dry heat, and a moist heat, a burning, melting, and evaporating heat, and many more. But as for *Meteors*, that *they are made by Gas and Blas*, I can say nothing, by reason I am not skilled in Astrology, and the science of the Heavens, Stars, and Planets; wherefore if I did offer to meddle with them, I should rather express my Ignorance, then give your *Ladiship* any solid reasons; and so I am willing to leave this speculation to others, resting content with that knowledg Nature hath given me without the help of Learning: Which I wholly dedicate and offer to your *Ladiship*, as becomes,

Madam,

Your faithful Friend

and Servant.

[1] In the *ch.* of *Air.*

VII.

MADAM,

Having made mention in my last of your *Authors* opinion, *That Air is in its nature Cold*, I thought it fit to take a stricter view of the temper of Air, and to send you withal my own opinion thereof. First of all, I would fain know, what sort of Air your *Author* means; for if he thinks there is but one sort of Air, he might as well say, that there is but one sort of

Animals, or Vegetables; whereas yet there are not onely different sorts of animal and vegetable kind, but also different particulars in one and the same sort: As for example; what difference is not amongst Horses, as between a Barb, a Turk, a Ginnet, a Courser of *Naples*, a Flanders-horse, a Galloway, an English-horse, and so forth? not onely in their shapes, but also in their natures, tempers and dispositions? The like for Cows, Oxen, Sheep, Goats, Dogs, as also for Fowl and Fish, nay, for Men. And as for Vegetables, What difference is there not between Barly and Wheat, and between *French*-barly, *Pine*-barly, and ordinary Barly; as also our *English*-wheat, *Spanish*-wheat, *Turkish*-wheat, *Indian*-wheat, and the like? What difference is there not amongst Grapes, as the *Malago, Muscadel*, and other Grapes, and so of all the rest of Vegetables? The same may be said of the Elements; for there is as much difference amongst the Elements as amongst other Creatures. And so of Air: for Air in some places, as in the *Indies*, especially about *Brasilia*, is very much different from our air, or from the air that is in other places: Indeed, in every different Climate, you shall find a difference of air, wherefore 'tis impossible to assign a certain temper of heat or cold to air in general. But although my sense and reason inform me, that air in its own nature or essence is neither hot nor cold, yet it may become hot or cold, by hot or cold motions; for the sensitive perceptive motions of Air may pattern out heat or cold; and hence it is, that in Summer, when as heat predominates, the air is hot; and in Winter, when as cold predominates, the air is cold. But, perhaps, you will say, air may be cooled by moving it with a Fan, or such like thing which can make wind; wherefore it follows, that air must needs be naturally cold. I answer, That doth not prove Air to

be in its nature cold: for this moving or making of wind may contract or condense the air into cold motions, which may cause a cold wind, like as Ventiducts, where the air running thorow narrow Pipes makes a cold wind. The same may be done with a mans breath; for if he contract his lips close, his breath will be cold, but if he opens his mouth wide, his breath will be warm. Again: you may say, that rain is congealed by the coldness of the air into Snow, Hail and Ice. I answer; Frost, Ice, Snow and Hail, do not proceed from the coldness of the air, but rather the coldness of the air proceeds from them; for Ice, Snow, and Hail, proceed from cold contraction and condensation of a vaporous or watery substance; and, as Frost and Snow cause air to be cold, so Thunder and Lightning cause it to be hot, so long as they last. Thus, *Madam*, though Air may be altered either to heat or cold, yet it is neither hot nor Cold in it self. And this is all for the present that I can say concerning the Temper of Air; I conclude, and rest,

Madam,

Your constant Friend,

and faithful Servant.

VIII.

MADAM,

Having hitherto considered your *Authors* Elements or Principles of Natural things, you will give me leave to present you now with a short view of his Opinions concerning Wind, Vacuum, Rainbows, Thunder, Lightning, Earth-quakes, and the like; which I will do

as briefly as I can, lest I betray my Ignorance; for I confess my self not to be well versed in the knowledg of Meteors, nor in those things which properly belong to the Mathematicks, as in Astrology, Geography, Opticks, and the like. But your *Author* says, in the first place,[1] That *Natural Wind is nothing but a flowing Air, moved by the Blas of the Stars.* Certainly, *Madam*, if this were so, then, in my judgment, when the Stars blaze, we should have constant Winds, and the more they blaze, the more violent winds there would be: But I have rather observed the contrary, that when the Stars blaze most apparently, we have the calmest weather either in Summer or Winter. Perchance your *Author* will say, he doth not mean this apparant and visible Blas, but another invisible Blas. I answer; I know not, nor cannot conceive any other Blas in the Stars, except I had seen it in a Vision; neither do I think that Nature her self knows of any other, But your *Author* doth refer himself upon the Authority of *Hypocrates*, who says, That *not onely the Wind is a blast, but that all Diseases are from blasts; and that there is in us a Spirit stirring up all things by its Blas; which Spirit, by a Microcosmical Analogy, or the proportion of a little World, he compares to the blasts of the world.* As for my particular, *Madam*, I dare say, I could never perceive, by my sense and reason, any such blazing Spirit in me; but I have found by experience, that when my mind and thoughts have been benighted with Melancholy, my Imagination hath been more active and subtil, then when my mind has been clear from dark Melancholy: Also I find that my thoughts and conceptions are as active, if not more, in the night then in the day; and though we may sometimes dream of several Lights, yet I cannot perceive a constant light in us; however Light, Blazes, and all

those effects are no more then other effects of Nature are; nor can they have more power on other Creatures, then other Creatures have on them: Neither are they made otherwise then by the corporeal motions of Natural Matter, and are dissolved and transchanged as other Creatures, out of one form or figure into another. Next your *Author* discoursing[2] whether there be any Vacuum in Nature, doth incline to the affirming party, that there is a Vacuum in the Air; to wit, *There is in the air something, that is less then a body, which fills up the emptinesses or little holes and pores in the air, and which is wholly annihilated by fire; It is actually void of all matter, and is a middle thing between a body and an Incorporeal Spirit, and almost nothing in respect of bodies; for it came from Nothing, and so may easily be reduced to nothing.* All this, *Madam*, surpasses my capacity; for I can in no ways conceive any thing between something and nothing, as to be less then something, and more then nothing; for all that is corporeal in Nature, is to my reason something; that is, some really existent thing; but what is incorporeal in Nature, is nothing; and if there be any absolute vacuum in Nature, as your *Author* endeavours to prove, then certainly this Vacuum cannot be any thing whatsoever; for a Vacuum is a pure Nothing. But many ingenious and learned men have brought as many arguments and reasons against Vacuum, as others bring for it, and so it is a thing which I leave to them to exercise their brains withal. The like is the opinion which many maintain concerning Place, *viz.* that there is a constant succession of Place and Parts, so that when one part removes, another doth succeed in its place; the truth and manner whereof I was never able to comprehend: for, in my opinion, there can be no place without body, nor no body

without place, body and place being all but one thing. But as for the perpetual Creation and annihilation of your *Authors* Vacuities, give me leave to tell you, *Madam*, that it would be a more laborious work, then to make a new World, or then it was to make this present World; for God made this World in six days, and rested the seventh day; but this is a perpetual making of something out of nothing. Again: concerning Rainbows, your *Author* says,[3] That *a Rainbow is not a natural effect of a natural Cause, but a divine Mystery in its original; and that it has no matter, but yet is in a place, and has its colours immediately in a place, but in the air mediately, and that it is of the nature of Light.* This is indeed a great mystery to my reason; for I cannot conceive, as I said before, a place without a body, nor how Light and Colours can be bodiless: But as for Rainbows, I have observed, when as water hath been blown up into the air into bubles, that by the reflexion of light on the watery bubles, they have had the like colours of the Rainbow; and I have heard, that there hath been often seen at the rising and setting of the Sun, Clouds of divers colours; Wherefore I cannot be perswaded to believe that a Rainbow should not have a natural cause, and consequently be a natural effect; For that God has made it a sign of the Covenant between him and mortal men, is no proof, that it is not a natural effect; Neither can I believe that it has not been before the Flood, and before it was made a sign by God, as your *Author* imagines; for though it was no sign before the Flood, yet it may nevertheless have had its being and existence before the Flood. Moreover, as for Thunder and Lightning, your *Authors* opinion is; *That although they may have concurring natural Causes, yet the mover of them is an Incorporeal Spirit, which is the Devil; who having*

obtained the Principality of this world, that he may be a certain executer of the judgments of the chief Monarch, and so the Umpire and Commissioner of Lightning and Thunder, stirs up a monstrous and sudden Blas in the Air, yet under Covenanted Conditions; for unless his power were bridled by divine Goodness, he would shake the Earth with one stroke so, as to destroy all mortal men: and thus the cracking noise or voice of Thunder is nothing but a spiritual Blas of the Evil Spirit. I will not deny, *Madam*, that Thunder and Lightning do argue the Power of the most Glorious God, for so do all the rest of the Creatures; but that this is the onely and immediate cause, which your *Author* assigns of Thunder and Lightning, I cannot believe; for surely, in my opinion, Thunder and Lightning are as much natural effects as other Creatures in Nature; and are not the Devils Blas, for I think they may be made without the help of the Devil; nay, I believe, he may be as much affraid of Thunder, as those Creatures that live on Earth. But what the causes are, and how Thunder and Lightning are made, I have elsewhere declared more at large, especially in my *Philosophical Opinions*. Again your *Author* speaking[4] of the *Trembling of the Earth, thinks it is nothing else but the Judgment of God for the sins of Impenitent men.* For my part, *Madam*, I can say little to it, either concerning the divine, or the natural cause of Earthquakes: As for the divine and supernatural Cause, which your *Author* gives, if it was so, then I wonder much, why God should command Earth-quakes in some parts of the World more frequent then in others. As for example; we here in these parts have very seldom Earthquakes, and those we have, which is hardly one in many ages, are not so furious, as to do much harm; and so in many other places of the World, are as few and as gentle Earth-quakes as here; when as in

others, Earth-quakes are very frequent and dreadful: From whence it must needs follow, if Earth-quakes be onely a Judgment from God for the sins of Impenitent Men, and not a natural effect, that then those places, where the Earth is not so apt to tremble, are the habitations of the blessed, and that they, which inhabit those parts that are apt to tremble, are the accursed; when as yet, in those places where Earthquakes are not usual and frequent, or none at all, People are as wicked and impious, if not more, then in those where Earthquakes are common. But the question is, Whether those parts which suffer frequent and terrible Earthquakes, would not be so shaken or have such trembling fits, were they uninhabited by Man, or any other animal Creature? Certainly, in my opinion, they would. But as for the Natural Cause of Earthquakes, you must pardon me, *Madam*, that I cannot knowingly discourse thereof, by reason I am not so well skilled in Geography, as to know the several Soils, Climats, Parts, Regions, or Countries, nor what disposed matter may be within those parts that are subject to frequent Earthquakes: Onely this I may say, that I have observed, that the light of a small Fire or Candle, will dilate it self round about; or rather that the air round about the Fire or Candle, will pattern out both its light and its heat. Also I have observed, That a Man in a raging fit of Madness will have such an unusual strength, as ten strong men shall hardly be able to encounter or bind him, when as, this violent fit being past, a single man, nay a youth, may over-master him: Whence I conclude, that the actions, as the motions of Nature, are very powerful when they use their force, and that the ordinary actions of Nature are not so forcible as necessary; but the extraordinary are more forcible then necessary.

Lastly, your *Author* takes great pains to prove,[5] That *the Sun with his light rules the Day, and the Moon with hers the Night; and that the Moon has her own Native light; and that Bats, Mice, Dormice, Owles, and many others, as also Men, which rise at night, and walk in their sleep, see by the light and power of the Moon; also that Plants are more plentifully nourished by the night.* But lest it might be concluded, that all this is said without any probability of Truth, by reason the Moon doth not every night shine upon the Earth, he makes a difference between the Manner of the Sun's and Moon's enlightning the Earth; to wit, that the Sun strikes his beams in a right line towards the Earth, but the Moon doth not respect the Centre of the World, which is the Earth, in a right line; but her Centre is always excentrical, and she respects the Earth onely by accident, when she is concentrical with the World; And therefore he thinks there is another light under the Earth even at Midnight, whereby many Eyes do see, which owes also its rise to the Moon. This opinion of your *Author* I leave to be examined by those that have skill in Astronomy, and know both the Light and the Course of the Moon: I will onely say thus much, that when the Moon is concentrical, as he calls it, with the World, as when it is Full and New Moon, she doth not shine onely at night, but also in the day, and therefore she may rule the day as well as the night, and then there will be two lights for the ruling of the day, or at least there will be a strife betwixt the Sun and the Moon, which shall rule. But as for Men walking asleep by the light of the Moon, my opinion is, That blind men may walk as well by the light of the Sun, as sleeping men by the light of the Moon. Neither is it probable, that *the Moon or her Blas doth nourish Plants*; for in a cold Moon-shiny night they will often die; but it is

rather the Regular motions in well tempered matter that cause fruitful productions and maturity. And so I repose my Pen, lest it trespass too much upon your Patience, resting,

Madam,

Your humble and

faithful Servant.

[1] *Ch.* Of the Blas of Meteors.

[2] *Ch.* Of Vacuum.

[3] *Ch.* Of an Irregular Meteor.

[4] *Ch.* Of the Earthquake.

[5] *Ch.* Of the Birth or Original of Forms.

IX.

MADAM,

In my former, when I related your *Authors* opinion, concerning Earthquakes, I forgot to tell you, that he counts the Doctrine of the Schools absurd, when they say that Air, or any Exhalation, is the cause of them: For, says he, *There is no place in the Pavements or soils of the Earth, wherein any airy body may be entertained, whether that body be a wind, or an airy exhalation.* But since I promised I would not offer to appoint or assign any natural causes of Earthquakes, I have only taken occasion hence to enquire, whether it may not be probably affirmed, that there is air in the bowels of the Earth: And to my reason it seems very probable; I mean not this Exterior air, flowing about the circumference of the Earth we inhabite; but such an airy matter as is pure, refined, and subtil, there

being great difference in the Elements, as well as in all other sorts of Creatures; for what difference is there not between the natural heat of an animal, and the natural heat of the Sun? and what difference is there not between the natural moisture of an Animal, and the natural moisture of Water? And so for the Purity of Air, Dryness of Earth, and the like: Nay, there is great difference also in the production of those Effects: As for example; the heat of the Earth is not produced from the Sun, nor the natural heat in Animals, nor the natural heat in Vegetables; for if it were so, then all Creatures in one Region or place of the Earth would be of one temper. As for example: Poppy, Night-shade, Lettuce, Thyme, Sage, Parsly, &c. would be all of one temper and degree, growing all in one Garden, and upon one patch of Ground, whereon the Sun equally casts his beams, when as yet they are all different in their natural tempers and degrees. And so certainly there is Air, Fire, and Water, in the bowels of the Earth, which were never made by the Sun, the Sea, and this Exterior elemental Air. Wherefore those, in my opinion, are in gross Errors, who imagine that these Interior Effects in the Earth are produced from the mentioned Exterior Elements, or from some other forreign and external Causes; for an external cause can onely produce an external effect, or be an occasion to the production of such or such an effect, but not be the immediate efficient or essential cause of an interior natural effect in another Creature, unless the Interior natures of different Creatures have such an active power and influence upon each other, as to work interiously at a distance, such effects as are proper and essential to their Natures, which is improbable; for though their natures and dispositions may mutually agree and sympathize, yet their powers

cannot work upon their Interior Natures so, as to produce internal natural effects and proprieties in them. The truth is, it cannot be; for as the Cause is, so is the Effect; and if the Cause be an exterior Cause, the Effect must prove so too: As for example; the heat of the Sun, and the heat of the Earth, although they may both agree, yet one is not the cause of the other; for the Suns heat cannot pierce into the bowels of the Earth, neither can the heat of the Earth ascend so far as to the Center of the Sun: As for the heat of the Earth, it is certain enough, and needs no proof; but as for the heat of the Sun, our senses will sufficiently inform us, that although his beams are shot forth in direct lines upon the face of the Earth, yet they have not so much force, as to pierce into a low Celler or Vault; Wherefore it is not probable, that the Earth hath its natural heat from the Sun, and so neither its dryness from the Air, nor its moisture from the Sea, but these interior effects in the Earth proceed from some other interior causes. And thus there may be great difference between the heat, cold, moisture, and drought which is in the Elements, and between those which are in Vegetables, Minerals, and Animals, not onely in their General kinds, but also in their Particulars: And not onely a difference in the aforesaid qualities of heat, cold, moisture, and drought, but also in all other motions, as Dilations, Contractions, Rarefactions, Densations, &c. nay, in their Mixtures and Temperaments: As for example; the temper of a Mineral is not the temper of an Animal, or of a Vegetable, neither is the temper of these the temper of the exterior Elements, no more then the temper of the Elements is the temper of them; for every Creature has a temper natural and peculiar to it self, nay, every particular Creature, has not onely

different tempers, compositions, or mixtures, but also different productions; or else, if there were no difference in their productions, every Creature would be alike, when as yet there are seldom two that do exactly resemble each other. But I desire you to understand me well, *Madam*, when I speak of Particular heats, colds, droughts, and moistures; for I do not believe that all Creatures are made out of the four Elements, no more, then that the Elements are produced from other Creatures, for the Matter of all Creatures is but one and the same; but although the Matter is the same, nevertheless, the Tempers, compositions, Productions, Motions, &c. of particular Creatures, may be different, which is the cause of their different exterior figures, or shapes, as also of their different Interiour Natures, Qualities, Properties, and the like. And so, to conclude, there is no impossibility or absurdity in affirming, that there may be Air, Fire, and Water, in the bowels of the Earth proper for those Creatures, which are in her, although not such an Elemental Air, Fire and Water, as is subject here to our senses; but another kind of Air, Fire and Water, different from those. But this being a subject for Learned and Ingenious men to work and contemplate upon, better, perhaps, then I can do, I will leave it to them, and so remain,

Madam,

Your constant Friend,

and faithful Servant.

X.

MADAM,

Your *Author* mentioning in his Works, several Seeds of several Creatures, makes me express my opinion thus in short concerning this Subject: Several Seeds seem to me no otherwise then several Humours, or several Elements, or several other Creatures made of one and the same Matter, that produce one thing out of another, and the barrenness of seeds proceeds either from the irregularity of their natural motions, or from their unaptness or unactivity of producing. But it is to be observed, *Madam*, that not every thing doth produce always its like, but one and the same thing, or one and the same Creature, hath many various and different productions; for sometimes Vegetables do produce Animals, Animals produce Minerals, Minerals produce Elements, and Elements again Minerals, and so forth: for proof I will bring but a mean and common example. Do not Animals produce Stones, some in one, and some in another part of their bodies, as some in the Heart, some in the Stomack, some in the Head, some in the Gall, some in the Kidnies, and some in the Bladder? I do not say, that this Generation of Stone is made the same way as the natural generation of Animals, as, for example, Man is born of his Parents; but I speak of the generation or production of Creatures in general, for otherwise all Creatures would be alike, if all generations were after one and the same manner and way. Likewise do not Fruits, Roots, Flowers and Herbs, produce Worms? And do not Stones produce Fire? witness the Flint. And doth not Earth produce Metal? 'Tis true, some talk of the seed of Metals, but who with all his diligent observations could find it out as yet? Wherefore it is, in my opinion, not probable, that Minerals are produced by way of seeds. Neither can I perceive that any of the

Elements is produced by seed, unless Fire, which seems, to my sense and reason, to encrease numerously by its seed, but not any other of the Elements. And thus productions are almost as various as Creatures, or rather parts of Creatures, are; for we see how many productions there are in one animal body, as the production of flesh, bones, marrow, brains, gristles, veines, sinews, blood, and the like, and all this comes from Food, and Food from some other Creatures, but all have their original from the onely matter, and the various motions of Nature. And thus, in my opinion, all things are made easily, and not by such constrained ways as your *Author* describes, by Gas, Blas, Ideas, and the like; for I am confident, Nature has more various ways of producing natural things then any Creature is able to conceive. I'le give another example of Vegetables, I pray you but to consider, *Madam*, how many several ways Vegetables are produced, as some by seeds, some by slips, some by grafts, &c. The graft infuses and commixes with the whole stock and the branches, and these do the like with the graft: As for example; an Apple grafted in Colewort produces Apples; but those Apples will have a taste and sent of the Colewort, which shews that several parts of several Creatures mix, joyn, and act together; and as for seeds, they are transchanged wholly, and every part thereof into the produced fruit, and every part of the seed makes a several production by the help of the co-working parts of the Earth, which is the reason that so many seeds are produced from one single seed; But Producers, that waste not themselves in productions, do not produce so numerously as those that do dissolve; yet all Creatures increase more or less, according to their supplies or assistances; for seeds will encrease and multiply

more in manured and fertile then in barren grounds; nay, if the ground be very barren, no production at all will be; which shews, that productions come not barely from the seed, but require of necessity some assistance, and therefore neither Archeus, nor seminal Ideas, nor Gas, nor Blas, would do any good in Vegetables, if the ground did not assist them in their generations or productions, no more then a house would be built without the assistance of labourers or workmen; for let the materials lie never so long, surely they will never joyn together of themselves to the artificial structure of an house. Wherefore since there is so much variety in the production of one kind of Creatures, nay of every particular in every kind, what needs Man to trouble his brain for the manner and way to describe circumstantially every particular production of every Creature by seminal or printing Ideas, or any other far-fetched termes, since it is impossible to be done? And as for those Creatures whose producers are of two different sorts, as a Mule bred of an Asse and a Horse, and another Creature bred of a Cony and a Dormouse; all which your *Author* thinks[1] do take more after their mother then their father, more after the breeder then the begetter; I will not eagerly affirm the contrary, although it seems to me more probable: But this I can say, that I have observed by experience, that Faunes and Foales have taken more after the Male then after the Female; for amongst many several colour'd Deer, I have seen but one milk white Doe; and she never brought forth a white Faun, when as I have seen a white Buck beget white and speckled Faunes of black and several coloured Does. Also in Foals I have observed, that they have taken more after the Male then after the Female, both in shape and colour. And thus I express no

more, but what I have observed my self, others may find out more examples; these are sufficient for me; so I leave them, and rest,

Madam,

Your faithful Friend

and Servant.

[1] In the *Ch.* the Position is demonstrated; and in the *ch.* called the Authority of the *Duumvirate*.

XI.

MADAM,

You will cease to wonder, that I am not altogether capable to understand your *Authors* opinions in Natural Philosophy, when you do but consider, that his expressions are for the most part so obscure, mystical and intricate, as may puzzle any brain that has not the like Genius, or the same Conceptions with your *Author*; wherefore I am forced oftentimes to express my ignorance rather, then to declare to you the true sense of his opinions. In the number of these is his discourse of a *Middle Life*,[1] *viz.* That *the qualities of a middle life do remain in things that are transchanged:* For I cannot understand what he means by a middle life; whether it be a life that is between the strongest and weakest, or whether he means a life between the time of production and dissolution, or between the time of conception and production; or whether he means a life that is between two sorts of substances, as more then an Animal, and not so high and excellent as an Angel; or whether he means

a middle life for places, as neither in Heaven nor in Hell, but in Purgatory, or neither in, nor out of the world, or any other kind of life: Wherefore I'le leave this Hermaphroditical or neutral life to better understandings then mine. Likewise I must confess my disability of conceiving the overshadowing of his *Archeus*, and *how it brings this middle life into its first life.* For concerning Generation, I know of none that is performed by overshadowing, except it be the miraculous conception of the blessed Virgin, as Holy Writ informs us; and I hope your *Author* will not compare his *Archeus* to the Holy Spirit; But how a middle life may be brought again into the first life, is altogether unconceivable to me: And so is that, when he says, that the *first life of the Fruit is the last of the seed*; for I cannot imagine, that the seed dies in the fruit; but, in my opinion, it lives rather in the fruit, and is numerously increased, as appears by the production of seed from the fruit. But the most difficult of all to be understood, are his *Ideas*,[2] which he makes *certain seminal Images, Formal Lights, and operative means, whereby the soul moves and governs the body*; whose number and variety is so great, as it transcends my capacity, there being *Ideas* of Inclination, of Affection, of Consideration or Judgment, of Passion, and these either mild, or violent, besides a great number of Archeal and forreign Ideas. Truly, *Madam*, I cannot admire enough the powerful effects of these Ideas, they themselves being no substances or material Creatures; For how that can pierce, seal, and print a figure, which hath neither substance nor matter, my reason is not able to comprehend, since there can be no figure without matter or substance, they being inseparably united together, so, that where figure is, there is also substance, and where substance is, there

is also figure; neither can any figure be made without a substance. You may say, Ideas, though they are not material or corporeal beings themselves, yet they may put on figures, and take bodies when they please: I answer, That then they can do more then Immaterial Spirits; for the Learned say, That Immaterial Spirits are Immaterial substances; but your *Author* says, that Ideas are no substances; and I think it would be easier for a substance to take a body, then for that which is no substance: But your *Author* might have placed his Ideas as well amongst the number of Immaterial Spirits, to wit, amongst Angels and Devils, and then we should not have need to seek far for the causes of the different natures and dispositions of Mankind, but we might say, that Ill-natured men proceeded from Evil, and Good-natured men from Good Spirits or Ideas. However, *Madam*, I do not deny Ideas, Images, or Conceptions of things, but I deny them onely to be such powerful beings and Principal efficient Causes of Natural effects; especially they being to your *Author* neither bodies nor substances themselves. And as for the *Figure of a Cherry*, which your *Author* makes so frequent a repetition of, made by a longing Woman on her Child; I dare say that there have been millions of Women, which have longed for some or other thing, and have not been satisfied with their desires, and yet their Children have never had on their bodies the prints or marks of those things they longed for: but because some such figures are sometimes made by the irregular motions of animate Matter, would this be a sufficient proof, that all Conceptions, Ideas and Images have the like effects, after the same manner, by piercing or penetrating each other, and sealing or printing such or such a figure upon the body of the Child? Lastly, I cannot but smile when I read that

your *Author* makes a *Disease proceed from a non-being to a substantial being*: Which if so, then a disease, according to his opinion, is made as the World was, that is, out of Nothing; but surely luxurious persons find it otherwise, who eat and drink more then their natural digestive motions can dispose; for those that have infirm bodies, caused by the irregular motions of animate matter, find that a disease proceeds from more then a *non*-being. But, *Madam*, I have neither such an *Archeus*, which can produce, in my mind, an Idea of Consent or approbation of these your *Authors* opinions, nor such a light that is able to produce a beam of Patience to tarry any longer upon the examination of them; Wherefore I beg your leave to cut off my discourse here, and onely to subscribe my self, as really I am,

Madam,

Your humble and

faithful Servant.

[1] *Ch.* called *Magnum oporter*.

[2] Of the Ideas of Diseases.

XII.

MADAM,

I cannot well apprehend your *Authors* meaning, when he says,[1] That *Nature doth rise from its fall*; for if he understands Nature in general, I cannot imagine how she should fall and rise; for though Man did fall, yet Nature never did, nor cannot fall, being Infinite: And therefore in another place,[2] when he saith, that

Nature first being a beautiful Virgin, was defiled by sin; not by her own, but by Mans sin, for whose use she was created; I think it too great a presumption and arrogancy to say that Infinite Nature was not onely defiled by the sin of Man, but also to make Man the chief over all Nature, and to believe Nature was onely made for his sake; when as he is but a small finite part of Infinite Nature, and almost Nothing in comparison to it. But I suppose your *Author* doth not understand Nature in general, but onely the nature of some Particulars, when he speaks of the fall and rise of Nature; however, this fall and rise of the nature of Particulars, is nothing but a change of their natural motions. And so likewise, I suppose, he understands the nature of Particulars, when he says in another place,[3] That Nature in diseases is standing, sitting, and lying; for surely Nature in general has more several postures then sitting, standing, or lying: As also when he speaks[4] of the *Vertues and Properties that stick fast in the bosom of Nature*, which I conceive to be a Metaphorical expression; although I think it best to avoid Metaphorical, similizing, and improper expressions in Natural Philosophy, as much as one can; for they do rather obscure then explain the truth of Nature; nay, your *Author* himself is of this opinion, [5] and yet he doth nothing more frequent then bring in Metaphors and similitudes. But to speak properly, there is not any thing that sticks fast in the bosom of Nature, for Nature is in a perpetual motion: Neither can she be *heightened or diminished by Art*; for Nature will be Nature in despite of her Hand-maid. And as for your *Authors* opinion, That *there are no Contraries in Nature*, I am quite of a contrary mind, that there is a Perpetual war and discord amongst the parts of Nature, although not in the nature and substance of Infinite Matter, which is of a simple kind, and knows

no contraries in it self, but lives in Peace, when as the several actions are opposing and crossing each other; and truly, I do not believe, that there is any part or Creature of Nature, that hath not met with opposers, let it be never so small or great. But as War is made by the division of Natures parts, and variety of natural actions, so Peace is caused by the unity and simplicity of the nature and essence of onely Matter, which Nature is peaceable, being always one and the same, and having nothing in it self to be crossed or opposed by; when as the actions of Nature, or natural Matter, are continually driving against each other, as being various and different. Again your *Author* says, That *a Specifical being cannot be altered but by Fire, and that Fire is the Death of other Creatures: also that Alchymy, as it brings many things to a degree of greater efficacy, and stirs up a new being, so on the other hand again, it by a privy filching doth enfeeble many things.* I, for my part, wonder, that Fire, being as your *Author* says, no substantial body, but substanceless in its nature, should work such effects; but however, I believe there are many alterations without Fire, and many things which cannot be altered by Fire. What your *Authors* meaning is of a *new being*, I know not; for, to my reason, there neither is; nor can be made any new being in Nature, except we do call the change of motions and figures a new Creation; but then an old suit turned or dressed up may be called new too. Neither can I conceive his *Filching or Stealing*: For Nature has or keeps nothing within her self, but what is her own; and surely she cannot steal from her self; nor can Art steal from Nature; she may trouble Nature, or rather make variety in Nature, but not take any thing from her, for Art is the insnarled motions of Nature: But your *Author*, being a Chymist, is much for the Art of

Fire, although it is impossible for Art to work as Nature doth; for Art makes of natural Creatures artificial Monsters, and doth oftner obscure and disturb Natures ordinary actions, then prove any Truth in Nature. But Nature loving variety doth rather smile at Arts follies, then that she should be angry with her curiosity: like as for example, a Poet will smile in expressing the part or action of a Fool. Wherefore Pure natural Philosophers, shall by natural sense and reason, trace Natures ways, and observe her actions, more readily then Chymists can do by Fire and Furnaces; for Fire and Furnaces do often delude the Reason, blind the Understanding, and make the Judgment stagger. Nevertheless, your *Author* is so taken with Fire, that from thence he imagines a Formal Light, which he believes to be the Tip-top of Life; but certainly, he had, in my opinion, not so much light as to observe, that all sorts of light are but Creatures, and not Creators; for he judges of several Parts of Matter, as if they were several kinds of Matter, which causes him often to err, although he conceits himself without any Error. In which conceit I leave him, and rest,

Madam,

Your faithful Friend

and humble Servant.

[1] *Ch.* Nature is ignorant of Contraries.

[2] In the Hist. of *Tartar*.

[3] *Ch.* Disease is an unknown guest.

[4] Nature is ignorant of Contraries.

[5] *Ch.* The Image of the Ferment begets the Mass with Child.

XIII.

MADAM,

The Art of Fire, as I perceive, is in greater esteem and respect with your *Author*, then Nature her self: For he says,[1] That *some things can be done by Art, which Nature cannot do*; nay he calls[2] *Art* The *Mistress of Nature, and subjects whole Nature unto Chymical speculation*; For, *nothing*, says he,[3] *doth more fully bring a Man, that is greedy of knowing, to the knowledg of all things knowable, then the Fire; for the root or radical knowledg of natural things consists in the Fire:*[4] *It pierces the secrets of Nature, and causes a further searching out in Nature, then all other Sciences, being put together; and pierces even into the utmost depths of real truth:*[5] *It creates things which never were before.* These, and many more the like expressions, he has in the praise of Chymistry. And truly, *Madam*, I cannot blame your *Author*, for commending this Art, because it was his own profession, and no man will be so unwise as to dispraise his own Art which he professes; but whether those praises and commendations do not exceed truth, and express more then the Art of Fire can perform, I will let those judg, that have more knowledg therein then I: But this I may say, That what Art or Science soever is in Nature, let it be the chief of all, yet it can never be call'd the Mistress of Nature, nor be said to perform more then Nature doth, except it be by a divine and supernatural Power; much less to create things which never were before, for this is an action which onely belongs to God: The truth is, Art is but a Particular effect of Nature, and as it were, Nature's Mimick or Fool, in whose playing actions she sometimes takes delight; nay, your *Author* confesses it himself, when he calls[6] the *Art* of *Chymistry, Nature's emulating*

Ape, and *her Chamber-maid*, and yet he says, *she is now and then the Mistress of Nature*; which in my opinion doth not agree: for I cannot conceive how it is possible to be a Chambermaid, and yet to be the Mistress too; I suppose your *Author* believes, they justle sometimes each other out, or take by turns one anothers place. But whatever his opinion be, I am sure, that the Art of Fire cannot create and produce so, as Nature doth, nor dissolve substances so, as she doth, nor transform and transchange, as she doth, nor do any effect like Nature: And therefore I cannot so much admire this Art as others do, for it appears to me, rather to be a troubler, then an assistant to Nature, producing more Monsters then perfect Creatures; nay, it rather doth shut the Gates of Truth, then unlock the Gates of Nature: For how can Art inform us of Nature, when as it is but an effect of Nature? You may say, The cause cannot be better known then by its effect; for the knowledg of the effect, leads us to the knowledg of the cause. I answer, 'Tis true: but you will consider, that Nature is an Infinite cause, and has Infinite effects; and if you knew all the Infinite effects in nature, then perhaps you might come to some knowledg of the cause; but to know nature by one single effect, as art is, is impossible; nay, no man knows this particular effect as yet perfectly; For who is he, that has studied the art of fire so, as to produce all that this art may be able to afford? witness the Philosophers-stone. Besides, how is it possible to find out the onely cause by so numerous variations of the effects? Wherefore it is more easie, in my opinion, to know the various effects in Nature by studying the Prime cause, then by the uncertain study of the inconstant effects to arrive to the true knowledg of the prime cause; truly it is much easier to walk in a Labyrinth without a

Guide, then to gain a certain knowledg in any one art or natural effect, without Nature her self be the guide, for Nature is the onely Mistress and cause of all, which, as she has made all other effects, so she has also made arts for varieties sake; but most men study Chymistry more for imployment, then for profit; not but that I believe, there may be some excellent Medicines found out and made by that art, but the expence and labour is more then the benefit; neither are all those Medicines sure and certain, nor in all diseases safe; neither can this art produce so many medicines as there are several diseases in Nature, and for the Universal Medicine, and the Philosophers-stone or Elixir, which Chymists brag of so much; it consists rather in hope and expectation, then in assurance; for could Chymists find it out, they would not be so poor, as most commonly they are, but richer then *Solomon* was, or any Prince in the World, and might have done many famous acts with the supply of their vast Golden Treasures, to the eternal and immortal fame of their Art; nay, Gold being the Idol of this world, they would be worshipped as well for the sake of Gold, as for their splendorous Art; but how many have endeavored and laboured in vain and without any effect? *Gold is easier to be made, then to be destroyed*, says your *Author,*[7] but I believe one is as difficult or impossible, nay more, then the other; for there is more probability of dissolving or destroying a natural effect by Art, then of generating or producing one; for Art cannot go beyond her sphere of activity, she can but produce an artificial effect, and Gold is a natural Creature; neither were it Justice, that a particular creature of Nature should have as much power to act or work as Nature her self; but because neither Reason, nor Art has found out as yet such a

powerful opposite to Gold, as can alter its nature; men therefore conclude that it cannot be done. Your *Author* relates[8] to have seen the Gold-making stone, which he says, was of colour such, as Saffron is in its powder, but weighty and shining like unto powder'd Glass; one fourth part of one grain thereof, (a grain he reckons the six hundredth part of one ounce) being projected upon eight ounces of Quicksilver made hot in a Crucible, and straight way there were found eight ounces, and a little less then eleven grains of the purest Gold; therefore one onely grain of that powder had transchanged 19186 parts of Quicksilver, equal to it self, into the best Gold. Truly, *Madam*, I wish with all my heart, the poor Royalists had had some quantity of that powder; and I assure you, that if it were so, I my self would turn a Chymist to gain so much as to repair my Noble Husbands losses, that his noble family might flourish the better. But leaving Gold, since it is but a vain wish, I do verily believe, that some of the Chymical medicines do, in some desperate cases, many times produce more powerful and sudden effects then the medicines of Galenists, and therefore I do not absolutely condemn the art of Fire, as if I were an enemy to it; but I am of an opinion, that my Opinions in *Philosophy*, if well understood, will rather give a light to that art, then obscure its worth; for if Chymists did but study well the corporeal motions or actions of Natures substantial body; they would, by their observations, understand Nature better, then they do by the observation of the actions of their Art; and out of this consideration and respect, I should almost have an ambition, to become an Artist in Chymistry, were I not too lazie and tender for that imployment; but should I quit the one, and venture the other, I am so vain as to

perswade my self, I might perform things worthy my labour upon the ground of my own Philosophy, which is substantial Life, Sense, and Reason; for I would not study Salt, Sulphur, and Mercury, but the Natural motions of every Creature, and observe the variety of Natures actions. But, perchance, you will smile at my vain conceit, and, it may be, I my self, should repent of my pains unsuccessfully bestowed, my time vainly spent, my health rashly endangered, and my Noble Lords Estate unprofitably wasted, in fruitless tryals and experiments; Wherefore you may be sure, that I will consider well before I act; for I would not lose Health, Wealth, and Fame, and do no more then others have done, which truly is not much, their effects being of less weight then their words. But in the mean time, my study shall be bent to your service, and how to express my self worthily,

MADAM,

Your Ladiships

humble and faithful Servant.

[1] Ch. *called*, The Essay of a Meteor.

[2] *Ch.* Heat doth not digest efficiently, but excitingly.

[3] *Ch.* The ignorant natural Philosophy of *Aristotle* and *Galen*.

[4] *Ch.* A modern Pharmacopoly and dispensatory.

[5] *Ch.* Of the Power of Medicines.

[6] *Ch.* Heat doth not digest efficiently, but excitingly.

[7] *Ch.* The first Principles of the Chymists, not the Essences of the same are of the Army of Diseases.

[8] In the *Ch.* Of Life Eternal, and in the *Ch.* Of the Tree of Life.

XIV.

MADAM,

I have read your *Authors* discourse concerning *Sensation*,[1] but it was as difficult to me to understand it, ash was tedious to read it; Truly, all the business, might have been easily declared in a short Chapter, and with more clearness and perspicuity: For Sensation, is nothing else but the action of sense proceeding from the corporeal sensitive motions, which are in all Creatures or parts of Nature, and so all have sense and sensation, although not alike after one and the same manner, but some more, some less, each according to the nature and propriety of its figure. But your *Author* speaks of *Motion without Sense, and Sense without Motion*, which is a meer impossibility; for there is not, nor cannot be any Motion in Nature without Sense, nor any Sense without Motion; there being no Creature without self-motion, although not always perceptible by us, or our external senses; for all motion is not exteriously local, and visible. Wherefore, not any part of Nature, according to my opinion, wants Sense and Reason, Life and Knowledg; but not such a substanceless Life as your *Author* describes, but a substantial, that is a corporeal Life. Neither is Light the principle of Motion, but Motion, is the principle of Light: Neither is Heat the principle of Motion, but its effect as well as Cold is; for I cannot perceive that Heat should be

more active then Cold. Neither is there any such thing as Unsensibleness in Nature, except it be in respect of some particular Sensation in some particular Figure: As for example, when an Animal dies, or its Figure is dissolved from the Figure of an Animal; we may say it hath not animal sense or motion, but we cannot say, it hath no sense or motion at all; for as long as Matter is in Nature, Sense and Motion will be; so that it is absurd and impossible to believe, or at least to think, that Matter, as a body, can be totally deprived of Life, Sense, and Motion, or that Life can perish and be corrupted, be it the smallest part of Matter conceivable, and the same turned or changed into millions of Figures; for the Life and Soul of Nature is self-moving Matter, which by Gods Power, and leave, is the onely Framer and Maker, as also the Dissolver and Transformer of all Creatures in Nature, making as well Light, Heat, and Cold, Gas, Blas, and Ferments, as all other natural Creatures beside, as also Passions, Appetites, Digestions, Nourishments, Inclination, Aversion, Sickness and Health; nay, all Particular Ideas, Thoughts, Fancies, Conceptions, Arts, Sciences, &c. In brief, it makes all that is to be made in Nature. But many great Philosophers conceive Nature to be fuller of Intricacy, Difficulty, and Obscurity, then she is, puzling themselves about her ordinary actions, which yet are easie and free, and making their arguments hard, constrained, and mystical, many of them containing neither sense nor reason; when as, in my opinion, there is nothing else to be studied in Nature, but her substance and her actions. But I will leave them to their own Fancies and Humors, and say no more, but rest,

Madam,

Your humble and

faithful Servant.

[1] Of the Disease of the Stone. *Ch.* 9.

XV.

MADAM,

Concerning Sympathy and Antipathy, and attractive or magnetick Inclinations, which some do ascribe to the influence of the Stars, others to an unknown Spirit as the Mover, others to the Instinct of Nature, hidden Proprieties, and certain formal Vertues; but your *Author*,[1] doth attribute to *directing Ideas, begotten by their Mother Charity, or a desire of Good Will*, and calls it[2] a *Gift naturally inherent in the Archeusses of either part*: If you please to have my opinion thereof, I think they are nothing else but plain ordinary Passions and Appetites. As for example: I take Sympathy, as also Magnetisme or attractive Power, to be such agreeable Motions in one part or Creature, as do cause a Fancy, love and desire to some other part or Creature; and Antipathy, when these Motions are disagreeable, and produce contrary effects, as dislike, hate and aversion to some part or Creature. And as there are many sorts of such motions, so there are many sorts of Sympathyes and Antipathyes, or Attractions and Aversions, made several manners or ways; For in some subjects, Sympathy requires a certain distance; as for example, in Iron and the Loadstone; for if the Iron be too far off, the Loadstone cannot exercise its power, when as in other subjects, there is no need of any such certain distance, as betwixt the Needle and the North-pole,

as also the Weapon-salve; for the Needle will turn it self towards the North, whether it be near or far off from the North-pole; and so, be the Weapon which inflicted the wound, never so far from the wounded Person, as they say, yet it will nevertheless do its effect: But yet there must withal be some conjunction with the blood; for as your *Author* mentions,[3] the Weapon shall be in vain anointed with the Unguent, unless it be made bloody, and the same blood be first dried on the same Weapon. Likewise the sounding of two eights when one is touched, must be done within a certain distance: the same may be said of all Infectious and catching Diseases amongst Animals, where the Infection, be it the Infected Air, or a Poysonous Vapour, or any thing else, must needs touch the body, and enter either through the Mouth, or Nostrils, or Ears, or Pores of the body; for though the like Antipathies of Infectious Diseases, as of the Plague, may be in several places far distant and remote from each other at one and the same time, yet they cannot infect particular Creatures, or Animals, without coming near, or without the sense of Touch: For example; the Plague may be in the *East Indies*, and in this Kingdom, at one and the same time, and yet be strangers to each other; for although all Men are of Mankind, yet all have not Sympathy or Antipathy to each other; the like of several Plagues, although they be of the same kind of disease, yet, being in several places at one time, they may not be a kin to each other, nor one be produced by the other, except the Plague be brought over out of an infected Country, into a sound Country, by some means or other. And thus some Sympathy and Antipathy is made by a close conjunction, or corporeal uniting of parts, but not all; neither is it required, that all Sympathy and Antipathy must be

mutual, or equally in both Parties, so that that part or party, which has a Sympathetical affection or inclination to the other, must needs receive the like sympathetical affection from that part again; for one man may have a sympathetical affection to another man, when as this man hath an antipathetical aversion to him; and the same may be, for ought we know, betwixt Iron and the Loadstone, as also betwixt the Needle and the North; for the Needle may have a sympathy towards the North, but not again the North towards the Needle; and so may the Iron have towards the Loadstone, but not again the Loadstone towards the Iron: Neither is Sympathy or Antipathy made by the issuing out of any invisible rayes, for then the rays betwixt the North and the Needle would have a great way to reach: But a sympathetical inclination in a Man towards another, is made either by sight, or hearing; either present, or absent: the like of infectious Diseases. I grant, that if both Parties do mutually affect each other, and their motions be equally agreeable; then the sympathy is the stronger, and will last the longer, and then there is a Union, Likeness, or Conformableness, of their Actions, Appetites, and Passions; For this kind of Sympathy works no other effects, but a conforming of the actions of one party, to the actions of the other, as by way of Imitation, proceeding from an internal sympathetical love and desire to please; for Sympathy doth not produce an effect really different from it self, or else the sympathy betwixt Iron and the Loadstone would produce a third Creature different from themselves, and so it would do in all other Creatures. But as I mentioned above, there are many sorts of attractions in Nature, and many several and various attractions onely in one sort of Creatures, nay, so many in one particular as not to

be numbred; for there are many Desires, Passions, and Appetites, which draw or intice a man to something or other, as for example, to Beauty, Novelty, Luxury, Covetousness, and all kinds of Vertues and Vices; and there are many particular objects in every one of these, as for example, in Novelty. For there are so many several desires to Novelty, as there are Senses, and so many Novelties that satisfie those desires, as a Novelty to the Ear, a Novelty to the Sight, to Touch, Taste, and Smell; besides in every one of these, there are many several objects; To mention onely one example, for the novelty of Sight; I have seen an Ape, drest like a Cavalier, and riding on Horse-back with his sword by his side, draw a far greater multitude of People after him, then a Loadstone of the same bigness of the Ape would have drawn Iron; and as the Ape turn'd, so did the People, just like as the Needle turns to the North; and this is but one object in one kind of attraction, *viz.* Novelty: but there be Millions of objects besides. In like manner good cheer draws abundance of People, as is evident, and needs no Demonstration. Wherefore, as I said in the beginning, Sympathy is nothing else but natural Passions and Appetites, as Love, Desire, Fancy, Hunger, Thirst, &c. and its effects are Concord, Unity, Nourishment, and the like: But Antipathy is Dislike, Hate, Fear, Anger, Revenge, Aversion, Jealousie, &c. and its effects are Discord, Division, and the like. And such an Antipathy is between a Wolf and a Sheep, a Hound and a Hare, a Hawk and a Partridg, &c. For this Antipathy is nothing else but fear in the Sheep to run away from the Wolf, in the Hare to run from the Hound, and in the Partridg to flie from the Hawk; for Life has an Antipathy to that which is named Death; and the Wolf's stomack hath a sympathy to food,

which causes him to draw neer, or run after those Creatures he has a mind to feed on. But you will say, some Creatures will fight, and kill each other, not for Food, but onely out of an Antipathetical nature. I answer: When as Creatures fight, and endeavour to destroy each other, if it be not out of necessity, as to preserve and defend themselves from hurt or danger, then it is out of revenge, or anger, or ambition, or jealousie, or custom of quarrelling, or breeding. As for example: Cocks of the Game, that are bred to fight with each other, and many other Creatures, as Bucks, Staggs, and the like, as also Birds, will fight as well as Men, and seek to destroy each other through jealousie; when as, had they no Females amongst them, they would perhaps live quiet enough, rather as sympathetical Friends, then antipathetical Foes; and all such Quarrels proceed from a sympathy to their own interest. But you may ask me, what the reason is, that some Creatures, as for example, Mankind, some of them, will not onely like one sort of meat better then another of equal goodness and nourishment, but will like and prefer sometimes a worse sort of meat before the best, to wit, such as hath neither a good taste nor nourishment? I answer: This is nothing else, but a particular, and most commonly an inconstant Appetite; for after much eating of that they like best, especially if they get a surfeit, their appetite is chang'd to aversion; for then all their feeding motions and parts have as much, if not more antipathy to those meats, as before they had a sympathy to them. Again, you may ask me the reason, why a Man seeing two persons together, which are strangers to him, doth affect one better then the other; nay, if one of these Persons be deformed or ill-favoured, and the other well-shaped and handsom; yet it may chance, that the deformed

Person shall be more acceptable in the affections and eyes of the beholder, then he that is handsom? I answer: There is no Creature so deformed, but hath some agreeable and attractive parts, unless it be a Monster, which is never loved, but for its rarity and novelty, and Nature is many times pleased with changes, taking delight in variety: and the proof that such a sympathetical affection proceeds from some agreeableness of Parts, is, that if those persons were vail'd, there would not proceed such a partial choice or judgment from any to them. You may ask me further, whether Passion and Appetite are also the cause of the sympathy which is in the Loadstone towards Iron, and in the Needle towards the North? I answer, Yes: for it is either for nourishment, or refreshment, or love and desire of association, or the like, that the Loadstone draws Iron, and the Needle turns towards the North. The difference onely betwixt the sympathy in the Needle towards the North, and betwixt the sympathy in the Loadstone towards the Iron is, that the Needle doth always turn towards the North, but the Loadstone doth not always draw Iron: The reason is, because the sympathy of the Needle towards the North requires no certain distance, as I said in the beginning; and the North-pole continuing constantly in the same place, the Needle knows whither to turn; when as the sympathy between the Loadstone and Iron requires a certain distance, and when the Loadstone is not within this compass or distance, it cannot perform its effect, to wit, to draw the Iron, but the effect ceases, although the cause remains in vigour. The same may be said of the Flower that turns towards the Sun; for though the Sun be out of sight, yet the Flower watches for the return of the Sun, from which it receives benefit: Like as faithful Servants watch and

wait for their Master, or hungry Beggers at a Rich man's door for relief; and so doth the aforesaid Flower; nay, not the Flower onely, but any thing that has freedom and liberty of motion, will turn towards those Places or Creatures whence it expects relief. Concerning ravenous Beasts that feed on dead Carcasses, they, having more eager appetites then food, make long flights into far distant Countries to seek food to live on; but surely, I think, if they had food enough at home, although not dead Carcasses, they would not make such great Journies; or if a battel were fought, and many slain, and they upon their journey should meet with sufficient food, they would hardly travel further before they had devoured that food first: But many Birds travel for the temper of the Air, as well as for food, witness Woodcocks, Cranes, Swallows, Fieldfares, and the like; some for cold, some for hot, and some for temperate Air. And as for such Diseases as are produced by conceit and at distance, the cause is, the fearfulness of the Patient, which produces Irregularities in the Mind, and these occasion Irregularities in the Body, which produce such a disease, as the Mind did fearfully apprehend; when as without that Passion and Irregularity, the Patient would, perhaps, not fall sick of that disease, But to draw towards an end, I'le answer briefly to your *Authors* alledged example[4] which he gives of Wine, that it is troubled while the Vine flowreth: The reason, in my opinion, may perhaps be, that the Wine being the effect of the Vine, and proceeding from its stock as the producer, has not so quite alter'd Nature, as not to be sensible at all of the alteration of the Vine; For many effects do retain the proprieties of their causes; for example, many Children are generated, which have the same

proprieties of their Parents, who do often propagate some or other vertuous or vicious qualities with their off-spring; And this is rather a proof that there are sensitive and rational motions, and sensitive and rational knowledge in all Creatures, and so in Wine, according to the nature or propriety of its Figure; for without motion, sense and reason, no effect could be; nor no sympathy or antipathy. But it is to be observed, that many do mistake the true Causes, and ascribe an effect to some cause, which is no more the cause of that same effect, then a particular Creature is the cause of Nature; and so they are apt to take the Fiddle for the hot Bricks, as if the Fiddle did make the Ass dance, when as it was the hot Bricks that did it; for several effects may proceed from one cause, and one effect from several causes; and so in the aforesaid example, the Wine may perhaps be disturbed by the alteration of the weather at the same time of the flowring of the Vines; and so may Animals, as well as Vegetables, and other Creatures, alter alike at one and the same point of time, and yet none be the cause of each others alteration. And thus, to shut up my discourse, I repeat again, that sympathy and antipathy are nothing else but ordinary Passions and Appetites amongst several Creatures, which Passions are made by the rational animate Matter, and the Appetites by the sensitive, both giving such or such motions, to such or such Creatures; for cross motions in Appetites and passions make Antipathy, and agreeable motions in Appetites and Passions make Sympathy, although the Creatures be different, wherein these motions, Passions and Appetites are made; and as without an object a Pattern cannot be, so without inherent or natural Passions and Appetites there can be no Sympathy or Antipathy: And there being also such

Sympathy betwixt your Ladiship and me, I think my self the happiest Creature for it; and shall make it my whole study to imitate your Ladiship, and conform all my actions to the rule and pattern of yours, as becomes,

Madam,

Your Ladiships

faithful Friend, and humble Servant.

[1] *Ch.* Of Sympathetical Mediums.

[2] In the Plague-Grave.

[3] In the Magnetick care of Wounds.

[4] *Ch.* Of the Magnetick Power.

XVI.

MADAM,

My opinion of Witches and Witchcraft, (of whose Power and strange effects your *Author* is pleased to relate many stories) in brief, is this; My Sense and Reason doth inform me, that there is Natural Witchcraft, as I may call it, which is Sympathy, Antipathy, Magnetisme, and the like, which are made by the sensitive and rational motions between several Creatures, as by Imagination, Fancy, Love, Aversion, and many the like; but these Motions, being sometimes unusual and strange to us, we not knowing their causes, (For what Creature knows all motions in Nature, and their ways?) do stand amazed at their working power; and by reason we cannot assign any Natural cause for them, are apt to ascribe their effects to the Devil; but that there should be

any such devillish Witchcraft, which is made by a Covenant and Agreement with the Devil, by whose power Men do enchaunt or bewitch other Creatures, I cannot readily believe. Certainly, I dare say, that many a good, old honest woman hath been condemned innocently, and suffered death wrongfully, by the sentence of some foolish and cruel Judges, meerly upon this suspition of Witchcraft, when as really there hath been no such thing; for many things are done by slights or juggling Arts, wherein neither the Devil nor Witches are Actors. And thus an Englishman whose name was *Banks*, was like to be burnt beyond the Seas for a Witch, as I have been inform'd, onely for making a Horse shew tricks by Art; There have been also several others; as one that could vomit up several kinds of Liquors and other things: and another who did make a Drum beat of it self. But all these were nothing but slights and jugling tricks; as also the talking and walking Bell; and the Brazen-Head which spake these words, *Time was, Time is*, and *Time is past*, and so fell down; Which may easily have been performed by speaking through a Pipe conveighed into the said head: But such and the like trifles will amaze many grave and wise men, when they do not know the manner or way how they are done, so as they are apt to judg them to be effected by Witchcraft or Combination with the Devil. But, as I said before, I believe there is Natural Magick; which is, that the sensitive and rational Matter oft moves such a way, as is unknown to us; and in the number of these is also the bleeding of a murdered body at the presence of the Murderer, which your *Author,* mentions;[1] for the corporeal motions in the murthered body may move so, as to work such effects, which are more then ordinary; for the animal Figure, being not so quickly dissolved, the

animal motions are not so soon altered, (for the dissolving of the Figure is nothing else but an alteration of its Motions;) and this dissolution is not done in an instant of time, but by degrees: But yet I must confess, it is not a common action in Nature, for Nature hath both common, and singular or particular actions: As for example, Madness, natural Folly, and many the like, are but in some particular persons; for if those actions were general, and common, then all, or most men would be either mad, or fools, but, though there are too many already, yet all men are not so; and so some murthered bodies may bleed or express some alterations at the presence of the Murtherer, but I do not believe, that all do so; for surely in many, not any alteration will be perceived, and others will have the same alterations without the presence of the Murtherer. And thus you see, *Madam*, that this is done naturally, without the help of the Devil; nay, your *Author* doth himself confess it to be so; for, says he, *The act of the Witch is plainly Natural; onely the stirring up of the vertue or power in the Witch comes from Satan.* But I cannot understand what your *Author* means, by the departing of spiritual rays from the Witch into Man, or any other animal, which she intends to kill or hurt; nor how Spirits wander about in the Air, and have their mansions there; for men may talk as well of impossibilities, as of such things which are not composed of Natural Matter: If man were an Incorporeal Spirit himself, he might, perhaps, sooner conceive the essence of a Spirit, as being of the same Nature; but as long as he is material, and composed of Natural Matter, he might as well pretend to know the Essence of God, as of an Incorporeal Spirit. Truly, I must confess, I have had some fancies oftentimes of such pure and subtil substances, purer and subtiler

then the Sky or Æthereal substance is, whereof I have spoken in my Poetical Works; but these substances, which I conceived within my fancy, were material, and had bodies, though never so small and subtil; for I was never able to conceive a substance abstracted from all Matter, for even Fancy it self is material, and all Thoughts and Conceptions are made by the rational Matter, and so are those which Philosophers call Animal Spirits, but a material Fancy cannot produce immaterial effects, that is, Ideas of Incorporeal Spirits: And this was the cause that in the first impression of my *Philosophical Opinions*, I named the sensitive and rational Matter, sensitive and rational Spirits, because of its subtilty, activity and agility; not that I thought them to be immaterial, but material Spirits: but since Spirits are commonly taken to be immaterial, and Spirit and Body are counted opposite to one another, to prevent a misapprehension in the thoughts of my Readers, as if I meant Incorporeal Spirits, I altered this expression in the last Edition, and call'd it onely sensitive and rational Matter, or, which is all one, sensitive and rational corporeal motions. You will say, perhaps, That the divine Soul in Man is a Spirit: but I desire you to call to mind what I oftentimes have told you, to wit, that when I speak of the Soul of Man, I mean onely the Natural, not the Divine Soul; which as she is supernatural, so she acts also supernaturally; but all the effects of the natural Soul, of which I discourse, are natural, and not divine or supernatural. But to return to Magnetisme; I am absolutely of opinion, that it is naturally effected by natural means, without the concurrence of Immaterial Spirits either good or bad, meerly by natural corporeal sensitive and rational motions; and, for the most part, there must be a due approach

between the Agent and the Patient, or otherwise the effect will hardly follow, as you may see by the Loadstone and Iron; Neither is the influence of the Stars performed beyond a certain distance, that is, such a distance as is beyond sight or their natural power to work; for if their light comes to our Eyes, I know no reason against it, but their effects may come to our bodies. And as for infectious Diseases, they come by a corporeal imitation, as by touch, either of the infected air, drawn in by breath, or entring through the pores of the Body, or of some things brought from infected places, or else by hearing; but diseases, caused by Conceit, have their beginning, as all alterations have, from the sensitive and rational Motions, which do not onely make the fear and conceit, but also the disease; for as a fright will sometimes cure diseases, so it will sometimes cause diseases; but as I said, both fright, cure, and the disease, are made by the rational and sensitive corporeal motions within the body, and not by Supernatural Magick, as Satanical Witchcraft, entering from without into the body by spiritual rays. But having discoursed hereof in my former Letter, I will not trouble you with an unnecessary repetition thereof; I conclude therefore with what I begun, *viz.* that I believe natural Magick to be natural corporeal motions in natural bodies: Not that I say, Nature in her self is a Magicianess, but it may be called natural Magick or Witchcraft, meerly in respect to our Ignorance; for though Nature is old, yet she is not a Witch, but a grave, wise, methodical Matron, ordering her Infinite family, which are her several parts, with ease and facility, without needless troubles and difficulties; for these are onely made through the ignorance of her several parts or particular Creatures, not understanding their

Mistress, Nature, and her actions and government, for which they cannot be blamed; for how should a part understand the Infinite body, when it doth not understand it self; but Nature understands her parts better then they do her. And so leaving Wise Nature, and the Ignorance of her Particulars, I understand my self so far that I am,

Madam,

Your humble and

faithful Servant.

[1] *Ch.* Of the Magnetick cure of wounds.

XVII.

MADAM,

I am not of your *Authors*[1] opinion, That *Time hath no relation to Motion, but that Time and Motion are as unlike and different from each other as Finite from Infinite, and that it hath its own essence or being Immoveable, Unchangeable, Individable, and unmixed with things, nay, that Time is plainly the same with Eternity*. For, in my opinion, there can be no such thing as Time in Nature, but what Man calls Time, is onely the variation of natural motions; wherefore Time, and the alteration of motion, is one and the same thing under two different names; and as Matter, Figure, and Motion, are inseparable, so is Time inseparably united, or rather the same thing with them, and not a thing subsisting by it self; and as long as Matter, Motion and Figure have been existent, so long hath Time; and as long as they last, so long doth Time. But when I say, Time is the variation of motion, I do not mean the motion of the Sun or Moon, which makes Days, Months, Years, but the general motions or actions of Nature, which are the ground of Time; for were there no Motion, there would be no Time; and since Matter is dividable, and in parts, Time is so too; neither hath Time any other Relation to Duration, then what Nature her self hath. Wherefore your *Author* is mistaken, when he says, Motion is made in Time, for Motion makes Time, or rather is one and the same with Time; and Succession is no more a stranger to Motion, then

Motion is to Nature, as being the action of Nature, which is the Eternal servant of God. *But*, says he, *Certain Fluxes of Formerlinesses and Laternesses, have respect unto frail moveable things in their motions, wherewith they hasten unto the appointed ends of their period, and so unto their own death or destruction; but what relation hath all that to Time: for therefore also ought Time to run with all and every motion? Verily so there should be as many times and durations as there are motions.* I answer: To my Reason, there are as many times and durations as there are motions; for neither time nor duration can be separated from motion, no more then motion can be separated from them, being all one. But Time is not Eternity, for Eternity hath no change, although your *Author* makes Time and Eternity all one, and a being or substance by it self: Yet I will rather believe *Solomon*, then him, who says, that there is a time to be merry, and a time to be sad; a time to mourn, and a time to rejoyce, and so forth: making so many divisions of Time as there are natural actions; whenas your *Author* makes natural actions strangers to Nature, dividing them from their substances: Which seemeth very improbable in the opinion of,

Madam,

Your Ladiships

faithful Friend, and humble Servant.

[1] In his Treatise of Time.

XVIII.

MADAM,

Your *Authors*[1] opinion is, That *a bright burning Iron doth not burn a dead Carcass after an equal manner as it doth a live one; For in live bodies*, saith he, *it primarily hurts the sensitive Soul, the which therefore being impatient, rages after a wonderful manner, doth by degrees resolve and exasperate its own and vital liquors into a sharp poyson, and then contracts the fibres of the flesh, and turns them into an escharre, yea, into the way of a coal; but a dead Carcass is burnt by bright burning Iron, no otherwise, then if Wood, or if any other unsensitive thing should be; that is, it burns by a proper action of the fire, but not of the life.* To which opinion, I answer: That my Reason cannot conceive any thing to be without life, and so neither without sense; for whatsoever hath self-motion, has sense and life; and that self-motion is in every Creature, is sufficiently discoursed of in my former Letters, and in my *Philosophical Opinions*; for self-motion, sense, life, and reason, are the grounds and principles of Nature, without which no Creature could subsist. I do not say, That there is no difference between the life of a dead Carcass, and a live one, for there is a difference between the lives of every Creature; but to differ in the manner of life, and to have neither life nor sense at all, are quite different things: But your *Author* affirms himself, that all things have a certain sense of feeling, when he speaks of Sympathy and Magnetisme, and yet he denies that they have life: And others again, do grant life to some Creatures, as to Vegetables, and not sense. Thus they vary in their Opinions, and divide sense, life, and motion, when all is but one and the same thing; for no life is without sense and motion, nor no motion without sense and life; nay, not without Reason; for the chief Architect of all Creatures, is sensitive and rational Matter. But the mistake is, that most men, do not, or

will not conceive, that there is a difference and variety of the corporeal sensitive and rational motions in every Creature; but they imagine, that if all Creatures should have life, sense, and reason, they must of necessity have all alike the same motions, without any difference; and because they do not perceive the animal motions in a Stone or Tree, they are apt to deny to them all life, sense, and motion. Truly, *Madam*, I think no man will be so mad, or irrational, as to say a Stone is an Animal, or an Animal is a Tree, because a Stone and Tree have sense, life, and motion; for every body knows, that their Natural figures are different, and if their Natures be different, then they cannot have the same Motions, for the corporeal motions do make the nature of every particular Creature, and their differences; and as the corporeal motions act, work, or move, so is the nature of every figure, Wherefore, nobody, I hope, will count me so senseless, that I believe sense and life to be after the like manner in every particular Creature or part of Nature; as for example, that a Stone or Tree has animal motions, and doth see, touch, taste, smell and hear by such sensitive organs as an Animal doth; but, my opinion is, that all Sense is not bound up to the sensitive organs of an Animal, nor Reason to the kernel of a man's brain, or the orifice of the stomack, or the fourth ventricle of the brain, or onely to a mans body; for though we do not see all Creatures move in that manner as Man or Animals do, as to walk, run, leap, ride, &c. and perform exterior acts by various local motions; nevertheless, we cannot in reason say, they are void and destitute of all motion; For what man knows the variety of motions in Nature: Do not we see, that Nature is active in every thing, yea, the least of her Creatures. For example; how some things

do unanimously conspire and agree, others antipathetically flee from each other; and how some do increase, others decrease; some dissolve, some consist, and how all things are subject to perpetual changes and alterations; and do you think all this is done without motion, life, sense, and reason? I pray you consider, *Madam*, that there are internal motions as well as external, alterative as well as constitutive; and several other sorts of motions not perceptible by our senses, and therefore it is impossible that all Creatures should move after one sort of motions. But you will say, Motion may be granted, but not Life, Sense, and Reason. I answer, I would fain know the reason why not; for I am confident that no man can in truth affirm the contrary: What is Life, but sensitive Motion? what is Reason, but rational motion? and do you think, *Madam*, that any thing can move it self without life, sense and reason? I, for my part, cannot imagine it should; for it would neither know why, whither, nor what way, or how to move. But you may reply, Motion may be granted, but not self-motion; and life, sense, and reason, do consist in self-motion. I answer: this is impossible; for not any thing in Nature can move naturally without natural motion, and all natural motion is self-motion. If you say it may be moved by another; My answer is, first, that if a thing has no motion in it self, but is moved by another which has self-motion, then it must give that immovable body motion of its own, or else it could not move, having no motion at all; for it must move by the power of motion, which is certain; and then it must move either by its own motion, or by a communicated or imparted motion; if by a communicated motion, then the self-moveable thing or body must transfer its own motion into the immoveable, and lose so much of its own motion as

it gives away, which is impossible, as I have declared heretofore at large, unless it do also transfer its moving parts together with it, for motion cannot be transfered without substance. But experience and observation witnesseth the contrary. Next, I say, if it were possible that one body did move another, then most part of natural Creatures, which are counted immoveable of themselves, or inanimate, and destitute of self-motion, must be moved by a forced or violent, and not by a natural motion; for all motion that proceeds from an external agent or moving power, is not natural, but forced, onely self-motion is natural; and then one thing moving another in this manner, we must at last proceed to such a thing which is not moved by another, but hath motion in it self, and moves all others; and, perhaps, since man, and the rest of animals have self-motion, it might be said, that the motions of all other inanimate Creatures, as they call them, doth proceed from them; but man being so proud, ambitious, and self-conceited, would soon exclude all other animals, and adscribe this power onely to himself, especially since he thinks himself onely endued with Reason, and to have this prerogative above all the rest, as to be the sole rational Creature in the World. Thus you see, *Madam*, what confusion, absurdity, and constrained work will follow from the opinion of denying self-motion, and so consequently, life and sense to natural Creatures. But I, having made too long a digression, will return to your *Authors* discourse: And as for that he says, *A dead Carcass burns by the proper action of the fire*, I answer, That if the dissolving motions of the fire be too strong for the consistent motions of that body which fire works upon, then fire is the cause of its alteration; but if the consistent motions of the body be too strong for the

dissolving motions of the fire, then the fire can make no alteration in it. Again: he says, *Calx vive, at long as it remains dry, it gnaws not a dead Carcass; but it presently gnaws live flesh, and makes an escharre; and a dead carcass is by lime wholly resolved into a liquor, and is combibed, except the bone and gristle thereof; but it doth not consume live flesh into a liquor, but translates it into an escharre*. I will say no more to this, but that I have fully enough declared my opinion before, that the actions or motions of life alter in that which is named a dead Carcass, from what they were in that which is called a Living body; but although the actions of Life alter, yet life is not gone or annihilated; for life is life, and remains full the same, but the actions or motions of life change and differ in every figure; and this is the cause that the actions of Fire, Time, and *Calx-vive*, have not the same effects in a dead Carcass, as in a living Body; for the difference of their figures, and their different motions, produce different effects in them; and this is the cause, that one and the same fire doth not burn or act upon all bodies alike: for some it dissolves, and some not; and some it hardens, and some it consumes; and some later, some sooner: For put things of several natures into the same Fire, and you will see how they will burn, or how fire will act upon them after several manners; so that fire cannot alter the actions of several bodies to its own blas; and therefore, since a living and a dead Body (as they call them) are not the same, (for the actions or motions of life, by their change or alteration, have altered the nature or figure of the body) the effects cannot be the same; for a Carcass has neither the interior nor exterior motions of that figure which it was before it was a Carcass, and so the figure is quite alter'd from what it was, by the change and

alteration of the motions. But to conclude, the motions of the exterior Agent, and the motions of the Patient, do sometimes joyn and unite, as in one action, or to one effect, and sometimes the motions of the Agent are onely an occasion, but not a co-workman in the production of such or such an effect, as the motions of the Patient do work; neither can the motions of the Agent work totally and meerly of themselves, such or such effects, without the assistance or concurrence of the motions of the Patient, but the motions of the Patient can; and there is nothing that can prove more evidently that Matter moves it self, and that exterior agents or bodies are onely an occasion to such or such a motion in another body, then to see how several things put into one and the same fire, do alter after several modes; which shews, it is not the onely action of fire, but the interior motions of the body thrown into the fire, which do alter its exterior form or figure. And thus, I think I have said enough to make my opinions clear, that they may be the better understood: which is the onely aim and desire of,

Madam,

Your humble and

faithful Servant.

[1] Of the disease of the Stone, *Ch.* 9.

XIX.

MADAM,

Your *Author* is not a Natural, but a Divine Philosopher, for in many places he undertakes to

interpret the Scripture; wherein, to my judgment, he expresseth very strange opinions; you will give me leave at this present to note some few. First, in one place,[1] interpreting that passage of Scripture, where it is said,[2] That the *sons of God took to wives the daughters of men*: He understands by the Sons of God, those which came from the Posterity of *Adam*, begotten of a Man and a Woman, having the true Image of God: But by the Daughters of Men, he understands Monsters; that is, those which through the Devils mediation, were conceived in the womb of a Junior Witch or Sorceress: For when Satan could find no other ways to deprive all the race of Men of the Image of God, and extinguish the Immortal mind out of the flock of *Adams* Posterity, he stirr'd up detestable copulations, from whence proceeded savage Monsters, as Faunes, Satyrs, Sylphs, Gnomes, Nymphs, Driades, Najades, Nereides, &c. which generated their off-springs amongst themselves, and their posterities again contracted their copulations amongst themselves, and at length began Wedlocks with Men; and from this copulation of Monsters and Nymphs, they generated strong Gyants. Which Interpretation, how it agrees with the Truth of Scripture, I will leave to Divines to judg: But, for my part, I cannot conceive, how, or by what means or ways, those Monsters and Nymphs were produced or generated. Next, his opinion is, That *Adam* did ravish *Eve*, and defloured her by force, calling him the first infringer of modesty, and deflourer of a Virgin; and that therefore God let hair grow upon his chin, cheeks, and lips, that he might be a Compere, Companion, and like unto many four-footed Beasts, and might bear before him the signature of the same; and that, as he was lecherous after their manner, he might also shew a rough countenance by his hairs;

which whether it be so, or not, I cannot tell, neither do I think your *Author* can certainly know it himself; for the Scripture makes no mention of it: But this I dare say, that *Eves* Daughters prove rather the contrary, *viz.* that their Grandmother did freely consent to their Grandfather. Also he says, That God had purposed to generate Man by the overshadowing of the Holy Spirit, but Man perverted the Intent of God; for had *Adam* not sinned, there had been no generation by the copulation of a Man and Woman, but all the off-springs had appear'd out of *Eve*, a Virgin, from the Holy Spirit, as conceived from God, and born of a woman, a virgin, To which, I answer, first, That it is impossible to know the Designs and secret purposes of God: Next, to make the Holy Spirit the common Generator of all Man-kind, is more then the Scripture expresses, and any man ought to say: Lastly, it is absurd, in my opinion, to say, that frail and mortal Men, can pervert the intent and designs of the Great God; or that the Devil is able to prevent God's Intent, (as his expression is in the same place.) But your *Author* shews a great affection to the Female Sex, when he says, that God doth love Women before Men, and that he has given them a free gift of devotion before men; when as others do lay all the fault upon the Woman, that she did seduce the Man; however in expressing his affection for Women, your *Author* expresses a partiality in God. And, as for his opinion, that God creates more Daughters then Males, and that more Males are extinguished by Diseases, Travels, Wars, Duels, Shipwracks, and the like: Truly, I am of the same mind, that more Men are kill'd by Travels, Wars, Duels, Shipwracks, &c. then Women; for Women never undergo these dangers, neither do so many kill themselves with intemperate Drinking, as Men do;

but yet I believe, that Death is as general, and not more favourable to Women, then he is to Men; for though Women be not slain in Wars like Men, (although many are, by the cruelty of Men, who not regarding the weakness of their sex, do inhumanely kill them,) yet many do die in Child-bed, which is a Punishment onely concerning the Female sex. But to go on in your *Authors* Interpretations: His knowledg of the Conception of the Blessed Virgin, reaches so far, as he doth not stick to describe exactly, not onely how the blessed Virgin conceiv'd in the womb, but first in the heart, or the sheath of the heart; and then how the conception removed from the heart, into the womb, and in what manner it was performed. Certainly, *Madam*, I am amazed, when I see men so conceited with their own perfections and abilities, (I may rather say, with their imperfections and weaknesses) as to make themselves God's privy Councilors, and his Companions, and partakers of all the sacred Mysteries, Designs, and hidden secrets of the Incomprehensible and Infinite God. O the vain Presumption, Pride, and Ambition of wretched Men! There are many more such expressions in your *Authors* works, which, in my opinion, do rather detract from the Greatness of the Omnipotent God, then manifest his Glory: As for example; That Man is the clothing of the Deity, and the sheath of the Kingdom of God, and many the like: which do not belong to God; for God is beyond all expression, because he is Infinite; and when we name God, we name an Unexpressible, and Incomprehensible Being; and yet we think we honour God, when we express him after the manner of corporeal Creatures. Surely, the noblest Creature that ever is in the World, is not able to be compared to the most Glorious God, but whatsoever comparison is made, detracts from his

Glory: And this, in my opinion, is the reason, that God forbad any likeness to be made of him, either in Heaven, or upon Earth, because he exceeds all that we might compare or liken to him. And as men ought to have a care of such similizing expressions, so they ought to be careful in making Interpretations of the Scripture, and expressing more then the Scripture informs; for what is beyond the Scripture, is Man's own fancy; and to regulate the Word of God after Man's fancy, at least to make his fancy equal with the Word of God, is Irreligious. Wherefore, men ought to submit, and not to pretend to the knowledg of God's Counsels and Designs, above what he himself hath been pleased to reveal: as for example, to describe of what Figure God is, and to comment and descant upon the Articles of Faith; as how Man was Created; and what he did in the state of Innocence; how he did fall; and what he did after his fall: and so upon the rest of the Articles of our Creed, more then the Scripture expresses, or is conformable to it. For if we do this, we shall make a Romance of the holy Scripture, with our Paraphrastical descriptions: which alas! is too common already. The truth is, Natural Philosophers, should onely contain themselves within the sphere of Nature, and not trespass upon the Revelation of the Scripture, but leave this Profession to those to whom it properly belongs. I am confident, a Physician, or any other man of a certain Profession, would not take it well, if others, who are not professed in that Art, should take upon them to practise the same: And I do wonder, why every body is so forward to encroach upon the holy Profession of Divines, which yet is a greater presumption, then if they did it upon any other; for it contains not onely a most hidden and mystical knowledg, as treating of the Highest Subject, which

is the most Glorious, and Incomprehensible God, and the salvation of our Souls; but it is also most dangerous, if not interpreted according to the Holy Spirit, but to the byass of man's fancy. Wherefore, *Madam*, I am afraid to meddle with Divinity in the least thing, lest I incur the hazard of offending the divine Truth, and spoil the excellent Art of Philosophying; for a Philosophical Liberty, and a Supernatural Faith, are two different things, and suffer no co-mixture; as I have declared sufficiently heretofore. And this you will find as much truth, as that I am,

Madam,

Your constant Friend,

and faithful Servant.

[1] *Ch.* The Position is demonstrated.

[2] *Gen.* 6. 2.

XX.

MADAM,

Although your *Author*[1] is of the opinion of *Plato*, in making *Three sorts of Atheists: One that believes no Gods; Another, which indeed admits of Gods, yet such as are uncarefull of us, and despisers of small matters, and therefore also ignorant of us: And lastly, a third sort, which although they believe the Gods to be expert in the least matters, yet do suppose that they are flexible and indulgent toward the smallest cold Prayers or Petitions*: Yet I cannot approve of this distinction, for I do understand but one sort of Atheists; that is, those

which believe no God at all; but those which believe that there is a God, although they do not worship him truly, nor live piously and religiously as they ought, cannot, in truth, be called Atheists, or else there would be innumerous sorts of Atheists; to wit, all those, that are either no Christians, or not of this or that opinion in Christian Religion, besides all them that live wickedly, impiously and irreligiously; for to know, and be convinced in his reason, that there is a God, and to worship him truly, according to his holy Precepts and Commands, are two several things: And as for the first, that is, for the Rational knowledg of the Existence of God, I cannot be perswaded to believe, there is any man which has sense and reason, that doth not acknowledg a God; nay, I am sure, there is no part of Nature which is void and destitute of this knowledg of the existence of an Infinite, Eternal, Immortal, and Incomprehensible Deity; for every Creature, being indued with sense and reason, and with sensitive and rational knowledg, there can no knowledg be more Universal then the knowledg of a God, as being the root of all knowledg: And as all Creatures have a natural knowledg of the Infinite God, so, it is probable, they Worship, Adore, and Praise his Infinite Power and Bounty, each after its own manner, and according to its nature; for I cannot believe, God should make so many kinds of Creatures, and not be worshipped and adored but onely by Man: Nature is God's Servant, and she knows God better then any Particular Creature; but Nature is an Infinite Body, consisting of Infinite Parts, and if she adores and worships God, her Infinite Parts, which are Natural Creatures, must of necessity do the like, each according to the knowledg it hath: but Man in this particular goes beyond

others, as having not onely a natural, but also a revealed knowledg of the most Holy God; for he knows Gods Will, not onely by the light of Nature, but also by revelation, and so more then other Creatures do, whose knowledg of God is meerly Natural. But this Revealed Knowledg makes most men so presumptuous, that they will not be content with it, but search more and more into the hidden mysteries of the Incomprehensible Deity, and pretend to know God as perfectly, almost, as themselves; describing his Nature and Essence, his Attributes, his Counsels, his Actions, according to the revelation of God, (as they pretend) when as it is according to their own Fancies. So proud and presumptuous are many: But they shew thereby rather their weaknesses and follies, then any truth; and all their strict and narrow pryings into the secrets of God, are rather unprofitable, vain and impious, then that they should benefit either themselves, or their neighbour; for do all we can, God will not be perfectly known by any Creature: The truth is, it is a meer impossibility for a finite Creature, to have a perfect Idea of an Infinite Being, as God is; be his Reason never so acute or sharp, yet he cannot penetrate what is Impenetrable, nor comprehend what is Incomprehensible: Wherefore, in my opinion, the best way is humbly to adore what we cannot conceive, and believe as much as God has been pleased to reveal, without any further search; lest we diving too deep, be swallowed up in the bottomless depth of his Infiniteness: Which I wish every one may observe, for the benefit of his own self, and of others, to spend his time in more profitable Studies, then vainly to seek for what cannot be found. And with this hearty wish I conclude, resting,

Madam,

Your faithful Friend

and Servant.

[1] *Ch.* Of the Image of the Mind.

XXI.

MADAM,

Your *Author* is so much for Spirits, that he doth not stick to affirm,[1] *That Bodies scarce make up a moity or half part of the world; but Spirits, even by themselves, have or possess their moity, and indeed the whole world.* If he mean bodiless and incorporeal Spirits, I cannot conceive how Spirits can take up any place, for place belongs onely to body, or a corporeal substance, and millions of immaterial Spirits, nay, were their number infinite, cannot possess so much place as a small Pins point, for Incorporeal Spirits possess no place at all: which is the reason, that an Immaterial and a Material Infinite cannot hinder, oppose, or obstruct each other; and such an Infinite, Immaterial Spirit is God alone. But as for Created Immaterial Spirits, as they call them, it may be questioned whether they be Immaterial, or not; for there may be material Spirits as well as immaterial, that is, such pure, subtil and agil substances as cannot be subject to any humane sense, which may be purer and subtiller then the most refined air, or purest light; I call them material spirits, onely for distinctions sake, although it is more proper, to call them material substances: But be it, that there are Immaterial Spirits, yet they are not natural, but supernatural; that is, not substantial parts of Nature; for Nature is material, or corporeal, and so are all her Creatures,

and whatsoever is not material is no part of Nature, neither doth it belong any ways to Nature: Wherefore, all that is called Immaterial, is a Natural Nothing, and an Immaterial Natural substance, in my opinion, is *non*-sense: And if you contend with me, that Created Spirits, as good and bad Angels, as also the Immortal Mind of Man, are Immaterial, then I say they are Supernatural; but if you say, they are Natural, then I answer they are Material: and thus I do not deny the existence of Immaterial Spirits, but onely that they are not parts of Nature, but supernatural; for there may be many things above Nature, and so above a natural Understanding, and Knowledg, which may nevertheless have their being and existence, although they be not Natural, that is, parts of Nature: Neither do I deny that those supernatural Creatures may be amongst natural Creatures, that is, have their subsistence amongst them, and in Nature; but they are not so commixed with them, as the several parts of Matter are, that is, they do not joyn to the constitution of a material Creature; for no Immaterial can make a Material, or contribute any thing to the making or production of it; but such a co-mixture would breed a meer confusion in Nature: wherefore, it is quite another thing, to be in Nature, or to have its subsistence amongst natural Creatures in a supernatural manner or way, and to be a part of Nature. I allow the first to Immaterial Spirits, but not the second, *viz.* to be parts of Nature. But what Immaterial Spirits are, both in their Essence or Nature, and their Essential Properties, it being supernatural, and above natural Reason, I cannot determine any thing thereof. Neither dare I say, they are Spirits like as God is, that is, of the same Essence or Nature, no more then I dare say or think that God is of a humane shape or

figure, or that the Nature of God is as easie to be known as any notion else whatsoever, and that we may know as much of him as of any thing else in the world. For if this were so, man would know God as well as he knows himself, but God and his Attributes are not so easily known as man may know himself and his own natural Proprieties; for God and his Attributes are not conceiveable or comprehensible by any humane understanding, which is not onely material, but also finite; for though the parts of Nature be infinite in number, yet each is finite in it self, that is, in its figure, and therefore no natural Creature is capable to conceive what God is; for he being infinite, there is also required an infinite capacity to conceive him; Nay, Nature her self, although she is Infinite, yet cannot possibly have an exact notion of God, by reason she is Material, and God is Immaterial; and if the Infinite servant of God is not able to conceive God, much less will a finite part of Nature do it. Besides, the holy Church doth openly confess and declare the Incomprehensibility of God, when in the *Athanasian* Creed, she expresses, that the Father is Incomprehensible, the Son Incomprehensible, and the Holy Ghost Incomprehensible, and that there are not three, but one Incomprehensible God: Therefore, if any one will prove the contrary, to wit, that God is Comprehensible, or (which is all one) that God is as easie to be known as any Creature whatsoever, he surely is more then the Church: But I shall never say or believe so, but rather confess my ignorance, then betray my folly; and leave things Divine to the Church; to which I submit, as I ought, in all Duty: and as I do not meddle with any Divine Mysteries, but subject my self, concerning my Faith or Belief, and the regulating of my actions for the obtaining of

Eternal Life, wholly under the government and doctrine of the Church, so, I hope, they will also grant me leave to have my liberty concerning the contemplation of Nature and natural things, that I may discourse of them, with such freedom, as meer natural Philosophers use, or at least ought, to do; and thus I shall be both a good Christian, and a good Natural Philosopher: Unto which, to make the number perfect, I will add a third, which is, I shall be,

Madam,

Your real and faithful

Friend and Servant.

[1] *Ch.* Of the Magnetick cure of wounds.

XXII.

MADAM,

Though I am loth (as I have often told you) to imbarque my self in the discourse of such a subject, as no body is able naturally to know, which is the supernatural and divine Soul in Man; yet your *Author* having, in my judgment, strange opinions, both of the Essence, Figure, Seat and Production of the Soul, and discoursing thereof, with such liberty and freedom, as of any other natural Creature, I cannot chuse but take some notice of his discourse, and make some reflections upon it; which yet, shall rather express my ignorance of the same subject, then in a positive answer, declare my opinion thereof; for, in things divine, I refer my self wholly to the Church, and submit onely to their instructions,

without any further search of natural reason; and if I should chance to express more then I ought to do, and commit some error, it being out of ignorance rather then set purpose, I shall be ready upon better information, to mend it, and willingly subject my self under the censure and correction of the holy Church, as counting it no disgrace to be ignorant in the mysteries of Faith, since Faith is of things unknown, but rather a duty required from every Layman to believe simply the Word of God, as it is explained and declared by the Orthodox Church, without making Interpretations out of his own brain, and according to his own fancy, which breeds but Schismes, Heresies, Sects, and Confusions. But concerning your *Author*, I perceive by him, first, that he makes no distinction between the Natural or Rational Soul or Mind of Man, and between the Divine or Supernatural Soul, but takes them both as one, and distinguishes onely the Immortal Soul from the sensitive Life of Man, which he calls the Frail, Mortal, Sensitive Soul. Next, all his knowledg of this Immortal Soul is grounded upon Dreams and Visions, and therefore it is no wonder, if his opinions be somewhat strange and irregular. *I saw, in a Vision,* says he,[1] *my Mind in a humane shape; but there was a light, whose whole homogeneal body was actively seeing, a spiritual substance, Chrystalline, shining with a proper splendor, or a splendor of its own, but in another cloudy part it was rouled up as it were in the husk of it self; which whether it had any splendor of it self, I could not discern, by reason of the superlative brightness of the Chrystal Spirit contain'd within.* Whereupon he defines *the Soul* to be *a Spirit, beloved of God, homogeneal, simple, immortal, created into the Image of God, one onely Being, whereto death adds nothing, or takes nothing from it, which may be natural or proper to it in*

the Essence of its simplicity. As for this definition of the Soul, it may be true, for any thing I know: but when your *Author* makes the divine Soul to be a Light, I cannot conceive how that can agree; for Light is a Natural and Visible Creature, and, in my opinion, a corporeal substance; whereas the Soul is immaterial and incorporeal: But be it, that Light is not a substance, but a neutral Creature, according to your *Author*; then, nevertheless the Immortal Soul cannot be said to be a light, because she is a substance. He may say,[2] The Soul is an Incomprehensible Light. But if the Soul be Incomprehensible, how then doth he know that she is a light, and not onely a light, but a glorious and splendorous light? You will say, By a Dream, or Vision. Truly, *Madam*, to judg any thing by a Dream, is a sign of a weak judgment. Nay, since your *Author* calls the soul constantly a light; if it were so, and that it were such a splendorous, bright and shining light, as he says; then when the body dies, and the soul leaves its Mansion, it would certainly be seen, when it issues out of the body. But your *Author* calls the Soul a *Spiritual Substance*, and yet he says, she has *an homogeneal body, actively seeing and shining with a proper splendor of her own*; which how it can agree, I leave to you to judg; for I thought, an Immaterial spirit and a body were too opposite things, and now I see, your *Author* makes Material and Immaterial, Spiritual and Corporeal, all one. But this is not enough, but he allows it a Figure too, and that of a humane shape; for says he, I *could never consider the Thingliness of the Immortal Mind with an Individual existence, deprived of all figure, neither but that it at least would answer to a humane shape*; but the Scripture, as much as is known to me, never doth express any such thing of the Immortal Soul, and I

should be loth to believe any more thereof then it declares. The Apostles, although they were conversant with Christ, and might have known it better, yet were never so inquisitive into the nature of the Soul, as our Modern divine Philosophers are; for our Saviour, and they, regarded more the salvation of Man's Soul, and gave holy and wise Instructions rather, how to live piously and conformably to God's Will, to gain eternal Life, then that they should discourse either of the Essence or Figure, or Proprieties of the Soul, and whether it was a light, or any thing else, and such like needless questions, raised in after-times onely by the curiosity of divine Philosophers, or Philosophying Divines; For though Light is a glorious Creature, yet Darkness is as well a Creature as Light, and ought not therefore to be despised; for if it be not so bright, and shining as Light, yet it is a grave Matron-like Creature, and very useful: Neither is the Earth, which is inwardly dark, to be despised, because the Sun is bright. The like may be said of the soul, and of the body; for the body is very useful to the soul, how dark soever your *Author* believes it to be; and if he had not seen light with his bodily eyes, he could never have conceived the Soul to be a Light: Wherefore your *Author* can have no more knowledg of the divine soul then other men have, although he has had more Dreams and Visions; nay, he himself confesses, that the Soul is an Incomprehensible Light; which if so, she cannot, be perfectly known, nor confined to any certain figure; for a figure or shape belongs onely to a corporeal substance, and not to an incorporeal: and so, God being an Incomprehensible Being, is excluded from all figure, when as yet your *Author* doth not stick to affirm, that God is of a humane figure too, as well as the humane Soul is; *For*, says he, *Since God hath been*

pleased to adopt the Mind alone into his own Image, it also seems to follow, that the vast and unutterable God is of a humane Figure, and that from an argument from the effect, if there be any force of arguments in this subject. Oh! the audacious curiosity of Man! Is it not blasphemy to make the Infinite God of a frail and humane shape, and to compare the most Holy to a sinful Creature? Nay, is it not an absurdity, to confine and inclose that Incomprehensible Being in a finite figure? I dare not insist longer upon this discourse, lest I defile my thoughts with the entertaining of such a subject that derogates from the glory of the Omnipotent Creator; Wherefore, I will hasten, as much as I can, to the seat of the Soul, which, after relating several opinions, your *Author* concludes to be the orifice of the stomack, where the Immortal Soul is involved and entertained in the radical Inn or Bride-bed of the sensitive Soul or vital Light; which part of the body is surely more honoured then all the rest: But I, for my part, cannot conceive why the Soul should not dwell in the parts of conception, as well, as in the parts of digestion, except it be to prove her a good Huswife; however, your *Author* allows her to slide down sometimes: For, *The action of the Mind*, says he, *being imprisoned in the Body, doth always tend downwards*; but whether the Soul tend more downwards then upwards, Contemplative Persons, especially Scholars, and grave States-men, do know best; certainly, I believe, they find the soul more in their heads then in their heels, at least her operations. But, to conclude, if the Soul be pure and single of her self, she cannot mix with the Body, because she needs no assistance; nor joyn with the Body, though she lives in the Body, for she needs no support; and if she be individable, she cannot divide her self into several Parts of the Body;

but if the Soul spread over all the Body, then she is bigger, or less, according as the Body is; and if she be onely placed in some particular part, then onely that one part is indued with a Soul, and the rest is Soul-less; and if she move from place to place, then some parts of the Body will be sometimes indued with a Soul, sometimes not; and if any one part requires not the subsistence of the Soul within it, then perhaps all the Body might have been able to spare her; neither might the Soul, being able to subsist without the body, have had need of it. Thus useless questions will trouble men's brains, if they give their fancies leave to work. I should add something of the Production of the Soul; but being tyred with so tedious a discourse of your *Author*, I am not able to write any more, but repose my Pen, and in the mean while rest affectionately,

Madam,

Your faithful Friend

and Servant.

[1] *Ch.* Of the Image of the Mind.

[2] Of the Spirit of Life.

XXIII.

MADAM,

Your *Authors* comparison[1] of the Sun, with the immaterial or divine Soul in Man, makes me almost of opinion, that the Sun is the Soul of this World we inhabit, and that the fixed Stars, which are counted Suns by some, may be souls to some other worlds;

for every one man has but one immaterial or divine soul, which is said to be individable and simple in its essence, and therefore unchangeable; and if the Sun be like this immaterial soul, then the Moon may be like the material soul. But as for the Production of this immaterial and divine Soul in Man, whether it come by an immediate Creation from God, or be derived by a successive propagation from Parents upon their Children, I cannot determine any thing, being supernatural, and not belonging to my study; nevertheless, the Propagation from Parents seems improbable to my reason; for I am not capable to imagine, how an immaterial soul, being individable, should beget another. Some may say, by imprinting or sealing, *viz.* that the soul doth print the Image of its own figure upon the spirit of the seed; which if so, then first there will onely be a production of the figure of the soul, but not of the substance, and so the Child will have but the Image of the soul, and not a real and substantial soul. Secondly, Every Child of the same Parents would be just alike, without any distinguishment; if not in body, yet in the Faculties and Proprieties of their Minds or Souls. Thirdly, There must be two prints of the two souls of both Parents upon one Creature, to wit, the Child; for both Parents do contribute alike to the Production of the Child, and then the Child would either have two souls, or both must be joyned as into one; which how it can be, I am not able to conceive. Fourthly, If the Parents print the Image of their souls upon the Child, then the Childs soul bears not the Image of God, but the Image of Man, to wit, his Parents. Lastly, I cannot understand, how an immaterial substance should make a print upon a corporeal substance, for Printing is a corporeal action, and belongs onely to bodies. Others may say, that the soul is from the Parents

transmitted into the Child, like as a beam of Light; but then the souls of the Parents must part with some of their own substance; for light is a substance dividable, in my opinion; and if it were not, yet the soul is a substance, and cannot be communicated without losing some of his own substance, but that is impossible; for the immaterial soul being individable, cannot be diminished nor increased in its substance or Nature. Others again, will have the soul produced by certain Ideas; but Ideas being corporeal, cannot produce a substance Incorporeal or Spiritual. Wherefore I cannot conceive how the souls of the Parents, being individable in themselves, and not immoveable out of their bodies until the time of death, should commix so, as to produce a third immaterial soul, like to their own. You will say, As the Sun, which is the fountain of heat and light, heats and enlightens, and produces other Creatures. But I answer, The Sun doth not produce other Suns, at least not to our knowledg. 'Tis true, there are various and several manners and ways of Productions, but they are all natural, that is, material, or corporeal; to wit, Productions of some material beings, or corporeal substances; but the immaterial soul not being in the number of these, it is not probable, that she is produced by the way of corporeal productions, but created and infused from God, according to her nature, which is supernatural and divine: But being the Image of God, how she can be defiled with the impurity of sin, and suffer eternal damnation for her wickedness, without any prejudice to her Creator, I leave to the Church to inform us thereof. Onely one question I will add, Whether the Soul be subject to Sickness and Pain? To which I answer: As for the supernatural and divine Soul, although she be a substance, yet being not corporeal,

but spiritual, she can never suffer pain, sickness, nor death; but as for the natural soul, to speak properly, there is no such thing in Nature as pain, sickness, or death; unless in respect to some Particular Creatures composed of natural Matter; for what Man calls Sickness, Pain, and Death, are nothing else but the Motions of Nature; for though there is but one onely Matter, that is, nothing but meer Matter in Nature, without any co-mixture of either a spiritual substance, or any thing else that is not Matter; yet this meer Matter is of several degrees and parts, and is the body of Nature; Besides, as there is but one onely Matter, so there is also but one onely Motion in Nature, as I may call it, that is, meer corporeal Motion, without any rest or cessation, which is the soul of that Natural body, both being infinite; but yet this onely corporeal Motion is infinitely various in its degrees or manners, and ways of moving; for it is nothing else but the action of natural Matter, which action must needs be infinite, being the action of an infinite body, making infinite figures and parts. These motions and actions of Nature, since they are so infinitely various, when men chance to observe some of their variety, they call them by some proper name, to make a distinguishment, especially those motions which belong to the figure of their own kind; and therefore when they will express the motions of dissolution of their own figure, they call them Death; when they will express the motions of Production of their figure, they call them Conception and Generation; when they will express the motions proper for the Consistence, Continuance and Perfection of their Figure, they call them Health; but when they will express the motions contrary to these, they call them Sickness, Pain, Death, and the like: and hence comes also the difference between regular

and irregular motions; for all those Motions that belong to the particular nature and consistence of any figure, they call regular, and those which are contrary to them, they call irregular. And thus you see, *Madam*, that there is no such thing in Nature, as Death, Sickness, Pain, Health, &c. but onely a variety and change of the corporeal motions, and that those words express nothing else but the variety of motions in Nature; for men are apt to make more distinctions then Nature doth: Nature knows of nothing else but of corporeal figurative Motions, when as men make a thousand distinctions of one thing, and confound and entangle themselves so, with Beings, Non-beings, and Neutral-beings, Corporeals and Incorporeals, Substances and Accidents, or manners and modes of Substances, new Creations, and Annihilations, and the like, as neither they themselves, nor any body else, is able to make any sense thereof; for they are like the tricks and slights of Juglers, 'tis here, 'tis gone; and amongst those *Authors* which I have read as yet, the most difficult to be understood is this *Author* which I am now perusing, who runs such divisions, and cuts Nature into so small Parts, as the sight of my Reason is not sharp enough to discern them. Wherefore I will leave them to those that are more quick-sighted then I, and rest,

Madam,

Your constant Friend,

and faithful Servant.

[1] Of the seat of the Soul. *It.* Of the Image of the Mind.

XXIV.

MADAM,

Your *Author* relates,[1] how by some the *Immortal Soul is divided into two distinct parts; the Inferior or more outward, which by a peculiar name is called the Soul, and the other the Superior, the more inward, the which is called the bottom of the Soul or Spirit, in which Part the Image of God is specially contained; unto which is no access for the Devil, because there is the Kingdom of God*: and each part has distinct Acts, Proprieties, and Faculties. Truly, *Madam*, I wonder, how some men dare discourse so boldly of the Soul, without any ground either of Scripture or Reason, nay, with such contradiction to themselves, or their own opinions; For how can that be severed into parts, which in its nature is Individable? and how can the Image of God concern but one Part of the Soul, and not the other? Certainly, if the Soul is the Image of God, it is his Image wholly, and not partially, or in parts. But your *Author* has other as strange and odd opinions as these, some whereof I have mentioned in my former Letters, the Souls being a Light, her Figure, her Residence, and many the like: Amongst the rest, there is one thing which your *Author* frequently makes mention of;[2] I know not what to call it, whether a thing, or a being, or no-thing; for it is neither of them; not a substance, nor an accident; neither a body, nor a spirit; and this Monster (for I think this is its proper name, since none other will fit it) is the Lacquey of the Soul, to run upon all errands; for the Soul sitting in her Princely Throne or Residence, which is the orifice of the stomack, cannot be every where her self; neither is it fit she should, as being a disgrace to her, to perform all offices her self for want of servants, therefore she

sends out this most faithful and trusty officer, (your *Author* calls him *Ideal Entity*) who being prepared for his journey, readily performs all her commands, as being not tied up to no commands of places, times or dimensions, especially in Women with Child he operates most powerfully; for sometime he printed a Cherry on a Child, by a strong Idea of the Mother; but this Ideal Entity or servant of the Soul, hath troubled my brain more, then his Mistress the Soul her self; for I could not, nor cannot as yet conceive, how he might be able to be the Jack of all offices, and do Journies and travel from one part of the body to another, being no body nor substance himself, nor tyed to any place, time, and dimension, and therefore I will leave him. Your *Author* also speaks much of the Inward and Outward Man; but since that belongs to Divinity, I will declare nothing of it; onely this I say, that, in my opinion, the Inward and Outward man do not make a double Creature, neither properly, nor improperly; properly, as to make two different men; improperly, as we use to call that man double, whose heart doth not agree with his words. But by the Outward man I understand the sinful actions of flesh and blood, and by the Inward man the reformed actions of the Spirit, according to the Word of God; and therefore the Outward and Inward man make but one Man. Concerning the Natural Soul, your *Author*[3] speaks of her more to her disgrace then to her honor; for he scorns to call her a substance, neither doth he call her the Rational Soul, but he calls her the Sensitive Soul, and makes the Divine Soul to be the Rational Natural Soul, and the cause of all natural actions; for he being a Divine Philosopher, mixes Divine and Natural things together: But of the Frail, Mortal, Sensitive Soul, as he names her, which is onely the

sensitive Life, his opinions are, that she is neither a substance, nor an accident, but a Neutral Creature, and a Vital Light, which hath not its like in the whole World, but the light of a Candle; for it is extinguished, and goes out like the flame of a Candle; it is locally present, and entertained in a place, and yet not comprehended in a place. Nevertheless, although this sensitive soul is no substance, yet it has the honor to be the Inn or Lodging-place of the Immortal Soul or Mind; and these two souls being both lights, do pierce each other; but the Mortal soul blunts the Immortal soul with its cogitation of the corruption of *Adam*. These opinions, *Madam*, I confess really, I do not know what to make of them; for I cannot imagine, how this Mortal soul, being no substance, can contain the Immortal soul, which is a substance; nor how they can pierce each other, and the Mortal soul being substanceless, get the better over an Immortal substance, and vitiate, corrupt, and infect it; neither can I conceive, how that, which in a manner is nothing already, can be made less and annihilated. Wherefore, my opinion is, that the Natural Soul, Life, and Body, are all substantial parts of Infinite Nature, not subsisting by themselves each apart, but inseparably united and co-mixed both in their actions and substances; for not any thing can and doth subsist of it self in Nature, but God alone; and things supernatural may, for ought I know: 'Tis true, there are several Degrees, several particular Natures, several Actions or Motions, and several Parts in Nature, but none subsists single, and by it self, without reference to the whole, and to one another. Your *Author* says, the Vital Spirit sits in the Throne of the Outward man as Vice Roy of the Soul, and acts by Commission of the Soul; but it is impossible, that

one single part should be King of the whole Creature, since Rational and sensitive Matter is divided into so many parts, which have equal power and force of action in their turns and severall imployments; for though Nature is a Monarchess over all her Creatures, yet in every particular Creature is a Republick, and not a Monarchy; for no part of any Creature has a sole supreme Power over the rest. Moreover, your *Author*[4] says, That an *Angel is not a Light himself, nor has an Internal Light, natural and proper to himself, but is the Glass of an uncreated Light*: Which, to my apprehension, seems to affirm, That Angels are the Looking-glasses of God; a pretty Poetical Fancy, but not grounded on the Scripture: for the Scripture doth not express any such thing of them, but onely that they are[5] *Ministring Spirits sent forth to minister for them who shall be heirs of Salvation*: Which, I think, is enough for us to know here, and leave the rest until we come to enjoy their company in Heaven. But it is not to be admired, that those, which pretend to know the Nature and Secrets of God, should not have likewise knowledg of Supernatural Creatures; In which conceit I leave them, and rest,

Madam,

Your real and faithful

Friend and Servant.

[1] *Ch.* Of the Image of the Soul.

[2] *Ch.* Of the Magnetick cure of wounds.

[3] Of the seat of the Soul.

[4] *Ch.* Of the Image of the Mind.

[5] *Heb.* 11. 14.

XXV.

MADAM,

Reason and Intellect are two different things to your *Author*;[1] for *Intellect*, says he, *doth properly belong to the Immortal Soul, as being a Formal Light, and the very substance of the Soul it self, wherein the Image of God onely consists; But Reason is an uncertain, frail faculty of the Mortal Soul, and doth in no ways belong, nor has any communion with the Intellect of the Mind.* Which seems to me, as if your *Author* did make some difference between the Divine, and the Natural Soul in Man, although he doth not plainly declare it in the same Terms; for that which I name the Divine Soul, is to him the Immortal Mind, Intellect, or Understanding, and the Seat of the Image of God; but the Natural Soul he calls the Frail, Mortal, and Rational Soul; and as Understanding is the Essence of the Immortal, so Reason is to him the Essence of the Mortal Soul; which Reason he attributes not only to Man, but also to Brutes: For *Reason and Discourse*, says he, *do not obscurely flourish and grow in brute Beasts, for an aged Fox is more crafty then a younger one by rational discourse*; and again, *That the Rational Part of the Soul doth belong to brutes, is without doubt*: Wherein he rightly dissents from those, which onely do attribute a sensitive Soul to brutes; and Reason to none but Man, whom therefore they call a Rational Creature, and by this Rational Faculty do distinguish him from the rest of Animals. And thus I perceive the difference betwixt your *Authors* opinion, and theirs, is, That other Philosophers commonly do make the Rational soul, to be partly that which I call the supernatural and divine Soul, as onely belonging to man, and bearing the Image of God, not acknowledging any other Natural, but a Sensitive

soul in the rest of Animals, and a Vegetative soul in Vegetables; and these three souls, or faculties, operations, or degrees, (call them what you will, for we shall not fall out about names,) concurr and joyn together in Man; but the rest of all Creatures, are void and destitute of Life, as well as of Soul, and therefore called Unanimate; and thus they make the natural rational soul, and the divine soul in man to be all one thing, without any distinguishment; but your *Author* makes a difference between the Mortal and Immortal soul in Man; the Immortal he calls the Intellect or Understanding, and the Mortal soul he calls Reason: but to my judgment he also attributes to the immortal soul, actions which are both natural, and supernatural, adscribing that to the divine soul, which onely belongs to the natural, and taking that from the natural, which properly belongs to her. Besides, he slights and despises the Rational soul so, as if she were almost of no value with Man, making her no substance, but a mental intricate and obscure Being, and so far from Truth, as if there were no affinity betwixt Truth and Reason, but that they disagree in their very roots, and that the most refined Reason may be deceitful. But your *Author*, by his leave, confounds Reason, and Reasoning, which are two several and distinct things; for reasoning and arguing differs as much from Reason, as doubtfulness from certainty of knowledg, or a wavering mind from a constant mind; for Reasoning is the discoursive, and Reason the understanding part in Man, and therefore I can find no great difference between Understanding and Reason: Neither can I be perswaded, that Reason should not remain with Man after this life, and enter with him into Heaven, although your *Author* speaks much against it; for if Man shall be the same then, which he is now, in

body, why not in soul also? 'Tis true, the Scripture says, he shall have a more glorious body; but it doth not say, that some parts of the body shall be cast away, or remain behind; and if not of the body, why of the soul? Why shall Reason, which is the chief part of the natural Soul, be wanting? Your *Author* is much for Intellect or Understanding; but I cannot imagine how Understanding can be without Reason. Certainly, when he saw the Immortal Soul in a Vision, to be a formal Light, how could he discern what he saw, without Reason? How could he distinguish between Light and Darkness, without Reason? How could he know the Image of the Mind to be the Image of God, without the distinguishment of Reason? You will say, Truth informed him, and not Reason. I answer, Reason shews the Truth. You may reply, Truth requires no distinguishment or judgment. I grant, that perfect Truth requires not reasoning or arguing, as whether it be so, or not; but yet it requires reason, as to confirm it to be so, or not so; for Reason is the confirmation of Truth, and Reasoning is but the Inquisition into Truth: Wherefore, when our Souls shall be in the fulness of blessedness, certainly, they shall not be so dull and stupid, but observe distinctions between God, Angels, and sanctified Souls; as also, that our glory is above our merit, and that there is great difference between the Damned, and the Blessed, and that God is an Eternal and Infinite Being, and onely to be adored, admired, and loved, and that we enjoy as much as can be enjoyed: All which the Soul cannot know without the distinguishment of Reason; otherwise we might say, the Souls in Heaven, love, joy, admire and adore, but know not what, why, or wherefore; For, shall the blessed Souls present continual Praises without reason? Have they not reason to praise God

for their happiness, and shall they not remember the Mercies of God, and the Merits of his Son? For without remembrance of them, they cannot give a true acknowledgment, although your *Author* says there is no use of Memory or remembrance in Heaven: but surely, I believe there is; for if there were not memory in Heaven, the Penitent Thief upon the Cross his Prayers had been in vain; for he desired our Saviour to remember him when he did come into his Kingdom: Wherefore if there be Understanding in Heaven, there is also Reason; and if there be Reason, there is Memory also: for all Souls in Heaven, as well as on Earth, have reason to adore, love, and praise God. But, *Madam*, my study is in natural Philosophy, not in Theology; and therefore I'le refer you to Divines, and leave your *Author* to his own fancy, who by his singular Visions tells us more news of our Souls, then our Saviour did after his Death and Resurrection: Resting in the mean time,

Madam,

Your faithful Friend

and Servant.

[1] *Ch.* The hunting or searching out of Sciences. *It.* Of the Image of the Mind.

XXVI.

MADAM,

Concerning those parts and chapters of your *Authors* Works, which treat of Physick; before I begin to examine them, I beg leave of you in this present, to make some reflections first upon his Opinions

concerning the Nature of Health and Diseases: As for *Health*, he is pleased to say,[1] That *it consists not in a just Temperature of the body, but in a sound and intire Life; for otherwise, a Temperature of body is as yet in a dead Carcass newly kill'd, where notwithstanding there is now death, but not life, not health*: Also he says,[2] *That no disease is in a dead carcass.* To which I answer, That, in my opinion, Life is in a dead Carcass, as well as in a living Animal, although not such a Life as that Creature had before it became a Carcass, and the Temperature of that Creature is altered with the alteration of its particular life; for the temperature of that particular life, which was before in the Animal, doth not remain in the Carcass, in such a manner as it was when it had the life of such or such an Animal; nevertheless, a dead Carcass hath life, and such a temperature of life, as is proper, and belonging to its own figure: for there are as many different lives, as there be different creatures, and each creature has its particular life and soul, as partaking of sensitive and rational Matter. And if a dead Carcass hath life, and such a temperature of motions as belong to its own life, then there is no question, but these motions may move sometimes irregularly in a dead Carcass as well, as in any other Creature; and since health and diseases are nothing else but the regularity or irregularity of sensitive corporeal Motions, a dead Carcass having Irregular motions, may be said as well to have diseases, as a living body, as they name it, although it is no proper or usual term for other Creatures, but onely for Animals. However, if there were no such thing as a disease (or term it what you will, I will call it Irregularity of sensitive motions) in a dead Carcass, How comes it that the infection of a disease proceeds often from dead Carcasses into living Animals? For,

certainly, it is not meerly the odour or stink of a dead body, for then all stinking Carcasses would produce an Infection; wherefore this Infection must necessarily be inherent in the Carcass, and proceed from the Irregularity of its motions. Next I'le ask you, Whether a Consumption be a disease, or not? If it be, then a dead Carcass might be said to have a disease, as well as a living body; and the Ægyptians knew a soveraign remedy against this disease, which would keep a dead Carcass intire and undissolved many ages; but as I said above, a dead Carcass is not that which it was being a living Animal, wherefore their effects cannot be the same, having not the same causes. Next, your *Author* is pleased to call, with *Hippocrates, Nature the onely Physicianess of Diseases.* I affirm it; and say moreover, that as she is the onely Physicianess, so she is also the onely Destroyeress and Murtheress of all particular Creatures, and their particular lives; for she dissolves and transforms as well as she frames and creates; and acts according to her pleasure, either for the increase or decrease, augmentation or destruction, sickness or health, life or death of Particular Creatures. But concerning Diseases, your *Authors* opinion is, That *a Disease is as Natural as Health.* I answer; 'tis true, Diseases are natural; but if we could find out the art of healing, as well as the art of killing and destroying; and the art of uniting and composing, as well as the art of separating and dividing, it would be very beneficial to man; but this may easier be wished for, then obtained; for Nature being a corporeal substance, has infinite parts, as well as an infinite body; and Art, which is onely the playing action of Nature, and a particular Creature, can easier divide and separate parts, then unite and make parts; for Art cannot match, unite, and joyn parts so as Nature doth; for

Nature is not onely dividable and composeable, being a corporeal substance, but she is also full of curiosity and variety, being partly self-moving: and there is great difference between forced actions, and natural actions; for the one sort is regular, the other irregular. But you may say, Irregularities are as natural as Regularities. I grant it; but Nature leaves the irregular part most commonly to her daughter or creature Art, that is, she makes irregularities for varieties sake, but she her self orders the regular part, that is, she is more careful of her regular actions; and thus Nature taking delight in variety suffers irregularities; for otherwise, if there were onely regularities, there could not be so much variety. Again your *Author* says,[3] That *a disease doth not consist but in living bodies.* I answer, there is not any body that has not life; for if life is general, then all figures or parts have life; but though all bodies have life, yet all bodies have not diseases; for diseases are but accidental to bodies, and are nothing else but irregular motions in particular Creatures, which may be not onely in Animals, but generally in all Creatures; for there may be Irregularities in all sorts of Creatures, which may cause untimely dissolutions; but yet all dissolutions are not made by irregular motions, for many creatures dissolve regularly, but onely those which are untimely. In the same place your *Author* mentions, That *a Disease consists immediately in Life it self, but not in the dregs and filthinesses, which are erroneous forreigners and strangers to the life.* I grant, that a Disease is made by the motions of Life, but not such a life as your *Author* describes, which doth go out like the snuff of a Candle, or as one of *Lucian's* Poetical Lights; but by the life of Nature, which cannot go out without the destruction of Infinite Nature: and as the Motions of

Nature's life make diseases or irregularities, so they make that which man names dregs and filths; which dregs, filths, sickness, and death, are nothing but changes of corporeal motions, different from those motions or actions that are proper to the health, perfection and consistence of such or such a figure or creature. But, to conclude, there is no such thing as corruption, sickness, or death, properly in Nature, for they are made by natural actions, and are onely varieties in Nature, but not obstructions or destructions of Nature, or annihilations of particular Creatures; and so is that we name Superfluities, which bear onely a relation to a particular Creature, which hath more Motion and Matter then is proper for the nature of its figure. And thus much of this subject for the present, from,

Madam,

Your faithful Friend

and humble Servant.

[1] *Ch.* Call'd the Authors answers.

[2] *Ch.* Of the subject of inhering of diseases.

[3] *Ch.* The subject of inhering of diseases is in the point of life. *It. Ch.* Of the knowledg of diseases.

XXVII.

MADAM,

In my last, I remember, I told you of your *Authors* opinion concerning the seat of Diseases, *viz.* that Diseases are properly in living bodies, and consist in

the life it self; but when I consider his definition of Life, and of a Disease, I cannot conceive how they should consist together; for he describes[1] *a Disease to be a real, material and substantial being, truly subsisting in a body; but life to be a meer nothing, and yet the immediate mansion of a disease, the inward subject, yea, and workman of the same; and that with the life all diseases depart into nothing.* Surely, *Madam*, it exceedeth my understanding; for, first, I cannot conceive how life, which is a meer Nothing, can be a lodging to something? Next, how Nothing can depart and die? and thirdly how Something can become Nothing? I think your *Author* might call a dead Carcass as well No-thing, as Life; and since he names Diseases the Thieves of Life, they must needs be but poor Thieves, because they steal No-thing. But your *Author* compares Life to Light, and calls it an Extinguishable Light, like the light of a Candle; which if so, then the old saying is verified, That life goes out like the snuff of a Candle. But I wonder, *Madam*, that grave and wise men will seriously make use of a similising old Proverb, or of a Poetical Fancy, in matter of natural Philosophy; for I have observed, that *Homer, Lucian, Ovid, Virgil, Horace,* &c. have been very serviceable to great Philosophers, who have taken the ground of their Fictions, and transferred them into Natural Philosophy, as Immaterial substances, Non-beings, and many the like; but they can neither do any good nor hurt to Nature, but onely spoil Philosophical Knowledg; and as Nature is ignorant of Immaterials and Non-beings, so Art is ignorant of Nature; for Mathematical Rules, Measures, and Demonstrations, cannot rule, measure nor demonstrate Nature, no more, then Chymical Divisions, Dissolutions and Extractions (or rather distractions, nay, I may say destructions) can divide,

dissolve, extract, compose, and unite, as Nature doth; Wherefore their Instruments, Figures, Furnaces, Limbecks, and Engines, cannot instruct them of the truth of Natures Principles; but the best and readiest way to find out Nature, or rather some truth of Nature, is sense and reason, which are Parts of Natures active substance, and therefore the truest informers of Nature; but the Ignorance of Nature has caused Ignorance amongst Philosophers, and the Ignorance of Philosophers hath caused numerous Opinions, and numerous Opinions have caused various Discourses and Disputes; which Discourses and Disputes, are not Sense and Reason, but proceed from Irregular Motions; and Truth is not found in Irregularities. But to return to Life: it seems your *Author* hath taken his opinion from *Lucian's* Kingdom of Lights, the Lights being the Inhabitants thereof; and when any was adjudged to die, his Light was put out, which was his punishment: And thus this Heathenish Fiction is become a Christian Verity; when as yet your *Author* rayls much at those, that insist upon the Opinions and Doctrine of Pagan Philosophers. Wherefore I will leave this Poetical Fancy of Life, and turn to Death, and see what opinion your *Author* hath of that. First, concerning the cause or original of Death; *Neither God*, says he, [2] *nor the Evil Spirit, is the Creator of Death, but Man onely, who made Death for himself; Neither did Nature make death, but Man made death natural.* Which if it be so, then Death being, to my opinion, a natural Creature, as well as Life, Sickness, and Health; Man, certainly, had great Power, as to be the Creator of a natural Creature. But, I would fain know the reason, why your *Author* is so unwilling to make God the Author of Death, and Sickness, as well as of Damnation? Doth it imply any Impiety or

Irreligiousness? Doth not God punish, as well as reward? and is not death a punishment for our sin? You may say, Death came from sin, but sin did not come from God. Then some might ask from whence came sin? You will say, From the Transgression of the Command of God, as the eating of the Forbidden Fruit. But from whence came this Transgression? It might be answer'd, From the Perswasion of the Serpent. From whence came this Perswasion? From his ill and malitious nature to oppose God, and ruine the race of Mankind. From whence came this ill Nature? From his Fall. Whence came his Fall? From his Pride and Ambition to be equal with God. From whence came this Pride? From his Free-will. From whence came his Free-will? From God. Thus, *Madam*, if we should be too inquisitive into the actions of God, we should commit Blasphemy, and make God Cruel, as to be the Cause of Sin, and consequently of Damnation. But although God is not the Author of Sin, yet we may not stick to say, that he is the Author of the Punishment of Sin, as an Act of his Divine Justice; which Punishment, is Sickness, and Death; nay, I see no reason, why not of Damnation too, as it is a due punishment for the sins of the wicked; for though Man effectively works his own punishment, yet Gods Justice inflicts it: Like as a just Judg may be call'd the cause of a Thief being hang'd. But these questions are too curious; and some men will be as presumptuous as the Devil, to enquire into Gods secret actions, although they be sure that they cannot be known by any Creature. Wherefore let us banish such vain thoughts, and onely admire, adore, love, and praise God, and implore his Mercy, to give us grace to shun the punishments for our sins by the righteousness of our actions, and not endeavour to know his secret designs. Next, I dissent from your

Author,[3] That *Death and all dead things do want roots whereby they may produce*: For death, and dead things, in my opinion, are the most active producers, at least they produce more numerously and variously then those we name living things; for example, a dead Horse will produce more several Animals, besides other Creatures, then a living Horse can do; but what *Archeus* and *Ideas* a dead Carcass hath, I can tell no more, then what *Blas* or *Gas* it hath; onely this I say, that it has animate Matter, which is the onely *Archeus* or Master-workman, that produces all things, creates all things, dissolves all things, and transforms all things in Nature; but not out of Nothing, or into Nothing, as to create new Creatures which were not before in Nature, or to annihilate Creatures, and to reduce them to nothing; but it creates and transforms out of, and in the same Matter which has been from all Eternity. Lastly, your *Author* is pleased to say, That *he doth not behold a disease as an abstracted Quality; and that Apoplexy, Leprosie, Dropsie, and Madness, as they are Qualities in the abstract, are not diseases.* I am of his mind, that a disease is a real and corporeal being, and do not understand what he and others mean by abstracted qualities; for Nature knows of no abstraction of qualities from substances, and I doubt Man can do no more then Nature doth: Besides, those abstractions are needless, and to no purpose; for no Immaterial quality will do any hurt, if it be no substance; wherefore Apoplexy, Leprosie, Dropsie, and Madness, are Corporeal beings, as well as the rest of Diseases, and not abstracted Qualities; and I am sure, Persons that are affected with those diseases will tell the same. Wherefore leaving needless abstractions to fancies abstracted from right sense and reason, I rest,

Madam,

Your faithful Friend

and Servant.

[1] *Ch.* Of the knowledg of diseases.

[2] *Ch.* Called the Position.

[3] *Ch.* Of the knowledg of diseases.

XXVIII.

MADAM,

I am very much troubled to see your *Authors* Works fill'd with so many spiteful reproaches and bitter taunts against the Schools of Physicians, condemning both their Theory and Practice; nay, that not onely the Modern Schools of Physicians, but also the two ancient and famous Physicians, *Galen*, and *Paracelsus*, must sufficiently suffer by him; especially *Galen*; for there is hardly a Chapter in all his Works, which has not some accusations of blind errors, sloth, and sluggishness, Ignorance, Covetousness, Cruelty, and the like: Which I am very sorry for; not onely for the sake of your *Author* himself, who herein doth betray both his rashness, and weakness, in not bridling his passions, and his too great presumption, reliance and confidence in his own abilities, and extraordinary Gifts; but also for the sake of the Fame and Repute of our Modern Physicians; for without making now any difference betwixt the *Galenists* and *Paracelsians*, and examining which are the best, (for I think them both excellent in their kinds, especially when joyned together) I will onely say this in general, that the Art of Physick has never flourish'd better then now, neither has any age had more skilful, learned, and

experienced Physicians, then this present; because they have not onely the knowledg and practise of those in ages Past, but also their own experience joyned with it, which cannot but add perfection to their Art; and I, for my part, am so much for the old way of Practice, that if I should be sick, I would desire rather such Physicians which follow the same way, then those, that by their new Inventions, perchance, cure one, and kill a hundred. But your *Author*[1] will have a Physician to be like a Handycrafts man, who being call'd to a work, promises that work, and stands to his promise; and therefore, *It is a shame*, says he, *in a Physician, being call'd to a sick man in the beginning of the disease, and when his strength is yet remaining, to suffer the same man to die.* This, in my opinion, is a very unreasonable comparison, to liken a Handicrafts man to a Physician, and the art of Curing to the art of Building, or any the like, without regard of so many great differences that are between them, which I am loth to rehearse, for brevities sake, and are apparant enough to every one that will consider them: but this I may say, that it is not always for want of skill and industry in a Physician, that the cure is not effected, but it lies either in the Incureableness of the disease, or any other external accidents that do hinder the success: Not but that the best Physicians may err in a disease, or mistake the Patients inward distemper by his outward temper, or the interior temper by his outward distemper, or any other ways; for they may easily err through the variation of the disease, which may vary so suddenly and oft, as it is impossible to apply so fast, and so many Medicines, as the alteration requires, without certain death; for the body is not able, oftentimes, to dispose and digest several Medicines so fast, as the disease may vary,

and therefore what was good in this temper, may, perhaps, be bad in the variation; insomuch, that one medicine may in a minute prove a Cordial, and Poyson. Nay, it may be that some Physicians do err through their own ignorance and mistake, must we therefore condemn all the skill, and accuse all the Schools of Negligence, Cruelty, and Ignorance? God forbid: for it would be a great Injustice. Let us rather praise them for the good they do, and not rashly condemn them for the evil they could not help: For we may as well condemn those holy and industrious Divines, that cannot reform wicked and perverse Sinners, as Physicians, because they cannot restore every Patient to his former health, the Profession of a Physician being very difficult; for they can have but outward signs of inward distempers. Besides, all men are not dissected after they are dead, to inform Physicians of the true cause of their death; nay, if they were, perchance they would not give always a true information to the Physician, as is evident by many examples; but oftentimes the blame is laid upon the Physician, when as the fault is either in Nature, or any other cause, which Art could not mend. And if your *Author* had had such an extraordinary Gift from God as to know more then all the rest of Physicians, why did he not accordingly, and as the Scripture speaks of Faith, shew his skill by his Works and Cures? certainly, could he have restored those that were born blind, lame, deaf and dumb, or cured the spotted Plague, or Apoplexy after the third fit, or the Consumption of Vital parts, or a Fever in the Arteries, or dissolved a Stone too big to go through the passage, and many the like; he would not onely have been cried up for a rare Physician, but for a miracle of the World, and worshipped as a Saint: But if he could not effect

more then the Schools can do, why doth he inveigh so bitterly against them? Wherefore I cannot commend him in so doing; but as I respect the Art of Physick, as a singular Gift from God to Mankind, so I respect and esteem also learned and skilful Physicians, for their various Knowledg, industrious Studies, careful Practice, and great Experiences, and think every one is bound to do the like, they being the onely supporters and restorers of humane life and health: For though I must confess, with your *Author*, that God is the onely giver of Good, yet God is not pleased to work Miracles ordinarily, but has ordained means for the restoring of health, which the Art of Physick doth apply; and therefore those Persons that are sick, do wisely to send for a Physician; for Art, although it is but a particular Creature, and the handmaid of Nature, yet she doth Nature oftentimes very good service; and so do Physicians often prolong their Patients lives. The like do Chirurgeons; for if those Persons that have been wounded, had been left to be cured onely by the Magnetick Medicine, I believe, numbers that are alive would have been dead, and numbers would die that are alive; insomuch, as none would escape, but by miracle, especially if dangerously hurt. Concerning the Coveteousness of Physicians, although sickness is chargeable, yet I think it is not Charitable to say or to think, that Physitians regard more their Profit, then their Patients health; for we might as well condemn Divines for taking their Tithes and Stipends, as Physicians for taking their Fees: but the holy Writ tells us, that a Labourer is Worthy of his hire or reward; and, for my part, I think those commit a great sin, which repine at giving Rewards in any kind; for those that deserve well by their endeavours, ought to have their rewards; and such

Meritorious Persons, I wish with all my Soul, may prosper and thrive. Nevertheless, as for those persons, which for want of means are not able to reward their Physicians, I think Physicians will not deal so unconscionably, as to neglect their health and lives for want of their Fees, but expect the reward from God, and be recompenced the better by those that have Wealth enough to spare. And this good opinion I have of them. So leaving them, I rest,

Madam,

Your constant Friend

and faithful Servant.

[1] In his Promises, *Column.* 3.

XXIX.

MADAM

I am of your *Authors* mind, That *heat is not the cause of digestion*; but I dissent from him, when he says, That it is *the Ferment of the stomach that doth cause it*: For, in my opinion, Digestion is onely made by regular digestive motions, and ill digestion is caused by irregular motions, and when those motions are weak, then there is no digestion at all, but what was received, remains unaltered; but when they are strong and quick, then they make a speedy digestion. You may ask me, what are digestive motions? I answer, They are transchanging, or transforming motions: but since there be many sorts of transchanging motions, digestive motions are those, which transchange food into the nourishment of the body, and dispose properly, fitly and usefully of all

the Parts of the food, as well of those which are converted into nourishment, as of those which are cast forth. For give me leave to tell you, *Madam*, that some parts of natural Matter, do force or cause other parts of Matter to move and work according to their will, without any change or alteration of their parts; as for example, Fire and Metal; for Fire will cause Metal to flow, but it doth not readily alter it from its nature of being Metal; neither doth Fire alter its nature from being Fire. And again, some parts of Matter will cause other parts to work and act to their own will, by forcing these over-powred parts to alter their own natural motions into the motions of the victorious Party, and so transforming them wholly into their own Figure; as for example, Fire will cause Wood to move so as to take its figure, to wit, the figure of Fire, that is, to change its own figurative motions into the motions of Fire: and this latter kind of moving or working is found in digestion; for the regular digestive motions do turn all food received from its own nature or figure, into the nourishment, figure, or nature of the body, as into flesh, blood, bones, and the like. But when several parts of Matter meet or joyn with equal force and power, then their several natural motions are either quite altered, or partly mixt: As for example; some received things not agreeing with the natural constitution of the body, the corporeal motions of the received, and those of the receiver, do dispute or oppose each other: for the motions of the received, not willing to change their nature conformable to the desire of the digestive motions, do resist, and then a War begins, whereby the body suffers most; for it causes either a sickness in the stomack, or a pain in the head, or in the heart, or in the bowels, or the like: Nay, if the received food gets an absolute victory, it dissolves and alters

oftentimes the whole body, it self remaining entire and unaltered, as is evident in those that die of surfeits. But most commonly these strifes and quarrels, if violent, do alter and dissolve each others forms or natures. And many times it is not the fault of the Received, but of the Receiver; as for example, when the digestive and transforming motions are either irregular, or weak; for they being too weak, or too few, the meat or food received is digested onely by halves; and being irregular, it causes that which we call corruption. But it may be observed, that the Received food is either agreeable, or disagreeable, to the Receiver; if agreeable, then there is a united consent of Parts, to act regularly and perfectly in digestion; if disagreeable, then the Received acts to the Ruine, that is, to the alteration or dissolution of the Nature of the Receiver; but if it be neutral, that is, neither perfectly agreeable, nor perfectly disagreeable, but between both, then the receiver, or rather the digestive Motions of the receiver, use a double strength to alter and transform the received. But you may ask me, *Madam*, what the reason is, that many things received, after they are dissolved into small parts, those parts will keep their former colour and savour? I answer; The cause is, that either the retentive Motions in the Parts of the received, are too strong for the digestive and alterative Motions of the receiver, or perchance, this colour and savour is so proper to them, as not to be transchanged: but you must observe, that those digestive, alterative and transchanging motions, do not act or move all after one and the same manner; for some do dissolve the natural figure of the received, some disperse its dissolved parts into the parts of the body, some place the dispersed parts fitly and properly for the use, benefit, and consistence of the body; for there is so

much variety in this one act of digestion, as no man is able to conceive; and if there be such variety in one Particular natural action, what variety will there not be in all Nature? Wherefore, it is not, as I mentioned in the beginning, either Ferment, or Heat, or any other thing, that causes digestion; for if all the constitution and nature of our body was grounded or did depend upon Ferment, then Brewers and Bakers, and those that deal with Ferments, would be the best Physicians. But I would fain know the cause which makes Ferment? You may say, saltness, and sowreness. But then I ask, From whence comes saltness and sowreness? You may say, From the Ferment. But then I shall be as wise as before. The best way, perhaps, may be to say, with your *Author*, that Ferment is a Primitive Cause, and a beginning or Principle of other things, and it self proceeds from nothing. But then it is beyond my imagination, how that can be a Principle of material things, which it self is nothing; that is, neither a substance, nor an accident. Good Lord! what a stir do men make about nothing! I am amazed to see their strange Fancies and Conceptions vented for the Truest Reasons: Wherefore I will return to my simple opinion; and as I cannot conceive any thing that is beyond Matter, or a Body; so I believe, according to my reason, that there is not any part in Nature, be it never so subtil or small, but is a self-moving substance, or endued with self-motion; and according to the regularity and irregularity of these motions, all natural effects are produced, either perfect, or imperfect; timely births, or untimely and monstrous births; death, health, and diseases, good and ill dispositions, natural and extravagant Appetites and Passions, (I say natural, that is, according to the nature of their figures;) Sympathy and Antipathy, Peace and War, Rational

and Phantastical opinions. Nevertheless, all these motions, whether regular or irregular, are natural; for regularity and irregularity hath but a respect to particulars, and to our conceptions, because those motions which move not after the ordinary, common or usual way or manner, we call Irregular. But the curiosity and variety in Nature is unconceiveable by any particular Creature; and so leaving it, I rest,

Madam,

Your faithful Friend

and Servant.

XXX.

MADAM,

Your *Author* says,[1] it is an ancient Truth, *That whatsoever things, meats being digested and cast out by vomit, are of a sowre taste and smell, yea, although they were seasoned with much sugar.* But I do not assent to this opinion; for I think that some Vomits have no more taste then pure Water hath. Neither am I of his mind, That *Digestion is hastened by sharpness or tartness:* For do but try it by one simple experiment; take any kind of flesh-meat, boyl or stew it with Vinegar, or sowre wine, or with much salt; and you will find, that it doth require a longer time, or rather more motions to dissolve, then if you boyl it in fair water, without such ingredients as are sowre, sharp, or salt; also if you do but observe, you will find the dregs more sandy, stony and hard, being drest with much salt, and sharp wine, or vinegar, then when they are not mixt with such contracting and fixing

Ingredients. Wherefore, if the Ferment of the stomack hath such a restringent and contracting quality, certainly digestions will be but slow and unprofitable; but Nature requires expulsion as much as attraction, and dilation as much as contraction, and digestion is a kind of dilation. Wherefore, in my judgment; contracting tartness and sharpness doth rather hinder digestion then further it. Next I perceive, your *Author* inclines to the opinion, *That Choler is not made by meat*:[2] But I would ask him, whether any humor be made of meat, or whether blood, flesh, &c. are made and nourished by meat? If they be not, then my answer is, That we eat to no purpose; but if they be, then Choler is made so too. But if he says, That some are made, and some not; then I would ask, what that humor is made of, that is not made by meat or food received into the body? But we find that humors, blood, flesh, &c. will be sometimes more, sometimes less, according either to feeding, or to digestion, which digestion is a contribution of food to every several part of the body for its nourishment; and when there is a decay of those parts, then it is caused either by fasting, or by irregular digestion, or by extraordinary evacuation, or by distempered matter, &c. all which, causes sickness, paleness, leanness, weakness, and the like. Again: your *Author* is against the opinion of the Schools, *That the Gall is a receptacle of superfluous humors and dregs*: for he says, *it has rather the constitution of a necessary and vital bowel, and is the balsom of the liver and blood.* Truly, it may be so, for any thing I know, or it may be not; for your *Author* could but guess, not assuredly know, unless he had been in a man as big as the Whale in whose belly *Jonas* was three days, and had observed the interior parts and motions of every part for three years time,

and yet he might perchance have been as ignorant at the coming forth, as if he never had been there; for Natures actions are not onely curious, but very various; and not onely various, but very obscure; in so much, as the most ingenious Artists cannot trace her ways, or imitate her actions; for Art being but a Creature, can do or know no more then a Creature; and although she is an ingenious Creature, which can and hath found out some things profitable and useful for the life of others, yet she is but a handmaid to Nature, and not her Mistress; which your *Author*, in my opinion, too rashly affirms, when he says,[3] That *the Art of Chymistry is not onely the Chambermaid and emulating Ape, but now and then the Mistress of Nature*: For Art is an effect of Nature, and to prefer the effect before the cause, is absurd. But concerning Chymistry, I have spoken in another place; I'le return to my former Discourse: and I wonder much why your *Author* is so opposite to the Schools, concerning the doctrine of the Gall's being a receptacle for superfluities and dregs; for I think there is not any Creature that has not places or receptacles for superfluous matter, such as we call dregs; for even the purest and hardest Mineral, as Gold, has its dross, although in a less proportion then some other Creatures; nay, I am perswaded, that even Light, which your *Author* doth so much worship, may have some superfluous matter, which may be named dregs; and since Nature has made parts in all Creatures to receive and discharge superfluous matter, (which receiving and discharging is nothing else but a joyning and dividing of parts to and from parts,) why may not the Gall be as well for that use as any other part? But I pray mistake me not, when I say *superfluous matter or dregs*; for I understand by it, that which is not useful to the nourishment or

consistence of such or such a Creature; but to speak properly, there is neither superfluity of matter nor dregs in Nature. Moreover, your *Author* mentions a *six-fold digestion*, and makes every digestion to be performed by inbreathing or inspiration; For *in the first digestion*, he says, *The spleen doth inspire a sowre Ferment into the Meat: In the second, The Gall doth inspire a ferment, or fermental blas into the slender entrails: In the third, The Liver doth inspire a bloody ferment into the veins of the Mensentery*, &c. I answer, first, I am confident Nature has more ways then to work onely by Inspirations, not onely in General, but in every Particular. Next, I believe there are not onely six, but many more digestions in an animal Creature; for not onely every sort of food, but every bit that is eaten, may require a several digestion, and every several part of the body works either to expel, or preserve, or for both; so that there are numerous several Motions in every Creature, and many changes of motions in each particular part; but Nature is in them all. And so leaving her, I rest,

Madam,

Your Faithful Friend

and Servant.

[1] *Ch.* Of a Six-fold digestion.

[2] See *The passive deceiving of the Schools, the humorists,* c. 1.

[3] *Ch.* Heat doth not digest efficiently.

XXXI.

MADAM,

Your *Author*, in opposition to the Schools, endeavouring to prove that there are no humors in an animal body, except blood, proves many humors in himself. But I can see no reason, why Nature should not make several humors, as well as several Elements, Vegetables, Minerals, Animals, and other Creatures; and that in several parts of the body, and many several ways; for to mention but one sort of other Creatures, *viz.* Vegetables, they are, as we see, not onely produced many several ways, but in many several grounds; either by sowing, setting, or grafting, either in clayie, limy, sandy, chalky, dry, or wet grounds: And why may not several humors be produced as well of other Creatures and parts, as others are produced of them? for all parts of Nature are produced one from another, as being all of one and the same Matter, onely the variation of corporeal motions makes all the difference and variety between them, which variety of motions is impossible to be known by any particular Creature; for Nature can do more then any Creature can conceive. Truly, *Madam*, I should not be of such a mind, as to oppose the Schools herein so eagerly as your *Author* doth; but artificial actions make men to have erroneous opinions of the actions of Nature, judging them all according to the rule and measure of Art, when as Art oft deludes men under the cover of truth, and makes them many times believe falshood for truth; for Nature is pleased with variety, and so doth make numerous absurdities, doubts, opinions, disputations, objections, and the like. Moreover, your *Author* is as much against the radical moisture, as he is against the four humors; saying, that according to this opinion of the Schools, a fat belly, through much grease affording more fuel to the radical moisture, must of necessity live longer. But this, in my opinion,

is onely a wilful mistake; for I am confident, that the Schools do not understand radical moisture to be gross, fat radical oyl, but a thin oylie substance. Neither do they believe radical heat to be a burning, fiery and consuming heat, but such a degree of natural heat, as is comfortable, nourishing, refreshing, and proper for the life of the animal Creature: Wherefore radical heat and moisture doth not onely consist in the Grease of the body; for a lean body may have as much, and some of them more Radical moisture, then fat bodies. But your *Author* instead of this radical moisture, makes a nourishable moisture, onely, as I suppose, out of a mind to contradict the Schools; when as I do not perceive, that the Schools mean by Radical moisture, any other then a nourishable moisture, and therefore this distinction is needless. Lastly, he condemns the Schools, for making an affinity betwixt the bowels and the brain. But he might as will condemn Politicians, for saying there is an affinity betwixt Governors and Subjects, or betwixt command and obedience; but as the actions of Particulars, even from the meanest in a Commonwealth, may chance to make a Publick disturbance, so likewise in the Common-wealth of the body, one single action in a particular part may cause a disturbance of the whole Body, nay, a total ruine and dissolution of the composed; which dissolution is called Death; and yet these causes are neither Light, nor Blas, nor Gas, no more then men are shining Suns, or flaming Torches, or blazing Meteors, or azure Skies. Wherefore leaving your *Author* to his contradicting humor, I rest,

Madam,

Your faithful Friend

and Servant.

XXXII.

MADAM,

I do verily believe, with the Schools, the *Purging of the Brain*, against your *Author*;[1] For I know no reason, why all the parts of a man's body should not stand in need of evacuation and Purging, as well as some. 'Tis true, if the substance or nourishment received were all useful, and onely enough for the maintenance, subsistance and continuance of the Creature, and no more, then there would be no need of such sort of evacuation; but I believe the corporeal self-motions in a body, discharge the superfluous matter out of every part of the body, if the motions of the superfluous matter be not too strong, and over-power the motions in the parts of the body; but some parts do produce more superfluities then others, by reason their property is more to dilate, then to contract, and more to attract, then to retain or fix; which parts are the brain, stomack, bowels, bladder, gall, and the like: wherefore, as there is nourishment in all parts of the body, so there are also excrements in all parts, for there is no nourishment without excrement. Next your *Author* says, That *the nourishment of the solid parts is made with the transmutation of the whole venal blood into nourishment, without a separation of the pure from the impure.* But I pray give me leave to ask, *Madam*, whether the solid Parts are not Instruments for the nourishment of the Venal blood? Truly, I cannot conceive, how blood should be nourished, wanting those solid parts, and their particular motions and imployments. Again: his opinion is, *That the brain is nourished by a few and slender veins; neither doth a passage or channel appear whereby a moist excrement may derive, or a vapour enter.* And by reason of the

want of such a passage, in another place[2] he is pleased to affirm, *That nothing can fume up from the stomack into the brain*, and therefore *Wine doth not make drunk with fuming from the stomach into the head, but the Winie spirit is immediately snatched into the arteries out of the stomach without digestion, and so into the head, and there breeds a confusion.* First, I am not of the opinion, that all nourishment comes from the veins, or from one particular part of the body, no more do Excrements; neither do I believe that every passage in the body is visible to Anatomists, for Natures works are too curious and intricate for any particular Creature to find them out, which is the cause that Anatomists and Chymists are so oft mistaken in natural causes and effects; for certainly, they sometimes believe great Errors for great Truths. Next, as for Drunkenness, I believe that many, who drink much Wine, are drunk before such time as the Wine spirit can get into the Arteries; but if there be Pores to the Brain, as it is most probable, the spirit of Wine may more easily ascend and enter those Pores, then the Pores of the Arteries, or the Mouth-veins, and so make a circular journey to the Head. But as for Excrements, whereof I spake in the beginning, as they are made several manners or ways, and in several parts of the body, so they are also discharged several ways from several parts, and several ways from each particular part, indeed so many several ways and manners, as would puzzle the wisest man in the world, nay your *Authors Interior keeper of the Brain*, to find them out. Wherefore, to conclude, he is the best Physician, that can tell how to discharge superfluity, and to retain useful nourishments; or to restore by the application of proper Medicines, decaying parts, or to put in order Irregular motions; and not those that have Irregular opinions of

Immaterial causes: To which, I leave them, and rest,

Madam,

Your faithful Friend

and humble Servant.

[1] *Ch.* Call'd *The Erring Watchman, or Wandring Keeper*.

[2] *Ch.* call'd *The Spirit of Life*.

XXXIII.

MADAM,

I do not approve of your *Authors* Doctrine, forbidding Phlebotomy or blood-letting in Fevers, opposite to the received Practice of the Schools; his reason is, that he believes there can be no corruption in the blood. *Corrupted blood*, says he,[1] *cannot be in the veins, neither doth a state of ill juice consist in the veins; for Gangrenes do teach, that nothing of Putrified matter can long persist without a further contagion of it self.* Also he says, *That the blood of the Veins is no otherwise distinguished by its several colours and signs, then as wine is troubled when the vine flourisheth.* To which I answer, first, That I can see no reason why there should not be as well corrupt blood, or an ill state of juice in the veins, as ill humors in the body. Perchance he will say, There is no corruption in the body. But Ulcers do teach the contrary. He may reply, Ulcers are not parts of the body. I answer, 'Tis true; but yet they are evil Inhabitants in the body, and the like may be in the Veins. But surely some men may have corrupted parts of their bodies, and

yet live a great while; witness Ulcers in the Lungs, and other parts. But your *Author* may say, When a part of the body is corrupted, it is no longer an animal Part. I grant it: but yet, as I said, that transformed part may remain in the body some time without destruction of the whole body; and so likewise, when some of the blood, is transchanged from being blood, so as not to be capable to be reduced again, it may nevertheless remain in the veins without definition of the veins, or of the whole body: Neither do I conceive any reason, why corrupt blood should Gangrene in the veins, and infect the adjoyning parts more then corrupted lungs do. Next, as for the comparison of the various colours and signs of the blood, with Wine being troubled when the Vine is flourishing; I answer, That it doth not prove any thing; for we speak of such colours, as are signs of corrupted, and not such as are signs of troubled blood: Besides, it is an unlike comparison; for though Wine may become thick by much fermentation, yet it doth not turn into water, as blood in some sick and diseased persons will do. But corrupted blood may be, not onely in the veins of sick, but also of healthy persons; and the story says, that *Seneca*, when his veins were cut, they would not bleed, although in a hot Bath, by reason that which was in the veins, was rather like a white jelly, then blood, and yet he was healthy, though old; which proves, that it is not necessary for the blood to be so pure and fluid as your *Author* will have it. The truth is, the more fluid the blood is, the weaker it is; like balsam, the more gummy it is, the stronger it is: but veins, which are the mouth, to receive or suck in juices, as also the stomack which digests the meat that after is turned into blood, may be defective either through weakness, superfluity, obstruction,

corruption, or evil and hurtful diet, or through the disorders of other particular parts, which may disturb all the parts in general, as skilful Physicians have observed, and therefore apply remedies accordingly; for if the defect proceeds from weakness, they give strengthening remedies; if from superfluities, they give evacuating remedies; if from evil diets, they prescribe such a course of diet as shall be beneficial, and conducing for the restoring of health to the whole body. But your *Author*, as I perceive, believes the blood to be the chief vital part of the body; which surely it is not: for if it were, the least disturbance of the blood would endanger the life of the whole body, and the least diminution would cause a total dissolution of that animal Creature which has blood: Not but that blood is as necessary as breath for respiration, and food for nourishment of the body; but too much blood is as dangerous to the life of the animal body, as too great a piece of food, which cannot be swallowed down, but doth stick in the throat, and stop the breath, or so much quantity as cannot be digested, for too great a fulness or abounding makes a stoppage of the blood, or which is worse, causes the veins to break, and an evil digestion, makes a corruption, or at least such disorder as to indanger the whole animal Figure. But some veins breed more blood, and some less, and some better, and some worse blood, some hotter, and some colder, some grosser, and some purer, some thicker, and some thinner; and some veins breed rather an evil juice or corrupt matter then pure blood; the truth is, blood is bred somewhat after the manner of Excrements, for the veins are somewhat like the guts, wherein the excrements are digested. But you will say, A man may live without excrements, but not without blood. I answer: a man

can live no more without excrements and excremental humors, then he can without blood: but yet I am not of your *Authors* mind, that bleeding and purging are destructive; for superfluities are as dangerous as scarcities, nay more; like as an house filled with rubbish is in more danger to sink or fall, then that which is empty; and when a house is on fire, it is wisdom to take out the Moveables, but a folly to let them increase the flame. But your *Author* says, Blood-letting takes not onely away the bad, but also the good blood, by which it diminishes and impairs much the strength of the body. I will answer by way of question, Whether in War men would not venture the loss of some few friends, to gain the victory, or save the whole body of the Army: or whether the destroying of the enemies Army be not more advantageous, then the loss of some few friends? For although some good blood may issue out with the bad, yet the veins have more time, room, and some more power to get friendly juices from the several parts of the body, which will be more obedient, trusty, and true to the life and service of the whole body. But neither Fevers, nor any other distempers, will be more afraid of your *Authors* words, Stones, Spirits, as also Rings, Beads, Bracelets, and the like toys, fitter for Children to play withal, then for Physicians to use; then an Army of men will be of their enemies Colours, Ensigns, Feathers, Scarfs, and the like; knowing it must be Swords, Pistols, Guns, Powder and Bullets, that must do the business to destroy the enemy, and to gain the victory: Wherefore in Diseases it must be Bleeding, Purging, Vomiting, using of Clysters, and the like, if any good shall be done. 'Tis true, they must well be ordered, otherwise they will do more hurt then good; for Diseases are like Enemies, which sometimes take

away our Armes for their own uses. But your *Author* says again, *That the Matter of a Fever floats not in the veins, nor sits nigh the heart.* I answer: There are several sorts of Fevers; for all Fevers are not produced after one and the same manner, or from one and the same cause, as is very well known to wise and experienced Physicians; but although some Fevers are not in the blood, yet that doth not prove, that the blood is never in a Fever; for sometimes the blood is in a Fever, and not the solid parts; and sometimes the fluid and moveable humors, and not the blood, or solid parts; and sometimes the solid parts, and not the blood, nor the liquid and moveable humors; and sometimes they are all in a Fever; and sometimes onely the radical parts, and neither the blood, humors, nor solid parts: and this last kind of Fever, which is a hectick Fever, in my opinion, is incureable; but the others may be cureable, if there be not too many varieties of distempers, or irregular motions. And as for a Fever in the solid parts, Letting of blood, and taking away the humor, may cure it; for the veins being empty, suck the heat out of the solid parts, which solid parts cannot draw out a distempered heat in the veins, and the opening of the veins gives vent to some of the interior heat to issue forth: Wherefore it is very requisite, that in all sorts of Fevers, except Hectick-Fevers, blood-letting should be used, not onely once, but often; for 'tis better to live with a little blood, and a little strength, which will soon be recovered, then to die with too much, or too hot and distempered blood. Also Purging, but especially Vomiting is very good; for if the humors be in a Feaver, they may infect the vital parts, as also the blood; but if they be not in a Fever, yet the solid parts or blood may do the same, and so make the

contagion greater; for the humors are as the moveables in a house, which ought to be cast out if either they or the house should be on fire; and if a disorder proceeds from the error of a particular part, then care must be taken to rectifie that part for the health of the whole: Wherefore Physicians use in some cases Blood-letting, in some Purging, in some Vomiting, in some Bathing, in some Sweating, in some Cordials, especially after much evacuation, in some they prescribe a good diet, and in some they mix and prescribe partly one and partly the other, and in some cases they are forced to use all these remedies; for though great evacuations may cause weakness, yet they often save the life; and there is no Patient, but had rather lose some strength, then life; for life can gather strength again; but all strong men are not always long lived, nor all long-lived men very strong; for many that are but weak, will live to a very old age. Lastly, concerning what your *Author* says, that there is but one Choler and Phlegme in Nature; I answer, That is more then he knows: for all that is in Nature, is not nor cannot be known by any Particular Creature; and he might say, as well, the same of particular Metals, as that there is but one sort of Gold or Silver, when as there is great difference in the weight, purity, colour, and gloss, of several parts of Gold and Silver; Neither is all Gold found in one place; but some is found in Rocks, some in Sand, some in Mines, some in Stones; and so Silver, some is found in the bowels of the Earth, some in the veins of Stones, and some in other Metals, as Lead, and Iron, and some in Coals. And the like may be said of Choler and Phlegme; for they may be several in several places or parts of the body, and be of different colours, tastes, odours, and degrees of heat or cold, thinness or thickness, or the

like; for though there is but one Matter in Nature, yet this onely Matter by its several actions or motions changes into several figures, and so makes several sorts of Creatures, and different particulars in every sort. And thus, *Madam*, I have delivered unto you my opinion concerning the cure of Fevers by Blood-letting: Which I submit to the correction of your better judgment, and rest,

Madam,

Your faithful Friend

and Servant.

[1] In his Treatise of Fevers, *c.* 4.

XXXIV.

MADAM,

Your *Author* is not onely against Phlebotomy or Blood-letting, but against all Purging Medicines, which he condemns to *carry a hidden poyson in them, and to be a cruel and stupid invention.* But certainly he shall not have my assent; for if they be Poyson, they are a very beneficial Poyson; and Physical Purgations, in my opinion, are very necessary and profitable for the prolonging of life, and taking away of diseases, provided they be proper for those diseases in which they are used; and so is Phlebotomy, Vomits, and the like: but Medicines are often wrong applyed, and many times the disease is so various, that it is as hard for a Physician to hit right with several Medicines, as for a Gunner or Shooter to kill with Powder and small Shot a Bird flying in the Air; not that it is not possible to be

done, but it is not ordinary, or frequent: neither doth the fault onely lie in the Gun, Powder, or Shot, but in the swiftness of the flight of the Bird, or in the various motion of the air, or in a hidden wind, or mist, or the like; for the same Gunner may perhaps easily kill a Bird sitting in a bush, or hopping upon the ground. The like may be said of Diseases, Physicians, and Medicines; for some diseases have such hidden alterations, by the sudden changes of motions, that a wise Physician will not, nor cannot venture to apply so many several medicines so suddenly as the alteration requires; and shall therefore Physicians be condemned? and not onely condemned for what cannot be helped by reason of the variety of irregular motions, but what cannot be helped in Nature? For some diseases are so deadly, as no art can cure them, when as otherwise Physicians with good and proper medicines, have, and do as yet rescue more people from death, then the Laws do from ruine. Nay, I have known many that have been great enemies to Physick, die in the flower of their age, when as others which used themselves to Physick, have lived a very long time. But you may say, Country-people and Labourers, take little or no Physick, and yet grow most commonly old, whereas on the contrary, Great and rich Persons take much Physick, and do not live so long as the common sort of men doth. I answer: It is to be observed, first, that there are more Commons, then Nobles, or Great and rich persons; and there is not so much notice taken of the death of a mean, as of a noble, great, or rich person; so that for want of information or knowledg, one may easily be deceived in the number of each sort of persons. Next, the Vulgar sort use laborious exercises, and spare diet; when as noble and rich persons are most commonly lazie and luxurious,

which breeds superfluities of humors, and these again breed many distempers: For example, you shall find few poor men troubled with the Gout, Stone, Pox, and the like diseases, nor their Children with Rickets; for all this cometh by luxury, and no doubt but all other diseases are sooner bred with luxury, then temperance; but whatsoever is superfluous, may, if not be taken away, yet mediated with lenitive and laxative medicines. But as for Physicians, surely never age knew any better, in my opinion, then this present, and yet most of them follow the rules of the Schools, which are such as have been grounded upon Reason, Practice, and Experience, for many ages: Wherefore those that will wander from the Schools, and follow new and unknown ways, are, in my opinion, not Orthodoxes, but Hereticks in the Art of Physick. But to return to your *Author*, give me leave, *Madam*, to consider what his opinions are concerning the Purging of Choler; *Come on*, says he to the Schools,[1] *Why doth that, your Choler following with so swift an efflux, stink so horribly, which but for one quarter of an hour before did not stink?* To which it may be answered, That though humors may not stink in themselves, yet the excrements mixt with the humors may stink; also the very passing thorow the excrements will cause a strong savour. But your *Author* thinks, That *by passing through so suddenly, the humors cannot borrow such a smell of stinking dung from the Intestines.* Truly, 'tis easily said, but hardly proved, and the contrary is manifest by putting clear, pure water into a stinking vessel, which straightway is corrupted with an ill smell. He talks also of *Vitriol dissolved in Wine, which if it be taken, presently provokes vomit; but if after drinking it, any one shall drink thereupon a draught of Ale or Beer, or Water, &c. he indeed shall suffer many stools, yet wholly without*

stink. I answer: This expresses Vitriol to be more poysonous, by taking away the natural savour of the bowels, then Scammony, Coloquintida, Manna, Cassia, Sena, Rhubarb, &c. to all which your *Author* is a great enemy; and it is well known to experienced Physicians, that Medicines prepared by the art of fire are more poysonous and dangerous then natural drugs; nay, I dare say, that many Chymical Medicines, which are thought to be Cordials, and have been given to Patients for that purpose, have proved more poysonous then any Purging Physick. Again your *Author* says, *It is worthy of Lamentation, that Physicians would have loosening things draw out one humor, and not another, by selection or choyce.* My answer is, That natural drugs and simples are as wise in their several operations, as Chymists in their artificial distillations, extractions, sublimations, and the like; but it has long been observed by Physicians, that one simple will work more upon one part of the body, then upon another; the like may be said of humors. But give me leave to tell you, *Madam*, that if your *Author* believes magnetick or attractive cures (as he doth, and in whose behalf he makes very long discourses) he doth in this opinion contradict himself. He may say, perhaps, There is no such thing as what Physicians name humors. But grant there be none, yet he cannot deny that there are offensive juices, or moveable substances made by evil, as irregular digestions, which may be troublesom and hurtful to the nature of the body. Or perchance he will say, There are such humors, but they are beneficial and not offensive to the nature of the body. I answer: Then he must make an agreement with every part of the body, not to make more of these humors then is useful for the body. Also he mentions some few that took Purging Physick, and

died. Truly so they might have done without taking it: but he doth not tell, how many have died for want of proper and timely Purges. In truth, *Madam*, 'tis an easie thing to find fault, but not so easie to mend it. And as for what he speaks of the weighing of those humors and excrements, which by purging were brought out of some Princes body, and how much by the Schools rules remained, and of the place which should maintain the remainder; I onely say this, that all the several sorts of juices, humors, or moveable substances in a body, do not lie in one place, but are dispersed, and spread all about and in several parts and places in the body; so that the several Laxative medicines do but draw them together, or open several parts, that they may have freedom to travel with their chief Commanders, which are the Purging medicines. But your *Author* says, the Loadstone doth not draw rust. And I say, no more do Purging drugs draw out pure Matter: for it may be as natural for such medicines to draw or work onely upon superfluities, that is, corrupted, or evil-affected humors, juices or moveable substances, as for the Loadstone to draw Iron; and so it may be the property of Purges to draw onely the rust of the body, and not the pure metal, which are good humors. But few do consider or observe sufficiently the variety of Natures actions, and the motions of particular natural Creatures, which is the cause they have no better success in their cures. And so leaving them to a more diligent inquisition and search into Nature, and her actions, I rest,

Madam,

Your faithful Friend

and humble Servant.

[1] In his Treatise of Fevers, *c.* 5.

XXXV.

MADAM,

I find your *Author* to be as great an enemy to Issues, Cauteries, Clysters, and the like, as he is to Blood-letting and Purging; especially to Issues, which he counts to be blasphemous against the Creator, and blames much the Schools for prescribing them. But concerning Blood-letting and Purging, I have declared my opinion in my former Letters; and if you desire my judgment of Clysters and Issues, I must needs tell you, that it is well known these many ages, that in such diseases which lie in the guts, and cause pain in the head, and stop the ureteres, Clysters have been very beneficial, but wise Physicians do not prescribe them, unless upon necessity: As for example; if the disease in the Guts proceed from cold or wind, they prescribe a Sack-Clyster, with oyl of Walnuts; and if the disease in the guts proceed from a sharp or bitter humor, then they prescribe Milk, or Posset, sweetned with Sugar: the same if the guts be too full of excrements or slime. But in case of diseases in the head or stomack, they prescribe attractive Clysters, to wit, such as draw down from the upper into the lower parts, wherein the Physical drugs are; and if the guts be too dry, or dryer then their nature requires, they prescribe moistening Clysters, such as have not onely wetting, but slimy qualities. And surely Clysters properly and timely applyed, are a safe, speedy, easie and profitable medicine, and far more safe then Chymical Salts, Tartars, Spirits, or the like. Next concerning Issues and Cauteries, your *Author*, I say, is so much against them, as he counts them a blasphemy; for says he,[1]

I have beheld always an implicite blasphemy in a Cautery, whereby they openly accuse the Creator of insufficiency in framing the emunctories; for I have bidden above a thousand Issues to be filled up with flesh. Also, *That which God hath made whole and entire, that it might be very good, seems to the Schools, that it should be better if it be kept wounded.* Truly, *Madam*, in my opinion, it is no blasphemy at all, neither directly nor indirectly, to make Issues, but a meer superstition to believe the contrary, *viz.* that they are blasphemy, and a great folly not to make them when need requires it to the preservation of ones health. *God has made our body whole and intire*, says your *Author*: by which he will prove that no holes must be made in the body to let out excrementious matter, and therefore he thinks that body to be whole and intire which is without an Issue, when as yet our bodies have numerous issues, which are the pores of the skin, to let out sweat; and therefore if he counts that body not to be whole and intire that has Issues, then no humane body is intire. Certainly, no Artificial Issue will make the body maimed, but it will nevertheless continue whole and intire although it has Issues. He says it is Blasphemy; But how will he prove it? Surely not by the Scripture; and if not by the Scripture, then it is a blasphemy according to his own brain and fancy. 'Tis true, God gave no express Command to make Issues; but according to your *Author*, God did never create Diseases, and so there was no need either to make such Issues in bodies as to let out distempered Matter, or to give any command for them; but we might as well say, we must not use any Physick, because it is not so natural to man as food, and serves not for the nourishment of the body, but onely to keep off, or drive out diseases: Also no stone must be cut, but man must

rather indure torment and death. But setting aside this superstitious doctrine of your *Author*, it is evident enough, and needs no proof, that Cancers, Fistulas, Wenns, Eating-evils, Madness, Fevers, Consumptions, Rheumes, Pleurisies, and numerous other diseases, are not better cured then by Issues, or making of wounds, either by Lancets, Pen-knifes, Scissers, Rasors, Corrosives, Causticks, Leeches, or the like. And although your *Author* says, That *that Matter which proceeds from, or out of an Issue, is made in the lips of the wound, and not in the body; for it cannot possibly drain or draw out any moisture, either from within or between the skin and the flesh, having no passages*: Yet if this were so, how come Fistulas, Cancers, and the like diseases, to have passages from within the body to the exterior parts, so, as to make a wound, out of which much sharp and salt humor issues? which humor certainly is not made in the lips of the wound, but in the body: Also whence comes the humor that makes the Gout? For though the swelling and inflammation will sometimes appear exteriously, yet after some time those tumors and humors retire back into the body from whence they did flow; but he might as well say that Pit-falls or Sluces do not drain Land from a superfluity of Water, as that Issues do not drain the body of superfluous humors. Wherefore I am absolutely of opinion, that the Practice of the Schools is the best and wisest Practice, as well in making Issues, letting blood, Purging by Siege or Vomits, as any other means used by them; for by Issues I have seen many cured, when no other medicines would do any good with them; and letting blood, I am confident, hath rescued more lives, then the Universal Medicine, could Chymists find it out, perchance would do. So also Clysters and Vomits, skilfully applied, have done great benefits to

the life of men; for every part and member hath its peculiar way to be purged and cleansed; for example, Clysters principally cleanse the Guts, Purges the Stomack, Vomits the Chest, Sneezing the Head, Bleeding the Veins, and Issues drain the whole body of naughty humors: All which remedies, properly and timely used, keep the body from being choak'd with superfluities. There are several other ways of cures besides for several diseases, but I leave those to learned and skilful Physicians, who know best how and when to use them to the benefit and health of their Patients, although your *Author* finds much fault with them, and blames them for suffering men to die miserably; but God has given power to Nature to make certain dissolutions, although uncertain diseases, and uncertain remedies. Neither hath she in her power to give Immortal Life to particular Creatures, for this belongs to God alone, and therefore no Universal Medicine will keep out death, or prolong life further then its thread is spun, which I doubt is but a Chymæra, and an impossible thing, by reason there are not onely so many different varieties in several diseases, but in one and the same disease, as no Universal remedy would do any good. But your *Author* is much pleased with Paradoxes, and Paradoxes are not certain Truths: Wherefore it is better, in my judgment, to follow the old approved and practised way of the Schools, grounded upon Experience and Reason, then his Paradoxical Opinions. To which Schools, as your *Author* is a great Enemy, so I am a great Friend, as well as,

Madam,

Your Ladiships

humble Servant.

[1] Of Cauteries.

XXXVI.

MADAM,

I approve well of your *Authors* opinion,[1] That *Drink ought not to be forbidden in Fevers*; but yet I would not allow so much as to drown and oppress the Patients life, but onely so much as to refresh and moisten him; and therefore the best way is to drink little and often. But as for Wine, which your *Author* commends in Fevers, I am utterly against it, unless the Fever proceed from a cold or crude cause, otherwise cooling Ptisans are most beneficial to those that are sick of a continual Fever, which for the most part is a general Fever throughout the whole body, one part infecting the other, until they be all infected, like as in the Plague. And to let you know the proof of it; when I was once sick beyond the Seas, I sent for a Doctor of Physick who was an Irish-man: and hearing of some that knew him, and his practice, that he was not successful in his Cures, but that his Patients most commonly died, I asked him what he used to prescribe in such or such diseases? where amongst the rest, as I remember, he told me, That he allowed his Patients to drink Wine in a Fever. I thought he was in a great error, and told him my opinion, that though Wine might be profitable, perhaps, to some few, yet for the most part it was very hurtful and destructive, alledging another famous Physician in *France*, Dr. *Davison*, who used in continual Fevers, to prescribe onely cooling Ptisan, made of a little Barley, and a great quantity of Water, so thin as the

Barley was hardly perceived, and a spoonfull of syrup of Limmon put into a quart of the said Ptisan; but in case of a Flux, he ordered some few seeds of Pomegranats to be put into it, and this cold Ptisan was to be the Patients onely drink: Besides, once in Twenty four hours he prescribed a couple of potched Eggs, with a little Verjuice, and to let the Patient blood, if he was dry and hot; I mean dry exteriously, as from sweat; and that either often or seldom, according as occasion was found: Also he prescribed two grains of Laudanum every night, but neither to give the Patient meat nor drink two hours before and after: Which advice and Practice of the mentioned Physician concerning Fevers, with several others, I declared to this Irish Doctor, and he observing this rule, cured many, and so recovered his lost esteem and repute. But your *Author* being all for Wine, and against cooling drinks, or Julips, in hot Fevers, says, *That cooling means are more like to death, to cessation from motion, and to defect; but heat from moderate Wine is a mean like unto life.* To which I answer, first, That cold, or cooling things, are as active as hot or heating things; neither is death more cold then hot, nor life more hot then cold; for we see that Frost is as active and strong as burning heat; and Water, Air, and Earth, are as full of life, as Fire; and Vegetables, Minerals, and Elements, have life as well as Animals: But we, feeling a Man's flesh cold when he is dissolving from an Animal, think death is cold; and seeing he was hot before the same alteration, say, Life is hot: Also finding an animal, when it is dissolving, to be without external local Motion, we say it is dead; and when it hath as yet this local motion before its alteration, we call it alive; which certainly is not proper. Next I say, that a wise Man when his house is fired, will fling or squirt water

upon it, to quench it, and take out all moveables lest they should increase the flame; likewise he will make vent for the flame to issue forth. But perchance your *Author* may say, that Fevers are not hot. Truly, in my opinion, he might say as well that Fire is cold. Again, he may say, That although the effect be hot, yet the cause is cold. I answer: That in some diseases, the effects become so firmly rooted, and so powerfull, that they must be more look'd upon then the cause: for such variety there is in Nature, that oftentimes, that which was now an effect, turns to be a cause, and again a cause an effect: For example; A cold cause often produces a hot effect, and this hot effect becomes again a cause of a cold effect: Which variation is not onely a trouble, but a great obstruction to wise Physicians; for Nature hath more varieties in diseases, then Physicians have remedies, And as for drink, if Fevers be neither hot, nor dry, nor require drink for want of moisture; then I see no reason why drink should be urged, and those Physicians blamed that forbid it; for if thirst proceed from an evil digestion, drink will rather weaken the stomack; for heat and driness draw soon away the drink in the stomack, and putting much into a weak stomack doth rather hurt then good. But if necessity require it, then I approve rather of raw and crude Water, then of hot inflaming Wine. And so taking my leave, I rest,

Madam,

Your faithful Friend

and humble Servant.

[1] Of Fevers, *Ch.* 12.

XXXVII.

MADAM,

In your *Authors* Treatise of Fevers, I find one Chapter[1] whose Inscription is, *A Perfect Curing of all Fevers*, wherein he declares the secrets of the Cures of Fevers, consisting all in Chymical Medicines. But considering, that if all Fevers could be cured by such Medicines, then all Physicians would strive to obtain them; I can hardly believe (by your *Authors* favour) that any such perfect curing of all Fevers can be effected, but that your *Authors* prescriptions, if they should come to the tryal, might fail as well as any other. Likewise he mentions a Medicine of *Paracelsus*, Named *Diaceltesson*, or the *Coraline Secret*; which, he says, cures radically the Gout no less then Fevers: Which if so, I wonder why so many Great, Noble and Rich Persons, groan so much under the pains of the Gout; certainly it is not for want of cost to have them prepared, nor for want of an ingenious and experienced Chymist; for this age doth not want skilful workmen in that Art, nor worthy and wise Physicians, which if they knew such soveraign medicines, would soon apply them to their Patients; but I suppose that they finding their effects to be less then the cost and labour bestowed upon them, forbear to use them. Moreover, he mentions[2] another remedy for most diseases, by him call'd *Driff*, prepared also by the Art of Chymistry; but I believe all those remedies will not so often cure, as fail of cure, like as the Sympathetical Powder; for if there were such soveraign medicines that did never fail of a successful effect, certainly men being curious, inquisitive, and searching, would never leave till they had found them out. Also amongst Vegetables, the herb *Chameleon* and *Arsmart* are in great request

with your *Author*; For, says he, *they by their touching alone, do presently take away cruel diseases, or at leastwise ease them.* Which if so, I wonder that there is not more use made of them, and they held in greater esteem then they are; Also that your *Author* doth not declare the vertue of them, and the manner and way how, and in what diseases to use them, for the benefit of his neighbour, to which end, he says, all his labours and actions are directed? But again, your *Author* confirms, as an Eye-witness, *That the bone of the arm of a Toad presently has taken away the Tooth-ach at the first co-touching.* Which remedy, if it was constant, few, in my opinion, would suffer such cruel pains, and cause their teeth to be drawn out, especially if sound. Likewise of the mineral *Electrum or Amber* of *Paracelsus*, he affirms[3] to have seen, that *hung about the neck, it has freed those that were persecuted by unclean spirits*, and that many simples have done the like effects; but surely, *Madam*, I cannot be perswaded that the Devil should be put away so easily; for he being a Spirit, will not be chased by corporeal means, but by spiritual, which is Faith, and Prayer; and the cure of dispossessing the Devil belongs to Divines, and not to Natural Philosophers or Physicians. But though exterior remedies, as Amulets, Pomanders, and the like, may perform sometimes such effects as to cure or preserve from some diseases, yet they are not ordinary and constant, but meerly by chance. But there are more false remedies then true ones, and if one remedy chance to work successfully with one distempered person, it may fail of its success applyed to others in the same kind of distemper; nay, it may cure perhaps one and the same person of a distemper once, and in the return of the same disease effect little or nothing; witness those remedies that are

applyed in Agues, Tooth-aches, and the like, especially Amulets; for one and the same disease in several persons, or in one and the same person at several times, may vary and change so often, and proceed from so different causes, and be of so different tempers, and have such different motions, as one and the same medicine can do no good: And what would the skill of Physicians be, if one remedy should cure all diseases? Why should they take so much pains in studying the various causes, motions, and tempers of diseases, if one medicine had a general power over all? Nay, for what use should God have created such a number of different simples, Vegetables, and Minerals, if one could do all the business? Lastly, your *Author* rehearses[4] some strange examples of Child-bearing Women, who having seen terrible and cruel sights, as Executions of Malefactors, and dismembring of their bodies, have brought forth monstrous births, without heads, hands, arms, leggs, &c. according to the objects they had seen. I must confess, *Madam*, that all Creatures are not always formed perfect; for Nature works irregularly sometimes, wherefore a Child may be born defective in some member or other, or have double members instead of one, and so may other animal Creatures; but this is nevertheless natural, although irregular to us: but to have a Child born perfect in the womb, and the lost member to be taken off there, and so brought forth defective, as your *Author* mentions, cannot enter my belief; neither can your *Author* himself give any reason, but he makes onely a bare relation of it; for certainly, if it was true, that the member was chopt, rent or pluckt off from the whole body of the Child, it could not have been done without a violent shock or motion of the Mother, which I am confident would

never have been able to endure it; for such a great alteration in her body, would of necessity, besides the death of the Child, have caused a total dissolution of her own animal parts, by altering the natural animal motions: But, as I said above, those births are caused by irregular motions, and are not frequent and ordinary; for if upon every strange sight, or cruel object, a Child-bearing-woman should produce such effects, Monsters would be more frequent then they are. In short, Nature loves variety, and this is the cause of all strange and unusual natural effects; and so leaving Nature to her will and pleasure, my onely delight and pleasure is to be,

Madam,

[Your] faithful Friend, and humble Servant.

[1] *Ch.* 14.

[2] In the *Ch.* named *Butler*.

[3] Ch. Of the manner of entrance of things darted into the body.

[4] *Ch.* Of things injected into the body.

XXXVIII.

MADAM,

Your *Author* reproving the Schools, that they forbid Salt to some diseased persons, as pernicious to their health: *Good God*, says he,[1] *how unsavoury are the Schools, and how unsavoury do they bid us to be!* But I suppose the Schools do not absolutely forbid all diseased persons to abstein from salt, but onely not to use it excessively, or too frequently; for experience

proves, that salt meats have not onely increased, but caused diseases, as the Stone, the Gout, Sciatica, Fistula's, Cancers, sore Eyes, sore Throats, and the like: I do not say, that those diseases are always bred with the excess of salt diets; for diseases of one and the same kind, may be bred variously; but this hath been observed, that whosoever is affected with such diseases, shall after a salt meal find himself in more pain then before; wherefore a constant or common salt diet cannot but be hurtful. Neither are those persons that feed much on salt meats, or use strong drinks, take number for number, so healthful or long-lived, as those that are temperate and abstaining. Next, your *Author*[2] bewails *The shameful simplicity of those, that give their Patients Leaf-Gold, Pearls, and bruised or powder'd pretious Stones, as Cordials, in fainting fits, and other distempers: For*, says he, *they may be dissolved, but not altered; wherefore they cannot produce any powerful effect to the health of the Patient.* Truly, *Madam*, I am not of his mind; for were it that those remedies or cordials could not be transchanged, yet their vertues may nevertheless be very beneficial to the sick: For example; a man that is assaulted by enemies, or by chance is fallen into a deep Pit, or is ready to be strangled, and in all not able to help himself, yet by the help of another man, may be rescued and freed from his danger, and from death, using such means as are able to release him, which either by drawing his Sword against his enemies, or by throwing a rope down into the Pit, and haling him out, or by cutting the rope by which he hung, may save him, and yet neither the man, nor any of his Instruments, as Sword, Rope, Knife, and the like, need to be transchanged. The like may be said of the aforementioned medicines or remedies; which if they be not transchangeable, yet they may

nevertheless do such operations, as by their natural active qualities and proprieties to over-power the irregular motions in the natural parts of the body of the Patient; for many diseases proceed more from irregular motions then irregular parts: and although there is no motion without matter, yet one and the same matter may have divers and various changes of motions, and moving parts will either oppose or assist each other without transchanging. And truly, *Madam*, I wonder that your *Author* doth condemn such Cordials made of Leaf-gold, Pearls, powdered precious Stones, or the like, and yet verily believe, that Amber, Saphires, Emeraulds, Beads, Bracelets, &c. outwardly applied or worn, can cure more then when inwardly taken; surely, if this be so, they cure more by Faith, then by Reason. But it seems your *Author* regulates the actions of Nature to the artificial actions of his Furnace, which although sometimes they produce wonderful effects, yet not such as Nature doth; for if they cure one, they commonly kill ten; nay, the best of their Medicine is so dangerous, as it ought not to be applied but in desperate cases: Wherefore Wise Physicians must needs be Provident and Cautious when they use them. And so leaving them, I rest,

Madam,

Your faithful Friend

and humble Servant.

[1] Of the disease of the Stone, *c.* 3.

[2] *Ch.* Of the reason or consideration of diet.

XXXIX.

MADAM,

I will not dispute your *Authors* opinion concerning the Plague of Men, which he says,[1] *doth not infect Beasts, neither doth the plague of Beasts infect Men*; but rather believe it to be so: for I have observed that Beasts infect onely each other, to wit, those of their own kind, as Men do infect other Men. For example: the Plague amongst Horses continues in their own kind, and so doth the Plague amongst Sheep; and for any thing we know, there may be a plague amongst Vegetables, as well as amongst Animals, and they may not onely infect each other but also those Animals that do feed on those infectious Vegetables: so that Infections may be caused several ways; either by inbreathing and attracting or sucking in the Poyson of the Plague, or by eating and converting it into the substance of the body; for some kinds of poyson are so powerful, as to work onely by way of inbreathing. Also some sorts of Air may be full of infection, and infect many Men, Beasts, Birds, Vegetables, and the like; for Infections are variously produced, Internally as well as Externally, amongst several particular Creatures; for as the Plague may be made internally, or within the body of a particular Creature, without any exterior infection entring from without into the body, so an external Infection again may enter many several ways into the body. And thus there be many contagious diseases caused meerly by the internal motions of the body, as by fright, terror, conceit, fancy, imagination, and the like, and many by the taking of poysonous matter from without into the body; but all are made by the natural motions or actions of animate matter, by which all is made that is in Nature, and nothing is new, as *Solomon* says; but what is thought or seems to be new, is onely the variation of the Motions of

this old Matter, which is Nature. And this is the reason that not every Age, Nation, or Creature, has always the like diseases; for as all the actions of Nature vary, so also do diseases. But to speak of the Plague, although I am of opinion, that the Plague of Beasts doth not infect Men, unless they be eaten; nor the plague of Men, Beasts; yet Magistrates do wisely in some places, that in the beginning of the plague of Men, they command Dogs and Cats to be kill'd, by reason, as your *Author* saith, *The skins and flesh of Brutes may be defiled with our Plague, and they may be pestiferous contagions unto us.* I will add one thing more, which doth concern the Poyson of Measels, whereof your *Author* is saying,[2] That *it is onely proper to humane kind.* What kind of Measles he means, I know not; but certainly Hogs are often affected with that disease, as is vulgarly known; but whether they be different diseases in their kinds, and proceed from different motions, I will let others inquire. And so I rest,

Madam,

Your faithful Friend

and Servant.

[1] In the Plague-grave, *ch.* 17.

[2] *Ch.* Call'd, *The Lunar Tribute*.

XL.

MADAM,

Concerning the disease of the Stone, your *Author* seems to be of an opinion, That the stone in the

Bladder, and the stone in the Kidnies, are not made after one and the same manner: For, says he,[1] *The Bladder and the same Urine in number procreates a duelech of another condition, then that which is made in the Kidney.* And truly, *Madam*, it may be so; for there are several ways or modes in irregularities, as well as regularities, and not every kind is alike, no not every Particular, but there is some difference between them: Wherefore, it may very well be, that the corporeal motions that make the stone in the Kidneys, are not just alike to those that make the stone in the Bladder; and as each sort of stone is different, so their particular causes ought to be different; but this is to be observed, that generally all diseases which produce hardness, are made by contracting, condensing and retenting motions, and therefore the remedies of them must be dilating, rarifying and dissolving. Next your *Author* says, *The Stone is not bred by heat, but heat is rather an effect of the stone; neither is a certain muscilage, or a slimy, snivelly Phlegme the cause or matter of the stone, but the stone is the cause of the phlegme.* But, in my judgment, it seems more probable, that a slimy matter is more proper for a stone to be made of, then that a stone should make slime, except it be in its dissolution; that is, when the stone, as in its generation or production it did change from a slimy or liquid substance to a stone by condensing and contracting motions, doth, by dilating and rarifying motions, dissolve again into such a liquid and slimy body. I will not say always, to wit, that the stone must needs be resolved into a slimy matter, but oftentimes it may be so. Neither can I absolutely affirm that either heat or cold onely is the cause of a stone; for some may be produced by hot, and some by cold contractions and densations, there being as many

several sorts of stones as there are of other Creatures: But this is to be well noted, that as some sorts of hot contractions do make stones, so some sorts of hot dilations do dissolve them: The like of cold contractions and dilations. Again: your *Author* speaking of the womb wherein the stone is made; *Every generated thing or being*, says he, *must of necessity have a certain place or womb where it is produced; for there must needs be places wherein things may be made before they are bred.* I answer: As there is not any body without place, nor any place without body, so the womb is not the place of the body generated, neither before nor after its generation, no more then a man can be said to be in a room when he is not there, but every body carries its place along with it. Moreover, concerning the voiding of bloody Urine, which happens sometimes in the disease of the Stone, my opinion is, That it doth not always proceed from the Stone, but many times from the breaking or voluntary opening of some Veins. But as for the cure of the disease of the Stone your *Author,* [2] is pleased to affirm, *That no disease is incurable*, and so neither the disease of the Stone, *For he himself has cured many of the Stone to which they had been obedient for some years.* Indeed, *Madam*, I fear his words are more cheerful then effectual; however it may be possible, if the Kidneys be no ways impaired, or the Bladder hurt; but if there be some such imperfection in either or both, then it is as much, in my opinion, as to say, Man can do more then Nature doth: Neither can I believe, that then any of your *Authors* Chymical preparations, as *Aroph, Ludus, Alkahest*, and the like, if they were to be had, would do any good, no nor *Daucus*, or wild Carrot-seed, if the disease be as yet curable, will prove an effectual remedy for it, although your *Author* is pleased to

relate an example of a man, to whom it did much good; for I can affirm the contrary by other the like Examples, that it never did any good to those that used it; nor the liquor of the Birch-tree, whose venue and efficacy I do not believe to be so great as your *Author* describes:[3] But for the stoppage of Urine, Marsh-mallow and oyl of Almonds, which he despises, I approve to be good, and better then any of his Unknown, Chymical Secrets; for those Chymical Medicines, as he himself confesses, are hard to be had, especially *Alkahest*, which is onely to be obtained by a Particular favour from Heaven, and is rather a supernatural Gift, then a natural remedy. But your *Author* doth wisely, to commend such remedies as can never, or with great difficulty be obtained, and then to say that no disease is incurable. And so leaving him to his unknown secrets, and those to them that will use them, I am resolved to adhere to the Practice of the Schools, which I am confident will be more beneficial to the health of,

Madam,

Your real and faithful

Friend and Servant.

[1] Of the Stone, *ch.* 6. See the *ch.* called, *A Numero-Critical Paradox of supplies*.

[2] *Ch.* 7.

[3] *Ch.* 8.

XLI.

MADAM,

Your *Author* speaking of the *Gout*, and of that kind of Gout which is called *Hereditary*, says, *It consists immediately in the Spirit of Life.* First, as for that which is called an Hereditary Disease, propagated from Parents upon their Children; my opinion is, That it is nothing else but the same actions of the animate matter, producing the same effect in the Child as they did in the Parent: For example; the same motions which made the Gout in the Parent, may make the same disease in the Child; but every Child has not his Parents diseases, and many Children have such diseases as their Parents never had; neither is any disease tied to a particular Family by Generation, but they proceed from irregular motions, and are generally in all Mankind; and therefore properly there is no such thing as an hereditary propagation of diseases; for one and the same kind of disease may be made in different persons, never a kin to one another, by the like motions; but because Children have such a neer relation to their Parents by Generation, if they chance to have the same diseases with their Parents, men are apt to conclude it comes by inheritance; but we may as well say, that all diseases are hereditary; for there is not any disease in Nature but is produced by the actions of Nature's substance; and if we receive life and all our bodily substance by Generation from our Parents, we may be said to receive diseases too; for diseases are inherent in the matter or substance of Nature, which every Creature is a part of, and are real beings made by the corporeal motions of the animate matter, although irregular to us; for as this matter moves, so is Life or Death, Sickness or Health, and all natural effects; and we consisting of the same natural matter, are naturally subject as well to diseases as to health,

according as the Matter moves. Thus all diseases are hereditary in Nature; nay, the Scripture it self confirms it, informing us, that diseases, as well as death, are by an hereditary propagation derived from *Adam* upon all Posterity. But as for the Gout, your *Authors* doctrine is,[1] *That Life is not a body, nor proper to a body, nor the off-spring of corporeal Proprieties*,[2] but a *meer No-thing*; and that *the Spirit of Life is a real being, to wit, the arterial blood resolved by the Ferment of the heart into salt air, and enlightned by life*,[3] and that the Gout doth immediately consist in this spirit of life. All which how it doth agree, I cannot conceive; for that a real being should be enlightned by Nothing, and be a spirit of Nothing, is not imaginable, nor how the Gout should inhabit in the spirit of life; for then it would follow, that a Child, as soon as it is brought forth into the world, would be troubled with the Gout, if it be as natural to him as life, or have its habitation in the Spirit of Life. Also your *Author* is speaking of *an Appoplexy in the head, which takes away all sense and motion.* But surely, in my opinion, it is impossible that all sense and motion should be out of the head; onely that sense and motion, which is proper to the head, and to the nature of that Creature, is altered to some other sensitive and rational motions, which are proper to some other figure; for there is no part or particle of matter that has not motion and sense. I pray consider, *Madam*, is there any thing in Nature that is without motion? Perchance you will say, Minerals; but that is proved otherwise; as for example, by the sympathetical motion between the Loadstone and Iron, and between the Needle and the North, as also by the operation of Mercury, and several others; Wherefore there is no doubt, but all kinds, sorts and particulars of Creatures have their

natural motions, although they are not all visible to us, but not such motions as are made by Gas, or Blas, or Ideas, &c. but corporeal sensitive and rational motions, which are the actions of Natural Matter. You may say, Some are of opinion, that Sympathy and Antipathy are not Corporeal motions. Truly, whosoever says so, speaks no reason; for Sympathy and Antipathy are nothing else but the actions of bodies, and are made in bodies; the Sympathy betwixt Iron and the Loadstone is in bodies; the Sympathy between the Needle and the North is in bodies; the Sympathy of the Magnetic powder is in bodies. The truth is, there is no motion without a body, nor no body without motion. Neither doth Sympathy and Antipathy work at distance by the power of Immaterial Spirits, or rays, issuing out of their bodies, but by agreeable or disagreeable corporeal motions; for if the motions be agreeable, there is Sympathy; if disagreeable, there is Antipathy; and if they be equally found in two bodies, then there is a mutual Sympathy or Antipathy; but if in one body onely, and not in the other, there is but Sympathy or Antipathy on one side, or in one Creature. Lastly, concerning *swoonings or fainting fits*, your *Authors* opinion is, that they *proceed from the stomack*: Which I can hardly believe; for many will swoon upon the sight of some object, others at a sound, or report, others at the smell of some disagreeable odour, others at the taste of some or other thing that is not agreeable to their nature, and so forth: also some will swoon at the apprehension or conceit of something, and some by a disorder or irregularity of motions in exterior parts. Wherefore, my opinion is, that swoonings may proceed from any part of the body, and not onely from the stomack. But, *Madam*, I being no

Physicianess may perhaps be in an error, and therefore I will leave this discourse to those that are thorowly learned and practised in this Art, and rest satisfied that I am,

Madam,

Your Ladiships

humble Servant.

[1] Of the disease of the Stone, *c.* 9.

[2] Of the subject of inhering of diseases in the point of life.

[3] Of the Spirit of Life.

XLII.

MADAM,

Your *Author*[1] is inquiring whether some cures of diseases may be effected by bare co-touchings; and I am of his opinion, they may; for co-touchings of some exterior objects may cause alterations of some particular motions in some particular parts of matter, without either transferring their own motions into those parts, (for that this is impossible, I have heretofore declared) or without any corporeal departing from their own parts of matter into them, and alterations may be produced both in the motions and figures of the affected parts: but these cures are not so frequent as those that are made by the entring of medicines into the diseased parts, and either expel the malignant matter, or rectifie the irregular and disordered motions, or strengthen the weak, or reduce the straying, or work any other ways

according to the nature and propriety of their own substance, and the disposition of the distempered parts: Nevertheless, those cures which are performed exteriously, as to heal inward affects by an outward bare co-touching, are all made by natural motions in natural substances, and not by *Non*-beings, substancelesse Ideas, or spiritual Rays; for those that will cure diseases by *Non*-beings, will effect little or nothing; for a disease is corporeal or material, and so must the remedies be, there being no cure made but by a conflict of the remedy with the disease; and certainly, if a *non*-being fight against a being, or a corporeal disease, I doubt it will do no great effect; for the being will be too strong for the *non*-being: Wherefore my constant opinion is, that all cures whatsoever, are perfected by the power of corporeal motions, working upon the affected parts either interiously or exteriously, either by applying external remedies to external wounds, or by curing internal distempers, either by medicines taken internally, or by bare external co-touchings. And such a remedy, I suppose, has been that which your *Author* speaks of, a stone of a certain Irish-man, which by a meer external contact hath cured all kinds of diseases, either by touching outwardly the affected parts, or by licking it but with the tip of the Tongue, if the disease was Internal: But if the vertue of the Stone was such, as your *Author* describes, certainly, what man soever he was that possessed such a jewel, I say, he was rather of the nature of the Devil, then of man, that would not divulge it to the general benefit of all mankind; and I wonder much, that your *Author*, who otherwise pretends such extraordinary Devotion, Piety, and Religiousness, as also Charity, *viz.* that all his works he has written, are for the benefit of his neighbour, and to detect the errors of the Schools

meerly for the good of man, doth yet plead his cause, saying, That *secrets, as they are most difficultly prepared, so they ought to remain in secret forever in the possession of the Privy Councel*, what Privy Counsels he means, I know not; but certainly some are more difficult to be spoken to, or any thing to be obtained from, then the preparation of a Physical Arcanum. However, a general good or benefit ought not to be concealed or kept in privy Councels, but to be divulged and publickly made known, that all sorts of People, of what condition, degree, or Nation soever, might partake of the general blessing and bounty of God. But, *Madam*, you may be sure, that many, who pretend to know Physical secrets, most commonly know the least, as being for the most part of the rank of them that deceive the simple with strange tales which exceed truth; and to make themselves more authentical, they use to rail at others, and to condemn their skill, onely to magnifie their own: I say, many, *Madam*, as I have observed, are of that nature, especially those, that have but a superficial knowledg in the Art of Physick; for those that are thorowly learned, and sufficiently practised in it, scorn to do the like; which I wish may prosper and thrive by their skill. And so I rest,

Madam,

Your Ladiships

humble Servant.

[1] In the *ch.* call'd *Butler*.

XLIII.

MADAM,

Your *Author* is pleased to relate a story[1] of one that died suddenly, and being dissected, there was not the least sign of decay or disorder found in his body. But I cannot add to those that wonder, when no sign of distemper is found in a man's body after he is dead; because I do not believe, that the subtillest, learnedst, and most practised Anatomist, can exactly tell all the Interior Government or motions, or can find out all obscure and invisible passages in a mans body; for concerning the motions, they are all altered in death, or rather in the dissolution of the animal figure; and although the exterior animal figure or shape doth not alter so soon, yet the animal motions may alter in a moment of time; which sudden alteration may cause a sudden death, and so the motions being invisible, the cause of death cannot be perceived; for no body can find that which is not to be found, to wit, animal motions in a dead man; for Nature hath altered these motions from being animal motions to some other kind of motions, she being as various in dissolutions, as in productions, indeed so various, that her ways cannot be traced or known thorowly and perfectly, but onely by piece-meals, as the saying is, that is, but partly: Wherefore man can onely know that which is visible, or subject to his senses; and yet our senses do not always inform us truly, but the alterations of grosser parts are more easily known, then the alterations of subtil corporeal motions, either in general, or in particular; neither are the invisible passages to be known in a dead Carcass, much less in a living body. But, I pray, mistake me not, when I say, that the animal motions are not subject to our exterior senses; for I do not mean all exterior animal motions, nor all interior animal motions; for though you do see no interior

motion in an animal body, yet you may feel some, as the motion of the Heart, the motion of the Pulse, the motion of the Lungs, and the like; but the most part of the interior animal motions are not subject to our exterior senses; nay, no man, he may be as observing as he will, can possibly know by his exterior senses all the several and various interior motions in his own body, nor all the exterior motions of his exterior parts: and thus it remains still, that neither the subtillest motions and parts of matter, nor the obscure passages in several Creatures, can be known but by several parts; for what one part is ignorant of, another part is knowing, and what one part is knowing, another part is ignorant thereof; so that unless all the Parts of Infinite Matter were joyned into one Creature, there can never be in one particular Creature a perfect knowledg of all things in Nature. Wherefore I shall never aspire to any such knowledg, but be content with that little particular knowledg, Nature has been pleased to give me, the chief of which is, that I know my self, and especially that I am,

Madam,

Your constant Friend,

and faithful Servant.

[1] *Ch.* 61. called, *The Preface.*

XLIV.

MADAM,

I perceive you are desirous to know the cause, *Why a man is more weak at the latter end of a disease then at*

the beginning, and is a longer time recovering health, then loosing health; as also *the reason of relapses and intermissions?* First, as for weakness and strength, my opinion is, they are caused by the regular and irregular motions in several parts, each striving to over-power the other in their conflict; and when a man recovers from a disease, although the regular motions have conquered the irregular, and subdued them to their obedience, yet they are not so quite obedient as they ought, which causes weakness: Neither do the regular motions use so much force in Peace, as in War; for though animate matter cannot lose force, yet it doth not always use force; neither can the parts of Nature act beyond their natural power, but they do act within their natural power; neither do they commonly act to the utmost of their power. And as for Health, why it is sooner lost then recovered; I answer, That it is easier to make disorders then to rectifie them: as for example, in a Common-wealth, the ruines of War are not so suddenly repaired, as made. But concerning Relapses and Intermissions of diseases, Intermissions are like truces or cessations from War for a time; and Relapses are like new stirs or tumults of Rebellion; for Rebels are not so apt to settle in peace as to renew the war upon slight occasions; and if the regular motions of the body be stronger, they reduce them again unto obedience. But diseases are occasioned many several ways; for some are made by a home Rebellion, and others by forreign enemies, and some by natural and regular dissolutions, and their cures are as different; but the chief Magistrates or Governors of the animal body, which are the regular motions of the parts of the body, want most commonly the assistance of forreign Parts, which are Medicines, Diets, and the like; and if there be

factions amongst these chief Magistrates, or motions of the parts of the body, then the whole body suffers a ruine. But since there would be no variety in Nature, nor no difference between Natures several parts or Creatures, if her actions were never different, but always agreeing and constant, a war or rebellion in Nature cannot be avoided: But, mistake me not, for I do not mean a war or rebellion in the nature or substance of Matter, but between the several parts of Matter, which are the several Creatures, and their several Motions; for Matter being always one and the same in its nature, has nothing to war withal; and surely it will not quarrel with its own Nature. Next you desire to know, that if Nature be in a Perpetual motion, *Whence comes a duration of some things, and a Tiredness, Weariness, Sluggishness, or Faintness?* I answer, first, That in some bodies, the Retentive motions are stronger then the dissolving motions; as for example, Gold, and Quicksilver or Mercury; the separating and dissolving motions of Fire have onely power to melt and rarifie them for a time, but cannot alter their nature: so a Hammer, or such like instrument, when used, may beat Gold, and make it thin as a Cobweb, or as dust, but cannot alter its interior nature: But yet this doth not prove it to be either without motion, or to be altogether unalterable, and not subject to any dissolution; but onely that its retentive motions are too strong for the dissolving motions of the Fire, which by force work upon the Gold; and we might as well say, that Sand, or an Earthen Vessel, or Glass, or Stone, or any thing else, is unalterable, and will last eternally, if not disturbed. But some of Natures actions are as industrious to keep their figures, as others are to dissolve, or alter them; and therefore Retentive motions are more strong and active in

some figures, then dissolving motions are in others, or producing motions in other Figures. Next, as for Tiredness, or Faintness of motions, there is no such thing as tiredness or faintness in Nature, for Nature cannot be tired, nor grow faint, or sick, nor be pained, nor die, nor be any ways defective; for all this is onely caused through the change and variety of the corporeal motions of Nature, and her several parts; neither do irregular motions prove any defect in Nature, but a prudence in Natures actions, in making varieties and alterations of Figures; for without such motions or actions, there could not be such varieties and alterations in Nature as there are: neither is slackness of some motions a defect, for Nature is too wise to use her utmost force in her ordinary works; and though Nature is infinite, yet it is not necessary she should use an infinite force and power in any particular act. Lastly, you desire my opinion, *Whether there be motion in a dead animal Creature.* To which, I answer: I have declared heretofore, that there is no such thing as death in Nature, but what is commonly named death, is but an alteration or change of corporeal motions, and the death of an animal is nothing else but the dissolving motions of its figure; for when a man is dying, the motions which did formerly work to the consistence of his figure do now work to the dissolution of his figure, and to the production of some other figures, changing and transforming every part thereof; but though the figure of that dead animal is dissolved, yet the parts of that dissolved figure remain still in Nature although they be infinitely changed, and will do so eternally, as long as Nature lasts by the Will of God; for nothing can be lost or annihilated in Nature. And this is all, *Madam*, that I can answer to your questions, wherein, I hope, I have obeyed your

commands, according to the duty of,

Madam,

Your faithful Friend

and humble Servant.

XLV.

MADAM,

I have thus far discharged my duty, that according to your commands, I have given you my judgment of the works of those four famous Philosophers of our age, which you did send me to peruse, and have withal made reflexions upon some of their opinions in Natural Philosophy, especially those, wherein I did find them dissent from the Ground and Principles of my own Philosophy. And since by your leave I am now publishing all those Letters which I have hitherto written to you concerning those aforesaid Authors, and their Works, I am confident I shall not escape the censures of their followers; But, I shall desire them, that they will be pleased to do me this Justice, and to examine first my opinions well, without any partiality or wilful misinterpretation of my sence, before they pass their censure: Next, I desire them to consider, That I have no skill in School-learning, and therefore for want of terms of Art may easily chance to slip, or at least, not express my opinions so clearly as my readers expected; However, I have done my endeavour, and to my sense and reason they seem clear and plain enough, especially as I have expressed them in those Letters I have sent you; for concerning my other Work, called

Philosophical Opinions, I must confess, that it might have been done more exactly and perspicuously, had I been better skilled in such words and expressions as are usual in the Schools of Philosophers; and therefore, if I be but capable to learn names and terms of Art, (although I find my self very untoward to learn, and do despair of proving a Scholar) I will yet endeavour to rectifie that work, and make it more intelligible; for my greatest ambition is to express my conceptions so, that my Readers may understand them: For which I would not spare any labour or pains, but be as industrious as those that gain their living by their work; and I pray to God, that Nature may give me a capacity to do it. But as for those that will censure my works out of spite and malice, rather then according to justice, let them do their worst; for if God do but bless them, I need not to fear the power of Nature, much less of a part of Nature, as Man. Nay, if I have but your Ladiships approbation, it will satisfie me; for I know you are so wise and just in your judgment, that I may safely rely upon it: For which I shall constantly and unfeignedly remain as long as I live,

Madam,

Your Ladiships most faithful Friend

and humble Servant.

SECT. IV.

I.

MADAM,

I perceive, you take great delight in the study of Natural Philosophy, since you have not onely sent me some Authors to peruse, and give my judgment of their opinions, but are very studious your self in the reading of Philosophical Works: and truly, I think you cannot spend your time more honourably, profitably, and delightfully, then in the study of Nature, as to consider how Variously, Curiously, and Wisely, she acts in her Creatures; for if the particular knowledg of a mans self be commendable, much more is the knowledg of the general actions of Nature, which doth lead us to the knowledg of our selves. The truth is, by the help of Philosophy our minds are raised above our selves, into the knowledg of the Causes of all natural effects. But leaving the commending of this noble study, you are pleased to desire my opinion of a very difficult and intricate argument in Natural Philosophy, to wit, of Generation, or Natural Production. I must beg leave to tell you, first, that some (though foolishly) believe, it is not fit for Women to argue upon so subtil a Mystery: Next, there have been so many learned and experienced Philosophers, Physicians, and Anatomists, which have treated of this subject, that it might be thought a great presumption for me, to argue with them, having neither the learning nor experience by practice which they had: Lastly, There are so many several ways and manners of Productions in Nature, as it is impossible for a single Creature to know them all: For there are Infinite variations made by self-motion in Infinite Matter, producing several Figures, which are several Creatures in that same Matter. But you would fain know, how Nature, which is Infinite Matter, acts by self-motion? Truly, *Madam*, you may as well ask any

one part of your body, how every other part of your body acts, as to ask me, who am but a small part of Infinite Matter, how Nature works. But yet, I cannot say, that Nature is so obscure, as her Creatures are utterly ignorant; for as there are two of the outward sensitive organs in animal bodies, which are more intelligible then the rest, to wit, the Ear, and the Eye; so in Infinite Matter, which is the body of Nature, there are two parts, which are more understanding or knowing then the rest, to wit, the Rational and Sensitive part of Infinite Matter; for though it be true, That Nature, by self-division, made by self-motion into self-figures, which are self-parts, causes a self-obscurity to each part, motion, and figure; nevertheless, Nature being infinitely wise and knowing, its infinite natural wisdom and knowledg is divided amongst those infinite parts of the infinite body: and the two most intelligible parts, as I said, are the sensitive and rational parts in Nature, which are divided, being infinite, into every Figure or Creature; I cannot say equally divided, no more, then I can say, all creatures are of equal shapes, sizes, properties, strengths, quantities, qualities, constitutions, semblances, appetites, passions, capacities, forms, natures, and the like; for Nature delights in variety, as humane sense and reason may well perceive: for seldom any two creatures are just alike, although of one kind or sort, but every creature doth vary more or less. Wherefore it is not probable, that the production or generation of all or most Creatures, should be after one and the same manner or way, for else all Creatures would be just alike without any difference. But this is to be observed, that though Nature delights in variety, yet she doth not delight in confusion, but, as it is the propriety of Nature to work variously, so she works

also wisely; which is the reason, that the rational and sensitive parts of Nature, which are the designing and architectonical parts, keep the species of every kind of Creatures by the way of Translation in Generation, or natural Production; for whatsoever is transferred, works according to the nature of that figure or figures from whence it was transferred, But mistake me not; for I do not mean always according to their exterior Figure, but according to their interior Nature; for different motions in one and the same parts of matter, make different figures, wherefore much more in several parts of matter and changes of motion; But, as I said, Translation is the chief means to keep or maintain the species of every kind of Creatures, which Translation in natural production or generation, is of the purest and subtilest substances, to wit, the sensitive and rational, which are the designing and architectonical parts of Nature. You may ask me, *Madam*, what this wise and ingenious Matter is. I answer: It is so pure, subtil, and self-active, as our humane shares of sense and reason cannot readily or perfectly perceive it; for by that little part of knowledg that a humane creature hath, it may more readily perceive the strong action then the purer substance; for the strongest action of the purest substance is more perceivable then the matter or substance it self; which is the cause, that most men are apt to believe the motion, and to deny the matter, by reason of its subtilty; for surely the sensitive and rational matter is so pure and subtil, as not to be expressed by humane sense and reason. As for the rational matter, it is so pure, fine, and subtil, that it may be as far beyond lucent matter, as lucent matter is beyond gross vapours, or thick clouds; and the sensitive matter seems not much less pure: also there is very

pure inanimate matter, but not subtil and active of it self; for as there are degrees in the animate, so there are also degrees in the inanimate matter; so that the purest degree of inanimate matter comes next to the animate, not in motion, but in the purity of its own degree; for it cannot change its nature so, as to become animate, yet it may be so pure in its own nature, as not to be perceptible by our grosser senses. But concerning the two degrees of animate Matter, to wit, the sensitive and rational, I say that the sensitive is much more acute then Vitriol, Aqua-fortis, Fire, or the like; and the rational much more subtil and active then Quicksilver, or Light, so as I cannot find a comparison fit to express them, onely that this sensitive and rational self-moving Matter is the life and soul of Nature; But by reason this Matter is not subject to our gross senses, although our senses are subject to it, as being made, subsisting and acting through the power of its actions, we are not apt to believe it, no more then a simple Country-wench will believe, that Air is a substance, if she neither hear, see, smell, taste, or touch it, although Air touches and surrounds her: But yet the effects of this animate matter prove that there is such a matter; onely, as I said before, this self-moving matter causing a self-division as well as a general action, is the cause of a self-obscurity, which obscurity causes doubts, disputes, and inconstancies in humane opinions, although not so much obscurity, as to make all Creatures blind-fold, for surely there is no Creature but perceives more or less. But to conclude, The Rational degree of Matter is the most intelligible, and the wisest part of Nature, and the Sensitive is the most laborious and provident part in Nature, both which are the Creators of all Creatures in Infinite Matter; and if you intend to know more of this

Rational and Sensitive Matter, you may consult my Book of Philosophy, to which I refer you. And so taking my leave for the present, I rest,

Madam,

Your Faithful Friend

and Servant.

II.

MADAM,

I understand by your last, that you have read the Book of that most learned and famous Physician and Anatomist, Dr. *Harvey*, which treats of Generation; and in the reading of it, you have mark'd several scruples, which you have framed into several questions concerning that subject, to which you desire my answer. Truly, *Madam*, I am loth to imbarque my self in this difficult argument, not onely for the reasons I have given you heretofore, but also that I do not find my self able enough to give you such a satisfactory answer as perhaps you do expect. But since your Commands are so powerful with me, that I can hardly resist them, and your Nature so good that you easily pardon any thing that is amiss, I will venture upon it according to the strength of my Natural Reason, and endeavour to give you my opinion as well and as clearly as I can. Your first question is; *Whether the action of one or more producers be the onely cause of Natural Production or Generation, without imparting or transferring any of their own substance or Matter.* I answer: The sole co-action of the Producers may make a change of

exterior forms or figures, but not produce another Creature; for if there were not substance or matter, as well as action, both transferred together, there would not be new Creatures made out of old Matter, but every production would require new Matter, which is impossible, if there be but one Matter, and that infinite; and certainly, humane sense and reason may well perceive, that there can be but one Matter, for several kinds of Matter would make a confusion; and thus if new Creatures were made onely by substanceless motion, it would not onely be an infinite trouble to Nature, to create something out of nothing perpetually, but, as I said, it would make a confusion amongst all Nature's works, which are her several Parts or Creatures. But by reason there is but one Matter, which is Infinite and Eternal, and this Matter has self-motion in it, both Matter and Motion must of necessity transmigrate, or be transferred together without any separation, as being but one thing, to wit, Corporeal Motion. 'Tis true, one part of animate or self-moving Matter, may without Translation move, or rather occasion other parts to move; but one Creature cannot naturally produce another without the transferring of its corporeal motions. But it is well to be observed, that there is great difference between the actions of Nature; for all actions are not generating, but some are patterning, and some transforming, and the like; and as for the transforming action, that may be without translation, as being nothing else but a change of motions in one and the same part or parts of Matter, to wit, when the same parts of Matter do change into several figures, and return into the same figures again. Also the action of Patterning is without Translation; for to pattern out, is nothing else but to imitate, and to make a figure in its own substance or

parts of Matter like another figure. But in generation every producer doth transfer both Matter and Motion, that is, Corporeal Motion into the produced; and if there be more producers then one, they all do contribute to the produced; and if one Creature produces many Creatures, those many Creatures do partake more or less of their producer. But you may say, If the producer transfers its own Matter, or rather its own corporeal motions into the produced, many productions will soon dissolve the producer, and he will become a sacrifice to his off-spring. I answer; That doth not follow: for as one or more Creatures contribute to one or more other Creatures, so other Creatures do contribute to them, although not after one and the same manner or way, but after divers manners or ways; but all manners and ways must be by translation to repair and assist; for no Creature can subsist alone and of it self, but all Creatures traffick and commerce from and to each other, and must of necessity do so, since they are all parts of the same Matter: Neither can Motion subsist without Matter, nor quit Matter, nor act without Matter, no more, then an Artificer can work without materials, and without self-motion Matter would be dead and useless; Wherefore Matter and Motion must upon necessity not onely be inseparable, but be one body, to wit, corporeal motion; which motion by dividing and composing its several parts, and acting variously, is the cause of all Production, Generation, Metamorphosing, or any other thing that is done in Nature. But if, according to your *Author*, the sole action be the cause of Generation without transferring of substance, then Matter is useless, and of none or little effect; which, in my opinion, is not probable.

Your second question is, *Whether the Production or*

Generation of animals is as the Conceptions of the Brain, which the Learned say are Immaterial? I answer: The Conceptions of the Brain, in my opinion, are not Immaterial, but Corporeal; for though the corporeal motions of the brain, or the matter of its conceptions, is invisible to humane Creatures, and that when the brain is dissected, there is no such matter found, yet that doth not prove, that there is no Matter, because it is not so gross a substance as to be perceptible by our exterior senses: Neither will your *Authors* example hold, that as a builder erects a house according to his conception in the brain, the same happens in all other natural productions or generations; for, in my opinion, the house is materially made in the brain, which is the conception of the builder, although not of such gross materials, as Stone, Brick, Wood, and the like, yet of such matter as is the Rational Matter, that is, the house when it is conceived in the brain, is made by the rational corporeal figurative motions of their own substance or degree of Matter; But if all Animals should be produced by meer fancies, and a Man and a Woman should beget by fancying themselves together in copulation, then the produced would be a true Platonick Child; But if a Woman being from her Husband should be so got with Child, the question is, whether the Husband would own the Child; and if amorous Lovers (which are more contagious for appetite and fancy then Married persons) should produce Children by Immaterial contagions, there would be more Children then Parents to own them.

Your third question is, *Whether Animals may not be produced, as many Diseases are, by contagion?* I answer: Although contagions may be made at a distance, by perception; yet those diseases are not begotten by immaterial motions, but by the rational

and sensitive corporeal motions, which work such diseases in the body of a Creature, by the association of parts, like as the same disease is made in another body: Neither are diseases always produced after one and the same manner, but after divers manners; whereas animals are produced as animals, that is, after one natural and proper way; for although all the effects in particular be not alike, yet the general way or manner to produce those effects is the same: As for example; there is no other way to produce a fruitful Egg, but by a Cock and a Hen; But a Contagious disease, as the small-Pox, or the like, may be produced by the way of Surfeits or by Conceit, which may cause the sensitive corporeal parts, through the irregular motions of the rational corporeal parts, to work and produce such a disease, or any other ways. But neither a disease, nor no creature else can be produced without matter, by substanceless motion; for wheresoever is motion, there is also matter, matter and motion being but one thing.

Your fourth question is, *Whether an Animal Creature is perfectly shaped or formed at the first Conception?* I answer: If the Creature be composed of many and different parts, my opinion is, it cannot be. You may say, That if it hath not all his parts produced at there will be required many acts of generation to beget or produce every part, otherwise the producers would not be the Parents of the produced in whole, but in part. I answer: The Producer is the designer, architect, and founder of the whole Creature produced; for the sensitive and rational corporeal motions, which are transferred from the producer or producers, joyn to build the produced like to the producer in specie, but the transferred parts may be invisible and insensible to humane Creatures, both

through their purity and little quantity, until the produced is framed to some visible degree; for a stately building may proceed from a small beginning, neither can humane sense tell what manner of building is designed at the first foundation. But you may say, That many Eggs may be made by one act of the producers, to wit, the Cock and the Hen, and those many Eggs may be laid at several times, as also hatched at several times, and become Chickens at several times. I answer; It may well and easily be so: for the rational and sensitive parts or corporeal motions which were transferred in one act, designed many produced through that one act; for those transferred corporeal motions, although they have not a sufficient quantity of themselves to make all the produced in their perfect shapes at once, yet they are the chief designer, architect and founder of all that are to be produced; for the corporeal motions which are transferred, joyn with those they are transferred to, and being associates, work to one design, the sensitive being the architect, the rational the designer, which together with the inanimate parts of matter, can never want materials, neither can the materials want labourers; for the degrees of matter are inseparable, and do make but one body or substance. Again you may say, That some parts of Matter may produce another Creature not like to the producer in its species, as for example, Monsters. I answer, That is possible to be done, but yet it is not usual; for Monsters are not commonly born, but those corporeal motions which dwell in one species, work according to the nature of the same species; and when the parts of Matter are transferred from Creature to Creature, that is, are separated from some parts, and joyned to other parts of the same species, and the same nature; those transferred parts

of matter, although invisible in quantity, by reason of their purity and subtilty, begin the work of the produced according to its natural species, and the labourers in other parts of matter work to the same end; just as it is in the artificial building of a house, where the house is first designed by the Architect, or Master, and then the labourers work not after their own fancy, (else it would not be the same house that was designed, nor any uniformity in it) but according to the architects or surveyors design; so those parts of matter or corporeal motions that are transferred from the producer, are like the architect, but the labourers or workmen are the assisting and adjoyning parts of matter. But you will say, How comes it, that many creatures may be made by one or two? I answer: As one owner or two partners may be the cause of many buildings, so few or more transferred rational and sensitive corporeal motions may make and produce as many creatures as they can get materials and labourers; for if they get one, they get the other, by reason the degrees of matter, *viz.* animate and inanimate, are inseparably mixt, and make but one body or substance; and the proof of it is, that all animals are not constant in the number of their off-spring, but sometimes produce more, and sometimes fewer, and sometimes their off-spring is less, and sometimes larger, according to the quantity of matter. Again you may say, That in some Creatures there is no passage to receive the transferred matter into the place of the architecture. I answer: That all passages are not visible to humane sense; and some humane Creatures have not a sufficient humane reason to conceive, that most of Natures works are not so gross as to be subject to their exterior senses; but as for such parts and passages, whether exterior or interior, visible or

invisible, as also for copulation, conception, formation, nourishment, and the like in Generation, I leave you to Physicians and Anatomists. And to conclude this question, we may observe, that not any animal Creatures shape dissolveth in one instant of time, but by degrees; why should we believe then, that Animals are generated or produced in their perfect shape in one instant of time, and by one act of Nature? But sense and reason knows by observation, that an animal Creature requires more time to be generated, then to be dissolved, like as an house is sooner and with less pains pull'd down, then built up.

Your Fifth question is, *Whether Animals are not generated by the way of Metamorphosing?* To which I answer, That it is not possible that a third Creature can be made without translation of corporeal motions; and since Metamorphosing is onely a change of motions in the same parts of Matter, without any translation of corporeal motions, no animal Creature can be produced or generated by the way of Metamorphosing.

Your Sixth question is, *Whether a whole may be made out of a part?* I answer: There is no whole in Nature, except you will call Nature her self a whole; for all Creatures are but parts of Infinite Matter.

Your Seventh question is, *Whether all Animals, as also Vegetables, are made or generated by the way of Eggs?* I have said heretofore, That it is not probable, that different sorts, nay, different kinds of Creatures, should all have but one manner or way of production; for why should not Nature make different ways of productions, as well as different Creatures? And as for Vegetables, if all their Seeds be likened unto Eggs, then Eggs may very well be

likened to Seeds; which if so, then a Peas-cod is the Hen, and the Peas in the Cod is the cluster of Eggs: the like of ears of Corn. And those animals that produce but one creature or seed at a time, may be like the kernel of a Nut, when the shell is broke, the creature comes forth. But how this will agree with your *Author*, who says, that the creature in the shell must make its own passage, I cannot tell; for if the Nut be not broken by some external means or occasion, the kernel is not like to get forth. And as for humane Eggs, I know not what to answer; for it is said, that the first Woman was made of a mans ribb; but whether that ribb was an egg, I cannot tell. And why may not Minerals and Elements be produced by the way of Eggs as well as Vegetables and Animals? Nay, why may not the whole World be likened unto an Egg? Which if so, the two Poles are the two ends the Egg; and for the Elements, the Yolk is the Fire, the White, the Water; the Film, the Air; and the Shell it self will very well serve for the Earth: But then it must first be broken, and pounded into one lump or solid mass, and so sink or swim into the midst of the liquid parts, as to the Center; and as for the several foetuses in this great Egg, they are the several Creatures in it. Or it might be said, that the Chaos was an Egg, and the Universe, the Chicken. But leaving this similizing, it is like, that some studious Men may by long study upon one part of the body, conceive and believe that all other parts are like that one part; like as those that have gazed long upon the Sun, all they see for a time, are Suns to them; or like as those which having heard much of Hobgoblins, all they see are Hobgoblins, their fancies making such things. But, *Madam*, to make a conclusion also of this question, I repeat what I said before, that all Creatures have not one way of production; and as

they have not all one way of production, so they have neither one instant of time either for perfection or dissolution, but their perfection and dissolution is made by degrees.

Your Eighth question is, *Whether it may not be, that the sensitive and rational corporeal motions in an Egg do pattern out the figure of the Hen and Cock, whilest the Hen sits upon the Egg, and so bring forth Chickens by the way of patterning?* I answer: The action of patterning, is not the action of Generation; for as I said heretofore, the actions of Nature are different, and Generation must needs be performed by the way of translation, which translation is not required in the action of Patterning; but according as the Producers are, which transfer their own matter into the produced, so is the produced concerning its species; which is plainly proved by common examples; for if Pheasants, or Turky, or Goose-eggs, be laid under an ordinary Hen, or an ordinary Hens-egg be laid under a Pheasant, Turky, or Goose, the Chickens of those Eggs will never be of any other species then of those that produced the Egg; for an ordinary Hen, if she sit upon Pheasants, Turky, or Goose-eggs, doth not hatch Chickens of her own species, but the Chickens will be of the species either of the Pheasant, or Turky, or Goose, which did at first produce the Egg; which proves, that in Generation, or Natural production, there is not onely required the action of the Producers, but also a Transferring of some of their own parts to form the produced. But you may say, What doth the sitting Hen contribute then to the production of the Chicken? I answer: The sitting Hen doth onely assist the Egg in the production of the Chicken, as the Ground doth the Seed.

Your Ninth question is, *Concerning the Soul of a*

particular Animal Creature, as whether it be wholly of it self and subsists wholly in and by it self? But you must give me leave first to ask you what Soul you mean, whether the Divine, or the Natural Soul, for there is great difference betwixt them, although not the least that ever I heard, rightly examined and distinguished; and if you mean the Divine Soul, I shall desire you to excuse me, for that belongs to Divines, and not to Natural Philosophers; neither am I so presumptuous as to intrench upon their sacred order. But as for the Natural Soul, the Learned have divided it into three parts, to wit, the Vegetative, Sensitive, and Rational Soul; and according to these three Souls, made three kinds of lives, as the Vegetative, Sensitive, and Rational Life. But they might as well say, there are infinite bodies, lives, and souls, as three; for in Nature there is but one life, soul, and body, consisting all of one Matter, which is corporeal Nature. But yet by reason this life and soul is material, it is divided into numerous parts, which make numerous lives and souls in every particular Creature; for each particular part of the rational self-moving Matter, is each particular soul in each particular Creature, but all those parts considered in general, make but one soul of Nature; and as this self-moving Rational Matter hath power to unite its parts, so it hath ability or power to divide its united parts. And thus the rational soul of every particular Creature is composed of parts, (I mean parts of a material substance; for whatsoever is substanceless and incorporeal, belongs not to Nature, but is Supernatural;) for by reason the Infinite and Onely matter is by self-motion divided into self-parts, not any Creature can have a soul without parts; neither can the souls of Creatures subsist without commerce of other rational parts, no more then one body can

subsist without the assistance of other bodies; for all parts belong to one body, which is Nature: nay, if any thing could subsist of it self, it were a God, and not a Creature: Wherefore not any Creature can challenge a soul absolutely to himself, unless Man, who hath a divine soul, which no other Creature hath. But that which makes so many confusions and disputes amongst learned men is, that they conceive, first, there is no rational soul but onely in man; next, that this rational soul in every man is individable. But if the rational soul is material, as certainly to all sense and reason it is, then it must not onely be in all material Creatures, but be dividable too; for all that is material or corporeal hath parts, and is dividable, and therefore there is no such thing in any one Creature as one intire soul; nay, we might as well say, there is but one Creature in Nature, as say, there is but one individable natural soul in one Creature.

Your Tenth question is, *Whether Souls are producible, or can be produced?* I answer: in my opinion, they are producible, by reason all parts in Nature are so. But mistake me not; for I do not mean that any one part is produced out of Nothing, or out of new matter; but one Creature is produced by another, by the dividing and uniting, joyning and disjoyning of the several parts of Matter, and not by substanceless Motion out of new Matter. And because there is not any thing in Nature, that has an absolute subsistence of it self, each Creature is a producer, as well as a produced, in some kind or other; for no part of Nature can subsist single, and without reference and assistance of each other, or else every single part would not onely be a whole of it self, but be as a God without controle; and though one part is not another part, yet one part belongs to another part, and all parts to one whole, and that whole to all the parts, which whole is one

corporeal Nature. And thus, as I said before, productions of one or more creatures, by one or more producers, without matter, meerly by immaterial motions, are impossible, to wit, that something should be made or produced out of nothing; for if this were so, there would consequently be an annihilation or turning into nothing, and those creatures, which produce others by the way of immaterial motions, would rather be as a God, then a part of Nature, or Natural Matter. Besides, it would be an endless labour, and more trouble to create particular Creatures out of nothing, then a World at once; whereas now it is easie for Nature to create by production and transmigration; and therefore it is not probable, that any one Creature hath a particular life, soul, or body to it self, as subsisting by it self, and as it were precised from the rest, having its own subsistence without the assistance of any other; nor is it probable, that any one Creature is new, for all that is, was, and shall be, till the Omnipotent God disposes Nature otherwise.

As for the rest of your questions, as whether the Sun be the cause of all motions, and of all natural productions; and whether the life of a Creature be onely in the blood, or whether it have its beginning from the blood, or whether the blood be the chief architect of an animal, or be the seat of the soul; sense and reason, in my opinion, doth plainly contradict them; for concerning the blood, if it were the seat of the Soul, then in the circulation of the blood, if the Soul hath a brain, it would become very dizzie by its turning round; but perchance some may think the Soul to be a Sun, and the Blood the Zodiack, and the body the Globe of the Earth, which the Soul surrounds in such time as the Blood is flowing about. And so leaving those similizing

Fancies, I'le add no more, but repeat what I said in the beginning, that I rely upon the goodness of your Nature, from which I hope for pardon, if I have not so exactly and solidly answered your desire; for the argument of this discourse being so difficult, may easily lead me into an error, which your better judgment will soon correct; and in so doing you will add to those favours for which I am already,

Madam,

Your Ladiships most obliged Friend

and humble Servant.

III.

MADAM,

You thought verily, I had mistaken my self in my last, concerning the Rational Souls of every particular Creature, because I said, all Creatures had numerous Souls; and not onely so, but every particular Creature had numerous Souls. Truly, *Madam*, I did not mistake my self, for I am of the same opinion still; for though there is but one Soul in infinite Nature, yet that soul being dividable into parts, every part is a soul in every single creature, were the parts no bigger in quantity then an atome. But you ask whether Nature hath Infinite souls? I answer: That Infinite Nature is but one Infinite body, divided into Infinite parts, which we call Creatures; and therefore it may as well be said, That Nature is composed of Infinite Creatures or Parts, as she is divided into Infinite Creatures or Parts; for Nature being Material, is dividable, and composable. The

same may be said of Nature's Soul, which is the Rational part of the onely infinite Matter, as also of Nature's Life, which is the sensitive part of the onely Infinite self-moving Matter; and of the Inanimate part of the onely Infinite Matter, which I call the body for distinction sake, as having no self-motion in its own nature, for Infinite Material Nature hath an Infinite Material Soul, Life, and Body. But, *Madam*, I desire you to observe what I said already, *viz.* that the parts of Nature are as apt to divide, as to unite; for the chief actions of Nature are to divide, and to unite; which division is the cause, that it may well be said, every particular Creature hath numerous souls; for every part of rational Matter is a particular Soul, and every part of the sensitive Matter is a particular Life; all which, mixed with the Inanimate Matter, though they be Infinite in parts, yet they make but one Infinite whole, which is Infinite Nature; and thus the Infinite division into Infinite parts is the cause, that every particular Creature hath numerous Souls, and the transmigration of parts from, and to parts, is the reason, that not any Creature can challenge a single soul, or souls to it self; the same for life. But most men are unwilling to believe, that Rational Souls are material, and that this rational Matter is dividable in Nature; when as humane sense and reason may well perceive, that Nature is active, and full of variety; and action, and variety cannot be without motion, division, and composition: but the reason that variety, division, and composition, runs not into confusion, is, that first there is but one kind of Matter; next, that the division and composition of parts doth ballance each other into a union in the whole. But, to conclude, those Creatures which have their rational parts most united, are the wisest; and those that have their rational parts most divided, are

the wittiest; and those that have much of this rational matter, are much knowing; and those which have less of this rational matter, are less knowing; and there is no Creature that hath not some; for like as all the parts of a humane body are indued with life, and soul; so are all the parts of Infinite Nature; and though some parts of Matter are not animate in themselves, yet there is no part that is not mixt with the animate matter; so that all parts of Nature are moving, and moved. And thus, hoping I have cleared my self in this point, to your better understanding, I take my leave, and rest,

Madam,

Your faithful Friend

and Servant.

IV.

MADAM,

In the Works of that most famous Philosopher and Mathematician of our age *Gal.* which you thought worth my reading, I find, he discourses much of upwards and downwards, backwards and forwards; but to tell you really, I do not understand what he means by those words, for, in my opinion, there is properly no such thing as upwards, downwards, backwards, or forwards in Nature, for all this is nothing else but natural corporeal motions, to which in respect of some particulars we do attribute such or such names; for if we conceive a Circle, I pray where is upwards and downwards, backwards and forwards? Certainly, it is, in my opinion, just like

that, they name Rest, Place, Space, Time, &c. when as Nature her self knows of no such things, but all these are onely the several and various motions of the onely Matter. You will say, How can Rest be a motion? I answer: Rest is a word which expresses rather mans ignorance then his knowledg; for when he sees, that a particular Creature has not any external local motion perceptible by his sight, he says it resteth, and this rest he calls a cessation from motion, when as yet there is no such thing as cessation from motion in Nature; for motion is the action of natural Matter, and its Nature is to move perpetually; so that it is more probable for motion to be annihilated, then to cease. But you may say, It is a cessation from some particular motion. I answer: You may rather call it an alteration of a particular motion, then a cessation; for though a particular motion doth not move in that same manner as it did before, nevertheless it is still there, and not onely there, but still moving; onely it is not moving after the same manner as it did move heretofore, but has changed from such a kind of motion to another kind of motion, and being still moving it cannot be said to cease: Wherefore what is commonly called cessation from motion, is onely a change of some particular motion, and is a mistake of change for rest. Next, I find in the same *Author* a long discourse of circular and strait motions; to wit, *That they are simple motions, and that all others are composed out of them, and are mixt motions; Also, That the Circular Motion is perfect, and the Right imperfect; and that all the parts of the world, if moveable of their own nature, it is impossible, that their motions should be Right, or any other then Circular: That a Circular motion is never to be gotten naturally, without a preceding right motion: That a Right motion cannot naturally be perpetual: That*

a Right motion is impossible in the World well ordered: and the like. First, I cannot conceive why natural Matter should use the Circle-figure more then any other in the motions of her Creatures; for Nature, which is Infinite Matter, is not bound to one particular motion, or to move in a Circle more then any other figure, but she moves more variously then any one part of hers can conceive; Wherefore it is not requisite that the natural motions of natural bodies should be onely Circular. Next, I do not understand, why a Circular Motion cannot be gotten naturally without a precedent right motion; for, in my opinion, corporeal motions may be round or circular, without being or moving straight before; and if a straight line doth make a circle, then an imperfect figure makes a perfect; but, in my opinion, a circle may as well make a straight line, as a strait line a circle; except it be like a Gordian knot, that it cannot be dissolved, or that Nature may make some corporeal motions as constant as she makes others inconstant, for her motions are not alike in continuance and alteration. And as for right motion, that naturally it cannot be perpetual; my opinion is, that it cannot be, if Nature be finite; but if Nature be infinite, it may be: But the circular motion is more proper for a finite, then an infinite, because a circle-figure is perfect and circumscribed, and a straight line is infinite, or at least producible in infinite; and there may be other worlds in infinite Nature, besides these round Globes perceptible by our sight, which may have other figures; for though it be proper for Globes or Spherical bodies to move round, yet that doth not prove, that Infinite Matter moves round, or that all worlds must be of a Globous figure; for there may be as different Worlds, as other Creatures. He says, That a Right motion is impossible in the World well

ordered; But I cannot conceive a Right motion to be less orderly then a Circular in Nature, except it be in some Particulars; but oftentimes that, which is well ordered in some cases, seems to some mens understandings and perceptions ill ordered in other cases; for man, as a part, most commonly considers but the Particulars, not the Generals, like as every one in a Commonwealth considers more himself and his Family, then the Publick. Lastly, Concerning the simplicity of Motions, as that onely circular and straight motions are simple motions, because they are made by simple Lines; I know not what they mean by simple Lines; for the same Lines which make straight and circular figures, may make as well other figures as those; but, in my opinion, all motions may be called simple, in regard of their own nature; for they are nothing else but the sensitive and rational part of Matter, which in its own nature is pure, and simple, and moves according to the Nature of each Figure, either swiftly or slowly, or in this or that sort of motion; but the most simple, purest and subtillest part is the rational part of matter, which though it be mixed with the sensitive and inanimate in one body, yet it can and doth move figuratively in its own matter, without the help or assistance of any other. But I desire you to remember, *Madam*, that in the compositions and divisions of the parts of Nature, there is as much unity and agreement as there is discord and disagreement; for in Infinite, there is no such thing, as most, and least; neither is there any such thing as more perfect, or less perfect in Matter. And as for Irregularities, properly there is none in Nature, for Nature is Regular; but that, which Man (who is but a small part of Nature, and therefore but partly knowing) names Irregularities, or Imperfections, is

onely a change and alteration of motions; for a part can know the variety of motions in Nature no more, then Finite can know Infinite, or the bare exterior shape and figure of a mans body can know the whole body, or the head can know the mind; for Infinite natural knowledg is incorporeal; and being corporeal, it is dividable; and being dividable, it cannot be confined to one part onely; for there is no such thing as an absolute determination or subsistence in parts without relation or dependance upon one another. And since Matter is Infinite, and acts wisely, and all for the best, it may be as well for the best of Nature, when parts are divided antipathetically, as when they are united sympathetically: Also Matter being Infinite, it cannot be perfect, neither can a part be called perfect, as being a part. But mistake me not, *Madam;* for when I say, there is no perfection in Nature, as I do in my *Philosophical Opinions*,[1] I mean by Perfection, a finiteness, absoluteness, or compleatness of figure; and in this sense I say Nature has no perfection by reason it is Infinite; but yet I do not deny, but that there is a perfection in the nature or essence of Infinite Matter; for Matter is perfect Matter; that is, pure and simple in its own substance or nature, as meer Matter, without any mixture or addition of some thing that is not Matter, or that is between Matter and no Matter; and material motions are perfect motions although Infinite: just as a line may be called a perfect line, although it be endless, and Gold, or other Mettal, may be called perfect Gold, or perfect Metal, although it be but apart, And thus it may be said of Infinite Nature, or Infinite Matter, without any contradiction, that it is both perfect, and not perfect; perfect in its nature or substance, not perfect in its exterior figure. But you may say, If

Infinite Matter be not perfect, it is imperfect, and what is imperfect, wants something. I answer, That doth not follow: for we cannot say, that what is not perfect, must of necessity be imperfect, because there is something else, which it may be, to wit, Infinite; for as imperfection is beneath perfection, so perfection is beneath Infinite; and though Infinite Matter be not perfect in its figure, yet it is not imperfect, but Infinite; for Perfection and Imperfection belongs onely to Particulars, and not to Infinite. And thus much for the present. I conclude, and rest,

Madam,

Your Ladiships

most obliged Friend

and humble Servant.

[1] *Part.* 1. *c.* 14.

V.

MADAM,

The *Author*, mentioned in my former Letter, says, *That Quietness is the degree of Infinite slowness, and that a moveable body passing from quietness, passes through all the degrees of slowness without staying in any.* But I cannot conceive that all the Parts of Matter should be necessitated to move by degrees; for though there be degrees in Nature, yet Nature doth not in all her actions move by degrees. You may say, for example, from one to twenty, there are eighteen degrees between One, and Twenty; and all these

degrees are included in the last degree, which is twenty. I answer; That may be: but yet there is no progress made through all those degrees; for when a body doth move strong at one time, and the next time after moves weak; I cannot conceive how any degrees should really be made between. You may say, by Imagination. But this Imagination of degrees, is like the conception of Space and Place, when as yet there is no such thing as Place or Space by it self; for all is but one body, and Motion is the action of this same body, which is corporeal Nature; and because a particular body can and doth move after various manners, according to the change of its corporeal motion, this variety of motions man call's Place, Space, Time, Degrees, &c. considering them by themselves, and giving them peculiar names, as if they could be parted from body, or at least be conceived without body; for the Conception or Imagination it self is corporeal, and so are they nothing else but corporeal motions. But it seems as if this same *Author* conceived also motion to be a thing by it self, and that motion begets motion, when he says, That a body by moving grows stronger in motion by degrees, when as yet the strength was in the matter of the body eternally; for Nature was always a grave Matron, never a sucking Infant: and though parts by dissolving and composing may lose and get acquaintance of each other, yet no part can be otherwise in its nature, then ever it was; Wherefore change of corporeal motions is not losing nor getting strength or swiftness; for Nature doth not lose force, although she doth not use force in all her various actions; neither can any natural body get more strength than by nature it hath, although it may get the assistance of other bodies joyned to it. But swiftness and slowness are according to the

several figurative actions of self-moving matter; which several actions or motions of Nature, and their alterations, cannot be found out by any particular Creature: as for example, the motions of Lead, and the motions of Wood, unless Man knew their several causes; for Wood, in some cases, may move slower then Lead; and Lead, in other cases, slower then Wood. Again: the same *Author* says, *That an heavy moveable body descending, gets force enough to bring it back again to as much height.* But I think, it might as well be said, That a Man walking a mile, gets as much strength as to walk back that mile; when 'tis likely, that having walked ten miles, he may not have so much strength as to walk back again one mile; neither is he necessitated to walk back, except some other more powerful body do force him back: for though Nature is self-moving, yet every part has not an absolute power, for many parts may over-power fewer; also several corporeal motions may cross and oppose as well as assist each other; for if there were not opposition, as well as agreement and assistance amongst Nature's parts, there would not be such variety in Nature as there is. Moreover, he makes mention of a *Line, with a weight hung to its end, which being removed from the perpendicular, presently falls to the same again.* To which, I answer: That it is the appetite and desire of the Line, not to move by constraint, or any forced exterior motion; but that which forces the Line to move from the Perpendicular, doth not give it motion, but is onely an occasion that it moves in such a way; neither doth the line get that motion from any other exterior body, but it is the lines own motion; for if the motion of the hand, or any other exterior body, should give the line that motion, I pray, from which doth it receive the motion to tend to its former state?

Wherefore, when the Line moves backwards or forwards, it is not, that the Line gets what it had not before, that is, a new corporeal motion, but it uses its own motion; onely, as I said, that exterior body is the occasion that it moves after such a manner or way, and therefore this motion of the line, although it is the lines own motion, yet in respect of the exterior body that causes it to move that way, it may be called a forced, or rather an occasioned motion. And thus no body can get motion from another body, except it get matter too; for all that motion that a body has, proceeds from the self-moving part of matter, and motion and matter are but one thing; neither is there any inanimate part of matter in Nature, which is not co-mixed with the animate, and consequently, there is no part which is not moving, or moved; the Animate part of matter is the onely self-moving part, and the Inanimate the moved: not that the animate matter doth give away its own motion to the inanimate, and that the inanimate becomes self-moving; but the animate, by reason of the close conjunction and commixture, works together with the inanimate, or causes the inanimate to work with it; and thus the inanimate remains as simple in its own nature, as the animate doth in its nature, although they are mixt; for those mixtures do not alter the simplicity of each others Nature. But having discoursed of this subject in my former Letters, I take my leave, and rest,

Madam,

Your faithful Friend

and Servant.

VI.

MADAM,

It seems, my former Letter concerning Motion, has given you occasion to propound this following question to me, to wit, *When I throw a bowl, or strike a ball with my hand; whether the motion, by which the bowl or ball is moved, be the hands, or the balls own motion? or whether it be transferred out of my hand into the ball?* To which I return this short answer: That the motion by which (for example) the bowl is moved, is the bowls own motion, and not the hands that threw it: for the hand cannot transfer its own motion, which hath a material being, out of it self into the bowl, or any other thing it handles, touches, or moves; or else if it did, the hand would in a short time become weak and useless, by losing so much substance, unless new motions were as fast created, as expended. You'll say, perhaps, that the hand and the bowl may exchange motions, as that the bowls own motion doth enter into the hand, and supply that motion which went out of the hand into the bowl, by a close joyning or touch, for in all things moving and moved, must be a joyning of the mover to the moved, either immediate, or by the means of another body. I answer: That this is more probable, then that the hand should give out, or impart motion to the bowl, and receive none from the bowl; but by reason motion cannot be transferred without matter, as being both inseparably united, and but one thing; I cannot think it probable, that any of the animate or self-moving matter in the hand, quits the hand, and enters into the bowl; nor that the animate matter, which is in the bowl, leaves the bowl, and enters into the hand, because that self-moving substance is not readily prepared for so sudden a Translation or

Transmigration. You may say, It may as easily be done as food is received into an animal body and excrement discharged, or as air is taken in, and breath sent out, by the way of respiration; and that all Creatures are not onely produced from each other, but do subsist by each other, and act by each others assistance. I answer: It is very true, that all Creatures have more power and strength by a joyned assistance, then if every part were single, and subsisted of it self. But as some parts do assist each other, so on the other side, some parts do resist each other; for though there be a unity in the nature of Infinite Matter, yet there are divisions also in the Infinite parts of Infinite Matter, which causes Antipathy as much as Sympathy; but they being equal in assistance as well as in resistance, it causes a conformity in the whole nature of Infinite Matter; for if there were not contrary, or rather, I may say, different effects proceeding from the onely cause, which is the onely matter, there could not possibly be any, or at least, so much variety in Nature, as humane sense and reason perceives there is. But to return to our first argument: You may say, that motion may be transferred out of one body into another, without transferring any of the Matter. I answer: That is impossible, unless motion were that which some call No-thing, but how No-thing can be transferred, I cannot imagine: Indeed no sense and reason in Nature can conceive that which is No-thing; for how should it conceive that which is not in Nature to be found. You'll say, perhaps, It is a substanceless thing, or an incorporeal, immaterial being or form. I answer: In my opinion, it is a meer contradiction, to say, a substanceless thing, form, or being, for surely in Nature it cannot be. But if it be not possible that motion can be divided from matter,

you may say, that body from whence the motion is transferred, would become less in bulk and weight, and weaker with every act of motion; and those bodies into which corporeal motion or self-moving matter was received, would grow bigger, heavier, and stronger. To which, I answer: That this is the reason, which denies that there can be a translation of motion out of the moving body into the moved; for questionless, the one would grow less, and the other bigger, that by loosing so much substance, this by receiving. Nay if it were possible, as it is not, that motion could be transferred without matter, the body out of which it goes, would nevertheless grow weaker; for the strength lies in the motion, unless you believe, this motion which is transferred to have been useless in the mover, and onely useful to the moved; or else it would be superfluous in the moved, except you say, it became to be annihilated after it was transferr'd and had done its effect; but if so, then there would be a perpetual and infinite creation and annihilation of substanceless motion, and how there could be a creation and annihilation of nothing, my reason cannot conceive, neither is it possible, unless Nature had more power then God, to create Nothing, and to annihilate Nothing. The truth is, it is more probable for sense and reason to believe a Creation of Something out of Nothing, then a Creation of Nothing out of Nothing. Wherefore it cannot in sense and reason be, that the motion of the hand is transferr'd into the bowl. But yet I do not say, that the motion of the hand doth not contribute to the motion of the bowl; for though the bowl hath its own natural motion in itself, (for Nature and her creatures know of no rest, but are in a perpetual motion, though not always exterior and local, yet they have their proper and certain motions, which are not so

easily perceived by our grosser senses) nevertheless the motion of the bowl would not move by such an exterior local motion, did not the motion of the hand, or any other exterior moving body give it occasion to move that way; Wherefore the motion of the hand may very well be said to be the cause of that exterior local motion of the bowl, but not to be the same motion by which the bowl moves. Neither is it requisite, that the hand should quit its own motion, because it uses it in stirring up, or putting on the motion of the bowl; for it is one thing to use, and another to quit; as for example, it is one thing to offer his life for his friends service, another to imploy it, and another to quit or lose it. But, *Madam*, there may be infinite questions or exceptions, and infinite answers made upon one truth; but the wisest and most probable way is, to rely upon sense and reason, and not to trouble the mind, thoughts, and actions of life, with improbabilities, or rather impossibilities, which sense and reason knows not of, nor cannot conceive. You may say, A Man hath sometimes improbable, or impossible Fancies, Imaginations, or Chymæra's, in his mind, which are No-things. I answer, That those Fancies and Imaginations are not No-things, but as perfectly imbodied as any other Creatures; but by reason, they are not so grossly imbodied, as those creatures that are composed of more sensitive and inanimate matter, man thinks or believes them to be no bodies; but were they substanceless figures, he could not have them in his mind or thoughts: The truth is, the purity of reason is not so perspicuous and plain to sense, as sense is to reason, the sensitive matter being a grosser substance then the rational. And thus, *Madam*, I have answered your proposed question, according to the ability of my Reason, which I leave to your better

examination, and rest in the mean while,

Madam,

Your Faithful Friend

and Servant.

VII.

MADAM,

Having made some mention in my former Letter of the Receiving of Food, and discharging of Excrements, as also of Respiration, which consists in the sucking in of air, and sending out of breath in an animal body; you desire to know, *Whether Respiration be common to all animal Creatures?* Truly, I have not the experience, as to tell you really, whether all animals respire, or not; for my life being, for the most part, solitary and contemplative, but not active, I please my self more with the motions of my thoughts, then of my senses; and therefore I shall give you an answer according to the conceivement of my reason onely, which is, That I believe, all animals require Respiration; not onely those, which live in the air, but those also, which live in waters, and within the earth; but they do not respire all after one and the same manner; for the matter which they imbreath, is not every where the same, nor have they all the same organs, or parts, nor the same motions. As for example: Some Creatures require a more thin and rarer substance for their imbreathing or inspiring, then others, and some a more thick and grosser substance then others, according to their several Natures; for as there are several kinds of

Creatures, according to their several habitations or places they live in, so they have each a distinct and several sort of matter or substance for their inspiration. As for example: Some live in the Air, some upon the face of the Earth, some in the bowels Earth, and some in Waters. There is some report of a Salamander, who lives in the Fire; but it being not certainly known, deserves not our speculation. And, as in my opinion, all animal Creatures require Respiration, so I do verily believe, that also all other kinds of Creatures, besides animals, have some certain manner of imbreathing and transpiring, *viz.* Vegetables, Minerals, and Elements, although not after the same way as Animals, yet in a way peculiar and proper to the nature of their own kind. For example: Take away the earth from Vegetables, and they will die, as being, in my opinion, stifled or smothered, in the same manner, as when the Air is taken away from some Animals. Also, take Minerals out of the bowels of the Earth, and though we cannot say, they die, or are dead, because we have not as yet found out the alterative motions of Minerals, as well as of Vegetables, or Animals, yet we know that they are dead from production and increase, for not any Metal increases being out of the Earth. And as for Elements, it is manifest that Fire will die for want of vent; but the rest of the Elements, if we could come to know the matter, manner, and ways of their Vital Breathing, we might kill or revive them as we do Fire. And therefore all Creatures, to my Reason, require a certain matter and manner of inspiration and expiration, which is nothing else but an adjoyning and disjoyning of parts to and from parts; for not any natural part or creature can subsist single, and by it self, but requires assistance from others, as this, and the rest of my opinions in Natural

Philosophy, desire the assistance of your favour, or else they will die, to the grief of,

Madam,

Your faithful Friend

and Servant.

VIII.

MADAM,

Th'other day I met with the Work of that Learned *Author* Dr. *Ch.* which treats of Natural Philosophy; and amongst the rest, in the Chapter of Place, I found that he blames *Aristotle* for saying, there are none but corporeal dimensions, Length, Breadth, and Depth in Nature, making besides these corporeal, other incorporeal dimensions which he attributes to *Vacuum*. Truly, *Madam*, an incorporeal dimension or extension, seems, in my opinion, a meer contradiction; for I cannot conceive how nothing can have a dimension or extension, having nothing to be extended or measured. His words are these: *Imagine we therefore, that God should please to annihilate the whole stock or mass of Elements, and all concretions resulting therefrom, that is, all corporeal substances now contained within the ambit or concave of the lowest Heaven, or Lunar sphear; and having thus imagined, can we conceive that all the vast space or region circumscribed by the concave superfice of the Lunar sphere, would not remain the same in all its dimensions, after as before the reduction of all bodies included therein to nothing?* To which, I answer: That, in my opinion, he makes Nature Supernatural; for although

God's Power may make Vacuum, yet Nature cannot; for God's and Nature's Power are not to be compared, neither is God's invisible Power perceptible by Natures parts; but according to Natural Perception, it is impossible to conceive a Vacuum, for we cannot imagine a Vacuum, but we must think of a body, as your *Author* of the Circle of the Moon; neither could he think of space but from one side of the Circle to the other, so that in his mind he brings two sides together, and yet will have them distant; but the motions of his thoughts being subtiler and swifter then his senses, skip from side to side without touching the middle parts, like as a Squirrel from bough to bough, or an Ape from one table to another; without touching the ground, onely cutting the air. Next, he says, That an absolute Vacuum, is neither an Accident, nor a Body, nor yet Nothing, but Something, because it has a being; which opinion seems to me like that of the divine Soul; but I suppose Vacuum is not the divine Soul, nor the divine Soul, Vacuum; or else it could not be sensible of the blessed happiness in Heaven, or the Torments in Hell. Again he says, *Let us screw our supposition one pin higher, and farther imagine, that God, after the annihilation of this vast machine, the Universe, should create another in all respects equal to this, and in the same part of space wherein this now consists: First, we must conceive, that as the spaces were immense before God created the world, so also must they eternally persist of infinite extent, if he shall please at any time to destroy it; next, that these immense spaces are absolutely immoveable.* By this opinion, it seems, that Gods Power cannot so easily make or annihilate Vacuum, as a substance; because he believes it to be before all Matter, and to remain after all Matter, which is to be eternal; but I cannot conceive, why Matter, or fulness

of body, should not as well be Infinite and Eternal, as his Conceived Vacuum; for if Vacuum can have an eternal and infinite being, why may not fulness of body, or Matter? But he calls Vacuum Immovable, which in my opinion is to make it a God; for God is onely Immoveable and Unalterable, and this is more Glorious then to be dependant upon God; wherefore to believe Matter to be Eternal, but yet dependent upon God, is a more humble opinion, then his opinion of Vacuum; for if Vacuum be not created, and shall not be annihilated, but is Uncreated, Immaterial, Immoveable, Infinite, and Eternal, it is a God; but if it be created, God being not a Creator of Nothing, nor an annihilator of Nothing, but of Something, he cannot be a Creator of Vacuum; for Vacuum is a pure Nothing. But leaving Nothing to those that can make something of it, I will add no more, but rest,

Madam,

Your faithful Friend

and Servant.

IX.

MADAM,

That Learned *Author*, of whom I made mention in my last, is pleased to say in his Chapter of Time, that Time is the *Twin-brother to Space*; but if Space be as much as Vacuum, then I say, they are Twin-nothings; for there can be no such thing as an empty or immaterial space, but that which man calls space, is onely a distance betwixt several corporeal parts, and

time is onely the variation of corporeal motions; for were there no body, there could not be any space, and were there no corporeal motion, there could not be any time. As for Time, considered in General, it is nothing else but the corporeal motions in Nature, and Particular times are the Particular corporeal motions; but Duration is onely a continuance, or continued subsistence of the same parts, caused by the consistent motions of those parts; Neither are Time, Duration, Place, Space, Magnitude, &c. dependents upon corporeal motions, but they are all one and the same thing; Neither was Time before, nor can be after corporeal motion, for none can be without the other, being all one: And as for Eternity, it is one fixed instant, without a flux, or motion. Concerning his argument of Divisibility of Parts, my opinion is, That there is no Part in Nature Individable, no not that so small a part, which the Epicureans name an Atome; neither is Matter separable from Matter, nor Parts from Parts in General, but onely in Particulars; for though parts can be separated from parts, by self-motion, yet upon necessity they must joyn to parts, so as there can never be a single part by it self. But hereof, as also of Place, Space, Time, Motion, Figure, Magnitude, &c. I have sufficiently discoursed in my former Letters, as also in my Book of Philosophy; and as for my opinion of Atoms, their figures and motions, (if any such things there be) I will refer you to my Book of Poems, out of which give me leave to repeat these following lines, containing the ground of my opinion of Atomes:[1]

All Creatures, howsoe're they may be nam'd,
Are of long, square, flat, *or* sharp *Atoms fram'd.*

Thus several figures several tempers make,

But what is mixt, doth of the four partake.

The onely cause, why things do live and die,
'S according as the mixed Atomes lie.

Thus life, and death, and young, and old,
Are as the several Atoms hold:
Wit, understanding in the brain
Are as the several atomes reign:
And dispositions, good, or ill,
Are as the several atomes still;
And every Passion, which doth rise,
Is as each several atome lies.
Thus sickness, health, and peace, and war,
Are as the several atomes are.

If you desire to know more, you may read my mentioned Book of Poems whose first Edition was printed in the year, 1653. And so taking my leave of you, I rest,

Madam,

Your faithful Friend

and Servant.

[1] *Pag.* 7. in the second Impression. *Pag.* 9. *Pag.* 22. *Pag.* 24.

X.

MADAM,

I received the Book of your new *Author* that treats of Natural Philosophy, which I perceive is but lately come forth; but although it be new, yet there are no

new opinions in it; for the *Author* doth follow the opinions of some old Philosophers, and argues after the accustomed Scholastical way, with hard, intricate, and nonsensical words: Wherefore I shall not take so much pains as to read it quite over, but onely pick out here and there some few discourses, which I shall think most convenient for the clearing of my own opinion; in the number of which, is, first, that of Matter, whereof the *Author* is pleased to proclaim the opinion that holds Matter to be Infinite, not onely absurd, but also impious. Truly, *Madam*, it is easily said, but hardly proved; and not to trouble you with unnecessary repetitions, I hope you do remember as yet what I have written to you in the beginning concerning the infiniteness of Nature, or natural Matter, where I have proved that it implies no impiety, absurdity, or contradiction at all, to believe that Matter is Infinite; for your *Authors* argument, concluding from the finiteness of particular Creatures to Nature her self, is of no force; for though no part of Nature is Infinite in bulk, figure, or quantity, nevertheless, all the parts of Infinite Nature are Infinite in number, which infinite number of parts must needs make up one Infinite body in bulk, or quantity; for as a finite body or substance is dividable into finite parts, so an Infinite body, as Nature, or natural Matter, must of necessity be dividable into infinite parts in number, and yet each part must also be finite in its exterior figure, as I have proved in the beginning by the example of a heap of grains of corn. Certainly, *Madam*, I see no reason, but since, according to your *Author*, God, as the prime Cause, Agent, and Producer of all things, and the action by which he produced all things, is Infinite; the Matter out of which he produced all particular Creatures may be Infinite also. Neither

doth it, to my sense and reason, imply any contradiction or impiety; for it derogates nothing from the Glory and Omnipotency of God, but God is still the God of Nature, and Nature is his Servant, although Infinite, depending wholly upon the will and pleasure of the All-powerful God: Neither do these two Infinites obstruct each other; for Nature is corporeal, and God is a supernatural and spiritual Infinite Being, and although Nature has an Infinite power, yet she has but an Infinite Natural power, whereas Gods Omnipotency is infinitely extended beyond Nature. But your *Author* is pleased to refute that argument, which concludes from the effect to the cause, and proves Matter to be infinite, because God as the Cause is Infinite, saying, that this Rule doth onely hold in Univocal things, (by which, I suppose, he understands things of the same kind and nature) and not in opposites. Truly, *Madam*, by this he limits God's power, as if God were not able to work beyond Nature, and Natural Reason or Understanding; and measures Gods actions according to the rules of Logick; which whether it be not more impious, you may judg your self. And as for opposites, God and Nature are not opposites, except you will call opposites those which bear a certain relation to one another, as a Cause, and its Effect; a Parent, and a Child; a Master, and a Servant; and the like. Nay, I wonder how your *Author* can limit Gods action, when as he confesses himself, that the Creation of the World is an Infinite action. God acted finitely, says he, by an Infinite action; which, in my opinion, is meer non-sense, and as much as to say, a man can act weakly by a strong action, basely by an honest action, cowardly by a stout action. The truth is, God being Infinite, cannot work finitely; for, as his Essence, so his Actions cannot have any limitation,

and therefore it is most probable, that God made Nature Infinite; for though each part of Nature is finite in its own figure, yet considered in general, they are Infinite, as well in number, as duration, except God be pleased to destroy them; nay, every particular may in a certain sense be said Infinite, to wit, Infinite in time or duration; for if Nature be Infinite and Eternal, and there be no annihilation or perishing in Nature, but a perpetual successive change and alteration of natural figures, then no part of Nature can perish or be annihilated; and if no part of Nature perishes, then it lasts infinitely in Nature, that is, in the substance of natural Matter; for though the corporeal motions, which make the figures, do change, yet the ground of the figure, which is natural matter, never changes. The same may be said of corporeal motions: for though motions change and vary infinite ways, yet none is lost in Nature, but some motions are repeated again: As for example; the natural motions in an Animal Creature, although they are altered in the dissolution of the figure, yet they may be repeated again by piece-meals in other Creatures; like as a Commonwealth, or united body in society, if it should be dissolved or dispersed, the particulars which did constitute this Commonwealth or society, may joyn to the making of another society; and thus the natural motions of a body do not perish when the figure of the body dissolves, but joyn with other motions to the forming and producing of some other figures. But to return to your *Author*. I perceive his discourse is grounded upon a false supposition, which appears by his way of arguing from the course of the Starrs and Planets, to prove the finiteness of Nature; for by reason the Stars and Planets rowl about, and turn to the same point again, each within a certain compass of time,

he concludes Nature or Natural Matter to be finite too. And so he takes a part for the whole, to wit, this visible World for all Nature, when as this World is onely a part of Nature, or Natural Matter, and there may be more, and Infinite worlds besides; Wherefore his conclusion must needs be false, since it is built upon a false ground. Moreover, he is as much against the Eternity of Matter, as he is against Infiniteness; concluding likewise from the parts to the whole; For, *says he*, since the parts of Nature are subject to a beginning and ending, the whole must be so too. But he is much mistaken, when he attributes a beginning and ending to parts, for there is no such thing as a beginning and ending in Nature, neither in the whole, nor in the parts, by reason there is no new creation or production of Creatures out of new Matter, nor any total destruction or annihilation of any part in Nature, but onely a change, alteration and transmigration of one figure into another; which change and alteration proves rather the contrary, to wit, that Matter is Eternal and Incorruptible; for if particular figures change, they must of necessity change in the Infinite Matter, which it self, and in its nature, is not subject to any change or alteration: besides, though particulars have a finite and limited figure, and do change, yet their species do not; for Mankind never changes, nor ceases to be, though *Peter* and *Paul* die, or rather their figures dissolve and divide; for to die is nothing else, but that the parts of that figure divide and unite into some other figures by the change of motion in those parts. Concerning the Inanimate Matter, which of it self is a dead, dull, and idle matter, your *Author* denies it to be a co-agent or assistant to the animate matter: For, says he, how can dead and idle things act? To which, I answer: That your *Author* being, or pretending to be

a Philosopher, should consider that there is difference betwixt a Principal and Instrumental cause or agent; and although this inanimate, or dull matter, doth not act of it self as a principal agent, yet it can and doth act as an Instrument, according as it is imploy'd by the animate matter: for by reason there is so close a conjunction and commixture of animate and inanimate Matter in Nature, as they do make but one body, it is impossible that the animate part of matter should move without the inanimate; not that the inanimate hath motion in her self, but the animate bears up the inanimate in the action of her own substance, and makes the inanimate work, act, and move with her, by reason of the aforesaid union and commixture. Lastly, your *Author* speaks much of Minima's, *viz.* That all things may be resolved into their minima's, and what is beyond them, is nothing, and that there is one maximum, or biggest, which is the world, and what is beyond that, is Infinite. Truly, *Madam*, I must ingeniously confess, I am not so high learned, as to penetrate into the true sense of these words; for he says, they are both divisible, and indivisible, and yet no atomes, which surpasses my Understanding; for there is no such thing, as biggest and smallest in Nature, or in the Infinite matter; for who can know how far this World goes, or what is beyond it? There may be Infinite Worlds, as I said before, for ought we know; for God and Nature cannot be comprehended, nor their works measured, if we cannot find out the nature of particular things, which are subject to our exterior senses, how shall we be able to judg of things not subject to our senses. But your *Author* doth speak so presumptuously of Gods Actions, Designs, Decrees, Laws, Attributes, Power, and secret Counsels, and describes the manner, how God created all things, and the mixture

of the Elements to an hair, as if he had been Gods Counsellor and assistant in the work of Creation; which whether it be not more impiety, then to say, Matter is Infinite, I'le let others judg. Neither do I think this expression to be against the holy Scripture; for though I speak as a natural Philosopher, and am unwilling to cite the Scripture, which onely treats of things belonging to Faith, and not to Reason; yet I think there is not any passage which plainly denies Matter to be Infinite, and Eternal, unless it be drawn by force to that sense: *Solomon* says, *That there is not any thing new*: and in another place it is said, *That God is all fulfilling*; that is, that the Will of God is the fulfilling of the actions of Nature: also the Scripture says, *That Gods ways are unsearchable, and past finding out.* Wherefore, it is easier to treat of Nature, then the God of Nature; neither should God be treated of by vain Philosophers, but by holy Divines, which are to deliver and interpret the Word of God without sophistry, and to inform us as much of Gods Works, as he hath been pleased to declare and make known. And this is the safest way, in the opinion of,

Madam,

Your faithful Friend

and Servant.

XI.

MADAM,

Your new *Author* endeavours to prove, that Water in its own proper nature is thicker then Earth; which, to my sense and reason, seems not probable; for

although water is less porous then earth in its exterior figure, yet 'tis not so thick as earth in its interior nature: Neither can I conceive it to be true, that water in its own nature, and as long as it remains water, should be as hard as Crystal, or stone, as his opinion is; for though Elements are so pliant (being not composed of many different parts and figures) as they can change and rechange their exterior figures, yet they do not alter their interior nature without a total dissolution; but your *Author* may as well say, that the interior nature of man is dust and ashes, as that water in its interior nature is as thick as earth, and as hard as Christal, or stone; whereas yet a man, when he becomes dust and ashes, is not a man; and therefore, when water is become so thick as earth, or so hard as stone, it is not water; I mean when it is so in its interior nature, not in its exterior figure; for the exterior figure may be contracted, when yet the interior nature is dilative; and so the exterior may be thick or hard, when the interior is soft and rare. But you may say, that water is a close, and heavy, as also a smooth and glossy body. I answer: That doth not prove its interior nature to be hard, dense, thick, or contracted; for the interior nature and parts of a body may be different from the exterior figure or parts; neither doth the close joyning of parts hinder dilatation; for if so, a line or circle could not dilate or extend: But this close uniting of the parts of water is caused through its wet and glutinous quality, which wet and sticking quality is caused by a watery dilatation; for though water hath not interiously so rare a dilatation as Air, Fire, and Light, yet it hath not so close a contraction as Earth, Stone, or Metal; neither are all bodies that are smooth and shining, more solid and dense, then those that are rough and dark; for light is more

smooth, glossy, and shining, then Water, Metal, Earth, or Transparent-stones, and yet is of a dilative nature. But because some bodies and figures which are transparent and smooth, are dense, hard, and thick, we cannot in reason, or sense, say, that all bodies and figures are so. As for Transparency, it is caused through a purity of substance, and an evenness of parts: the like is glossiness, onely glossiness requires not so much regularity, as transparency. But to return to Water; its exterior Circle-figure may dilate beyond the degree of the propriety or nature of water, or contract beneath the propriety or nature of water. Your *Author* may say, Water is a globous body, and all globous bodies tend to a Center. I answer: That my sense and reason cannot perceive, but that Circles and Globes do as easily dilate, as contract: for if all Globes and Circles should endeavour to draw or fall from the circumference to the Center, the Center of the whole World, or at least of some parts of the World, would be as a Chaos: besides, it is against sense and reason, that all Matter should strive to a Center; for humane sense and reason may observe, that all Creatures, and so Matter, desire liberty, and a Center is but a Prison in comparison to the Circumference; wherefore if Matter crowds, it is rather by force, then a voluntary action. You will say, All Creatures desire rest, and in a Center there's rest. I answer; Humane sense and reason cannot perceive any rest in Nature: for all things, as I have proved heretofore, are in a perpetual motion. But concerning Water, you may ask me, *Madam*, Whether congeal'd Water, as Ice, if it never thaw, remains Water? To which, I answer: That the interior nature of Water remains as long as the Ice remains, although the outward form is changed; but if Ice be contracted into the firmness

and density of Crystal, or Diamond, or the like, so as to be beyond the nature of Water, and not capable to be that Water again, then it is transformed into another Creature, or thing, which is neither Water, nor Ice, but a Stone; for the Icy contraction doth no more alter the interior nature of Water, which is dilating, then the binding of a man with Chains alters his nature from being a man; and it might be said as well, that the nature of Air is not dilating, when inclosed in a bladder, as that Water doth not remain Water in its interior nature, when it is contracted into Ice. But you may ask, Whether one extreme can change into another? I answer: To my sense and reason it were possible, if extremes were in Nature; but I do not perceive that in Nature there be any, although my sense and reason doth perceive alterations in the effects of Nature; for though one and the same part may alter from contraction to dilation, and from dilation to contraction; yet this contraction and dilation are not extremes, neither are they performed at one and the same time, but at different times. But having sufficiently declared my opinion hereof in my former Letters, I'l add no more, but rest,

Madam,

Your faithful Friend

and Servant.

XII.

MADAM,

My discourse of Water in my last Letter has given

you occasion to enquire after the reason, *Why the weight of a great body of water doth not press so hard and heavily as to bruise or crush a body, when it is sunk down to the bottom?* As for example: If a man should be drowned, and afterwards cast out from the bottom of a great Sea, or River, upon the shore; he would onely be found smother'd or choak'd to death, and not press'd, crush'd, or bruised, by the weight of water. I answer; The reasons are plain: for, first, the nature of a mans respiration requires such a temperature of breath to suck in, as is neither too thick, nor too thin for his lungs, and the rest of his interior parts, as also for the organs and passages of his exterior senses, but fit, proper, and proportionable to those mentioned parts of his body: As for example; in a too thin and rarified air, man will be as apt to die for want of breath, as in a too gross and thick air he is apt to die with a superfluity of the substance he imbreaths; for thick smoak, or thick vapour, as also too gross air, will soon smother a man to death; and as for choaking, if a man takes more into his throat then he can swallow, he will die; and if his stomack be filled with more food then it is able to digest, if it cannot discharge it self, he will die with the excess of food; and if there be no food, or too little put into it, he will also die for want of food. So the eye, if it receives too many, or too gross, or too bright objects, it will be dazled or blinded, and some objects through their purity are not to be seen at all: The same for Hearing, and the rest of the exterior senses: And this is the reason, why man, or some animal Creatures are smother'd and choak'd with water; because water is thicker then the grossest air or vapour; for if smoak, which is rarer then water, will smother and choak a man, well may water, being so much thicker. But yet this

smothering or choaking doth not prove, that water hath an interior or innate density (as your *Authors* opinion is) no more then smoak, or thick and gross air hath; but the density of water is caused more through the wet and moist exterior parts, joyning and uniting closely together; and the interior nature of smoak being more moist or glutinous then thin air, and so more apt to unite its exterior parts, it makes it to come in effect nearer to water; for though water and smoak are both of rare natures, yet not so rare as clear and pure air; neither is water or smoak so porous as pure air, by reason the exterior parts of water and smoak are more moist or glutinous then pure air. But the thickness of water and smoak is the onely cause of the smothering of men, or some animals, as by stopping their breath, for a man can no more live without air, then he can without food; and a well tempered or middle degree of air is the most proper for animal Respiration; for if the air be too thick, it may soon smother or choak him; and if too thin, it is not sufficient to give him breath: And this is the reason that a man being drown'd, is not onely smother'd, but choak'd by water; because there enters more through the exterior passages into his body then can be digested; for water is apt to flow more forcibly and with greater strength then air; not that it is more dilating then air, but by reason it is thicker, and so stronger, or of more force; for the denser a body is, the stronger it is; and a heavy body, when moved, is more forcible then a light body. But I pray by this expression mistake not the nature of water; for the interior nature of water hath not that gravity, which heavy or dense bodies have, its nature being rare and light, as air, or fire; but the weight of water, as I said before, proceeds onely from the closeness and compactness of its exterior parts, not

through a contraction in its interior nature; and there is no argument, which proves better, that water in its interior nature is dilating, then that its weight is not apt to press to a point; for though water is apt to descend, through the union of its parts, yet it cannot press hard, by reason of its dilating nature, which hinders that heavy pressing quality; for a dilating body cannot have a contracted weight, I mean, so as to press to a Center, which is to a point; and this is the reason, that when a grave or heavy body sinks down to the bottom of water, it is not opprest, hurt, crusht, or bruised by the weight of water; for, as I said, the nature of water being dilating, it can no more press hard to a center, then vapour, air, or fire: The truth is, water would be as apt to ascend as descend, if it were not for the wet, glutinous and sticking, cleaving quality of its exterior parts; but as the quantity and quality of the exterior parts makes water apt to sink, or descend, so the dilating nature makes it apt to flow, if no hinderance stop its course; also the quantity and quality of its exterior parts is the cause, that some heavy bodies do swim without sinking: as for example; a great heavy Ship will not readily sink, unless its weight be so contracted as to break asunder the united parts of water; for the wet quality of water causing its exterior parts to joyn close, gives it such an united strength, as to be able to bear a heavy burden, if the weight be dilated, or level, and not piercing or penetrating; for those bodies that are most compact, will sink sooner, although of less weight then those that are more dilated although of greater weight: Also the exterior and outward shape or form makes some bodies more apt to sink then others; Indeed, the outward form and shape of Creatures is one of the chief causes of either sinking or swimming. But to conclude, water

in its interior nature is of a mean or middle degree, as neither too rare, nor too grave a body; and for its exterior quality, it is in as high a degree for wetness, as fire is for heat; and being apt both to divide, and to unite, it can bear a burden, and devour a burden, so that some bodies may swim, and others sink; and the cause, that a sunk body is not opprest, crush'd, or squeesed, is the dilating nature and quality of water, which hinders its parts from pressing or crowding towards a point or center; for although water is heavy, and apt to descend, yet its weight is not caused by a contraction of its substance, but by a union of its parts. Thus, *Madam*, I have obeyed your commands, in giving you my reasons to your propounded question, which if you approve, I have my aim; if not, I submit to your better judgment: for you know I am in all respects,

Madam,

Your Faithful Friend

to serve you.

XIII.

MADAM,

I am glad, you are pleased with my reasons I gave to your propounded question concerning the weight of Water; and since you have been pleased to send me some more of that subject, I shall be ready also to give my answer to them, according to the capacity of my judgment. First, you desire to know, *How it comes, that Water will by degrees ascend through a narrow pipe, when the pipe is placed straight upright; or*

perpendicular? The reason, in my opinion is, that Water, having a dilative nature, when it finds an obstruction to descend or flow even, will dilate it self ascendingly, according as it hath liberty, or freedom, and strength, or quantity; the truth is, water would be more apt to ascend then to descend, were it not for the close uniting of its liquid Parts, which causes its exterior density, and this density makes it of more weight then its nature is; and the proof that water is apt in its nature to ascend, is, that some sorts of vapours are made onely by the dilation and rarefaction of ascending Water. Your second question is, *Why the surface of water seems to be concave in its middle, and higher on every side?* I answer, The interior figure of water is a circular figure, which being a round figure, is both concave, and convex; for where one is, the other must be; and the motions of ebbing and flowing, and ascending or descending, are partly of that figure; and so according to the exterior dilating strength or weakness, the exterior parts of water become either concave or convex; for in a full strength, as a full stream, the exterior parts of water flow in a convex figure, but when they want strength, they ebb in a concave figure. Your third question is, *What makes frozen water apt to break those Vessels wherein it is contained, in the act of freezing or congealing?* I answer: The same cause that makes water clear, as also more swell'd then usually it is: which cause is the inherent dilative nature of water; for water being naturally dilative, when as cold attractions do assault it, the moist dilations of water in the conflict use more then their ordinary strength to resist those cold contracting motions, by which the body of water dilates it self into a larger compass, according as it hath liberty or freedom, or quantity of parts; and the cold parts not being able to

drive the water back to its natural compass, bind it as it is extended, like as if a beast should be bound when his legs and neck are thrust out at the largest extent, in striving to kick or thrust away his enemies and imprisoners: And so the reason why water breaks these vessels wherein it is inclosed, in the act of its freezing or congealing is, that when the cold contractions are so strong as they endeavour to extinguish the dilating nature of water, the water refilling, forces its parts so, as they break the vessel which incloses them: The same reason makes Ice clear and transparent; for it is not the rarefaction of water that doth it, but the dilation, which causes the parts of water to be not onely more loose and porous, but also more smooth and even, by resisting the cold contractions; for every part endeavours to defend their borders with a well ordered and regular flowing or streaming, and not onely to defend, but to enlarge their compass against their enemies. Your fourth question is, How it comes *that Snow and Salt mixt together doth make Ice?* The reason, in my judgment, is, that Salt being very active, and partly of the nature of fire, doth sometimes preserve, and sometimes destroy other bodies, according to its power, or rather according to the nature of those bodies it works on; and salt being mixt with snow, endeavours to destroy it; but having not so much force, melts it onely by its heat, and reduces it into its first principle, which is water, altering the figure of snow; but the cold contractions remaining in the water, and endeavouring to maintain and keep their power, straight draw the water or melted snow into the figure of ice, so as neither the salts heat, nor the waters dilative nature, are able to resist or destroy those cold contractions; for although they destroy'd the first figure, which is snow, yet they cannot

hinder the second, which is Ice. Your last question is, *How the Clouds can hang so long in the Skie without falling down?* Truly, *Madam*, I do not perceive that Clouds, being come to their full weight and gravity, do keep up in the air, but some of them fall down in showres of rain, others in great and numerous flakes of snow; some are turned into wind, and some fall down in thick mists, so that they onely keep up so long, until they are of a full weight for descent, or till their figure is altered into some other body, as into air, wind, rain, lightning, thunder, snow, hail, mist, and the like. But many times their dilating motions keep or hinder them from descending, to which contracting motions are required. In my opinion, it is more to be admired, that the Sea doth not rise, then that Clouds do not fall; for, as we see, Clouds fall very often, as also change from being Clouds, to some other figure: Wherefore it is neither the Sun, nor Stars, nor the Vapours, which arise from the Earth, and cause the Clouds, nor the porosity of their bodies, nor the Air, that can keep or hinder them from falling or changing to some other body; but they being come to their full weight, fall or change according as is fittest for them. And these are all the reasons I can give you for the present; if they do not satisfie you, I will study for others, and in all occasions endeavour to express my self,

Madam,

Your constant Friend,

and faithful Servant.

XIV.

MADAM,

Since in my last, I made mention of the Congealing of Water into Ice and Snow, I cannot choose, but by the way tell you, that I did lately meet with an *Author*, who is of opinion, That Snow is nothing else but Ice broken or ground into small pieces. To which, I answer: That this opinion may serve very well for a Fancy, but not for a Rational Truth, or at least for a Probable Reason; For why may not the cold motions make snow without beating or grinding, as well as they make Ice? Surely Nature is wiser then to trouble her self with unnecessary labour, and to make an easie work difficult, as Art her Creature doth, or as some dull humane capacities conceive; for it is more easie for Nature to make Snow by some sorts of cold contractions, as she makes Ice by other sorts of cold contractions, then to force Air and Wind to beat, grinde, or pound Ice into Snow, which would cause a confusion and disturbance through the Irregularity of several parts, being jumbled in a confused manner together. The truth is, it would rather cause a War in Nature, then a natural production, alteration, or transformation: Neither can I conceive, in what region this turbulent and laborious work should be acted; certainly not in the caverns of the Earth, for snow descends from the upper Region. But, perchance, this *Author* believes, that Nature imploys Wind as a Hand, and the Cold air as a Spoon, to beat Ice like the white of an Egg into a froth of Snow. But the great quantity of Snow, in many places, doth prove, that Snow is not made of the fragments of Ice, but that some sorts of cold contractions on a watery body, make the figure of snow in the substance of water, as other sorts of cold contractions make the figure of ice; which motions and figures I have treated of in my Book of Philosophy, according to

that Judgment and Reason which Nature has bestowed upon me. The Author of this Fancy, gives the same reason for Snow being white: *For Ice*, says he, *is a transparent body, and all transparent bodies, when beaten into powder, appear white; and since Snow is nothing else but Ice powder'd small, it must of necessity shew white.* Truly, *Madam*, I am not so experienced, as to know that all transparent bodies, being beaten small, shew white; but grant it be so, yet that doth not prove, that the whiteness of snow proceeds from the broken parts of Ice, unless it be proved that the whiteness of all bodies proceeds from the powdering of transparent bodies, which I am sure he cannot do; for Silver, and millions of other things are white, which were never produced from the powder of transparent bodies: Neither do I know any reason against it, but that which makes a Lilly white, may also be the cause of the whiteness of Snow, that is, such a figure as makes a white colour; for different figures, in my opinion, are the cause of different colours, as you will find in my Book of Philosophy, where I say, that Nature by contraction of lines draws such or such a Figure, which is such or such a Colour; as such a Figure is red, and such a Figure is green, and so of all the rest: But the Palest colours, and so white, are the loosest and slackest figures; Indeed, white, which is the nearest colour to light, is the smoothest, evenest and straightest figure, and composed of the smallest lines: As for example; suppose the figure of 8. were the colour of Red, and the figure of 1. the colour of White; or suppose the figure of Red to be a *z.* and the figure of an *r.* to be the figure of Green, and a straight *l.* the figure of White; And mixt figures make mixt colours: The like examples may be brought of other Figures, as of a Harpsichord and its strings, a Lute and its strings, a

Harp and its strings, &c. By which your Reason shall judg, whether it be not easier for Nature, to make Snow and its whiteness by the way of contraction, then by the way of dissolution: As for example; Nature in making Snow, contracts or congeals the exterior figure of Water into the figure of a Harp, which is a Triangular figure with the figure of straight strings within it; for the exterior figure of the Harp represents the exterior figure of Snow, and the figure of the strings extended in straight lines represent the figure of its whiteness. And thus it is easier to make Snow and its whiteness at one act, then first to contract or congeal water into Ice, and then to cause wind and cold air to beat and break that Ice into powder, and lastly to contract or congeal that powder into flakes of Snow. Which would be a very troublesom work for Nature, *viz.* to produce one effect by so many violent actions and several labours, when the making of two figures by one action will serve the turn. But Nature is wiser then any of her Creatures can conceive; for she knows how to make, and how to dissolve, form; and transform, with facility and ease, without any difficulty; for her actions are all easie and free, yet so subtil, curious and various, as not any part or creature of Nature can exactly or throughly trace her ways, or know her wisdom. And thus leaving her, I rest,

Madam,

Your faithful Friend

and Servant.

XV.

MADAM,

I have taken several questions out of your new *Author*, which I intend to answer in this present Letter according to the conceptions of my own sense and reason, and to submit them to your censure; which if you vouchsafe to grant me without partiality, I shall acknowledg my self much obliged to you for this favour. The first question is, *Why wet Linnen is dried in the Air?* I answer; That, according to my sense and reason, the water which is spred upon the linnen, being not united in a full and close body, dilates beyond the Circle-degree of water and wetness, and so doth easily change from water to vapour, and from vapour to air, whereby the linnen becomes as dry, as it was before it became wet. The second question is, *Why Water and Wine intermix so easily and suddenly together?* I answer: All wet liquors, although their exterior figures do differ, yet their interior natures, figures and forms are much alike, and those things that are of the same interior nature, do easily and suddenly joyn as into one: Wherefore Wine and Water having both wet natures, do soon incorporate together, whereas, were they of different natures, they would not so peaceably joyn together, but by their contrary natures become enemies, and strive to destroy each other; but this is to be observed, that the sharp points of the Circle-lines of Wine, by passing through the smooth Circle-lines of Water, help to make a more hasty and sudden conjunction. The third question, is, *Why Light, which in its nature is white, shining through a coloured Glass, doth appear of the same colour which the Glass is of, either Blew, Green, Red, or the like?* I answer: The reason is, that though Light in its nature be white,

and the Glass clear and transparent, yet when as the Glass is stained or painted with colours, both the clearness of the glass, and the whiteness of the light, is obstructed by the figure of that colour the glass is stained or painted withal, and the light spreading upon or thorow the glass, represents it self in the figure of that same colour; indeed, in all probability to sense and reason, it appears, that the lines or beams of light, which are straight, small, even, and parallel, do contract in their entrance through the glass into the figure of the colour the glass is stained or painted with, so that the light passes through the glass figuratively, in so much, as it seems to be of the same colour the glass is of, although in it self it is white, lucent, and clear; and as the light appears, so the eye receives it, if the sight be not destructive. The fourth question, is, *Whether* (as your *Authors* opinion is) *kisses feel pleasing and delightful by the thinness of the parts, and a gentle stirring and quavering of the tangent spirits, that give a pleasing tact?* I answer: If this were so, then all kisses would be pleasing, which surely are not; for some are thought very displeasing, especially from thin lips; wherefore, in my opinion, it is neither the thinness of the parts of the lips, nor the quavering of the tangent spirits, but the appetites and passions of life, reason, and soul, that cause the pleasure; Nevertheless, I grant, the stirring up of the spirits may contribute to the increasing, heightening, or strengthning of that tact, but it is not the prime cause of it. The fifth question, is, *Whether the greatest man have always the greatest strength?* I answer, Not: for strength and greatness of bulk doth not always consist together, witness experience: for a little man may be, and is oftentimes stronger then a tall man. The like of other animal Creatures: As for example, some Horses of a little or

middle size, have a great deal more strength then others which are high and big; for it is the quantity of sensitive matter that gives strength, and not the bigness or bulk of the body. The sixth question, is, *Whether this World or Universe be the biggest Creature?* I answer: It is not possible to be known, unless Man could perfectly know its dimension or extension, or whether there be more Worlds then one: But, to speak properly, there is no such thing as biggest or least in Nature. The seventh question, is, *Whether the Earth be the Center of Matter, or of the World?* As for Matter, it being Infinite, has no Center, by reason it has no Circumference; and, as for this World, its Center cannot be known, unless man knew the utmost parts of its circumference, for no Center can be known without its circumference; and although some do imagine this world so little, that in comparison to Infinite Matter, it would not be so big as the least Pins head, yet their knowledg cannot extend so far as to know the circumference of this little World; by which you may perceive the Truth of the old saying, Man talks much, but knows little. The eighth question is, *Whether all Centers must needs be full, and close, as a stufft Cushion; and whether the matter in the Center of the Universe or World be dense, compact, and heavy?* I answer: This can no more be known, then the circumference of the World; for what man is able to know, whether the Center of the world be rare, or dense, since he doth not know where its Center is; and as for other particular Centers, some Centers may be rare, some dense, and some may have less matter then their circumferences. The ninth question is, *Whether Finite Creatures can be produced out of an Infinite material cause?* I answer: That, to my sense and reason, an Infinite cause must needs produce Infinite effects,

though not in each Particular, yet in General; that is, Matter, being Infinite in substance, must needs be dividable into Infinite parts in number, and thus Infinite Creatures must needs be produced out of Infinite Matter; but Man being but a finite part, thinks all must be finite too, not onely each particular Creature, but also the Matter out of which all Creatures are produced, which is corporeal Nature. Nevertheless, those Infinite effects in Nature are equalized by her different motions which are her different actions; for it is not *non*-sence, but most demonstrable to sense and reason that there are equalities or a union in Infinite. The tenth question is, *Whether the Elements be the onely matter out of which all other Creatures are produced?* I answer: The Elements, as well as all other Creatures, as it appears to humane sense and reason, are all of one and the same Matter, which is the onely Infinite Matter; and therefore the Elements cannot be the Matter of all other Creatures, for several sorts of Creatures have several ways of productions, and I know no reason to the contrary, but that Animals, Vegetables, and Minerals, may as well derive their essence from each other, as from the Elements, or the Elements from them; for as all Creatures do live by each other, so they are produced from each other, according to the several ways or manners of productions. But mistake me not, *Madam*, for I speak of production in General, and not of such natural production whereby the several species of Creatures are maintained: As for example, Generation in Animals; for an Element cannot generate an Animal in that manner as an Animal can generate or produce its like; for as Nature is wise, so her actions are all wise and orderly, or else it would make a horrid confusion amongst the Infinite parts of Nature. The eleventh

question is, *What is meant by Natural Theology?* I answer: Natural Theology, in my opinion, is nothing else but Moral Philosophy; for as for our belief, it is grounded upon the Scripture, and not upon Reason.

These, *Madam*, are the questions which I have pickt out of your new *Author*, together with my answers, of which I desire your impartial Judgment: But I must add one thing more before I conclude, which is, I am much pleased with your *Authors* opinion, That Sound may be perceived by the Eye, Colour by the Ear, and that Sound and Colour may be smell'd and tasted; and I have been of this opinion eleven years since, as you will find in my Book of Poems, whose first Edition was printed in the Year, 1653. And thus I take my leave of you, and remain constantly,

Madam,

Your Faithful Friend

to serve you.

XVI.

MADAM,

Concerning your question of the ascending nature of fire, I am absolutely of *Aristotle's* Opinion, that it is as natural for Fire to ascend, as it is for Earth to descend; And why should we believe the nature of one, and doubt the nature of the other? For if it be granted, that there are as well ascending, as descending bodies in Nature, as also low and high places, (according to the situation of Particulars) and Circumferences, as well as Centers, (considering the shape of bodies) I cannot perceive by humane

reason, but that the Nature of fire is ascending, and that it is very improbable, it should have a descending or contracting nature, as to tend or endeavour to a Center. But, *Madam*, give me leave to ask what sort of Fire you mean, whether a Celestial, or a Terrestrial Fire, *viz.* that which is named an Elemental fire, or any other sort of fire? for there may be as many several sorts of fire, as of other Creatures; or whether you mean onely that sort of fire that belongs to this terrestrial Globe, or all the fire in general that is in Infinite Nature? and if you mean onely that sort of fire which belongs to this Terrestrial World we live upon; I answer, There are many several sorts of that fire too; for all the fire belonging to this Earthly Globe, doth not lie in one place, body, or part, no more then all metal, or but one sort of metal, as Gold, lies in one mine, or all Mankind in one womb. Neither can I believe, that the Sun is the onely Celestial Fire in Nature, but that there may be as numerous Suns, as there are other sorts of Creatures in Nature. But as for the ascending propriety of this terrestrial Fire, you may say, That the Elements do commix and unite in this worldly Globe, and if Fire should have an ascending motion, it would pierce into other Globes, or Worlds, and never leave ascending. I answer: That, first of all, the strength of fire is to be considered, consisting not onely in its quantity, but also in its quality; as whether it can ascend to those bodies and places which are far above it: For example; A Man, or any other Creature, hath never so much strength, or ability, or length of life, as to travel to the utmost parts of the Universe, were the way never so plain and free, and the number of men never so great: the like for Elementary fire, which hath life and death, that is, generation and dissolution, and successive

motion, as well as other Creatures. But you would fain know, whether fire, if it were left at liberty, would not turn to a Globous figure? I answer; That, to my sense and reason, it would not: but some men, seeing the flame of fire in an arched Oven, descend round the sides of the Oven in a Globous figure, do perhaps imagine the nature of fire to be descending, and its natural figure round as a Globe, which is ridiculous; for the fire in the Oven, although every where incompassed and bound, yet, according to its nature, ascends to the top of the Oven; and finding a stoppage and suppression, offers to descend perpendicularly; but by reason of a continual ascending of the following flame, the first, and so all the following parts of flame are forced to spread about, and descend round the sides of the Oven, so that the descension of the flame is forced, and not natural, and its Globous figure is caused, as it were, by a mould, which is the Oven. But some are of opinion, that all bodies have descending motions towards the Center of this worldly Globe, and therefore they do not believe, that any bodies do ascend naturally: But what reason have they to believe one, and not the other? Besides, how do they know that all bodies would rest in the Center of this terrestrial Globe, if they came thither? For if it was possible, that a hole could be digged from the superficies of this Earthly Globe thorow the middle or Center of it unto the opposite superficies, and a stone be sent thorow; the question is, whether the stone would rest in the Center, and not go quite thorow? Wherefore this is but an idle Fancy; and the proof that Fire tends not to a Center, is, because it cannot be poised or weighed, not onely by reason of its rarity, but of its dilative and aspiring Nature; and as fire is ascending, or aspiring, so likewise do I,

Madam, aspire to the top of your favour, and shall never descend from the ambition to serve you, but by the suppression of death. Till then, I remain,

Madam,

Your constant Friend,

and faithful Servant.

XVII.

MADAM,

In your last, you were pleased to desire my answer to these following questions: First, *What the reason is, that a Vessel, although it be of a solid and compact substance, yet will retain the smell or odour of a forreign substance poured into it, for a long time?* I answer: The Vessel, or rather the perceptive corporeal motions of the Vessel, having patterned out the figure of the sent of the odorous substance, retain that same figure of sent, although the odorous substance is gone; and as long as that patterned figure is perfect, the sent will remain in the Vessel, either more or less, according as the figure doth last or alter. But you must consider, *Madam*, that although it be the natural motions that make those patterns of odours, yet those patterned figures are but as it were artificial, like as a man who draws a Copy from an Original; for Nature has divers and several ways of such motions as we call Art, for whatsoever is an imitation, is that which man calls Art. Your second question was, *How it came, that the mind and understanding in many did die or dissolve before the body?* I answer: The reason is, because the rational

corporeal motions alter before the sensitive; for as in some, as for example, in Natural fools, the rational motions never move to a regular humane understanding, so in some dying Persons they do make a general alteration before the sensitive. Your third question was, *Why a man, being bitten by a mad Dog, is onely distempered in his mind, and not in his body?* The reason, according to my judgment, is, that the rational part of Matter is onely disturbed, and not the sensitive. The fourth question was, *Why a Basilisk will kill with his eyes?* I answer: It is the sensitive corporeal motions in the organ of sight in the man, which upon the printing of the figure of the eyes of the Basilisk, make a sudden alteration. Your fifth question was, *Why an Asp will kill insensibly by biting?* The reason, in my opinion, is, That the biting of the Asp hath the same efficacy as deadly *Opium* hath, yea, and much stronger. Your sixth question was, *Why a Dog that rejoyces, swings his tail, and a Lyon when angry, or a Cat when in a fear, do lift up their tails?* I answer: The several motions of the mind may produce either but one, or several sorts of motions in some part or parts of the body; and as the sensitive motions of anger will produce tears, so will the motions of joy; but grief made by the rational motions of the mind, may by excess disturb and make a general alteration of the sensitive motions in an animal: the same may excessive joy. But, *Madam*, you may perhaps find out better reasons for your own questions then these are; for my endeavour was onely to frame my answer to the ground of my own opinions, and so to satisfie your desire, which was, and is still the ambition of,

Madam,

Your faithful Friend

and Servant.

XVIII.

MADAM,

In your last, you were pleased to desire an account, how far, or how much I did understand the ancient and modern Philosophers in their Philosophical Writings. Truly, *Madam*, I can more readily tell you what I do not understand, then what I do understand: for, first, I do not understand their sophistical Logick, as to perswade with arguments that black is white, and white is black; and that fire is not hot, nor water wet, and other such things; for the glory in Logick is rather to make doubts, then to find truth; indeed, that Art now is like thick, dark clouds, which darken the light of truth. Next: I do not understand in particular, what they mean by second matter; for if they name figures and forms second matter, they may as well say, all several motions, which are the several actions of Nature, are several matters, and so there would be infinite several matters, which would produce a meer confusion in Nature. Neither do I understand, when they say, a body dissolves into the first matter; for I am not able to conceive their first matter, nor what they mean by *magna* and *major materia*; for I believe there is but one matter, and the motion of that matter is its action by which it produces several figures and effects; so that the nature of the matter is one and the same, although its motions, that is, its actions, be various, for the various effects alter not the nature or unity of the onely matter. Neither do I

understand what they mean by corruption, for surely Nature is not corruptible. Nor do I understand their individables in Nature, nor a bodiless form, nor a privation, nor a being without a body; nor any such thing as they call rest, for there's not any thing without motion in Nature: Some do talk of moving *minima's*, but they do not tell what those *minima's* or their motions are, or how they were produced, or how they came to move. Neither do I understand when they say there is but one World, and that finite; for if there be no more Matter then that which they call the whole World, and may be measured by a *Jacob's* staff, then certainly there is but little matter, and that no bigger then an atome in comparison to Infinite. Neither can my reason comprehend, when they say, that not any thing hath power from its interior nature to move exteriously and locally; for common sense and reason, that is sight and observation, doth prove the contrary. Neither do I know what they mean by making a difference between matter and form, power and act; for there can be no form without matter, nor no matter without form; and as act includes power, so power is nothing without act: Neither can I conceive Reason to be separable from matter; nor what is meant when they say, that, onely that is real, which moves the understanding without. Nor do I understand what they mean by intentionals, accidentals, incorporeal beings, formal *ratio*, formal *unity*, and hundreds the like; enough to puzle truth, when all is but the several actions of one cause, to wit, the onely matter. But most men make such cross, narrow, and intricate ways in Nature, with their over-nice distinctions, that Nature appears like a Labyrinth, whenas really she is as plain as an un-plowed, ditched, or hedged champion: Nay, some

make Nature so full, that she can neither move nor stir; and others again will have her so empty, as they leave not any thing within her; and some with their penetrations, pressings, squeezings, and the like, make such holes in her, as they do almost wound, press and squeeze her to death: And some are so learned, witty, and ingenious, as they understand and know to discourse of the true compass, just weight, exact rules, measures and proportions of the Universe, as also of the exact division of the *Chaos*, and the architecture of the world, to an atome. Thus, *Madam*, I have made my confession to you of what I understand not, and have endeavoured to make my ignorance as brief as I could; but the great God knows, that my ignorance is longer then that which is named life and death; and as for my understanding, I can onely say, that I understand nothing better, but my self to be,

Madam,

Your most faithful Friend

and humble Servant.

XIX.

MADAM,

Since I have given you, in my last, an account how much I did understand the Philosophical works of both the ancient and modern Philosophers, or rather what I did not understand of them, you would fain have my opinion now of the persons themselves. Truly, *Madam*, as for those that are dead, or those that are living, I cannot say any thing, but that I

believe they all were or are worthy persons, men of vast understandings, subtil conceptions, ingenious wits, painful students, and learned writers. But as for their works, as I told you heretofore, I confess ingeniously, I understand them not, by reason I am ignorant in their Scholastical Arts, as Logick, Metaphysick, Mathematicks, and the like: For to my simple apprehension, when as Logicians argue of natural causes and effects, they make natural causes to produce natural effects with more difficulty and enforcement then Nature knows of; and as for Mathematicians, they endeavour to inchant Nature with Circles, and bind her with lines so hard, as if she were so mad, that she would do some mischief, when left at liberty. Geometricians weigh Nature to an Atome, and measure her so exactly, as less then a hairs breadth; besides, they do press and squeeze her so hard and close, as they almost stifle her. And Natural Philosophers do so stuff her with dull, dead, senceless *minima's*, like as a sack with meal, or sand, by which they raise such a Dust as quite blinds Nature and natural reason. But Chymists torture Nature worst of all; for they extract and distil her beyond substance, nay, into no substance, if they could. As for natural Theologers, I understand them least of any; for they make such a gallamalfry of Philosophy and Divinity, as neither can be distinguished from the other. In short, *Madam*, They all with their intricate definitions and distinctions set my brain on the rack: but some Philosophers are like some Poets, for they endeavour to write strong lines. You may ask me, what is meant by strong lines? I answer: Weak sense. To which leaving them, I rest,

Madam,

Your Faithful Friend

and Servant.

XX.

MADAM,

I am not of your opinion, That nice distinctions and Logistical arguments discover truth, dissolve doubts, and clear the understanding; but I say, they rather make doubts of truth, and blind-fold the understanding; Indeed, nice distinctions and sophistical arguments, are very pernicious both in Schools, Church, and State: As for the Church, although in Divinity there is but one Truth, yet nice distinctions, and Logistical sophistry, have made such confusion in it, as has caused almost as many several opinions as there are words in the Scripture; and as for natural Theology, which is moral Philosophy, they have divided vertues and vices into so many parts, and minced them so small, that neither can be clearly distinguished. The same in Government; they endeavour to cut between command and obedience to a hairs breadth. Concerning causes of Law, they have abolish'd the intended benefit, and banish'd equity; and instead of keeping Peace, they make War, causing enmity betwixt men: As for Natural Philosophy, they will not suffer sense and reason to appear in that study: And as for Physick, they have kill'd more men then Wars, Plagues, or Famine. Wherefore from nice distinctions and Logistical sophistry, Good God deliver us, especially, from those that concern Divinity; for they weaken Faith, trouble Conscience, and bring in Atheism: In short, they make controversies, and

endless disputes. But least the opening of my meaning in such plain terms should raise a controversie also between you and me, I'le cut off here, and rest,

Madam,

Your faithful Friend

and Servant.

XXI.

MADAM,

Yesterday I received a visit from the Lady *N. M.* who you know hath a quick wit, rational opinions, and subtil conceptions; all which she is ready and free to divulge in her discourse. But when she came to my Chamber, I was casting up some small accounts; which when she did see, What, said she, are you at Numeration? Yes, said I: but I cannot number well, nor much, for I do not understand Arithmetick. Said she, You can number to three. Yes, said I, I can number to four: Nay, faith, said she, the number of three is enough, if you could but understand that number well, for it is a mystical number. Said I, There is no great mystery to count that number; for one, and two, makes three. Said she, That is not the mystery; for the mystery is, That three makes one: and without this mystery no man can understand Divinity, Nature, nor himself. Then I desired her to make me understand that mystery. She said, It required more time to inform me, then a short visit, for this mystery was such, as did puzle all wise men in the world; and the not understanding of this

mystery perfectly, had caused endless divisions and disputes. I desired, if she could not make me understand the mystery, she would but inform me, how three made one in Divinity, Nature, and Man. She said, That was easie to do; for in Divinity there are three Persons in one Essence, as God the Father, the Son, and the holy Ghost, whose Essence being individable, they make but one God; And as for Philosophy, there is but Matter, Motion, and Figure, which being individable, make but one Nature; And as for Man, there is Soul, Life, and Body, all three joyned in one Man. But I replied, Man's Life, Soul and Body, is dividable. That is true, said she, but then he is no more a Man; for these three are his essential parts, which make him to be a man; and when these parts are dissolved, then his interior nature is changed, so that he can no longer be call'd a man: As for example; Water being turned into Air, and having lost its interior nature, can no more be called Water, but it is perfect Air; the same is with Man: But as long as he is a Man, then these three forementioned parts which make him to be of that figure are individably united as long as man lasts. Besides, said she, this is but in the particular, considering man single, and by himself; but in general, these three, as life, soul, and body, are individably united, so that they remain as long as mankind lasts. Nay, although they do dissolve in the particulars, yet it is but for a time; for they shall be united again at the last day, which is the time of their resurrection; so that also in this respect we may justly call them individable, for man shall remain with an united soul, life, and body, eternally. And as she was thus discoursing, in came a Sophisterian, whom when she spied, away she went as fast as she could; but I followed her close, and got hold of her,

then asked her, why she ran away? She answer'd, if she stayed, the Logician would dissolve her into nothing, for the profession of Logicians is to make something nothing, and nothing something. I pray'd her to stay and discourse with the Logician: Not for a world, said she, for his discourse will make my brain like a confused *Chaos*, full of senseless *minima's*; and after that, he will so knock, jolt, and jog it, and make such whirls and pits, as will so torture my brain, that I shall wish I had not any: Wherefore, said she, I will not stay now, but visit you again to morrow. And I wish with all my heart, *Madam*, you were so near as to be here at the same time, that we three might make a Triumvirate in discourse, as well as we do in friendship. But since that cannot be, I must rest satisfied that I am,

Madam,

Your faithful Friend

and Servant.

XXII.

MADAM,

You were pleased to desire my opinion of the works of that Learned and Ingenious Writer *B.* Truly, *Madam*, I have read but some part of his works; but as much as I have read, I have observed, he is a very civil, eloquent, and rational Writer; the truth is, his style is a Gentleman's style. And in particular, concerning his experiments, I must needs say this, that, in my judgment, he hath expressed himself to be a very industrious and ingenious person; for he

doth neither puzle Nature, nor darken truth with hard words and compounded languages, or nice distinctions; besides, his experiments are proved by his own action. But give me leave to tell you, that I observe, he studies the different parts and alterations, more then the motions, which cause the alterations in those parts; whereas, did he study and observe the several and different motions in those parts, how they change in one and the same part, and how the different alterations in bodies are caused by the different motions of their parts, he might arrive to a vast knowledg by the means of his experiments; for certainly experiments are very beneficial to man. In the next place, you desire my opinion of the Book call'd, *The Discourses of the Virtuosi in France*: I am sorry, *Madam*, this book comes so late to my hands, that I cannot read it so slowly and observingly, as to give you a clear judgment of their opinions or discourses in particular; however, in general, and for what I have read in it, I may say, it expresses the French to be very learned and eloquent Writers, wherein I thought our English had exceeded them, and that they did onely excel in wit and ingenuity; but I perceive most Nations have of all sorts. The truth is, ingenious and subtil wit brings news; but learning and experience brings proofs, at least, argumental discourses; and the French are much to be commended, that they endeavour to spend their time wisely, honourably, honestly, and profitably, not onely for the good and benefit of their own, but also of other Nations. But before I conclude, give me leave to tell you, that concerning the curious and profitable Arts mentioned in their discourses, I confess, I do much admire them, and partly believe they may arrive to the use of many of them; but there are two arts which I wish

with all my heart I could obtain: the first is, to argue without error in all kinds, modes, and figures, in a quarter of an hour; and the other is to learn a way to understand all languages in six hours. But as for the first, I fear, if I want a thorow understanding in every particular argument, cause, or point, a general art or mode of words will not help me, especially, if I, being a woman, should want discretion: And as for the second, my memory is so bad, that it is beyond the help of Art, so that Nature has made my understanding harder or closer then Glass, through which the Sun of verity cannot pass, although its light doth; and therefore I am confident I shall not be made, or taught to learn this mentioned Art in six hours, no not in six months. But I wish all Arts were as easily practised, as mentioned; and thus I rest,

Madam,

Your faithful Friend

and Servant.

XXIII.

MADAM,

Concerning your question, *Whether a Point be something, or nothing, or between both*; My opinion is, that a natural point is material; but that which the learned name a Mathematical point, is like their Logistical Egg, whereof there is nothing in Nature any otherwise, but a word, which word is material, as being natural; for concerning immaterial beings, it is impossible to believe there be any in Nature; and though witty Students, and subtil Arguers have both

in past, and this present age, endeavoured to prove something, nothing; yet words and disputes have not power to annihilate any thing that is in Nature, no more then to create something out of nothing; and therefore they can neither make something, nothing; nor nothing to be something: for the most witty student, nor the subtilest disputant, cannot alter Nature, but each thing is and must be as Nature made it. As for your other question, *Whether there be more then five Senses?* I answer: There are as many senses as there are sensitive motions, and all sensation or perception is by the way of patterning; and whosoever is of another opinion, is, in my judgment, a greater friend to contradiction, then to truth, at least to probability. Lastly, concerning your question, why a Gun, the longer its barrel is made, the further it will shoot, until it come to a certain degree of length; after which, the longer it is made, the weaker it becomes, so that every degree further, makes it shoot shorter and shorter, whereas before it came to such a degree of length, it shot further and further: Give me leave to tell you, *Madam*, that this question would be put more properly to a Mathematician, then to me, who am ignorant in the Mathematicks: However, since you are pleased to desire my opinion thereof, I am willing to give it you. There are, in my judgment, but three reasons which do produce this alteration: The one may be the compass of the stock, or barrel, which being too wide for the length, may weaken the force, or being too narrow for the length, may retard the force; the one giving liberty before the force is united, the other inclosing it so long by a streight passage, as it loses its force before it hath liberty; so that the one becomes stronger with length, the other weaker with length. The second reason, in my opinion, is, That

degrees of strength may require degrees of the *medium*. Lastly, It may be, that Centers are required for degrees of strength;, if so, every *medium* may be a Center, and the middle length to such a compass may be a Center of such a force. But many times the force being weaker or stronger, is caused by the good or ill making of the Powder, or Locks, or the like. But, *Madam*, such questions will puzle me as much as those of Mr. *V. Z.* concerning those glasses, one of which being held close in ones hand, and a little piece being broke of its tail, makes as great a noise as the discharging of a Gun: Wherefore I beseech you, *Madam*, do not trouble my brain with Mathematical questions, wherein I have neither skill, learning, nor experience by Practice; for truly I have not the subtilty to find out their mystery, nor the capacity to understand arts, no more then I am capable to learn several languages. If you command me any thing else I am able to do, assure your self, there is none shall more readily and cheerfully serve you then my self; who am, and shall ever continue,

Madam,

Your Faithful Friend

and Servant.

XXIV.

MADAM,

I have heard that Artists do glory much in their Glasses, Tubes, Engines, and Stills, and hope by their Glasses and Tubes to see invisible things, and by their Engines to produce incredible effects, and by

their Stills, Fire, and Furnaces, to create as Nature doth; but all this is impossible to be done: For Art cannot arrive to that degree, as to know perfectly Natures secret and fundamental actions, her purest matter, and subtilest motions; and it is enough if Artists can but produce such things as are for mans conveniencies and use, although they never can see the smallest or rarest bodies, nor great and vast bodies at a great distance, nor make or create a Vegetable, Animal, or the like, as Nature doth; for Nature being Infinite, has also Infinite degrees of figures, sizes, motions, densities, rarities, knowledg, &c. as you may see in my Book of Philosophy, as also in my book of Poems, especially that part that treats of little, minute Creatures, which I there do name, for want of other expressions, Fairies; for I have considered much the several sizes of Creatures, although I gave it out but for a fancy in the mentioned book, lest I should be thought extravagant to declare that conception of mine for a rational truth: But if some small bodies cannot be perfectly seen but by the help of magnifying glasses, and such as they call Microscopia; I pray, Nature being Infinite, What figures and sizes may there not be, which our eyes with all the help of Art are not capable to see? for certainly, Nature hath more curiosities then our exterior senses, helped by Art, can perceive: Wherefore I cannot wonder enough at those that pretend to know the least or greatest parts or creatures in Nature, since no particular Creature is able to do it. But concerning Artists, you would fain know, *Madam*, whether the Artist be beholden to the conceptions of the Student? To which I return this short answer: That, in my judgment, without the Students conceptions, the Artist could not tell how to make experiments: The truth is, the conceptions of

studious men set the Artists on work, although many Artists do ungratefully attribute all to their own industry. Neither doth it always belong to the studious Concepter to make trials or experiments, but he leaves that work to others, whose time is not so much imployed with thoughts or speculations, as with actions; for the the Contemplator is the Designer, and the Artist the Workman, or Labourer, who ought to acknowledg him his Master, as I do your *Ladiship*, for I am in all respects,

Madam,

Your Ladiships

humble and faithful Servant.

XXV.

MADAM,

Your Command in your last was to send you my opinion concerning the division of Religions, or of the several opinions in Religions, I suppose you mean the division of the Religion, not of Religions; for certainly, there is but one divine Truth, and consequently but one true Religion: But natural men being composed of many divers parts, as of several motions and figures, have divers and several Ideas, which the grosser corporeal motions conceive to be divers and several gods, as being not capable to know the Great and Incomprehensible God, who is above Nature. For example: Do but consider, *Madam*, what strange opinions the Heathens had of God, and how they divided him into so many several Persons, with so many several bodies, like men; whereas,

surely God considered in his Essence, he being a Spirit, as the Scripture describes him, can neither have Soul nor body, as he is a God, but is an Immaterial Being; Onely the Heathens did conceive him to have parts, and so divided the Incomprehensible God into several Deities, at least they had several Deitical Ideas, or rather Fancies of him. But, *Madam*, I confess my ignorance in this great mystery, and honour, and praise the Omnipotent, Great, and Incomprehensible God, with all fear and humility as I ought; beseeching his infinite mercy to keep me from such presumption, whereby I might prophane his holy Name, and to make me obedient to the Church, as also to grant me life and health, that I may be able to express how much I am,

Madam,

Your Faithful Friend

and Servant.

XXVI.

MADAM,

Since I spake of Religion in my last, I cannot but acquaint you, that I was the other day in the company of Sir *P. H.* and Sir *R. L.* where amongst other discourses they talk'd of Predestination and Free-will. Sir *P. H.* accounted the opinion of Predestination not onely absurd, but blasphemous; for, said he, Predestination makes God appear Cruel, as first to create Angels and Man, and then to make them fall from their Glory, and damn them eternally:

For God, said he, knew before he made them, they would fall; Neither could he imagine, from whence that Pride and Presumption did proceed, which was the cause of the Angels fall, for it could not proceed from God, God being infinitely Good. Sir *R. L.* answer'd, That this Pride and Presumption did not come from God, but from their own Nature. But, replyed Sir *P. H.* God gave them that Nature, for they had it not of themselves, but all what they were, their Essence and Nature, came from God the Creator of all things, and to suffer that, which was in his power to hinder, was as much as to act. Sir *R. L.* said, God gave both Angels and Man a Free-will at their Creation. Sir *P. H.* answered, that a Free-will was a part of a divine attribute, which surely God would not give away to any Creature: Next, said he, he could not conceive why God should make Creatures to cross and oppose him; for it were neither an act of Wisdom to make Rebels, nor an act of Justice to make Devils; so that neither in his Wisdom, Justice, nor Mercy, God could give leave, that Angels and Man should fall through sin; neither was God ignorant that Angels and Man would fall; for surely, said he, God knew all things, past, present, and to come; wherefore, said he, Free-will doth weaken the Power of God, and Predestination doth weaken the power of man, and both do hinder each other: Besides, said he, since God did confirm the rest of the Angels in the same state they were before, so as they could not fall afterwards, he might as well have created them all so at first. But Sir *R. L.* replied, That God suffered Angels and Man to fall for his Glory, to shew his Justice in Devils, and his Mercy in Man; and that the Devils express'd God's Omnipotency as much as the Blessed. To which Sir *P. H.* answered, That they expressed more God's severity in those horrid

torments they suffer through their Natural Imperfections, then his power in making and suffering them to sin. Thus they discoursed: And to tell you truly, *Madam*, my mind was more troubled, then delighted with their discourse; for it seemed rather to detract from the honour of the great God, then to increase his Glory; and no Creature ought either to think or to speak any thing that is detracting from the Glory of the Creator: Wherefore I am neither for Predestination, nor for an absolute Free-will, neither in Angels, Devils, nor Man; for an absolute Free-will is not competent to any Creature: and though Nature be Infinite, and the Eternal Servant to the Eternal and Infinite God, and can produce Infinite Creatures, yet her Power and Will is not absolute, but limited; that is, she has a natural free-will, but not a supernatural, for she cannot work beyond the power God has given her. But those mystical discourses belong to Divines, and not to any Lay-person, and I confess my self very ignorant in them. Wherefore I will nor dare not dispute God's actions, being all infinitely wise, but leave that to Divines, who are to inform us what we ought to believe, and how we ought to live. And thus taking my leave of you for the present, I rest,

Madam,

Your faithful Friend

and Servant.

XXVII.

MADAM,

You are pleased to honor me so far, that you do not onely spend some time in the perusing of my Book called *Philosophical Opinions*, but take it so much into your consideration, as to examine every opinion of mine which dissents from the common way of the Schools, marking those places which seem somewhat obscure, and desiring my explanation of them; All which, I do not onely acknowledg as a great favour, but as an infallible testimony of your true and unfeigned friendship; and I cannot chuse but publish it to all the world; both for the honour of your self, as to let every body know the part of so true a friend, who is so much concerned for the honour and benefit of my poor Works; as also for the good of my mentioned Book, which by this means will be rendred more intelligible; for I must confess that my Philosophical Opinions are not so plain and perspicuous as to be perfectly understood at the first reading, which I am sorry for. And there be two chief reasons why they are so: First, Because they are new, and never vented before; for the have their original meerly from my own conceptions, and are not taken out of other Philosophers. Next, because I being a Woman, and not bred up to Scholarship, did want names and terms of Art, and therefore being not versed in the Writings of other Philosophers, but what I knew by hearing, I could not form my named Book so methodically, and express my opinions so artificially and clearly, as I might have done, had I been studious in the reading of Philosophical Books, or bred a Scholar; for then I might have dressed them with a fine coloured Covering of Logick and Geometry, and set them out in a handsome array; by which I might have also cover'd my ignorance, like as Stage-Players do cover their mean persons or degrees with fine Cloathes. But, as I said, I being

void of Learning and Art, did put them forth according to my own conceptions, and as I did understand them myself; but since I have hitherto by the reading of those famous and learned *Authors* you sent me, attained to the knowledg of some artificial Terms, I shall not spare any labour and pains to make my opinions so intelligible, that every one, who without partiality, spleen, or malice, doth read them, may also easily understand them: And thus I shall likewise endeavour to give such answers to your scruples, objections, or questions, as may explain those passages which seem obscure, and satisfie your desire. In the first place, and in general, you desire to know, *Whether any truth may be had in Natural Philosophy*: for since all this study is grounded upon probability, and he that thinks he has the most probable reasons for his opinion, may be as far off from truth, as he who is thought to have the least; nay, what seems most probable to day, may seem least probable to morrow, especially if an ingenious opposer, bring rational arguments against it: Therefore you think it is but vain for any one to trouble his brain with searching and enquiring after such things wherein neither truth nor certainty can be had. To which, I answer: That the undoubted truth in Natural Philosophy, is, in my opinion, like the Philosopher's Stone in Chymistry, which has been sought for by many learned and ingenious Persons, and will be sought as long as the Art of Chymistry doth last; but although they cannot find the Philosophers Stone, yet by the help of this Art they have found out many rare things both for use and knowledg. The like in Natural Philosophy, although Natural Philosophers cannot find out the absolute truth of Nature, or Natures ground-works, or the hidden causes of natural effects; nevertheless they

have found out many necessary and profitable Arts and Sciences, to benefit the life of man; for without Natural Philosophy we should have lived in dark ignorance, not knowing the motions of the Heavens, the cause of the Eclipses, the influences of the Stars, the use of Numbers, Measures, and Weights, the vertues and effects of Vegetables and Minerals, the Art of Architecture, Navigation, and the like: Indeed all Arts and Sciences do adscribe their original to the study of Natural Philosophy; and those men are both unwise and ungrateful, that will refuse rich gifts because they cannot be masters of all Wealth; and they are fools, that will not take remedies when they are sick, because Medicines can onely recover them from death for a time, but not make them live for ever. But to conclude, Probability is next to truth, and the search of a hidden cause finds out visible effects; and this truth do natural Philosophers find, that there are more fools, then wise men, which fools will never attain to the honour of being Natural Philosophers. And thus leaving them, I rest,

Madam,

Your Ladiships

humble and faithful Servant.

XXVIII.

MADAM,

Your desire is to know, since I say Nature is Wise, Whether all her parts must be wise also? To which, I answer; That (by your favour) all her parts are not fools: but yet it is no necessary consequence, that

because Nature is infinitely wise, all her parts must be so too, no more then if I should say, Nature is Infinite, therefore every part must be Infinite: But it is rather necessary, that because Nature is Infinite, therefore not any single part of hers can be Infinite, but must be finite. Next, you desire to know, Whether Nature or the self-moving matter is subject to err, and to commit mistakes? I answer: Although Nature has naturally an Infinite wisdom and knowledg, yet she has not a most pure and intire perfection, no more then she has an absolute power; for a most pure and intire perfection belongs onely to God: and though she is infinitely naturally wise in her self, yet her parts or particular creatures may commit errors and mistakes; the truth is, it is impossible but that parts or particular Creatures must be subject to errors, because no part can have a perfect or general knowledg, as being but a part, and not a whole; for knowledg is in parts, as parts are in Matter: Besides several corporeal motions, that is, several self-moving parts do delude and oppose each other by their opposite motions; and this opposition is very requisite in Nature to keep a mean, and hinder extreams; for were there not opposition of parts, Nature would run into extreams, which would confound her, and all her parts. And as for delusion, it is part of Natures delight, causing the more variety; but there be some actions in Nature which are neither perfect mistakes, nor delusions, but onely want of a clear and thorow perception: As for example; when a man is sailing in a Ship, he thinks the shore moves from the ship, when as it is the ship that moves from the shore: Also when a man is going backward from a Looking-glass, he thinks, the figure in the Glass goeth inward, whereas it is himself that goes backward, and not his figure in the glass. The

cause of it is, That the perception in the eye perceives the distanced body, but not the motion of the distance or medium; for though the man may partly see the motion of the visible parts, yet he doth not see the parts or motion of the distance or medium, which is invisible, and not subject to the perception of sight; and since a pattern cannot be made if the object be not visible, hence I conclude, that the motion of the medium cannot make perception, but that it is the perceptive motions of the eye, which pattern out an object as it is visibly presented to the corporeal motions in the eye; for according as the object is presented, the pattern is made, if the motions be regular: For example; a fired end of a stick, if you move it in a circular figure, the sensitive corporeal motions in the eye pattern out the figure of fire, together with the exterior or circular motion, and apprehend it as a fiery circle; and if the stick be moved any otherwise, they pattern out such a figure as the fired end of the stick is moved in; so that the sensitive pattern is made according to the exterior corporeal figurative motion of the object, and not according to its interior figure or motions. And this, *Madam*, is in short my answer to your propounded questions, by which, I hope, you understand plainly the meaning of,

Madam,

Your Faithful Friend

and Servant.

XXIX.

MADAM,

The scruples or questions you sent me last, are these following. First, you desire to be informed what I mean by *Phantasmes* and *Ideas*? I answer: They are figures made by the purest and subtilest degree of self-moving matter, that is to say, by the rational corporeal motions, and are the same with thoughts or conceptions. Next, your question is, what I do understand by *Sensitive Life*? I answer: It is that part of self-moving matter, which in its own nature is not so pure and subtil as the rational, for it is but the labouring, and the rational the designing part of matter. Your third question is, *Whether this sensitive self-moving matter be dense or rare?* I answer: density and rarity are onely effects caused by the several actions, that is, the corporeal motions of Nature; wherefore it cannot properly be said, that sensitive matter is either dense, or rare; for it has a self-power to contract and dilate, compose and divide, and move in any kind of motion whatsoever, as is requisite to the framing of any figure; and thus I desire you to observe well, that when I say the rational part of matter is purer in its degree then the sensitive, and that this is a rare and acute matter, I do not mean that it is thin like a rare egg, but that it is subtil and active, penetrating and dividing, as well as dividable. Your fourth question is, *What this sensitive matter works upon?* I answer: It works with and upon another degree of matter, which is not self-moving, but dull, stupid, and immoveable in its own nature, which I call the inanimate part or degree of matter. Your fifth question is, *Whether this inanimate Matter do never rest?* I answer; It doth not: for the

self-moving matter being restless in its own nature, and so closely united and commixed with the inanimate, as they do make but one body, will never suffer it to rest; so that there is no part in Nature but is moving; the animate matter in it self, or its own nature, the inanimate by the help or means of the animate. Your sixth question is, *If there be a thorow mixture of the parts of animate and inanimate matter, whether those parts do retain each their own nature and substance, so that the inanimate part of matter remains dull and stupid in its essence or nature, and the animate full of self-motion, or all self-motion?* I answer: Although every part and particle of each degree are closely intermixed, nevertheless this mixture doth not alter the interior nature of those parts or degrees; As for example; a man is composed of Soul, and Body, which are several parts, but joyned as into one substance, *viz.* Man, and yet they retain each their own proprieties and natures; for although soul and body are so closely united as they do make but one Man, yet the soul doth not change into the body, nor the body into the soul, but each continues in its own nature as it is. And so likewise in Infinite Matter, although the degrees or parts of Matter are so throughly intermixed as they do make but one body or substance, which is corporeal Nature, yet each remains in its nature as it is, to wit, the animate part of matter doth not become dull and stupid in its nature, but remains self-moving; and the inanimate, although it doth move by the means of the animate, yet it doth not become self-moving, but each keeps its own interior nature and essence in their commixture. The truth is, there must of necessity be degrees of matter, or else there would be no such various and several effects in Nature, as humane sense and reason do perceive there are; and those

degrees must also retain each their own nature and proprieties, to produce those various and curious effects: Neither must those different degrees vary or alter the nature of Infinite Matter; for Matter must and doth continue one and the same in its Nature, that is, Matter cannot be divided from being Matter: And this is my meaning, when I say in my *Philosophical Opinions, There is but one kind of Matter*: Not that Matter is not dividable into several parts or degrees, but I say, although Matter has several parts and degrees, yet they do not alter the nature of Matter, but Matter remains one and the same in its own kind, that is, it continues still Matter in its own nature notwithstanding those degrees; and thus I do exclude from Matter all that which is not Matter, and do firmly believe, that there can be no commixture of Matter and no Matter in Nature; for this would breed a meer confusion in Nature. Your seventh question is, *Whether that, which I name the rational part of self-moving Matter makes as much variety as the sensitive?* To which I answer: That, to my sense and reason, the rational part of animate or self-moving Matter moves not onely more variously, but also more swiftly then the sensitive; for thoughts are sooner made, then words spoke, and a certain proof of it are the various and several Imaginations, Fancies, Conceptions, Memories, Remembrances, Understandings, Opinions, Judgments, and the like: as also the several sorts of Love, Hate, Fear, Anger, Joy, Doubt; and the like Passions. Your eighth question is, *Whether the Sensitive Matter can and doth work in it self and its own substance and degree?* My answer is, That there is no inanimate matter without animate, nor no animate without inanimate, both being so curiously and subtilly intermixt, as they make but one body; Nevertheless the several parts of

this one body may move several ways. Neither are the several degrees bound to an equal mixture, no more then the several parts of one body are bound to one and the same size, bigness, shape, or motion; or the Sea is bound to be always at the high tide; or the Moon to be always at the Full; or all the Veins or Brains in animal bodies are bound to be of equal quantity; or every Tree of the same kind to bear fruit, or have leaves of equal number; or every Apple, Pear, or Plum, to have an equal quantity of juice; or every Bee to make as much honey and wax as the other. Your nineth question is, *Whether the Sensitive Matter can work without taking patterns?* My answer is, That all corporeal motion is not patterning, but all patterning is made by corporeal motion; and there be more several sorts of corporeal motions then any single Creature is able to conceive, much less to express: But the perceptive corporeal motions are the ground-motions in Nature, which make, rule, and govern all the parts of Nature, as to move to Production, or Generation, Transformation, and the like. Your tenth question is, *How it is possible, that numerous figures can exist in one part of matter? for it is impossible that two things can be in one place, much less many.* My answer in short is, That it were impossible, were a part of Matter, and the numerous figures several and distinct things; but all is but one thing, that is, a part of Matter moving variously; for there is neither Magnitude, Place, Figure, nor Motion, in Nature, but what is Matter, or Body; Neither is there any such thing as Time: Wherefore it cannot properly be said, *There was*, and *There shall be*; but onely, *There is*. Neither can it properly be said, from this to that place; but onely in reference to the several moving parts of the onely Infinite Matter. And thus much to your questions; I add no more, but rest,

Madam,

Your faithful Friend

and humble Servant.

XXX.

MADAM,

In your last, you were pleased to express, that some men, who think themselves wise, did laugh in a scornful manner at my opinion, when I say that every Creature hath life and knowledg, sense and reason; counting it not onely ridiculous, but absurd; and asking, whether you did or could believe, a piece of wood, metal, or stone, had as much sense as a beast, or as much reason as a man, having neither brain, blood, heart, nor flesh; nor such organs, passages, parts, nor shapes as animals? To which, I answer: That it is not any of these mentioned things that makes life and knowledg, but life and knowledg is the cause of them, which life and knowledg is animate matter, and is in all parts of all Creatures: and to make it more plain and perspicuous, humane sense and reason may perceive, that wood, stone, or metal, acts as wisely as an animal: As for example; Rhubarb, or the like drugs, will act very wisely in Purging; and Antimony, or the like, will act very wisely in Vomiting; and Opium will act very wisely in Sleeping; also Quicksilver or Mercury will act very wisely, as those that have the French disease can best witness: likewise the Loadstone acts very wisely, as Mariners or Navigators will tell you: Also Wine made of Fruit, and Ale of Malt, and distilled Aqua-vitæ will

act very subtilly; ask the Drunkards, and they can inform you; Thus Infinite examples may be given, and yet man says, all Vegetables and Minerals are insensible and irrational, as also the Planets and Elements; when as yet the Planets move very orderly and wisely, and the Elements are more active, nay, more subtil and searching then any of the animal Creatures; witness Fire, Air, and Water: As for the Earth, she brings forth her fruit, if the other Elements do not cause abortives, in due season; and yet man believes, Vegetables, Minerals, and Elements, are dead, dull, senseless, and irrational Creatures, because they have not such shapes, parts, nor passages as Animals, nor such exterior and local motions as Animals have: but Man doth not consider the various, intricate and obscure ways of Nature, unknown to any particular Creature; for what our senses are not capable to know, our reason is apt to deny. Truly, in my opinion, Man is more irrational then any of those Creatures, when he believes that all knowledg is not onely confined to one sort of Creatures, but to one part of one particular Creature, as the head, or brain of man; for who can in reason think, that there is no other sensitive and rational knowledg in Infinite Matter, but what is onely in Man, or animal Creatures? It is a very simple and weak conclusion to say, Other Creatures have no eyes to see, no ears to hear, no tongues to taste, no noses to smell, as animals have; wherefore they have no sense or sensitive knowledg; or because they have no head, nor brain as Man hath, therefore they have no reason, nor rational knowledg at all: for sense and reason, and consequently sensitive and rational knowledg, extends further then to be bound to the animal eye, ear, nose, tongue, head, or brain; but as these organs are onely in one kind of Natures

Creatures, as Animals, in which organs the sensitive corporeal motions make the perception of exterior objects, so there may be infinite other kinds of passages or organs in other Creatures unknown to Man, which Creatures may have their sense and reason, that is, sensitive and rational knowledg, each according to the nature of its figure; for as it is absurd to say, that all Creatures in Nature are Animals, so it is absurd to confine sense and reason onely to Animals; or to say, that all other Creatures, if they have sense and reason, life and knowledg, it must be the same as is in Animals: I confess, it is of the same degree, that is, of the same animate part of matter, but the motions of life and knowledg work so differently and variously in every kind and sort, nay, in every particular Creature, that no single Creature can find them out: But, in my opinion, not any Creature is without life and knowledg, which life and knowledg is made by the self-moving part of matter, that is, by the sensitive and rational corporeal motions; and as it is no consequence, that all Creatures must be alike in their exterior shapes, figures, and motions, because they are all produced out of one and the same matter, so neither doth it follow, that all Creatures must have the same interior motions, natures, and proprieties, and so consequently the same life and knowledg, because all life and knowledg is made by the same degree of matter, to wit, the animate. Wherefore though every kind or sort of Creatures has different perceptions, yet they are not less knowing; for Vegetables, Minerals, and Elements, may have as numerous, and as various perceptions as Animals, and they may be as different from animal perceptions as their kinds are; but a different perception is not therefore no perception: Neither is it the animal organs that make

perception, nor the animal shape that makes life, but the motions of life make them. But some may say, it is Irreligious to believe any Creature has rational knowledg but Man. Surely, *Madam*, the God of Nature, in my opinion, will be adored by all Creatures, and adoration cannot be without sense and knowledg. Wherefore it is not probable, that onely Man, and no Creature else, is capable to adore and worship the Infinite and Omnipotent God, who is the God of Nature, and of all Creatures: I should rather think it irreligious to confine sense and reason onely to Man, and to say, that no Creature adores and worships God, but Man; which, in my judgment, argues a great pride, self-conceit, and presumption. And thus, *Madam*, having declared my opinion plainly concerning this subject, I will detain you no longer at this present, but rest,

Madam,

Your constant Friend

and faithful Servant.

XXXI.

MADAM,

I perceive you do not well apprehend my meaning, when I say in my *Philosophical Opinions,*[1] *That the Infinite degrees of Infinite Matter are all Infinite:* For, say you, the degrees of Matter cannot be Infinite, by reason there cannot be two Infinites, but one would obstruct the other. My answer is; I do not mean that the degrees of Matter are Infinite each in its self, that is, that the animate and inanimate are several

Infinite matters, but my opinion is, that the animate degree of matter is in a perpetual motion, and the inanimate doth not move of it self, and that those degrees are infinite in their effects, as producing and making infinite figures; for since the cause, which is the onely matter, is infinite, the effects must of necessity be infinite also; the cause is infinite in its substance, the effects are Infinite in number. And this is my meaning, when I say,[2] that, although in Nature there is but one kind of matter, yet there are Infinite degrees, Infinite motions, and Infinite parts in that onely matter; and though Infinite and Eternal matter has no perfect or exact figure, by reason it is Infinite, and therefore unlimited, yet there being infinite parts in number, made by the infinite variations of motions in infinite Matter, these parts have perfect or exact figures, considered as parts, that is, single, or each in its particular figure: And therefore if there be Infinite degrees, considering the effects of the animate and inanimate matter, infinite motions for changes, infinite parts for number, infinite compositions and divisions for variety and diversity of Creatures; then there may also be infinite sizes, each part or figure differing more or less, infinite smallness and bigness, lightness and heaviness, rarity and density, strength and power, life and knowledg, and the like: But by reason Nature or Natural matter is not all animate or inanimate, nor all composing or dividing, there can be no Infinite in a part, nor can there be something biggest or smallest, strongest or weakest, heaviest or lightest, softest or hardest in Infinite Nature, or her parts, but all those several Infinites are as it were included in one Infinite, which is Corporeal Nature, or Natural Matter.

Next, you desire my opinion of *Vacuum*, whether

there be any, or not? for you say I determine nothing, of it in my Book of *Philosophical Opinions*. Truly, *Madam*, my sense and reason cannot believe a *Vacuum*, because there cannot be an empty Nothing; but change of motion makes all the alteration of figures, and consequently all that which is called place, magnitude, space, and the like; for matter, motion, figure, place, magnitude, &c. are but one thing. But some men perceiving the alteration, but not the subtil motions, believe that bodies move into each others place, which is impossible, because several places are onely several parts, so that, unless one part could make it self another part, no part can be said to succeed into anothers place; but it is impossible that one part should make it self another part, for it cannot be another, and it self, no more then Nature can be Nature, and not Nature; wherefore change of place is onely change of motion, and this change of motion makes alteration of Figures.

Thirdly, you say, You cannot understand what I mean by Creation, for you think that Creation is a production or making of Something out of Nothing. To tell you really, *Madam*, this word is used by me for want of a better expression; and I do not take it in so strict a sense as to understand by it, a Divine or supernatural Creation, which onely belongs to God; but a natural Creation, that is, a natural production or Generation; for Nature cannot create or produce Something out of Nothing: And this Production may be taken in a double sence; First, in General, as for example, when it is said, that all Creatures are produced out of Infinite Matter; and in this respect every particular Creature which is finite, that is, of a circumscribed and limited figure, is produced of Infinite Matter, as being a part thereof: Next,

Production is taken in a more strict sense, to wit, when one single Creature is produced from another; and this is either Generation properly so called, as when in every kind and sort each particular produces its like; or it is such a Generation whereby one creature produces another, each being of a different kind or species, as for example, when an Animal produces a Mineral, as when a Stone is generated in the Kidneys, or the like; and in this sence one finite creature generates or produces another finite creature, the producer as well as the produced being finite; but in the first sence finite creatures are produced out of infinite matter.

Fourthly, you confess, You cannot well apprehend my meaning, when I say,[3] that the several kinds are as Infinite as the particulars; for your opinion is, That the number of particulars must needs exceed the number of kinds. I answer: I mean in general the Infinite effects of Nature which are Infinite in number, and the several kinds or sorts of Creatures are Infinite in duration, for nothing can perish in Nature.

Fifthly, When I say,[4] that ascending and descending is often caused by the exterior figure or shape of a body; witness a Bird, who although he is of a much bigger size and bulk then a Worm, yet can by his shape lift himself up more agilly and nimbly then a Worm; Your opinion is, That his exterior shape doth not contribute any thing towards his flying, by reason a Bird being dead retains the same shape, but yet cannot fly at all. But, truly, *Madam*, I would not have you think that I do exclude the proper and interior natural motion of the figure of a Bird, and the natural and proper motions of every part and particle thereof; for that a Bird when dead, keeps his

shape, and yet cannot fly, the reason is, that the natural and internal motions of the Bird, and the Birds wings, are altered towards some other shape or figure, if not exteriously, yet interiously; but yet the interior natural motions could not effect any flying or ascending without the help of the exterior shape; for a Man, or any other animal, may have the same interior motions as a Bird hath, but wanting such an exterior shape, he cannot fly; whereas had he wings like a Bird, and the interior natural motions of those wings, he might without doubt fly as well as a Bird doth.

Sixthly, Concerning the descent of heavy bodies,[5] that it is more forcible then the ascent of light bodies, you do question the Truth of this my opinion. Certainly, *Madam*, I cannot conceive it to be otherwise by my sense and reason; for though Fire that is rare, doth ascend with an extraordinary quick motion, yet this motion is, in my opinion, not so strong and piercing as when grosser parts of Creatures do descend; but there is difference in strength and quickness; for had not Water a stronger motion, and another sort of figure then Fire, it could not suppress Fire, much less quench it. But Smoak, which is heavier then Flame, flies up, or rises before, or rather, above it: Wherefore I am still of the same opinion, that heavy bodies descend more forcibly then light bodies do ascend, and it seems most rational to me.

Lastly, I perceive you cannot believe that all bodies have weight; by reason, if this were so, the Sun, and the Stars would have long since cover'd the Earth. In answer to this objection, I say, That as there can be no body without figure and magnitude, so consequently not without weight, were it no bigger

then an atome; and as for the Sun's and the Stars not falling down, or rising higher, the reason is, not their being without weight, but their natural and proper motion, which keeps them constantly in their spheres; and it might as well be said, a Man lives not, or is not, because he doth not fly like a Bird, or dive and catch fish like a Cormorant, or dig and undermine like a Mole, for those are motions not proper to his nature. And these, *Madam*, are my answers to your objections, which if they do satisfie you, it is all I desire, if not, I shall endeavour hereafter to make my meaning more intelligible and study for other more rational arguments then these are, to let you see how much I value both the credit of my named Book, and your *Ladiships* Commands; which assure you self, shall never be more faithfully performed, then by,

Madam,

Your Ladiships most obliged Friend

and humble Servant.

[1] *Part.* 1. *c.* 4.

[2] *Ch.* 8.

[3] *Part.* 4. *c.* 10.

[4] *Ch.* 20.

[5] *Ch.* 21.

XXXII.

MADAM,

Since my opinion is, that the Animate part of Matter, which is sense and reason, life and knowledg, is the

designer, architect, and creator of all figures in Nature; you desire to know, whence this Animate Matter, sense and reason, or life and knowledg (call it what you will, for it is all one and the same thing) is produced? I answer: It is eternal. But then you say, it is coequal with God. I answer, That cannot be: for God is above all Natural sense and reason, which is Natural life and knowledg; and therefore it cannot be coequal with God, except it be meant in Eternity, as being without beginning and end. But if Gods Power can make Man's Soul, as also the good and evil Spirits to last eternally without end, he may, by his Omnipotency make as well things without beginning. You will say, If Nature were Eternal, it could not be created, for the word Creation is contrary to Eternity. I answer, *Madam*, I am no Scholar for words; for if you will not use the word Creation, you may use what other word you will; for I do not stand upon nice words and terms, so I can but express my conceptions: Wherefore, if it be (as in Reason it cannot be otherwise) that nothing in Nature can be annihilated, nor any thing created out of nothing, but by Gods special and all-powerful Decree and Command, then Nature must be as God has made her, until he destroy her. But if Nature be not Eternal, then the Gods of the Heathens were made in time, and were no more then any other Creature, which is as subject to be destroyed as created; for they conceived their Gods, as we do men, to have Material Bodies, but an Immaterial Spirit, or as some Learned men imagine, to be an Immaterial Spirit, but to take several shapes, and so to perform several corporeal actions; which truly is too humble and mean a conception of an Immaterial Being, much more of the Great and Incomprehensible God; which I do firmly believe is a most pure, all-powerful

Immaterial Being, which doth all things by his own Decree and Omnipotency without any Corporeal actions or shapes, such as some fancy of Dæmons and the like Spirits. But to return to the former question; you might as well enquire how the world, or any part of it was created, or how the variety of creatures came to be, as ask how Reason and sensitive corporeal Knowledg was produced. Nevertheless, I do constantly believe, that both sensitive and rational Knowledg in Matter was produced from God; but after what manner or way, is impossible for any creature or part of Nature to know, for Gods wayes are incomprehensible and supernatural. And thus much I believe, That as God is an Eternal Creator, which no man can deny, so he has also an Eternal Creature, which is Nature, or natural Matter. But put the case Nature or natural Matter was made when the World was created, might not God give this Natural Matter self-motion, as well as he gave self-motion to Spirits and Souls? and might not God endue this Matter with Sense and Reason, as well as he endued Man? Shall or can we bind up Gods actions with our weak opinions and foolish arguments? Truly, if God could not act more then Man is able to conceive, he were not a God of an infinite Power; but God is Omnipotent, and his actions are infinite, supernatural, and past finding out; wherefore he is rather to be admired, adored and worshipped, then to be ungloriously discoursed of by vain and ambitious men, whose foolish pride and presumption drowns their Natural Judgment and Reason; to which leaving them, I rest,

Madam,

Your Faithful Friend

and Servant.

XXXIII.

MADAM,

In obedience to your commands, I here send you also an explanation and clearing of those places and passages in my Book of Philosophy, which in your last Letter you were pleased to mark, as containing some obscurity and difficulty of being understood.

First, When I say,[1] *Nature is an Individable Matter*, I do not mean as if Nature were not dividable into parts; for because Nature is material, therefore she must also needs be dividable into parts: But my meaning is, that Nature cannot be divided from Matter, nor Matter from Nature, that is, Nature cannot be Immaterial, nor no part of Nature, but if there be any thing Immaterial, it doth not belong to Nature. Also when I call Nature a *Multiplying Figure*; [2] I mean, that Nature makes infinite changes, and so infinite figures.

Next, when I say,[3] *There are Infinite Divisions in Nature*; my meaning is not, that there are infinite divisions of one single part, but that Infinite Matter has Infinite parts, sizes, figures, and motions, all being but one Infinite Matter, or corporeal Nature. Also when I say single parts, I mean not parts subsisting by themselves, precised from each other, but single, that is, several or different, by reason of their different figures. Likewise, when I name Atomes, I mean small parts of Matter; and when I speak of Place and Time, I mean onely the variation of corporeal figurative motions.

Again: when I say,[4] *Nature has not an absolute Power, because she has an Infinite power*; I mean by

absolute, as much as finite, or circumscribed; and in this sense Nature cannot have an absolute power, for the Infiniteness hinders the absoluteness; but when in my former Letters I have attributed an absolute Power onely to God, and said that Nature has not an absolute power, but that her power, although it be Infinite, yet cannot extend beyond Nature, but is an Infinite natural power; I understand by an absolute Power, not a finite power, but such a power which onely belongs to God, that is, a supernatural and divine power, which power Nature cannot have, by reason she cannot make any part of her body immaterial, nor annihilate any part of her Creatures, nor create any part that was not in her from Eternity, nor make her self a Deity; for though God can impower her with a supernatural gift, and annihilate her when he pleases, yet she is no ways able to do it her self.

Moreover, when I say,[5] *That one Infinite is contained within another*; I mean, the several sorts of Infinites, as Infinite in number, Infinite in duration; as also the Infinite degrees, motions, figures, sizes, compositions, divisions, &c. all which are contained in the Infinite body of Nature, which is the onely Infinite in quantity or substance, neither can the parts of Nature go beyond Infinite.

Also when I say,[6] *That Matter would have power over Infinite, and Infinite over Matter, and Eternal over both*; I mean, that some corporeal actions endeavour to be more powerful then others, and thus the whole strives to over-power the parts, and the parts the whole: As for example, if one end of a string were tied about the little finger of ones hand, and the other end were in the power of the other whole hand, and both did pull several and opposite ways;

certainly, the little finger would endeavour to over-power the hand, and the hand again would strive to over-power the little finger: The same may be said of two equal figures, as two hands, and other the like examples may be given. And this is also my meaning, when I say, that some shapes have power over others, and some degrees and temperaments of matter over others; whereby I understand nothing else, but that some parts have power over others. Also when I say,[7] that outward things govern, and a Creature has no power over it self, I mean, that which is stronger, by what means soever, is superior in power.

When I say,[8] That *the Animate part of Matter is not so gross an Infinite as the Inanimate*, I do not attribute an Infiniteness to a part, as if animate matter considered as a part were infinite; but my meaning is, that the Animate matter produces infinite effects: For, it being the Designer, Architect, and Creator of all Figures, as also the Life and Soul of all Creatures, it must needs be infinite in its effects, as also infinite in its duration. But you may object, That a part cannot produce infinite effects. I answer, It is true, if animate matter should be considered in it self without the inanimate, it could not produce infinite effects, having nothing to work upon and withal; but because there is such a close and inseparable conjunction of those parts of matter, as they make but one body, and that Infinite, none can be or work without the other, but both degrees of matter, which make but one infinite Nature, are required in the production of the infinite effects and figures in Nature: Nevertheless, since the Animate part of Matter is the onely architect, creator, or producer of all those effects, by reason it is the self-moving part, and the Inanimate is onely the instrument which the

Animate works withal, and the materials it works upon, the Production of the infinite effects in Nature is more fitly ascribed to the Animate then the Inanimate part of matter; as for example, If an architect should build an house, certainly he can do nothing without materials, neither can the materials raise themselves to such a figure as a house without the help of the architect and workmen, but both are of necessity required to this artificial production; nevertheless, the building of the house is not laid to the materials, but to the architect: the same may be said of animate and inanimate matter in the production of natural effects. Again, you may reply, That the animate and inanimate parts of matter are but two parts, and the number of Two is but a finite number, wherefore they cannot make one infinite body, such as I call Nature or natural Matter. I answer, *Madam*, I confess, that a finite number is not nor cannot make an infinite number; but I do not say, that the animate and inanimate parts or degrees of matter are two finite parts each subsisting by it self as circumscribed, and having its certain bounds, limits and circumference; for if this were so, certainly they being finite themselves, could not produce but finite effects; but my meaning is, that both the animate and inanimate matter do make but one Infinite bulk, body, or substance and are not two several and dividable bodies in themselves, and thus they may be divided not into two but into Infinite parts; Neither are they two different Matters, but they are but one Matter; for by the animate Matter I do understand self-motion; and that I call this self-motion Matter, the reason is, that no body shall think as if self-motion were immaterial; for my opinion is, that Nature is nothing but meer Matter, and that nothing is in Nature which is a part of Nature, that is

not material; wherefore to avoid such a misapprehension (seeing that most learned men are so much for abstractions and immaterial beings) I called self-motion animate matter, or the animate part of matter; not as if they were two several matters, but that all is but one natural Matter, or corporeal Nature in one bulk, body, or substance, just like as the soul and body do make but one man; and to avoid also this misapprehension, lest they might be taken for several matters, I have upon better consideration, in this volume of *Philosophical Letters*, call'd the animate matter corporeal self-motion, which expression, I think, is more proper, plain, and intelligible then any other: Neither would I have you to scruple at it, when I say, that both parts or degrees of animate and inanimate matter do retain their own interior natures and proprieties in their commixture, as if those different natures and proprieties, where one is self-moving, and the other not, did cause them to be two different matters; for thus you might say as well, that several figures which have several and different interior natures and proprieties, are so many several matters. The truth is, if you desire to have the truest expression of animate and inanimate matter, you cannot find it better then in the definition of Nature, when I say, Nature is an infinite self-moving body; where by the body of Nature I understand the inanimate matter, and by self-motion the animate, which is the life and soul of Nature, not an immaterial life and soul, but a material, for both life, soul and body are and make but one self-moving body or substance which is corporeal Nature. And therefore when I call *Animate matter* an *Extract*,[9] I do it by reason of its purity, subtilty and agility, not by reason of its immateriality. Also when I name the word Motion by

it self, and without any addition, I understand corporeal Motion; and when I name Motion, Matter and Figure, I do not mean three several and distinct things, but onely figurative corporeal motion, or figurative self-moving matter, all being but one thing; the same when I speak of Place, Time, Magnitude, and the like.

Concerning Natural Production or Generation; when I say,[10] *The same matter or figure of the producers doth not always move after one and the same manner in producing, for then the same producers would produce one and the same creature by repetition*, I do not mean the very same creature in number, unless the same motions and parts of matter did return into the producers again, which is impossible; but I understand the like creature, to wit, that one and the same sort of particular motions would make all particular figures resemble so, as if they were one and the same creature without any difference.

When I say,[11] *Sensitive and Rational knowledg lives in sensitive and rational Matter, and Animate liveth in Inanimate matter*, I mean they are all several parts and actions of the onely infinite matter inseparable from each other; for wheresoever is matter, there is also self-motion, and wheresoever is self-motion, there is sense and reason, and wheresoever is sense and reason, there is sensitive and rational knowledge, all being but one body or substance, which is Nature.

When I say,[12] *The death of particular Creatures causes an obscurity of Knowledge, and that particular Knowledges increase and decrease, and may be more or less*, I mean onely that parts divide themselves from parts, and joyn to other parts; for every several Motion is a several Knowledge, and as motion varies,

so doth knowledge; but there is no annihilation of any motion, and consequently not of knowledge in Nature. And as for more or less knowledge, I mean more or less alteration and variety of corporeal figurative motions, not onely rational but sensitive, so that that creature which has most variety of those perceptive motions is most knowing, provided they be regular, that is, according to the nature and propriety of the figure, whether animal, vegetable, mineral, or elemental; for though a large figure is capable of most knowledge, yet it is not commonly or alwayes so wise or witty as a less, by reason it is more subject to disorders and irregularities; like as a private Family is more regular and better ordered then a great State or Common-wealth. Also when I say, *That some particular Knowledge lasts longer then some other*, I mean that some corporeal motions in some parts do continue longer then in others.

When I say,[13] *A little head may be full, and a great head may be empty of rational matter*, I mean there may be as it were an ebbing or flowing, that is more or less of Rational Matter joyned with the Sensitive and Inanimate: And when I say, *That, if all the heads of Mankind were put into one, and sufficient quantity of Rational Matter therein, that Creature would not onely have the knowledge of every particular, but that Understanding and Knowledge would increase like Use-money*, my meaning is, that if there were much of those parts of rational matter joyned, they would make more variety by self-change of corporeal motions.

When I name *Humane sense and reason*, I mean such sensitive and rational perception and knowledge as is proper to the nature of Man; and when I say *Animal sense and reason*, I mean such as is proper to the

nature of all Animals; for I do not mean that the sensitive and rational corporeal motions which do make a man, or any Animal, are bound to such figures eternally, but whilest they work and move in such or such figures, they make such perceptions as belong to the nature of those figures; but when those self-moving parts dissolve the figure of an Animal into a Vegetable or any other Creature, then they work according to the nature of that same figure, both exteriously and interiously.

When I say,[14] *That Place, Space, Measure, Number, Weight, Figures, &c. are mixed with Substance*, I do not mean they are incorporeal, and do inhere in substance as so many incorporeal modes or accidents; but my meaning is, they are all corporeal parts and actions of Nature, there being no such thing in Nature that may be called incorporeal; for Place, Figure, Weight, Measure, &c. are nothing without Body, but Place and Body are but one thing, and so of the rest. Also when I say,[15] *That sometimes Place, sometimes Time, and sometimes Number gives advantage*, I mean, that several parts of Matter are getting or losing advantage.

When I say,[16] an Animal or any thing else that has exterior local motion, goeth or moveth to such or such a place, I mean, to such or such a body; and when such a Creature doth not move out of its place, I mean, it doth not remove its body from such or such parts adjoyning to it.

When I say,[17] *The rational animate matter divides it self into as many parts, and after as many several manners as their place or quantity will give way to*, I mean their own place and quantity: also, as other parts will give way to those parts, for some parts will assist others, and some do obstruct others.

When I say,[18] *That the Nature of extension or dilation strives or endeavours to get space, ground, or compass*, I mean those corporeal motions endeavour to make place and space by their extensions, that is, to spread their parts of matter into a larger compass or body. And when I say, *That Contractions endeavour to cast or thrust out space, place, ground, or compass*, My meaning is, That those corporeal motions endeavour to draw their parts of matter into a more close and solid body, for there is no place nor space without body.

Also when I name[19] several *tempered substances and matters*, I mean several changes and mixtures of corporeal motions.

Also when I speak of *Increase* and *Decrease*, I mean onely an alteration of corporeal figurative motions, as uniting parts with parts, and dissolving or separating parts from parts.

When I say,[20] That the motions of cold, and the motions of moisture, when they meet, make cold and moist effects, and when the motions of heat and moisture meet, make hot and moist effects; and so for the motions of cold and dryness: I mean, that when several parts do joyn in such several corporeal motions, they cause such effects; and when I say cold and heat presses into every particular Creature, I mean, that every Creatures natural and inherent perceptive motions make such patterns as their exterior objects are, *viz.* hot or cold, if they do but move regularly, for if they be irregular, then they do not: as for example; those in an Ague will shake for cold in a hot Summers day, and those that are in a Fever will burn with heat, although they were at the Poles.

When I say,[21] that hot motions, and burning

motions, and hot figures, and burning figures do not associate or joyn together in all Creatures: I mean, that the corporeal motions in some figures or creatures, do act in a hot, but not in a burning manner; and when I say, some creatures have both hot and burning motions and figures, I mean, the corporeal motions act both in a hot and burning manner; for though heat is in a degree to burning, yet it is not always burning, for burning is the highest degree of heat, as wetness is the highest degree of moisture.

When I say,[22] *Warmth feeds other Creatures after a spiritual manner, not a corporeal*, My meaning is, not as if heat were not corporeal, but that those corporeal motions which make heat work invisibly, and not visibly like as fire feeds on fuel, or man on meat.

Also when I say, *Excercise amongst animals gets strength*, I mean, that by excercise the inherent natural motions of an animal body are more active, as being more industrious.

When I say,[23] *That the passage whence cold and sharp winds do issue out, is narrow*, I mean, when as such or such parts disjoyn or separate from other parts; as for example, when dilating parts disjoyn from contracting parts; and oftentimes the disjoyning parts do move according to the nature of those parts they disjoyn from.

Concerning the actions of Nature, my meaning is, that there is not any action whatsoever, but was always in Nature, and remains in Nature so long as it pleases God that Nature shall last, and of all her actions Perception and self-love are her prime and chief actions; wherefore it is impossible but that all her particular creatures or parts must be knowing as

well as self-moving, there being not one part or particle of Nature that has not its share of animate or self-moving matter, and consequently of knowledg and self-love, each according to its own kind and nature; but by reason all the parts are of one matter, and belong to one body, each is unalterable so far, that although it can change its figure, yet it cannot change or alter from being matter, or a part of Infinite Nature; and this is the cause there cannot be a confusion amongst those parts of Nature, but there must be a constant union and harmony betwixt them; for cross and opposite actions make no confusion, but onely a variety, and such actions which are different, cross and opposite, not moving always after their usual and accustomed way, I name Irregular, for want of a better expression; but properly there is no such thing as Irregularity in Nature, nor no weariness, rest, sleep, sickness, death or destruction, no more then there is place, space, time, modes, accidents, and the like, any thing besides body or matter.

When I speak of *unnatural Motions*,[24] I mean such as are not proper to the nature of such or such a Creature, as being opposite or destructive to it, that is, moving or acting towards its dissolution. Also when I call Violence supernatural, I mean that Violence is beyond the particular nature of such a particular Creature, that is, beyond its natural motions; but not supernatural, that is beyond Infinite Nature or natural Matter.

When I say, *A thing is forced*, I do not mean that the forced body receives strength without Matter; but that some Corporeal Motions joyn with other Corporeal Motions, and so double the strength by joyning their parts, or are at least an occasion to

make other parts more industrious.

By *Prints* I understand the figures of the objects which are patterned or copied out by the sensitive and rational corporeal figurative Motions; as for example, when the sensitive corporeal motions pattern out the figure of an exteriour object, and the rational motions again pattern out a figure made by the sensitive motions, those figures of the objects that are patterned out, I name Prints; as for example, *The sense of Seeing is not capable to receive the Print*, [25] that is, the figure or pattern *of the object of the whole Earth*. And again, *The rational Motions are not alwayes exactly after the sensitive Prints*, that is, after the figures made by the sensitive motions. Thus by Prints I understand Patterns, and by printing patterning; not that the exteriour object prints its figure upon the exteriour sensitive organs, but that the sensitive motions in the organs pattern out the figure of the object: but though all printing is done by the way of patterning, yet all patterning is not printing. Therefore when I say,[26] that *solid bodies print their figures in that which is more porous and soft, and that those solid bodies make new prints perpetually; and as they remove, the prints melt out, like verbal or vocal sounds, which print words and set notes in the Air*; I mean, the soft body by its own self-motion patterns out the figure of the solid body, and not that the solid body makes its own print, and so leaves the place of its own substance with the print in the soft body; for place remains always with its own body, and cannot be separated from it, they being but one thing: for example; when a Seal is printed in Wax, the Seal gives not any thing to the Wax, but is onely an object patterned out by the figurative motions of the Wax in the action of printing or sealing.

When I make mention[27] *of what the Senses bring in*, I mean what the sensitive Motions pattern out of forreign objects: And when I say,[28] *that the pores being shut, touch cannot enter*, I mean, the sensitive corporeal motions cannot make patterns of outward objects.

Also when I say, *our Ears may be as knowing as our Eyes*, and so of the rest of the sensitive organs; I mean the sensitive motions in those parts or organs.

When I say,[29] *The more the Body is at rest, the more active or busie is the Mind*, I mean when the sensitive Motions are not taken up with the action of patterning out forreign objects.

When I say,[30] the Air is fill'd with sound, and that words are received into the ears, as figures of exterior objects are received into the eyes, I mean, the sensitive motions of the Air pattern out sound, and the sensitive motions of the Ears pattern out words, as the sensitive figurative motions of the Eyes pattern out the figures of external objects.

Also when I speak of *Thunder* and *Lightning*, to wit, *That Thunder makes a great noise by the breaking of lines*: My meaning is, That the Air patterns out this sound or noise of the lines; and by reason there are so many patterns made in the air by its sensitive motions, the Ear cannot take so exact a copy thereof, but somewhat confusedly; and this is the reason why Thunder is represented, or rather pattern'd out with some terrour; for Thunder is a confused noise, because the patterns are made confusedly.

But concerning Sound and Light, I am forced to acquaint you, *Madam*, that my meaning thereof is not so well expressed in my Book of Philosophy, by reason I was not of the same opinion at that time

when I did write that Book which I am now of; for upon better consideration, and a more diligent search into the causes of natural effects, I have found it more probable, that all sensitive perception is made by the way of Patterning, and so consequently the perception of Sound and of Light; wherefore, I beseech you, when you find in my mentioned Book any thing thereof otherwise expressed, do not judg of it as if I did contradict my self, but that I have alter'd my opinion since upon more probable reasons.

Thus, *Madam*, you have a true declaration of my sence and meaning concerning those places, which in my *Philosophical Opinions* you did note, as being obscure; but I am resolved to bestow so much time and labour as to have all other places in that Book rectified and cleared, which seem not perspicuous, lest its obscurity may be the cause of its being neglected: And I pray God of his mercy to assist me with his Grace, and grant that my Works may find a favourable acceptance. In the mean time, I confess my self infinitely bound to your Ladyship, that you would be pleased to regard so much the Honour of your Friend, and be the chief occasion of it; for which I pray Heaven may bless, prosper, and preserve you, and lend me some means and ways to express my self,

Madam,

Your thankfull Friend,

and humble Servant.

[1] *Part.* 3. *c.* 13.

[2] *Ibid.*

[3] *Part.* 1. *c.* 11.

[4] *Part.* 1. *c.* 13, 14.

[5] *P.* 1. *c.* 8.

[6] *P.* 6. *c.* 3.

[7] *P.* 3. *c.* 10.

[8] *P.* 1. *Ch.* 3.

[9] *P.* 4. *c.* 3, 32.

[10] *P.* 1. *c.* 22.

[11] *P.* 3. *c.* 15.

[12] *Ibid.*

[13] *P.* 6. *c.* 11.

[14] *P.* 3. *c.* 21.

[15] *c.* 14.

[16] *P.* 5. *c.* 51.

[17] *P.* 6. *c.* 8.

[18] *P.* 4. *c.* 34.

[19] *Ibid.*

[20] *P.* 5. *c.* 4.

[21] *P.* 5. *c.* 13.

[22] *P.* 5. *c.* 27.

[23] *P.* 5. *c.* 45.

[24] *P.* 7. *c.* 11.

[25] *P.* 3. *c.* 2.

[26] *P.* 5. *c.* 23.

[27] *P.* 6. *c.* 13.

[28] *P.* 7. *c.* 12.

[29] *P.* 6. *c.* 13.

[30] *P.* 6. *c.* 29.

Eternal God, Infinite Deity,
Thy Servant, NATURE, *humbly prays to Thee,*
That thou wilt please to favour Her, and give
Her parts, which are Her Creatures, leave to live,
That in their shapes and forms, what e're they be,
And all their actions they may worship thee;
For 'tis not onely Man that doth implore,
But all Her parts, Great God, do thee adore;
A finite Worship cannot be to thee,
Thou art above all finites in degree:
Then let thy Servant Nature mediate
Between thy Justice, Mercy, and our state,
That thou may'st bless all Parts, and ever be
Our Gracious God to all Eternity.

FINIS.

*** END OF THE PROJECT GUTENBERG EBOOK PHILOSOPHICAL LETTERS: OR, MODEST REFLECTIONS UPON SOME OPINIONS IN NATURAL PHILOSOPHY ***

Updated editions will replace the previous one—the old editions will be renamed.

Creating the works from print editions not protected by U.S. copyright law means that no one owns a United States copyright in these works, so the Foundation (and you!) can copy and distribute it in the United States without permission and without paying copyright royalties. Special rules, set forth in the General Terms of Use part of this license, apply to copying and distributing Project Gutenberg™ electronic works to protect the PROJECT GUTENBERG™ concept and trademark. Project Gutenberg is a registered trademark, and may not be used if you charge for an eBook, except by following the terms of the trademark license, including paying royalties for use of the Project Gutenberg trademark. If you do not charge anything for copies of this eBook, complying with the trademark license is very easy. You may use this eBook for nearly any purpose such as creation of derivative works, reports, performances and research. Project Gutenberg eBooks may be modified and printed and given away—you may do practically ANYTHING in the United States with eBooks not protected by U.S. copyright law. Redistribution is subject to the

trademark license, especially commercial redistribution.

START: FULL LICENSE

THE FULL PROJECT GUTENBERG™ LICENSE

PLEASE READ THIS BEFORE YOU DISTRIBUTE OR USE THIS WORK

To protect the Project Gutenberg™ mission of promoting the free distribution of electronic works, by using or distributing this work (or any other work associated in any way with the phrase “Project Gutenberg”), you agree to comply with all the terms of the Full Project Gutenberg License available with this file or online at www.gutenberg.org/license.

Section 1. General Terms of Use and Redistributing Project Gutenberg electronic works

1.A. By reading or using any part of this Project Gutenberg electronic work, you indicate that you have read, understand, agree to and accept all the terms of this license and intellectual property (trademark/copyright) agreement. If you do not agree to abide by all the terms of this agreement, you must cease using and return or destroy all copies of Project Gutenberg electronic works in your possession. If you paid a fee for obtaining a copy of or access to a Project Gutenberg electronic work and you do not agree to be bound by the terms of this agreement, you may obtain a refund from the

person or entity to whom you paid the fee as set forth in paragraph 1.E.8.

1.B. “Project Gutenberg” is a registered trademark. It may only be used on or associated in any way with an electronic work by people who agree to be bound by the terms of this agreement. There are a few things that you can do with most Project Gutenberg electronic works even without complying with the full terms of this agreement. See paragraph 1.C below. There are a lot of things you can do with Project Gutenberg electronic works if you follow the terms of this agreement and help preserve free future access to Project Gutenberg electronic works. See paragraph 1.E below.

1.C. The Project Gutenberg Literary Archive Foundation (“the Foundation” or PGLAF), owns a compilation copyright in the collection of Project Gutenberg electronic works. Nearly all the individual works in the collection are in the public domain in the United States. If an individual work is unprotected by copyright law in the United States and you are located in the United States, we do not claim a right to prevent you from copying, distributing, performing, displaying or creating derivative works based on the work as long as all references to Project Gutenberg are removed. Of course, we hope that you will support the Project Gutenberg mission of promoting free access to electronic works by freely sharing Project Gutenberg works in compliance with the terms of this agreement for keeping the Project Gutenberg name associated with the work. You can easily comply with the terms of this agreement by keeping this work in

the same format with its attached full Project Gutenberg License when you share it without charge with others.

1.D. The copyright laws of the place where you are located also govern what you can do with this work. Copyright laws in most countries are in a constant state of change. If you are outside the United States, check the laws of your country in addition to the terms of this agreement before downloading, copying, displaying, performing, distributing or creating derivative works based on this work or any other Project Gutenberg work. The Foundation makes no representations concerning the copyright status of any work in any country other than the United States.

1.E. Unless you have removed all references to Project Gutenberg:

1.E.1. The following sentence, with active links to, or other immediate access to, the full Project Gutenberg License must appear prominently whenever any copy of a Project Gutenberg work (any work on which the phrase “Project Gutenberg” appears, or with which the phrase “Project Gutenberg” is associated) is accessed, displayed, performed, viewed, copied or distributed:

> This eBook is for the use of anyone anywhere in the United States and most other parts of the world at no cost and with almost no restrictions whatsoever. You may copy it,

give it away or re-use it under the terms of the Project Gutenberg™ License included with this eBook or online at www.gutenberg.org. If you are not located in the United States, you will have to check the laws of the country where you are located before using this eBook.

1.E.2. If an individual Project Gutenberg electronic work is derived from texts not protected by U.S. copyright law (does not contain a notice indicating that it is posted with permission of the copyright holder), the work can be copied and distributed to anyone in the United States without paying any fees or charges. If you are redistributing or providing access to a work with the phrase “Project Gutenberg” associated with or appearing on the work, you must comply either with the requirements of paragraphs 1.E.1 through 1.E.7 or obtain permission for the use of the work and the Project Gutenberg trademark as set forth in paragraphs 1.E.8 or 1.E.9.

1.E.3. If an individual Project Gutenberg electronic work is posted with the permission of the copyright holder, your use and distribution must comply with both paragraphs 1.E.1 through 1.E.7 and any additional terms imposed by the copyright holder. Additional terms will be linked to the Project Gutenberg License for all works posted with the permission of the copyright holder found at the beginning of this work.

1.E.4. Do not unlink or detach or remove the full Project Gutenberg License terms from this work, or any files containing a part of this work or any other work associated with Project Gutenberg.

1.E.5. Do not copy, display, perform, distribute or redistribute this electronic work, or any part of this electronic work, without prominently displaying the sentence set forth in paragraph 1.E.1 with active links or immediate access to the full terms of the Project Gutenberg License.

1.E.6. You may convert to and distribute this work in any binary, compressed, marked up, nonproprietary or proprietary form, including any word processing or hypertext form. However, if you provide access to or distribute copies of a Project Gutenberg work in a format other than “Plain Vanilla ASCII” or other format used in the official version posted on the official Project Gutenberg website (www.gutenberg.org), you must, at no additional cost, fee or expense to the user, provide a copy, a means of exporting a copy, or a means of obtaining a copy upon request, of the work in its original “Plain Vanilla ASCII” or other form. Any alternate format must include the full Project Gutenberg License as specified in paragraph 1.E.1.

1.E.7. Do not charge a fee for access to, viewing, displaying, performing, copying or distributing any Project Gutenberg works unless you comply with paragraph 1.E.8 or 1.E.9.

1.E.8. You may charge a reasonable fee for copies of or providing access to or distributing

Project Gutenberg electronic works provided that:

- You pay a royalty fee of 20% of the gross profits you derive from the use of Project Gutenberg works calculated using the method you already use to calculate your applicable taxes. The fee is owed to the owner of the Project Gutenberg trademark, but he has agreed to donate royalties under this paragraph to the Project Gutenberg Literary Archive Foundation. Royalty payments must be paid within 60 days following each date on which you prepare (or are legally required to prepare) your periodic tax returns. Royalty payments should be clearly marked as such and sent to the Project Gutenberg Literary Archive Foundation at the address specified in Section 4, “Information about donations to the Project Gutenberg Literary Archive Foundation.”

- You provide a full refund of any money paid by a user who notifies you in writing (or by e-mail) within 30 days of receipt that s/he does not agree to the terms of the full Project Gutenberg™ License. You must require such a user to return or destroy all copies of the works possessed in a physical medium and discontinue all use of and all access to other copies of Project Gutenberg™ works.

- You provide, in accordance with paragraph 1.F.3, a full refund of any money paid for a work or a replacement copy, if a defect in the electronic work is discovered and reported to you within 90 days of receipt of the work.

• You comply with all other terms of this agreement for free distribution of Project Gutenberg™ works.

1.E.9. If you wish to charge a fee or distribute a Project Gutenberg™ electronic work or group of works on different terms than are set forth in this agreement, you must obtain permission in writing from the Project Gutenberg Literary Archive Foundation, the manager of the Project Gutenberg™ trademark. Contact the Foundation as set forth in Section 3 below.

1.F.

1.F.1. Project Gutenberg volunteers and employees expend considerable effort to identify, do copyright research on, transcribe and proofread works not protected by U.S. copyright law in creating the Project Gutenberg™ collection. Despite these efforts, Project Gutenberg™ electronic works, and the medium on which they may be stored, may contain “Defects,” such as, but not limited to, incomplete, inaccurate or corrupt data, transcription errors, a copyright or other intellectual property infringement, a defective or damaged disk or other medium, a computer virus, or computer codes that damage or cannot be read by your equipment.

1.F.2. LIMITED WARRANTY, DISCLAIMER OF DAMAGES - Except for the “Right of Replacement or Refund” described in paragraph 1.F.3, the Project Gutenberg Literary Archive Foundation, the owner of the Project Gutenberg™ trademark, and any other party

distributing a Project Gutenberg™ electronic work under this agreement, disclaim all liability to you for damages, costs and expenses, including legal fees. YOU AGREE THAT YOU HAVE NO REMEDIES FOR NEGLIGENCE, STRICT LIABILITY, BREACH OF WARRANTY OR BREACH OF CONTRACT EXCEPT THOSE PROVIDED IN PARAGRAPH 1.F.3. YOU AGREE THAT THE FOUNDATION, THE TRADEMARK OWNER, AND ANY DISTRIBUTOR UNDER THIS AGREEMENT WILL NOT BE LIABLE TO YOU FOR ACTUAL, DIRECT, INDIRECT, CONSEQUENTIAL, PUNITIVE OR INCIDENTAL DAMAGES EVEN IF YOU GIVE NOTICE OF THE POSSIBILITY OF SUCH DAMAGE.

1.F.3. LIMITED RIGHT OF REPLACEMENT OR REFUND - If you discover a defect in this electronic work within 90 days of receiving it, you can receive a refund of the money (if any) you paid for it by sending a written explanation to the person you received the work from. If you received the work on a physical medium, you must return the medium with your written explanation. The person or entity that provided you with the defective work may elect to provide a replacement copy in lieu of a refund. If you received the work electronically, the person or entity providing it to you may choose to give you a second opportunity to receive the work electronically in lieu of a refund. If the second copy is also defective, you may demand a refund in writing without further opportunities to fix the problem.

1.F.4. Except for the limited right of replacement or refund set forth in paragraph 1.F.3, this work

is provided to you ‘AS-IS’, WITH NO OTHER WARRANTIES OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PURPOSE.

1.F.5. Some states do not allow disclaimers of certain implied warranties or the exclusion or limitation of certain types of damages. If any disclaimer or limitation set forth in this agreement violates the law of the state applicable to this agreement, the agreement shall be interpreted to make the maximum disclaimer or limitation permitted by the applicable state law. The invalidity or unenforceability of any provision of this agreement shall not void the remaining provisions.

1.F.6. INDEMNITY - You agree to indemnify and hold the Foundation, the trademark owner, any agent or employee of the Foundation, anyone providing copies of Project Gutenberg™ electronic works in accordance with this agreement, and any volunteers associated with the production, promotion and distribution of Project Gutenberg™ electronic works, harmless from all liability, costs and expenses, including legal fees, that arise directly or indirectly from any of the following which you do or cause to occur: (a) distribution of this or any Project Gutenberg work, (b) alteration, modification, or additions or deletions to any Project Gutenberg work, and (c) any Defect you cause.

Section 2. Information about the Mission

of Project Gutenberg

Project Gutenberg is synonymous with the free distribution of electronic works in formats readable by the widest variety of computers including obsolete, old, middle-aged and new computers. It exists because of the efforts of hundreds of volunteers and donations from people in all walks of life.

Volunteers and financial support to provide volunteers with the assistance they need are critical to reaching Project Gutenberg's goals and ensuring that the Project Gutenberg collection will remain freely available for generations to come. In 2001, the Project Gutenberg Literary Archive Foundation was created to provide a secure and permanent future for Project Gutenberg and future generations. To learn more about the Project Gutenberg Literary Archive Foundation and how your efforts and donations can help, see Sections 3 and 4 and the Foundation information page at www.gutenberg.org.

Section 3. Information about the Project Gutenberg Literary Archive Foundation

The Project Gutenberg Literary Archive Foundation is a non-profit 501(c)(3) educational corporation organized under the laws of the state of Mississippi and granted tax exempt status by the Internal Revenue Service. The Foundation's EIN or federal tax identification number is 64-6221541. Contributions to the Project Gutenberg Literary Archive Foundation

are tax deductible to the full extent permitted by U.S. federal laws and your state's laws.

The Foundation's business office is located at 41 Watchung Plaza #516, Montclair NJ 07042, USA, +1 (862) 621-9288. Email contact links and up to date contact information can be found at the Foundation's website and official page at www.gutenberg.org/contact

Section 4. Information about Donations to the Project Gutenberg Literary Archive Foundation

Project Gutenberg™ depends upon and cannot survive without widespread public support and donations to carry out its mission of increasing the number of public domain and licensed works that can be freely distributed in machine-readable form accessible by the widest array of equipment including outdated equipment. Many small donations ($1 to $5,000) are particularly important to maintaining tax exempt status with the IRS.

The Foundation is committed to complying with the laws regulating charities and charitable donations in all 50 states of the United States. Compliance requirements are not uniform and it takes a considerable effort, much paperwork and many fees to meet and keep up with these requirements. We do not solicit donations in locations where we have not received written confirmation of compliance. To SEND DONATIONS or determine the status of compliance for any particular state visit

www.gutenberg.org/donate.

While we cannot and do not solicit contributions from states where we have not met the solicitation requirements, we know of no prohibition against accepting unsolicited donations from donors in such states who approach us with offers to donate.

International donations are gratefully accepted, but we cannot make any statements concerning tax treatment of donations received from outside the United States. U.S. laws alone swamp our small staff.

Please check the Project Gutenberg web pages for current donation methods and addresses. Donations are accepted in a number of other ways including checks, online payments and credit card donations. To donate, please visit: www.gutenberg.org/donate.

Section 5. General Information About Project Gutenberg electronic works

Professor Michael S. Hart was the originator of the Project Gutenberg concept of a library of electronic works that could be freely shared with anyone. For forty years, he produced and distributed Project Gutenberg eBooks with only a loose network of volunteer support.

Project Gutenberg eBooks are often created from several printed editions, all of which are confirmed as not protected by copyright in the U.S. unless a copyright notice is included. Thus, we do not necessarily keep eBooks in

compliance with any particular paper edition.

Most people start at our website which has the main PG search facility: www.gutenberg.org.

This website includes information about Project Gutenberg, including how to make donations to the Project Gutenberg Literary Archive Foundation, how to help produce our new eBooks, and how to subscribe to our email newsletter to hear about new eBooks.