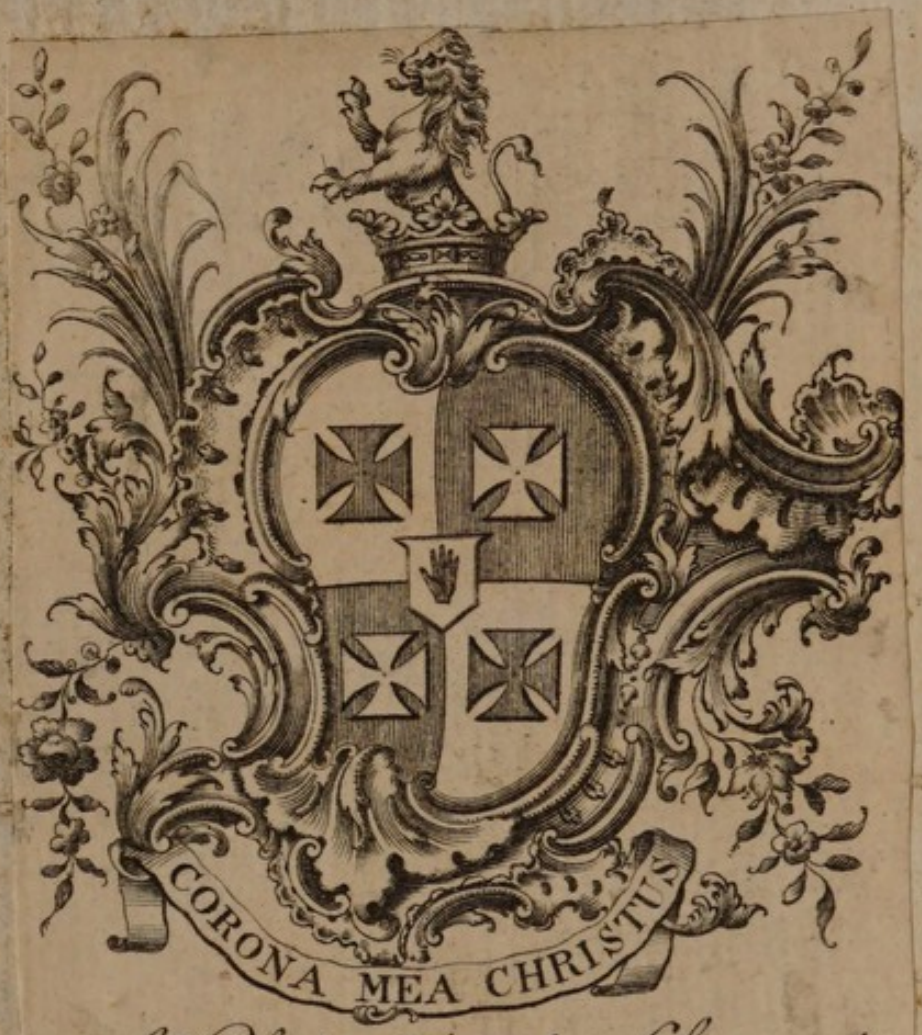
Conversations with a lady, on the plurality of worlds / Written in French by M. Fontenelle, author of the dialogues of the dead. Translated by Mr. Glanvill. The fourth edition. With the addition of a sixth conversation. To which is also added a discourse concerning the Antients and Moderns. Written by the same author : and translated by Mr. Hughes.



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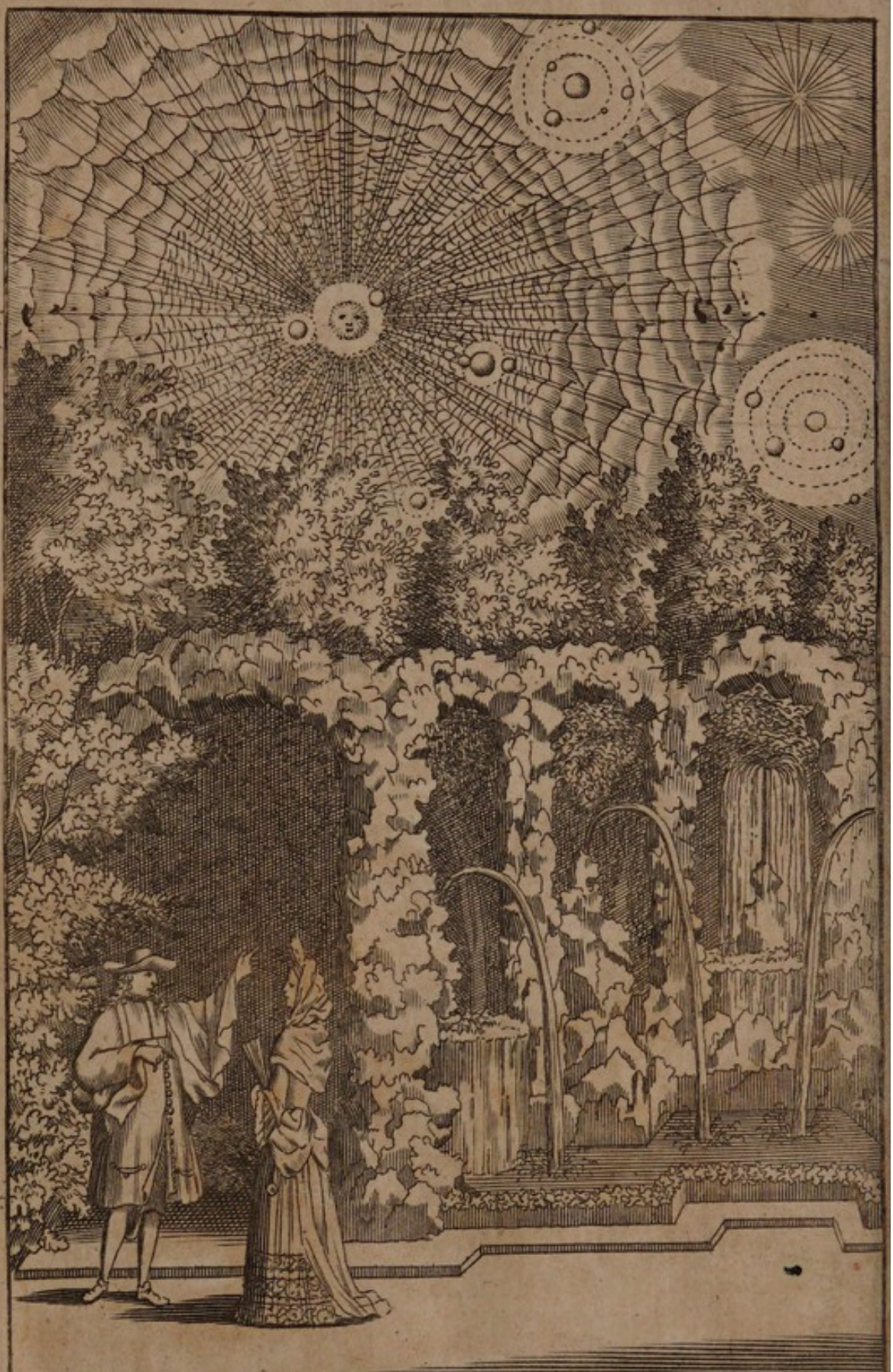

DISCOURSE OF THE PLURALITY OF WORLDS

CONVERSATIONS

WITH A

LADY,

ON THE

Plurality of Worlds.

Written in *French* by M. FONTENELLE,
Author of *the Dialogues of the Dead.*

Translated by Mr. GLANVILL.

The Fourth Edition.

With the Addition of a SIXTH CONVERSATION.

To which is also added,

A DISCOURSE concerning the ANTIENTS and MODERNS. Written by the same AUTHOR: And Translated by Mr. *HUGHES.*

LONDON:

Printed by J. DARBY, for M. WELLINGTON, at the *King's Head* over against *St. Clement's* Church in the *Strand.* M. DCC. XIX.

THE PREFACE.

MY Case is much like Cicero's, when he undertook to write of Philosophy in Latin, there being then no Books upon that Subject, but what were written in Greek. When some told Cicero, that he would take pains to no purpose, because such as study'd Philosophy, would make use of Greek Authors, and not read Latin Books, which treated of it but at second hand; and others, who were no Admirers of this Science, would never trouble their Heads with either Greek or Latin: Cicero reply'd, They were much mistaken; for, said he, the great ease People will find in reading Latin Books, will tempt those to be Philosophers who are none; and they who already are Philosophers, by read-

ing Greek *Books, will be very glad to ſee how Philoſophy is handled in* Latin.

Cicero *might with good reaſon anſwer as he did, becauſe the Excellency of his Genius, and the great Reputation he had acquir'd, warranted the Succeſs of all he wrote. But in a Deſign, not much unlike his, I am far from having thoſe Grounds of Confidence which he had. My purpoſe is to diſcourſe of Philoſophy, but not in a Philoſophical manner; and to raiſe it to ſuch a pitch, that it ſhall not be too dry and inſipid a Subject to pleaſe* Gentlemen, *nor too mean and trifling to entertain Scholars. Should I be told, (as* Cicero *was) that ſuch a Diſcourſe as this would not pleaſe the Learned, becauſe it can teach them nothing, nor the Illiterate, becauſe they will have no mind to learn; I will not anſwer as he did: it may be, endeavouring to pleaſe every body, I have pleas'd no body; to keep the middle betwixt the Extremes, is difficult; and I believe I ſhall never deſire to put my ſelf a ſecond time to the like trouble.*

If this Book have the Luck to be read, I declare to thoſe who have any knowledge of

Natural

Natural Philoſophy, that I do not pretend to inſtruct, but only to divert them, by preſenting to their View, in a gay and pleaſing Dreſs, that which they already know: but they to whom the Subject is new, may be both diverted and inſtructed. The firſt will act contrary to my Intention, if they look for Profit; and the ſecond, if they ſeek for nothing but Pleaſure.

I have choſen that part of Philoſophy which is moſt like to excite Curioſity: for what can more concern us, than to know how this World which we inhabit, is made; and whether there be any other Worlds like it, which are alſo inhabited as this is? They who have any Thoughts to loſe, may throw them away upon ſuch Subjects as this. But I ſuppoſe, they who can ſpend their time better, will not be at ſo vain and fruitleſs an Expence.

In theſe Diſcourſes I have introduc'd a Woman, to be inſtructed in things of which ſhe never heard: and I have made uſe of this Fiction, to render the Book the more acceptable, and to give encouragement to Ladies, by the example of one of their own Sex, who, without any ſupernatural Parts,

or Tincture of Learning, underſtands what is ſaid to her; and without any Confuſion, rightly apprehends what Vortexes and other Worlds are. And why may not there be a Woman like this imaginary Counteſs? ſince her Conceptions are no other than ſuch as ſhe could not chuſe but have.

To penetrate into things either obſcure in themſelves, or but darkly expreſs'd, requires deep Meditation, and earneſt Application of the Mind: but here, nothing more is requiſite than to read, and to print an Idea of what is read in the Fancy, which will certainly be clear enough. I ſhall deſire no more of the fair Ladies, than that they will read this Syſtem of Philoſophy with the ſame Application that they do a Romance or a Novel. 'Tis true that the Ideas of this Book are leſs familiar to moſt Ladies, than thoſe of Romances are, but they are not more obſcure: for at moſt, twice or thrice thinking, will render them very perſpicuous.

I have not compos'd an airy Syſtem, which hath no Foundation at all: I have made uſe of ſome true Philoſophical Arguments, and of as many as I thought neceſſary:

but

but it falls out very luckily in this Subject, that the Physical Ideas are in themselves very diverting: And as they convince and satisfy Reason, so at the same time they present to the Imagination a Spectacle, which looks as if it were made on purpose to please it.

When I meet with any Fragments which are not of this kind, I put them into some pretty strange Dress. Virgil *hath done the like in his* Georgicks: *when his Subject is very dry, he adorns it with pleasant Digressions.* Ovid *hath done the same in his* Art of Loving: *and tho his Subject be of it self very pleasing, yet he thought it tedious to talk of nothing but Love. My Subject hath more need of Digressions than his; yet I have made use of 'em very sparingly, and of such only, as the natural liberty of Conversation allows: the greatest part of 'em are in the beginning of the Book, because the Mind cannot at first be so well acquainted with the principal Ideas which are presented to it; they are taken from the Subject it self, or are as near to it as is possible.*

I have fancy'd nothing concerning the Inhabitants of the many Worlds, which is wholly fabulous: I have ſaid all that can reaſonably be thought of them; and the Viſions which I have added, have ſome real Foundation. What is true, and what is falſe, are mingled together, but ſo as to be eaſily diſtinguiſh'd. I will not undertake to juſtify ſo fantaſtical and odd a Compoſition, that is the principal point of the Work, and for which I can give no very good Reaſon.

There remains no more to be ſaid in this Preface, but to a ſort of People who perhaps will not be eaſily ſatisfy'd; not but that I have good Reaſons to give 'em, but becauſe the beſt that can be given, will not content 'em: they are thoſe ſcrupulous Perſons, who imagine that the placing Inhabitants any where but upon the Earth, will prove dangerous to Religion. I know how exceſſively tender ſome are in Religious Matters, and therefore I am very unwilling to give any Offence in what I publiſh to People whoſe Opinion is contrary to that I maintain. But Religion can receive no Prejudice by my Syſtem, which fills an Infinity of Worlds with Inhabitants, if a

little

little error of the Imagination be but rectify'd. When 'tis ſaid the Moon is inhabited, ſome preſently fancy that there are ſuch Men there, as we are: and Church-Men, without any more ado, think him an Atheiſt, who is of that Opinion. None of Adam's *Poſterity ever travell'd ſo far as the Moon, nor were any Colonies ever ſent thither; the Men then that are in the Moon, are not the Sons of* Adam: *And here again Theology would be puzzled, if there ſhould be Men any where that never deſcended from him. To ſay no more, this is the great Difficulty to which all others may be reduc'd; to clear it by a larger Explanation, I muſt make uſe of Terms which deſerve greater Reſpect than to be put into a Pamphlet ſo trivial, and ſo far from being ſerious, as this is. But perhaps there is no need of anſwering the Objection, for it concerns no body but the Men in the Moon: and I never yet ſaid there are Men there. If any ask, what the Inhabitants there are, if they be not Men? All I can ſay is, that I never ſaw them; and 'tis not becauſe I have ſeen them, that I ſpeak of them. Let none now*

think

think that I ſay there are no Men in the Moon, purpoſely to avoid the Objection made againſt me: for it appears 'tis impoſſible there ſhould be any Men there, according to that Idea I have framed of that infinite Diverſity and Variety which is to be obſerv'd in the Works of Nature. This Idea runs thro the whole Book, and cannot be contradicted by any Philoſopher. And to think there may be more Worlds than one, is neither againſt Reaſon or Scripture. If God glorify'd himſelf in making one World, the more Worlds be made, the greater muſt be his Glory. But I do not declare theſe Ideas to be Articles of my Faith: when I do, I hope I ſhall have the ſame liberty as the reſt of my Neighbours.

ERRATA.

Pag. 153. l. 4. for *it*, r. *Wit.* P. 159. l. 22. r. *dare not be.* P. 162. l. 1. r. *whatever.* P. 164. l. 2. r. *other.* P. 166. l. 23. r. *in any one.* P. 174. l. 8. r. *neither.* P. 183. l. 20. r. *Juſtneſs.* P. 185. l. 4. r. *others.*

The CONTENTS of the ſeveral Evenings Converſations.

Ad-

Advertiſement.

TO this Edition, beſides the adding of an Evening's Converſation, which was not in the former, there is likewiſe added, *A Diſcourſe of the ſame Author, concerning the* Antients *and* Moderns, which has made ſome noiſe in the Learned World, and was never tranſlated before. The *Plurality of Worlds*, and this Piece, are both mention'd by Sir *William Temple*, in his *Eſſay on Antient and Modern Learning*, the *former* with great Praiſe, and the *latter* with equal Reſentment. It is well known which ſide of the Controverſy Sir *William* favour'd. Every one will judge in this, as his Reaſon or Prejudices ſway him. But as the Plurality of Worlds is chiefly written on the Improvements made by the Moderns in Philoſophy and Aſtronomy, it was thought that this general Diſcourſe on the Queſtion of Prehemi-nence between the Antients and Moderns was very proper to accompany it.

1. Mercury. 2. Venus. 3. The Earth. 4. Mars. 5. Jupiter. 6. Saturn

A PLURALITY OF Worlds.

YOU would have me, Sir, give you an exact account how I pass'd my time in the Country, at the Countess of *D*———*s*. Are you sensible such an exact Account will amount to a Volume? Nay (what is worse) a Volume of Philosophy? I know you expect another kind of Entertainment, Dancing, Gaming, Hunting,

ting, *&c.* but you muſt take up with Vortex's, Planets, and New Worlds; theſe were the Subject of our Converſation. And by good luck you are a Philoſopher, ſo that it will be no great diſappointment, nay, I fancy, you will be pleas'd, that I have brought over the Counteſs to our Party; we could not have gain'd a more conſiderable Perſon, for Youth and Beauty are ever ineſtimable: If Wiſdom would appear with ſucceſs to Mankind, do you think ſhe would not do well to take upon her the Perſon of the Counteſs? And. yet was her Company but half ſo agreeable, all the World would run mad after Wiſdom. But tho I tell you all the Diſcourſe I had with the Lady, you muſt not expect Miracles from me. It is impoſſible without her Wit, to expreſs but what ſhe ſaid, in the ſame manner ſhe ſpake it: For my part, I think her very Learned, from the great Diſpoſition ſhe hath to Learning. Is it a poring upon Books that makes a Man of Underſtanding? I know many that have done nothing elſe, and yet I fancy are not one tittle the

wiſer.

wiſer. But perhaps you expect, before I enter upon my Subject, I ſhould deſcribe the Lady's Houſe, with all its Situation; many great Palaces have been turned inſide outward upon far leſs occaſion. But I intend to ſave you and my ſelf that labour; let it ſuffice that I tell you, I found no Company with the Counteſs, and I was not at all diſpleas'd with it. The two firſt days drain'd me of all the News I brought from *London*; what I now ſend you is the reſt of our Converſation, which I will divide into ſo many Parts as we were Evenings together.

The Firſt Evening.

WE went one Evening after Supper to walk in the Park: the Air was extremely refreſhing, becauſe that Day had been very hot; the Moon had been up about an hour, and as ſhe ſhone between the Trees, made an agree-

able Mixture of Light and Darkneſs; the Stars were in all their Glory, and not a Cloud appear'd on the azure Sky: I was muſing on this awful Proſpect; but who can think long of the Moon and Stars in the Company of a pretty Woman! I am much miſtaken if that's a time for Contemplation: Well, Madam, *ſaid I to the Counteſs*, is not the Night as pleaſant as the Day? The Day, *ſaid ſhe*, like a fair Beauty, is clear and dazling; but the Night, like a brown Beauty, more ſoft and moving. You are generous, Madam, *I reply'd*, to prefer the Brown, you that have all the Charms that belong to the Fair; but is there any thing more beautiful in Nature than the Day? The Heroines of Romances are generally fair; and that Beauty muſt be perfect, which hath all the Advantages of Imagination. Tell not me, *ſaid ſhe*, of perfect Beauty, nothing can be ſo that is not moving. But ſince you talk of Romances, why do Lovers in their Songs and Elegies addreſs themſelves to the Night? 'Tis the Night, Madam, *ſaid I*, that crowns their Joys, and therefore deſerves

ſerves their thanks: But 'tis the Night, *ſaid ſhe*, that hears their Complaints; and how comes it to paſs the Day is ſo little truſted with their Secrets? I confeſs, Madam, *ſaid I*, the Night hath ſomewhat a more melancholy Air than the Day; we fancy the Stars march more ſilently than the Sun, and our Thoughts wander with the more liberty, whilſt we think all the World at reſt but our ſelves: beſides, the Day is more uniform, we ſee nothing but the Sun, and Light in the Firmament; whilſt the Night gives us variety of Objects, and ſhews us ten thouſand Stars, which inſpire us with as many pleaſant Ideas. What you ſay is true, *ſaid ſhe*; I love the Stars, there is ſomewhat charming in them, and I could almoſt be angry with the Sun for effacing 'em. I can never pardon him, *I cry'd*, for keeping all thoſe Worlds from my Sight. What Worlds, *ſaid ſhe*, looking earneſtly upon me, what Worlds do you mean?

I beg your pardon, Madam, *ſaid I*; you have put me upon my Folly, and I begin to rave. What Folly, *ſaid ſhe?* I

diſcover none. Alas, *ſaid I*, I am aſham'd, I muſt own it, I have had a ſtrong fancy every Star is a World. I will not ſwear it is true, but muſt think ſo, becauſe it is ſo pleaſant to believe it: 'tis a fancy come into my head, and is very diverting. If your Folly be ſo diverting, *ſaid the Counteſs*, pray make me ſenſible of it; provided the pleaſure be ſo great, I will believe of the Stars all you would have me. It is, *ſaid I*, a Diverſion, Madam, I fear you will not reliſh; 'tis not like one of *Moliere*'s Plays: 'tis a Pleaſure rather of the Fancy than of the Judgment. I hope, *reply'd ſhe*, you do not think me incapable of it: teach me your Stars, I will ſhew you the contrary. No, no, *I reply'd*, it ſhall never be ſaid I was talking Philoſophy at ten of the clock at Night to the moſt amiable Creature in the World; find your Philoſophers ſomewhere elſe.

But in vain I excus'd my ſelf: who could reſiſt ſo many Charms? I was forc'd to yield, and yet I knew not where to begin; for to a Perſon who underſtood nothing of Natural Philoſophy,

phy, you muſt go a great way about to prove that the Earth may be a Planet, the Planets ſo many Earths, and all the Stars Worlds: however, to give her a general Notion of Philoſophy, I at laſt reſolv'd on this Method. All Philoſophy, *ſaid I*, Madam, is founded upon two things, either that we are too ſhort-ſighted, or that we are too curious; for if our Eyes were better than they are, we ſhould ſoon ſee whether the Stars were Worlds or not; and if on the other ſide we were leſs curious, we ſhould not care whether the Stars are Worlds or not; which I think is much to the ſame purpoſe. But the Buſineſs is, we have a mind to know more than we ſee: And again, if we could diſcern well what we do ſee, it would be too much known to us: but we ſee things quite otherwiſe than they are. So that your true Philoſopher will not believe what he doth ſee, and is always conjecturing at what he doth not, which is a Life I think not much to be envy'd. Upon this I fancy to myſelf, that Nature very much reſembleth an Opera; where you ſtand, you do not ſee

the Stage as really it is; but it is plac'd with advantage, and all the Wheels and Movements are hid, to make the Repreſentation the more agreeable: Nor do you trouble your ſelf how, or by what means the Machines are mov'd, tho certainly an Engineer in the Pit is affected with what doth not touch you; he is pleas'd with the Motion, and is demonſtrating to himſelf on what it depends, and how it comes to paſs. This Engineer then is like a Philoſopher, tho the Difficulty is greater on the Philoſopher's part, the Machines of the Theatre being nothing ſo curious as thoſe of Nature, which diſpoſeth her Wheels and Springs ſo out of ſight, that we have been long a gueſſing at the Movement of the Univerſe. Suppoſe then the Sages at an Opera, the *Pythagoras's*, the *Plato's*, the *Ariſtotle's*, and all the Wiſe Men who have made ſuch a noiſe in the World, for theſe many Ages; we will ſuppoſe 'em at the Repreſentation of *Phaeton*, where they ſee the aſpiring Youth lifted up by the Winds, but do not diſcover the Wires by which he mounts, nor know

they

they any thing of what is done behind the Scenes. Would you have all theſe Philoſophers own themſelves to be ſtark Fools, and confeſs ingenuouſly they know not how it comes to paſs? No, no, they are not called Wiſe Men for nothing; tho, let me tell you, moſt of their Wiſdom depends upon the Ignorance of their Neighbours. Every Man preſently gives his Opinion, and how improbable ſoever, there are Fools enough of all ſorts to believe 'em: One tells you *Phaeton* is drawn up by a hidden Magnetick Virtue, no matter where it lies; and perhaps the grave Gentleman will take pet if you ask him the Queſtion. Another ſays, *Phaeton* is compos'd of certain Numbers that make him mount; and after all, the Philoſopher knows no more of thoſe Numbers than a ſucking Child of *Algebra*. A third tells you, *Phaeton* hath a ſecret Love for the top of the Theatre; and, like a true Lover, cannot be at reſt out of his Miſtreſs's Company; with an hundred ſuch extravagant Fancies, that a Man muſt conclude the old Sages were very good Banterers. But

now comes Monſieur *Deſcartes* with ſome of the Moderns, and they tell you *Phaeton* aſcends, becauſe a greater Weight than he deſcends; ſo that now we do not believe a Body can move unleſs it is puſh'd and forc'd by another Body, and as it were drawn by Cords, ſo that nothing can riſe or fall but by the means of a Counterpoiſe; he then that will ſee Nature really as ſhe is, muſt ſtand behind the Scenes at the Opera. I perceive, *ſaid the Counteſs*, Philoſophy is now become very mechanical. So mechanical, *ſaid I*, that I fear we ſhall quickly be aſham'd of it; they will have the World to be in great, what a Watch is in little, which is very regular, and depends only upon the juſt diſpoſing of the ſeveral parts of the Movement. But pray tell me, Madam, had you not formerly a more ſublime Idea of the Univerſe? Do you not think you did then honour it more than it deſerv'd? for moſt have the leſs eſteem of it ſince they have pretended to know it. I am not of their opinion, *ſaid ſhe*; I value it the more ſince I know it reſembles

a Watch ; and the whole Order of Nature, the more plain and eaſy it is, to me it appears the more admirable.

I know not, *ſaid I*, who hath inſpir'd you with theſe ſolid Notions ; but I am certain there are few that have them beſides your ſelf. People generally admire what they do not comprehend, they have a Veneration for Obſcurity, and look upon Nature while they do not underſtand her, as a kind of Magick, and deſpiſe her below Legerdemain, when once they are acquainted with her : but I find you, Madam, ſo much better diſpos'd, that I have nothing to do but to draw the Curtain, and ſhew you the World. That then which appears fartheſt from the Earth (where we reſide) is called the Heavens, that azure Firmament, where the Stars are faſtned like ſo many Nails, and are call'd fix'd, becauſe they ſeem to have no other Motion than that of their Heaven, which carries them with it ſelf from Eaſt to Weſt. Between the Earth and this great Vault (as I may call it) hang

at different Heights, the *Sun*, and the *Moon*, with the other Stars, *Mercury*, *Venus*, *Mars*, *Jupiter*, and *Saturn*, which we call the Planets: theſe Planets, not being faſtned to the ſame Heaven, and having very unequal Motions, have divers Aſpects and Poſitions; whereas the fixed Stars in reſpect to one another, are always in the ſame Situation: for example, *Charles's Wain*, which is compos'd of thoſe ſeven Stars, hath been, and ever will be, as it now is, tho the Moon is ſometimes nearer to the Sun, and ſometimes farther from it, and ſo it is with the reſt of the Planets. Thus things appear'd to the Old *Chaldean* Shepherds, whoſe great leiſure did produce theſe firſt Obſervations, which have ſince been the Foundation of Aſtronomy; for Aſtronomy had its Birth in *Chaldea*, as Geometry was born in *Egypt*, where the Inundation of the *Nile* confounding the Bounds of their Fields, was an occaſion of their inventing exacter Meaſures to diſtinguiſh every one's Land from that of his Neighbour. So that Aſtronomy

my was the Daughter of Idleneſs, Geometry the Daughter of Intereſt; and if we did but examine Poetry, we ſhould certainly find her the Daughter of Love.

I am glad, ſaid the Lady, I have learnt the Genealogy of the Sciences, and am convinc'd I muſt ſtick to Aſtronomy; my Soul is not mercenary enough for Geometry, nor is it tender enough for Poetry; but I have as much time to ſpare as Aſtronomy requires: beſide, we are now in the Country, and lead a kind of Paſtoral Life, all which ſuits beſt with Aſtronomy. Do not deceive your ſelf, Madam, *ſaid I*, 'tis not a true Shepherd's Life to talk of the Stars and Planets: See if they paſs their time ſo in *Aſtræa*. That ſort of Shepherd's Craft, *reply'd ſhe*, is too dangerous for me to learn: I love the honeſt *Chaldeans*, and you muſt teach me their Rules, if you would have me improve in their Science. But let us proceed. When they had rank'd the Heavens in that manner you tell me, pray, what is the next Queſtion? The

next,

next, *ſaid I*, is the diſpoſing the ſeveral Parts of the Univerſe, which the Learned call *Making a Syſtem:* but before I expound the firſt Syſtem, I would have you obſerve, we are all naturally like that Madman at *Athens*, who fancy'd all the Ships were his that came into the Port *Pyræum:* Nor is our Folly leſs extravagant; we believe all things in Nature deſign'd for our Uſe; and do but ask a Philoſopher, to what purpoſe there is that prodigious company of fixed Stars, when a far leſs Number would perform the ſervice they do us? he anſwers coldly, they were made to pleaſe our Sight. Upon this Principle they imagined the Earth reſted in the Centre of the Univerſe, while all the Celeſtial Bodies (which were made for it) took the pains to turn round to give light to it. They plac'd the Moon above the Earth, *Mercury* above the Moon, after *Venus* the Sun, *Mars*, *Jupiter*, *Saturn*; above all theſe they ſet the Heaven of fixed Stars, the Earth was juſt in the middle of thoſe Circles which contain

the

the Planets; and the greater the Circles were, they were the farther distant from the Earth, and by consequence the fartheſt Planets took up the moſt time in finiſhing their Courſe, which in effect is true. But why, *ſaid the Counteſs*, interrupting me, do you diſlike this Syſtem? It ſeems to me very clear and intelligible. However, Madam, *ſaid I*, I will make it plainer; for ſhould I give it you as it came from *Ptolemy* its Author, or ſome other who have ſince ſtudy'd it, I ſhould fright you, I fancy, inſtead of diverting you. Since the Motions of the Planets are not ſo regular, but that ſometimes they go faſter, ſometimes ſlower, ſometimes are nearer the Earth, and ſometimes farther from it; the Antients did invent I do not know how many Orbs or Circles involv'd one within another, which they thought would ſolve all Objections: This Confuſion of Circles was ſo great, that at that time, when they knew no better, a certain King of *Arragon*, a great Mathematician, but not much troubled with Religion, ſaid,

That

That had God conſulted him when he made the World, he would have told him how to have framed it better. The Fancy was very atheiſtical, and no doubt the Inſtructions he would have given the Almighty, was the ſuppreſſing thoſe Circles with which they had clogg'd the Celeſtial Motions, and the taking away two or three ſuperfluous Heavens which they plac'd above the fixed Stars: for theſe Philoſophers to explain the Motion of the Celeſtial Bodies, had above the uppermoſt Heaven (which we ſee) found another of Chryſtal, to influence and give Motion to the inferior Heavens; and wherever they heard of another Motion, they preſently clapp'd up a Chryſtal Heaven which coſt 'em nothing. But why muſt their Heaven be of Chryſtal, *ſaid the Counteſs*; would nothing elſe ſerve as well? No, no, *I reply'd*, nothing ſo well; for the Light was to come thro them, and yet they were to be ſolid. *Ariſtotle* would have it ſo, he had found Solidity to be one of their Excellencies; and when he had once ſaid it, no body would be ſo rude as to

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queſtion it. But it ſeems there were Comets much higher than the Philoſophers expected, which, as they paſs'd along, brake the Chryſtal Heavens, and confounded the Univerſe: But to make the beſt of a bad Market, they preſently melt down their broken Glaſs, and to *Ariſtotle*'s Confuſion, made the Heavens fluid; and by the Obſervations of theſe latter Ages it is now out of doubt, that *Venus* and *Mercury* turn round the Sun, and not round the Earth, according to the antient Syſtem, which is now every where exploded, and all the *Ipſe dixits* not worth a ruſh. But that which I am going to lay down, will ſolve all, and is ſo clear, that the King of *Arragon* himſelf may ſpare his Advice. Methinks, *ſaith the Counteſs*, your Philoſophy is a kind of Outcry, where he that offers to do the Work cheapeſt, carries it from all the reſt. 'Tis very true, *ſaid I*, Nature is a great Huſwife, ſhe always makes uſe of what coſts leaſt, let the Difference be ever ſo inconſiderable: and yet this Frugality is accompany'd with an extraordinary Magnificence, which ſhines

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thro all her Works; that is, ſhe is magnificent in the Deſign, but frugal in the Execution: and what can be more praiſeworthy than a great Deſign accompliſh'd with a little Expence? But in our Idea's we turn things topſy-turvy, we place our Thrift in the Deſign, and are at ten times more charge in Workmanſhip than it requires, which is very ridiculous. Imitate Nature then, *ſaith ſhe*, in your Syſtem, and give me as little Trouble as you can to comprehend you. Fear it not Madam, *ſaid I*, we have done with our Impertinencies: Imagine then a *German* call'd *Copernicus* confounding every thing, tearing in pieces the beloved Circles of Antiquity, and ſhattering their Chryſtal Heavens like ſo many Glaſs Windows; ſeiz'd with the noble Rage of Aſtronomy, he ſnatcheth up the Earth from the Center of the Univerſe, ſends her packing, and placeth the Sun in the Center, to which it did more juſtly belong; the Planets no longer turn round the Earth, and do not incloſe it in the Circles they deſcribe: if they give us light, it is but by chance, and as they meet us in their way.

way. All now turns round the Sun; the Earth herſelf goes round the Sun, and *Copernicus*, to puniſh the Earth for her former Lazineſs, makes her contribute all he can to the Motion of the Planets and Heavens; and now ſtripp'd of all the heavenly Equipage with which ſhe was ſo glorioufly attended, ſhe hath nothing left her but the *Moon*, which ſtill turns round about her. Fair and ſoftly, *ſaith the Counteſs*, I fancy you your ſelf are ſeiz'd with the noble Fury of Aſtronomy; a little leſs Rapture, and I ſhall underſtand you the better. The Sun, you ſay, is in the Centre of the Univerſe, and is immoveable; what follows next? It is *Mercury*, *ſaid I*; he turns round the Sun, ſo that the Sun is the Centre of the Circle wherein *Mercury* moves; above *Mercury* is *Venus*, who turns alſo round the Sun: after comes the Earth, which being placed higher than *Mercury* and *Venus*, makes a greater Circle round the Sun than either of them; at laſt come *Mars*, *Jupiter*, *Saturn*, in the ſame order I name 'em, ſo that *Saturn* hath the greateſt Circle round the Sun, which is the reaſon

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he is a longer time in making his Revolution than any of the other Planets. And the Moon, you have forgot her, *ſaid ſhe*. We ſhall quickly find her again, *ſaid I*; the Moon turns round the Earth, and doth not leave her, but as the Earth advanceth in the Circle which ſhe deſcribes about the Sun; and if the Moon turns round the Sun, it is becauſe ſhe will not quit the Earth. I underſtand you, *ſaid ſhe*, and I love the Moon for ſtaying with us when all the other Planets do abandon us; nay, I fear your *German* would have willingly taken her away too if he could, for in all his Proceedings I find he had a great Spite to the Earth. 'Twas well done of him, *ſaid I*, to abate the Vanity of Mankind, who had taken up the beſt place in the Univerſe, and it pleaſeth me to ſee the Earth in the Crowds of the Planets. Sure, *ſaid ſhe*, you do not think their Vanity extends it ſelf as far as Aſtronomy! Do you believe you have humbled me, in telling me the Earth goes round the Sun? For my part I do not think myſelf at all the worſe for't. I confeſs, *ſaid I*, Madam, I believe

a fair Lady would be much more concern'd for her Place at a Ball, than for her Rank in the Univerſe: and the Precedence of two Planets will not make half ſuch a noiſe in the World as that of two Ambaſſadors. However the ſame Inclination which reigns at a Ceremony, governs in a Syſtem; and if you love the uppermoſt Place in the one, the Philoſopher deſires the Centre in the other: he flatters himſelf that all things were made for him, and inſenſibly believes a matter of pure Speculation to be a point of Intereſt. This is a Calumny, *ſaid ſhe*, you have invented againſt Mankind; why did they receive this Syſtem, if it was ſo abaſing? I know not, *ſaid I*, but I am ſure *Copernicus* himſelf diſtruſted the Succeſs of his Opinion, he was a long time before he would venture to publiſh it, nor had he done it then without the Importunity of his Friends. But do you know what became of him? the very Day they brought him the firſt Proof of his Book, he dy'd: he foreſaw he ſhould never be able to clear all the Contradictions, and very wiſely ſlipt out of the way.

I would be juſt to all the World, *ſaid the Counteſs*, but 'tis hard to fancy we move, and yet ſee we do not change our Place; we find our ſelves in the Morning where we lay down at Night: Perhaps you will tell me the whole Earth moves. Yes certainly, *ſaid I*, it is the ſame caſe as if you fell aſleep in a Boat upon the River; when you awake you find your ſelf in the ſame Place and the ſame Situation in reſpect of all the Parts of the Boat. 'Tis true, *ſhe reply'd*; but here's a great difference, when I awake, I find another Shore, and that ſhews me my Boat hath changed place; but 'tis not the ſame with the Earth. I find all things as I left 'em. No, no, *ſaid I*, there is another Shore too; you know that beyond the Circles of the Planets are fixed Stars, there is our Shore. I am upon the Earth, and the Earth makes a great Circle round the Sun, I look for the Center of the Circle, and ſee the Sun there; I then direct my Sight beyond the Sun in a right Line, and ſhould certainly diſcover the fixed Stars which anſwer to the Sun, but that the Light of the Sun effaceth 'em: But at night I eaſily perceive

ceive the Stars which correſponded with him in the Day, which is exactly the ſame thing; if the Earth did not change its Place in the Circle where it is, I ſhould ſee the Sun always againſt the ſame fixed Stars; but when the Earth doth change its Place, the Sun muſt anſwer to other Stars; and there again is your Shore, which is always changing. And ſeeing the Earth makes her Circle in a Year, I ſee the Sun likewiſe in the ſpace of a Year anſwer ſucceſſively to the whole Circle of the fixed Stars, which Circle is called the Zodiack; I will draw you the Figure of it, if you pleaſe, on the Sand. 'Tis no matter, *ſaid ſhe*, I can do well enough without it; beſide, it will give an Air of Learning to my Park, which I would not have in it: For I have heard of a certain Philoſopher, who being ſhipwreck'd and caſt upon an unknown Iſland, ſeeing ſeveral Mathematical Figures traced on the Sea-ſhore, cry'd out to thoſe that follow'd him, Courage, Courage, my Companions, the Iſle is inhabited; behold the Footſteps of Men:

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But you may ſpare your Figures; ſuch Footſteps are not decent here.

I confeſs, *ſaid I*, Madam, the Footſteps of Lovers would better become this Place; that is, your Name and Cypher grav'd on the Trees by your Adorers. Tell not me, *ſaid ſhe*, of Lovers and Adorers; I am for my beloved Sun and Planets. But how comes it to paſs that the Sun, as to the fixed Stars, compleats his Courſe but in a Year, and yet goes over our Heads every day? Did you never, *I reply'd*, obſerve a Bowl on a Bowling-Green? It runs towards the Block, and at the ſame time turns very often round itſelf, ſo that the Parts which were above are below, and thoſe which were below are above; juſt ſo it is with the Earth at the ſame time that ſhe advanceth on the Circle, which in a Year's ſpace ſhe makes round the Sun; in twenty four hours ſhe turns round herſelf; ſo that in twenty four hours every part of the Earth loſeth the Sun, and recovers him again, and as it turns towards the Sun, it ſeems to riſe; and as it turns from him,

him, it ſeems to fall. It is very pleaſant, *ſaid ſhe*, that the Earth muſt take all upon her ſelf, and the Sun do nothing. And when the Moon, the other Planets and the fixed Stars ſeem to go over our Heads every twenty four hours, you'll ſay that too is only Fancy? Pure Fancy, *ſaid I*, which proceeds from the ſame Cauſe; for the Planets compleat their Courſes round the Sun at unequal times, according to their unequal diſtances; and that which we ſee to-day anſwer to a certain Point in the Zodiack or Circle of the fixed Stars, to-morrow we ſee anſwer to another Point, becauſe it is advanc'd on its own Circle, as well as we are advanced upon ours. We move, and the Planets move too, which muſt make a great Alteration; ſo that what ſeems irregular in the Planets, proceeds only from our Motion, when in truth they are all very regular. I will ſuppoſe 'em ſo, *ſaid the Counteſs*; but I would not have their Regularity put the Earth to ſo great Trouble: methinks you exact too much Activity from ſo ponderous

a Maſs. But, *ſaid I*, had you rather that the Sun and all the Stars, which are vaſt great Bodies, ſhould in twenty four hours travel ſuch an Infinity of Miles, and make ſo prodigious a *Tour* as they needs muſt, if the Earth did not turn round it ſelf every twenty four hours? Oh, *ſaid ſhe*, the Sun and the Stars are all Fire, their Motion is not very difficult; but the Earth, I fancy, is a little unwieldy. That ſignifies nothing, *I reply'd*, for what do you think of a Firſt-Rate Ship, which carries near an hundred Guns, and a thouſand Men, beſides her Proviſions and other Furniture? you ſee one Puff of Wind makes it ſail on the Water, becauſe the Water is liquid, and being eaſily ſeparated, doth very little reſiſt the Motion of the Ship: So the Earth, tho never ſo maſſive, is as eaſily borne up by the Celeſtial Matter, which is a thouſand times more fluid than the Water, and fills all that great Space where the Planets float; for where would you the Earth ſhould be faſtned to reſiſt the Motion of the Celeſtial Matter, and not

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be driven by it? You may as well fancy a little Block of Wood can withstand the Current of a River. But pray, *said she*, how can the Earth, with all its Weight, be borne up by your Celestial Matter, which must be very light, because it is so fluid? It doth not argue, *said I*, that what is most fluid is most light: for what think you of the great Vessel I mention'd but now, which with all its Burden is yet lighter than the Water it floats on? I will have nothing to do with that great Vessel, *said she*; and I begin to apprehend my self in some danger on such a Whirlegig as you have made of the Earth. There is no danger, *I reply'd*: but, Madam, if you are afraid, we will have the Earth supported by four Elephants, as the *Indians* believe it. Hey day, *cry'd she*, here's another System; however, I love those People for taking care of themselves; they have a good Foundation to trust to, while you *Copernicians* are a little too venturous with the Celestial Matter: and yet I fancy, if the *Indians* thought the Earth

in the leaſt danger of ſinking, they would double their Number of Elephants. They do well, *ſaid I*, laughing at her Fancy, who would ſleep in Fear? and if you have occaſion for 'em to-night, we will put as many as you pleaſe in our Syſtem; we can take 'em away again by degrees, as you grow better confirm'd. I do not think 'em very neceſſary, *ſaid ſhe*; I have courage enough to turn. You ſhall turn with pleaſure, Madam, *ſaid I*, and ſhall find delightful Ideas in this Syſtem: For example, ſometimes, I fancy my ſelf ſuſpended in the Air without any Motion, while the Earth turns round me in twenty four hours; I ſee I know not how many different Faces paſs under me, ſome white, ſome black, and ſome tauny; ſometimes I ſee Hats, and ſometimes Turbants; now Heads with Hair, and then ſhav'd Heads; here I ſee Cities with Steeples, others with Spires and Creſcents, others with Towers of Porcelain, and anon great Countreys with nothing but Cottages: here I ſee vaſt Oceans, and there moſt horri-

horrible Deſarts: In ſhort, I diſcover the infinite Variety which is upon the Surface of the Earth. I confeſs, *ſaid ſhe*, twenty four hours would thus be very well beſtow'd, ſo we were in the ſame place where we are now, I do not mean in the Park; but we will ſuppoſe our ſelves in the Air, other People continually paſſing by, who take up our Place, and at the end of twenty four hours we return to it again.

Copernicus himſelf, *ſaid I*, could not have comprehended it better: Firſt then, we ſee ſome of our Neighbours paſſing by us, up to the Ears in Politicks, yet ſettling their Nation no better than we do the World in the Moon; then follows a great Sea, perhaps a Fleet of Ships, perhaps a Mackrel-Boat, no matter whether; then come ſome of the *Iroquois* going to eat a Priſoner for their Breakfaſt, who ſeems as little concern'd as his Devourers; after appear the Women of the Land of *Jeſſo*, who ſpend all their time in dreſſing their Husbands Dinners, and Suppers, and painting their Lips and Eyebrows blue, only

to pleaſe the greateſt Villains in the World; then the fair *Circaſſians*, who are very free of their Favours, and grant all to the firſt Comer, except a little they reſerve for their Husbands; then the *Tartars* going to ſteal Concubines for the *Turks* and *Perſians*; and at laſt our own dear Countrymen, it may be in ſome Points as ridiculous as the beſt of 'em. It is very pleaſant, *ſaid the Counteſs*, but to imagine what you tell me: tho if I was above, and ſaw all this, I would have the liberty to haſten or retard the Motion of the Earth, according as the Objects pleas'd me more or leſs; and I aſſure you I ſhould quickly ſend packing the *Politicians* and *Man-eaters*, but ſhould have a great Curioſity for the fair *Circaſſians*, for methinks they have a Cuſtom very particular. They are ſo extremely beautiful, *ſaid I*, that their Husbands have enough and to ſpare to a Stranger. I fear then, ſaid ſhe, the Women of our Country are very ugly, in reſpect of thoſe fair Ladies; for the Husbands part with nothing here, but keep all to themſelves.

ſelves. 'Tis becauſe they make more uſe, *I reply'd*, of——Hold your peace, *ſaid ſhe*, and no more of your Fooleries. I have a Difficulty to clear, and you muſt be ſerious. As the Earth moves, the Air changeth every Moment, ſo we breathe the Air of another Country. Not at all, *I reply'd*; for the Air which encompaſſeth the Earth, doth not extend above a certain Height, perhaps twenty Leagues; it follows us, and turns with us. Have you not ſeen the Work of a Silk-Worm, the Shells which thoſe little Animals impriſon themſelves in, and weave with ſo much Art? they are made of a Silk very cloſe, but are covered with a Down very ſlack and ſoft: So the Earth, which is ſolid, is cover'd from the Surface twenty Leagues upwards with a kind of Down, which is the Air, and all the Shell of the Silk-Worm turns at the ſame time. Beyond the Air is the Celeſtial Matter, incomparably more pure and ſubtle, and much more agitated than the Air. Your Compariſon, *ſaid ſhe*, is ſomewhat mean, and yet what Wonders are wrought,

what Wars, what Changes in this little Shell? 'Tis true, *I reply'd*; but Nature takes no notice of ſuch little particular Motions, but drives us along with the general Motion, as if ſhe were at Bowls. Methinks, *ſaid ſhe*, 'tis very ridiculous to be upon a thing that turns, and yet not be well aſſur'd that it doth turn; and to tell you the truth, I begin to diſtruſt the Reaſons you give why we ſhould not be ſenſible of the Motion of the Earth; for is it poſſible there ſhould not ſome little Mark be left, by which we might perceive it?

All Motions, *ſaid I*, the more common and natural they are, are the leſs perceptible; and this holds true even in Morality. The Motion of Self-love is ſo natural to us, that for the moſt part we are not ſenſible of it, and we believe we act by other Principles. You are Moralizing, *ſaid ſhe*, to a Queſtion of Natural Philoſophy: But 'tis enough for the firſt time; let us now go home, and meet here again to-morrow, you with your Syſtems, and I with my Ignorance.

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In returning back to the Caſtle, that I might ſay all I could on the Subject, I told her of a third Syſtem, invented by *Tycho Brahe*, who had fixed the Earth in the Centre of the World, turn'd the Sun round the Earth, and the reſt of the Planets round the Sun; for ſince the new Diſcoveries, there was no way left to have the Planets turn round the Earth. But the Counteſs, who had a quick Apprehenſion, ſaid, ſhe thought it was too affected, among ſo many great Bodies, to exempt the Earth only from turning round the Sun; that it was improper to make the Sun turn round the Earth, when all the Planets turn round the Sun: and that tho this Syſtem was to prove the Immobility of the Earth, yet ſhe thought it very improbable. So we reſolv'd to ſtick to *Copernicus*, whoſe Opinion we thought moſt uniform, probable, and diverting.

The Second Evening.

IN the Morning I ſent to the Counteſs's Apartment, to know how ſhe had reſted, and whether the Motion of the Earth had not diſturbed her? She anſwer'd, ſhe began to be accuſtomed to it, and that ſhe had ſlept as well as *Copernicus* himſelf. Soon after, there came ſome Neighbours to dine with her; but they went away in the Evening; ſo that after Supper we walk'd again into the Park, and immediately fell upon our Syſtems. She ſo well conceiv'd what I told her the Night before, that ſhe deſir'd I would proceed without any Repetition. Well, Madam, *ſaid I*, ſince the Sun, which is now immoveable, hath left off being a Planet, and the Earth which turns round him, is now become one, you will not be ſurpriz'd when you hear that the Moon is an Earth too, and that ſhe is inha-

inhabited as ours is. I confeſs, *ſaid ſhe*, I have often heard talk of the World in the Moon, but I always look'd upon it as viſionary, and mere Fancy. And it may be ſo ſtill, *ſaid I*; I am in this caſe as People in a Civil War, where the uncertainty of what may happen makes em hold intelligence with the oppoſite Party: for tho I verily believe the Moon is inhabited, I live civilly with thoſe who do not believe it; and I am (as ſome honeſt Gentlemen in point of Religion) ſtill ready to embrace the prevailing Opinion: but till the Unbelievers have a more conſiderable Advantage, I am for the People in the Moon.

Suppoſe there had never been any Communication between *London* and *Greenwich*, and a Cockney who was never beyond the Walls of *London*, ſaw *Greenwich* from the top of a Pyramid, you ask him if he believes *Greenwich* is inhabited as *London* is? He preſently anſwers, No: for, *ſaith he*, I ſee People at *London*, but none at *Greenwich*, nor did I ever hear of any there. 'Tis true,

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you tell him, that from the Pyramid he cannot perceive any Inhabitants at *Greenwich*, becauſe of the Diſtance; but all that he doth diſcover of *Greenwich*, very much reſembleth what he ſees at *London*, the Steeples, Houſes, Walls; ſo that it may very well be inhabited as *London* is: all this ſignifies nothing, my Cockney ſtill perſiſts, *Greenwich* is not inhabited, becauſe he ſees no body there. The Moon is our *Greenwich*, and every one of us as mere Cockneys as he that never was out of the Sound of *Bow-Bell*. You are too ſevere, *ſaid ſhe*, upon your Fellow-Citizens; we are not all ſure ſo ſilly as your Cockney; ſince *Greenwich* is juſt as *London* is, he is a Fool, if he doth not think it inhabited: But the Moon is not at all like the Earth. Have a care of what you ſay, *I reply'd*; for if the Moon reſembleth the Earth, you are under a neceſſity to believe it inhabited. If it be ſo, *ſaid ſhe*, I own I cannot be diſpens'd from believing it; and you ſeem ſo confident of it, that I fear I muſt, whether I will or no. 'Tis true, the two Motions of the Earth,

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(which I could never imagine till now) do a little ſtagger me as to all the reſt: But yet how is it poſſible the Earth ſhould enlighten as the Moon doth, without which they cannot be alike? If that be all, *ſaid I*, the Difference is not great, for 'tis the Sun which is the ſole Fountain of Light: that Quality proceeds only from him; and if the Planets give Light to us, it is becauſe they firſt receive it from the Sun: the Sun ſends Light to the Moon, and ſhe reflects it back on the Earth: the Earth in the ſame manner receives Light from the Sun, and ſends it to the Moon; for the Diſtance is the ſame between the Earth and the Moon, as between the Moon and the Earth. But is the Earth, *ſaid the Counteſs*, as fit to ſend back the Light of the Sun, as the Moon is? You are altogether for the Moon, *ſaid I*, ſhe is much oblig'd to you; but you muſt know that Light is made up of certain little Balls, which rebound from what is ſolid, but paſs thro what admits of an entrance in a right Line, as Air or Glaſs; ſo that that which makes

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Moon enlighten us, is, that ſhe is a firm and ſolid Body, from which the little Balls rebound; and we muſt deny our Senſes, if we will not allow the Earth the ſame Solidity. In ſhort, the Difference is how we are ſeated; for the Moon being at ſo vaſt a diſtance from us, we can only diſcover her to be a Body of Light, and do not perceive that ſhe is a great Maſs, altogether like the Earth: whereas, on the contrary, becauſe we are ſo near the Earth, we know her to be a great Maſs, but do not diſcover her to be a Body of Light, for want of the due diſtance. It is juſt ſo with us all, *ſaid the Counteſs*; we are dazled with the Quality and Fortune of thoſe who are above us; when, do but look to the bottom, and we are all alike.

Very true, *ſaid I*; we would judge of all things, but ſtill ſtand in the wrong place: we are too near to judge of our ſelves, and too far off to know others. So that the true way to ſee things as they are, is to be between the Moon and the Earth, to be purel a

Spectator

Spectator of this World, and not an Inhabitant. I ſhall never be ſatisfy'd, *ſaid ſhe*, for the Injuſtice we do the Earth, and the too favourable Opinion we have of the Moon, till you aſſure me that the People in the Moon are as little acquainted with their Advantages as we are with ours, and that they take our Earth for a Planet, with out knowing theirs is one too. Do not doubt it, *ſaid I*; we appear to them to perform very regularly our Function of a Planet. 'Tis true, they do not ſee us make a Circle round them, but that is no great matter. That half of the Moon which was turn'd towards us at the beginning of the World, hath been turn'd towards us ever ſince; the Eyes, Mouth, and Face, which we have fancied of the Spots in her, are ſtill the ſame; and if the other oppoſite half ſhould appear to us, we ſhould no doubt fancy another Figure from the different Spots that are in it: Not but that the Moon turns upon her ſelf, and in the ſame time that ſhe turns round the Earth, that is in a Month; but while ſhe is making that turn upon her

her ſelf, and that ſhe ſhould hide a Cheek for example, and appear ſomewhat elſe to us, ſhe makes a like part of her Circle round the Earth, and ſtill preſents to us the ſame Cheek: ſo that the Moon, who in reſpect of the Sun and Stars, turns round her ſelf; in reſpect of us, doth not turn at all: they ſeem to her to riſe and ſet in the ſpace of fifteen days; but for our Earth, it appears to her to be held up in the ſame place of the Heavens. 'Tis true, this apparent Immobility is not very agreeable for a Body which ſhould paſs for a Planet, but it is not altogether perfect; the Moon hath a kind of trembling, which cauſeth a little Corner of her Face to be ſometimes hid from us, and a little Corner of the oppoſite half appears; but then, upon my word, ſhe attributes that trembling to us, and fancies that we have in the Heavens the Motion of a *Pendulum*, which vibrates to and fro.

I find, *ſaith the Counteſs*, the Planets are juſt like us; we caſt that upon others which is in ourſelves; the Earth ſaith, *'Tis not I that turn, 'tis the Sun*; the

the Moon ſaith, *'tis not I that ſhake, 'tis the Earth*; there is a great deal of errour every where. But I would not adviſe you, *ſaid I*, to undertake the reforming it; you had better convince your ſelf of the entire Reſemblance of the Earth and the Moon. Imagine then theſe two great Bowls held up in the Heavens, you know that the Sun always enlightens the one half of a Body that is round, and the other half is in the Shadow: there is then one half of the Earth, and one half of the Moon, which is enlightned by the Sun; that is, which hath Day, and the other half which is Night. Obſerve alſo, that as a Ball hath leſs force after it hath been ſtruck againſt a Wall, which ſends it to the other ſide; ſo Light is weakned when it is reflected. This pale Light which comes to us from the Moon, is the very Light of the Sun; but it cannot come to us from the Moon but by Reflexion: it hath loſt much of the force and luſtre it had when it came directly from the Sun upon the Moon; and that bright Light which ſhines directly upon

us from the Sun, and which the Earth reflects upon the Moon, is as pale and weak when it arrives there: So that the Light which appears to us in the Moon, and which enlightens our Nights, is the Parts of the Moon which have Day; and that part of the Earth which hath Day, when it is oppoſite to the part of the Moon which hath Night, gives Light to it. All depends upon how the Moon and the Earth behold one another. At the beginning of the Month, we do not ſee the Moon, becauſe ſhe is between the Sun and us; that half of her which hath Day, is then turned toward the Sun; and that half which hath Night, turn'd towards us, we cannot ſee it then, becauſe it hath no Light upon it: but that half of the Moon which hath Night, being turned to the half of the Earth which hath Day, ſees us without being perceiv'd; and we then appear to them juſt as the Full-Moon doth to us. So that, as I may ſay, the People of the Moon have then a full Earth; but the Moon being advanc'd upon her Circle

of a Month, comes from under the Sun, and begins to turn towards us a little corner of the half which is Light; there's the Creſcent: then thoſe parts of the Moon which have Night do not ſee all the half of the Earth which hath Day, and we are then in the Wayn to them.

I comprehend you very well, *ſaid the Counteſs*; the People in the Moon have a Month quite contrary to us; when we have a full Moon, their half of the Moon which is Light is turned to our half of the Earth which is dark; they do not ſee us at all, and they have then a new Earth, this is plain. But now tell me how come the Eclipſes? You may eaſily gueſs that, *ſaid I*; when it is new Moon, that ſhe is between the Sun and us, and all her dark half is turned towards us who have Light, that obſcure Shadow is caſt upon us; if the Moon be directly under the Sun, that Shadow hides him from us, and at the ſame-time obſcures a part of that half of the Earth which is Light, which was ſeen by that half of the Moon which was dark: here then

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is an Eclipſe of the Sun to us during our Day, and an Eclipſe of the Earth to the Moon during her Night. When it is full Moon, the Earth is between her and the Sun, and all the dark half of the Earth is turned towards all the light half of the Moon; the Shadow then of the Earth caſts it ſelf towards the Moon, and if it falls on the Moon, it obſcures that light half which we ſee, which hath then Day, and hinders the Sun from ſhining on it. Here then is an Eclipſe of the Moon to us during our Night, and an Eclipſe of the Sun to the Moon during our Day: but the reaſon that we have not Eclipſes every time that the Moon is between the Sun and the Earth, or the Earth between the Sun and the Moon, is, becauſe theſe three Bodies are not exactly placed in a right Line, and by conſequence that that ſhould make the Eclipſe, caſts its Shadow a little beſide that which ſhould be obſcured.

I am ſurprized, *ſaid the Counteſs*, that there ſhould be ſo little Myſtery in Eclipſes, and that the whole World ſhould not know the cauſe of 'em. Nor never will,

will, *ſaid I*, as ſome People go about t. In the *Eaſt-Indies*, when the Sun nd the Moon are in Eclipſe, they be-ieve a certain Devil who hath black Claws is ſeizing on thoſe Planets with his Talons; and during that time the Rivers are cover'd with the Heads of *Indians*, who are up to the Neck in Water, becauſe they eſteem it a very devout Poſture, to implore the Sun and the Moon to defend themſelves againſt the Devil. In *America*, they are perſua-ded that the Sun and the Moon, when eclipſed, are angry; and what is it they will not do to be reconciled with them? The *Greeks*, who were ſo refined, did they not believe the Moon was enchant-ed, and that the Magicians forc'd her to deſcend from Heaven, and ſhed a dan-gerous Juice on the Plants? Nay, what a panick Fear were we in, above thirty Years ago, at an Eclipſe of the Sun? How many People hid themſelves in their Cellars; and all the Philoſo-phers of *Greſham* could not perſuade them to come out till the Eclipſe was over?

Methinks,

Methinks, *ſaid ſhe*, 'tis ſcandalous for Men to be ſuch Cowards; there ought to be a general Law of Mankind to prohibit the diſcourſing of Eclipſes, that we might not call to mind the Follies that have been ſaid and done upon that Subject. Your Law then, *ſaid I*, muſt aboliſh even the memory of all things, and forbid us to ſpeak at all, for I know nothing in the World which is not a Monument of the Folly of Man.

But what do you think, *ſaid ſhe*, of the People in the Moon; are they as afraid of an Eclipſe as we are? It would be very Burleſque for the *Indians* there to be up to the Neck in Water; that the *Americans* ſhould believe the Earth angry with them; the *Greeks* fancy we were bewitched, and would deſtroy their Plants; in ſhort, that we ſhould cauſe the ſame Conſternation among them, as they do here. And why not, *ſaid I?* I do not doubt it at all; for why ſhould the People of the Moon have more Wit than we? What right have they to affright us, and not we them? For my part, I believe that ſince a prodi-

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gious Company of Men have been and till are such Fools to adore the Moon, here are People in the Moon that worhip the Earth, and that we are upon our Knees the one to the other. But ure, *said she*, we don't pretend to end any Influences to the Moon, and to give a Crisis to her Sick; if the People have any Wit in those Parts, they will oon destroy the Honour we flatter ourelves with, and I fear we shall have the Disadvantage.

Fear it not, Madam, *said I*; do you think we are the only Fools of the Universe? Is it not consistent with Ignorance, to spread it self every where? 'Tis true, we can only gues at the Folly of the People in the Moon, but I no more doubt it, than I do the most authentick News that comes from thence. What News comes from thence, *said she?* That which the Learned bring us, *I reply'd*, who travel thither every day with their Tubes and Telescopes: they will tell you of their Discoveries there, of Lands, Seas, Lakes, high Mountains, and deep Abysses.

I fancy indeed, *ſaid ſhe*, they may diſcover Mountains and Abyſſes, becauſe of the remarkable Inequality; but how do they diſtinguiſh Lands and Seas? Very eaſily, *ſaid I*; for the Waters letting part of the Light paſs thro them, ſend back but a very little, ſo that they appear afar off like ſo many dark Spots; whereas the Lands being ſolid, reflect the whole Light, and appear to be more bright and ſhining: nay, they pretend to be ſo well acquainted with the ſeveral Parts, that they have given them all Names: one place they call *Copernicus*, another *Archimedes*, another *Galileus*: there is the *Caſpian-Sea*, the *Black-Lake*, the *Porphirite Mountains*: in ſhort, they have publiſh'd ſuch exact Deſcriptions of the Moon, that a very Almanack-maker will be no more to ſeek there, than I am in *London*.

I muſt own then, *ſaid the Counteſs*, they are very exact; but what do they ſay to the inſide of the Country? I would very fain know that. 'Tis impoſſible, *I reply'd*; Mr. *Flamſted* himſelf (one of the moſt Learned Aſtronomers

mers of our Age) cannot inform you. You muſt ask that of *Aſtolfo*, who was carried into the Moon by St. *John*. I am going to tell you one of the agreeable Follies of *Arioſto*, and I am confident you will be well pleaſed to hear it: I muſt confeſs he had better have let alone St. *John*, whoſe Name is ſo worthy of Reſpect, but 'tis a Poetical Licence, and muſt be allow'd. The Poem is dedicated to a Cardinal, and a great Pope hath honour'd it with his Approbation, which is prefix'd to ſeveral of the Editions: this is the Argument; *Rowland* Nephew to *Charlemain*, falls mad becauſe the fair *Angelica* prefers *Medore* before him. *Aſtolfo* a Knight-Errant, finding himſelf one day in the terreſtrial Paradiſe, which was upon the top of a very high Mountain, whereto he was carried by his flying Horſe, meets St. *John* there, who tells him, if he would have *Rowland* cured, he muſt make a Voyage with him into the Moon. *Aſtolfo*, who had a great mind to ſee Countries, did not ſtand much upon entreaty, and immediately there came a

fiery Chariot which carried the Apoſtle and the Knight up into the Air. *Aſtolfo* being no great Philoſopher, was ſurpriz'd to find the Moon ſo much bigger than it appear'd to him when he was upon the Earth; to ſee Rivers, Seas, Mountains, Cities, Foreſts, nay, what would have ſurpriz'd me too, Nymphs hunting in thoſe Foreſts: but that which was moſt remarkable, was a Valley where you might find any thing that was loſt in our World, of what nature ſoever; Crowns, Riches, Fame, and an Infinity of Hopes; the time we ſpend in play, and in ſearching for the Philoſopher's Stone; the Alms we give after our Death, the Verſes we preſent to great Men and Princes, and the Sighs of Lovers. I know not, *ſaid ſhe*, what became of the Sighs of Lovers in the time of *Arioſto*, but I fancy there are very few of 'em aſcend to the Moon in our days. Ah, Madam, *reply'd I*, how many doth the Counteſs of *D*——*r* ſend thither every day? Thoſe that are addreſs'd to her, will make a conſiderable Heap; and I aſſure you the Moon keeps all

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ıfe that is loſt here below. Yet I ıuſt tell you, *Arioſto* doth but whiſ- ıer it, tho every thing is there, even ɔ the Donation of *Conſtantine*, *i. e.* the 'opes have pretended to be Maſters of *ome* and *Italy* by virtue of a Dona- ion which the Emperor *Conſtantine* ıade *Sylveſter*; and the truth is, no- ody knows what is become of it. But hat do you think is not to be found the Moon? Folly, all that ever as upon the Earth is kept there ſtill; ıt in lieu of it, it is not to be ima- in'd how many Wits (if I may ſo call m) that are loſt here, are got up into ıe Moon, they are ſo many Vials full ' a very ſubtile Liquor, which eva- ɔrates immediately, if it be not well ɔpp'd; and upon every one of theſe ials the Names are written to whom e Wits belong: I think *Arioſto* hath ap'd 'em upon one another a little nfuſedly; but for order ſake, we ill fancy 'em plac'd upon Shelves in a ng Gallery. *Aſtolfo* wonder'd to ſee veral Vials full inſcrib'd with the ames of the moſt conſiderable Stateſ-

men, Divines, Lawyers, *&c.* Bleſs me, *ſaid he*, is my Lord ——— and my Lord ——— here! Sir *Tho.* Sir *Jo.* nay, Doctor ———, and Father —— too! Why in my Country we look upon 'em as Oracles, and after all, it ſeems they are but little better than mad Men, if not ſtark Fools. I find now the poor Rogue was in the right, tho he was ſoundly whipp'd for't, who told the Judge, that he had ſeen an Aſs clothed in Scarlet; and a right Worſhipful Alderman, that he knew not which was the greateſt Brute of the two, the Beaſt that bore the Fur, or the Beaſt that wore it. But had I been there, I ſhould have told *Aſtolfo*, the ſawcy Knave was well enough ſerv'd; for we are not to look upon the Man, but the Place he fills: we are to reverence a Magiſtrate when and whereſoever we meet him, and to ſuppoſe his Merit was the ſole cauſe of his Preferment, tho we are certain it came by Bribery or Pimping. But enough of this; let us return to our Vials. To confeſs the truth, I begin to fear, ſince

I have entertain'd you with theſe Philoſophical and Poetical Viſions, mine there is not very empty: however, 'tis ſome Conſolation to me, that while you are ſo attentive, you have a little Glaſs full as well as your Servant: the good Knight found his own Wits amongſt the reſt, and with the Apoſtle's leave ſnuffed it all up his Noſe, like ſo much Queen of *Hungary*'s Water; but *Arioſto* ſaid, he did not carry it far, it returned again to the Moon a little after.

*—*The Love of one fair Northern Laſs,*
Sent up his Wit unto the place it was.

Well, he did not forget *Orlando*'s Vial, which was the occaſion of his Voyage; but he was curſedly plagu'd to carry it, for *Heroes* Wits are naturally very heavy, and there did not want one drop of it: In concluſion, *Arioſto*, according to his laudable cuſtom, addreſſeth himſelf to his Miſtreſs in this manner:

* Sir *Jo. Harrington's Tranſlation of* Orlande Furioſo, *lib.* 36.

Fair Miſtreſs, who for me to Heav'n ſhall fly,
To bring again from thence my wandring Wit?
Which I ſtill loſe, ſince from that piercing Eye,
The Dart came forth that firſt my Heart did hit:
Nor of my loſs at all complain would I,
Might I but keep that which remaineth yet:
But if it ſtill decreaſe, within ſhort ſpace,
I doubt I ſhall be in Orlando's *caſe.*

Yet, well I wot where to recover mine,
Tho not in Paradiſe, nor Cynthia's *Sphere,*
Yet doubtleſs in a Place no leſs Divine,
In that ſweet Face of yours, in that fair Hair,
That ruby Lip, in thoſe two ſtarlike Eyes,
There is my Wit, I know it wanders there;
And with my Lips, if you would give me leave,
I there would ſearch, I thence would it receive.

Is not this very fine? To reaſon like *Arioſto*, the ſafeſt way of loſing our Wits is to be in love; for you ſee they do not go far from us, we may recover 'em again at our Lips; but when we loſe 'em by other means, as for example, by Philoſophizing, whip they are gone into the Moon, and there is no coming at 'em again when we would. However, *ſaid the Counteſs*, our Vials have

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an honourable Station among the Philoſophers, when 'tis forty to one but Love fixeth our Wits on an Object we cannot but be aſham'd of. But to take away mine entirely, pray tell me, but tell me ſeriouſly, if you believe there are any Men in the Moon; for methinks hitherto you have not been very poſitive. For my part, *ſaid I*, I do not believe there are Men in the Moon: for do but obſerve how much the Face of Nature is chang'd between this and *China*; other Viſages, Shapes, Manners, nay almoſt other Principles of Reaſon; and therefore between us and the Moon the Alteration muſt be much more conſiderable. In the Lands that have been lately diſcovered, we can ſcarce call the Inhabitants Men; they are rather Animals of human Shape, and that too ſometimes very imperfect, almoſt without human Reaſon: he therefore that will travel to the Moon, muſt not expect to find Men there.

What ſort of People will they be then, *ſaid the Counteſs?* Troth, Madam, *ſaid I*, I know not; for put the caſe

that we ourſelves inhabited the Moon, and were not Men, but rational Creatures, could we imagine, do you think, ſuch fantaſtical People upon the Earth, as Mankind is? Is it poſſible we ſhould have an Idea of ſo ſtrange a Compoſition, a Creature of ſuch fooliſh Paſſions, and ſuch wiſe Reflections? ſo learned in things of no uſe, and ſo ſtupidly ignorant of what moſt concerns him; ſo much Concern for Liberty, and yet ſuch great Inclinations to Servitude? ſo deſirous of Happineſs, and yet ſo very incapable of being ſo? The People in the Moon muſt be wiſe indeed to ſuppoſe all this of us. But do we not ſee our ſelves continually, and cannot ſo much as gueſs how we were made? So that we are forc'd to ſay the Gods, when they created us, were drunk with Nectar, and when they were ſober again, could not chuſe but laugh at their own handy-work. Well, well, *ſaid the Counteſs*, we are ſafe enough then; they in the Moon know nothing of us; but I could wiſh we were a little better acqainted with them; for it troubles me that we ſhould

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ee the Moon above us, and yet not know what is done there. Why, *said* , are you not as much concern'd for hat part of the Earth which is not et diſcover'd? What Creatures inha- it it, and what they do there? for ve and they are carried in the ſame eſſel: they poſſeſs the Prow, and we he Poop, and yet there is no man- er of Communication between us; hey do not know at one end of the hip, who lives, or what is done at he other end: and you would know hat paſſeth in the Moon, which is nother great Veſſel, ſailing in the leavens at a vaſt diſtance from us.

Oh, *ſaid ſhe*; for the Earth, I reckon all as good as diſcover'd, and can ueſs at the People, tho I never heard word of 'em; for certainly they all eſemble us very much, and we may now 'em better when we have a mind 't: they will ſtay where they are, nd tis no more but going to ſee 'em; ut we cannot get into the Moon if e would; ſo that I deſpair of know- g what they do there. You would

laugh at me, *ſaid I*, if I ſhould anſwer you ſeriouſly; perhaps I may deſerve it; and yet, I fancy, I can ſay a great deal to juſtify a ridiculous Thought that is juſt now come into my Head: nay, to uſe the Fool's beſt Argument, I'll lay a Wager I make you own (in ſpite of Reaſon) that one of theſe Days there may be a Communication between the Earth and the Moon; and who knows what great Advantages we may procure by it? Do but conſider *America*, before it was diſcover'd by *Columbus*, how profoundly ignorant were thoſe People? they knew nothing at all of Arts and Sciences; they went naked, had no other Arms but a Bow and Arrows, and did not conceive they might be carried by Animals: they look'd upon the Sea as a wide Space, forbidden to Man; that it was join'd to the Heavens, and that beyond it was nothing. 'Tis true, after having ſpent whole Years in making hollow the Trunks of great Trees with ſharp Stones, they put themſelves to Sea in theſe Trunks, and floated from

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Land to Land, as the Wind and Waves drove them: But how often was their Trough overſet, and they forc'd to recover it again by ſwimming? So that (except when they were on the Land) it might be ſaid they were continually ſwimming: and yet had any one but told 'em of another kind of Navigation, incomparably more perfect and uſeful than their own; that they might eaſily paſs over that infinite Space of Water; that they might ſtop in the middle of the Waves, and in ſome ſenſe command the Winds, and make their Veſſel go faſt or ſlow, as they pleas'd: in ſhort, that this unpaſſable Ocean ſhould be no Obſtacle to their converſing with another different People; do you think they would have believed you? And yet at laſt that Day is come: the unheard of and moſt ſurprizing Sight appears, vaſt great Bodies, with white Wings, are ſeen to fly upon the Sea, to vomit Fire from all Parts, and to caſt on their Shores an unknown People, all ſcaled with Iron, who diſpoſe and govern

govern Monſters as they pleaſe, carry Thunder in their Hands, and overthrow and deſtroy whoever reſiſts them. From whence came they? Who brought them over the Sea? Who gave to them the Diſpoſal of the Fire of Heaven? Are they Gods? Are they Sons of the Sun? for certainly they are not Men. Do but conſider, Madam, the Surprize of the *Americans*; there can be nothing greater: and after this, ſhall any one ſay there ſhall never be a Communication between the Moon and the Earth? Did the *Americans* believe there would ever be any between them and *Europe*, till it came to paſs? 'Tis true, you muſt paſs this great Space of Air and Heaven which is between the Earth and the Moon; but did not thoſe vaſt Seas ſeem at firſt as impaſſable to the *Americans*? You rave, I think, *ſaid ſhe*; did you not own the *Americans* were ſo ignorant, that they had not the leaſt Conception of croſſing the Sea; but we who know a great deal more than they, can imagine and fancy the going

ng thro the Air, tho we are assured t is not to be done. There is some-what more than Fancy, *I reply'd*, when t hath been already practis'd, for seve-al have found the secret of fastening Wings, which bear them up in the Air, to move them as they please, and o fly over Rivers, and from Steeple to Steeple. I cannot say indeed they nave yet made an Eagle's Flight, or that t doth not cost now and then a Leg or an Arm to one of these new Birds; but this may serve to represent the first Planks that were launch'd on the Wa-er, and which were the very begin-ning of Navigation. There were no Vessels then thought of to sail round the World; and yet you see what great Ships are grown by little and little from those first Planks. The Art of Flying is but newly invented; it will mprove by degrees, and in time grow perfect, then we may fly as far as the Moon. We do not yet pretend to nave discover'd all things, or that what we have discover'd can receive no Ad-

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dition; and therefore, pray let us agree there are yet many things to be done in the Ages to come. Were you to live a thouſand Ages, *ſaid the Counteſs*, I can never believe you will fly, but you muſt endanger your Neck. I will not, *I reply'd*, be ſo unmannerly as to contradict a fair Lady; but tho we cannot learn the Art here, I hope you will allow they may fly better in the Moon: 'tis no great matter whether we go to them, or they come to us; we ſhall then be the *Americans* who knew nothing of Navigation, and yet there were very good Ships at t'other end of the World. Were it ſo, *ſaid ſhe*, the People in the Moon would have been here before now. All in good time, *ſaid I*; the *Europeans* were not in *America*, till at the end of ſome thouſands of Years; they were ſo long in improving Navigation to the point of croſſing the Ocean. The People in the Moon have already made ſome ſhort Voyages in the Air; they are exerciſing continually, and by degrees will

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be more expert; then we ſhall ſee 'em, and God knows how we ſhall be ſurpriz'd. It is unſufferable, *ſaid ſhe*, you ſhould banter me at this rate, and juſtify your ridiculous Fancy by ſuch falſe Reaſoning. I am going to demonſtrate, *ſaid I*, you reproach me very unjuſtly. Conſider, Madam, that the World is unfolded by degrees; for the Antients were very poſitive, that the Torrid and Frigid Zones were not inhabitable, by reaſon of their exceſſive Heat and Cold: and in the time of the *Romans* the general Map of the World was but very little extended beyond that of their Empire; which, tho in one ſenſe, expreſs'd much Grandeur, in another ſenſe, was a Sign of as great Ignorance: however, there were Men found both in very hot and in very cold Countries; ſo that you ſee the World is already encreas'd. After that it was thought that the Ocean cover'd the whole Earth, except what was then diſcover'd; there was no talk then of the Antipodes, not ſo much as

a thought of 'em; for who could fancy their Heels at top, and their Heads at bottom? and yet after all their fine Reaſoning, the Antipodes were diſcover'd. Here's now another half of the World ſtarts up, and a new Reformation of the Map: Methinks this, Madam, ſhould reſtrain us, and teach us not to be ſo poſitive in our Opinions; the World will unfold it ſelf more to us hereafter; then we ſhall know the People in the Moon as well as we do now the Antipodes. But all things muſt be done in order; the whole Earth muſt be firſt diſcovered; and till we are perfectly acquainted with our own Habitation, we ſhall never know that of our Neighbours. Without fooling, *ſaid the Counteſs*, you are ſo very profound in this Point, that I begin to think you are in earneſt, and believe what you ſay. Not ſo neither, *ſaid I*; but I would ſhew you how eaſy it is to maintain a chimerical Notion, that may (like ſome Opinions in Religion) perplex a Man of Underſtanding, but never

ever perſuade him: there is nothing erſuades but Truth, it hath no need f all its Proofs, but enters natural- y into our Underſtanding; and when nce we have learn'd it, we do no- hing but think of it. I thank you hen, *ſaid ſhe*, for impoſing on me no onger; for I confeſs your falſe reaſon- ng diſturb'd me, but now I ſhall ſleep ery quietly, if you think fit to go ome.

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The Third Evening.

THE Counteſs was ſo intent upon her Notions, that ſhe would fain have engag'd me next day to go on where I left off; but I told her, ſince the Moon and Stars were become the Subject of our Diſcourſe, we would truſt our Chimera's with no body elſe. At Night we went again into the Park, which was now dedicated to our learned Converſation.

Well, Madam, *ſaid I*, I have great News for you; that which I told you laſt Night of the Moon's being inhabited, may not be ſo now. There is a new Fancy got into my Head, which puts thoſe People in great danger. I cannot ſuffer it, *ſaid ſhe*; yeſterday you were preparing me to receive a Viſit from 'em, and now there are no ſuch Peo-

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ple in Nature: Once you would have me believe the Moon was inhabited; I ſurmounted the Difficulty I had, and will now believe it. You are a little too nimble, *I reply'd*; did I not adviſe you never to be entirely convinc'd in things of this nature, but to reſerve half of your Underſtanding free and diſengag'd, that you may admit of the contrary Opinion, if there be any occaſion? I care not for your Sentences, *ſaid ſhe*, let us come to Matter of Fact. Are we not to conſider the Moon as *Greenwich*? No, *ſaid I*, the Moon doth not ſo much reſemble the Earth, as *Greenwich* doth *London*: The Sun draws from the Earth and Water, Exhalations and Vapours, which mounting to a certain height in the Air, do there aſſemble and form the Clouds; theſe uncertain Clouds are driven irregularly round the Globe, ſometimes ſhadowing one Country, and ſometimes another: he then who beholds the Earth from afar off, will ſee frequent Alterations upon its Surface, becauſe a great Country overcaſt with Clouds, will appear dark or light,

light, as the Clouds ſtay, or paſs over it; he will ſee the Spots on the Earth often change their place, and appear or diſappear as the Clouds remove: but we ſee none of theſe changes wrought upon the Moon, which would certainly be the ſame, were there but Clouds about her; but on the contrary, all her Spots are fix'd and certain, and her light parts continue where they were at firſt, which truly is a great Misfortune; for by this reaſon, the Sun draws no Exhalations or Vapours above the Moon; ſo that it appears ſhe is a Body infinitely more hard and ſolid than the Earth, whoſe ſubtile parts are eaſily ſeparated from the reſt, and mount upwards as ſoon as Heat puts them in motion; but it muſt be a heap of Rock and Marble, where there is no Evaporation: Beſides, Exhalations are ſo natural and neceſſary where there is Water, that there can be no Water at all, where there is no Exhalation; and what ſort of Inhabitants muſt thoſe be, whoſe Country affords no Water, is all Rock, and produceth nothing? Very fine,

ne, *ſaid ſhe*; you have forgot nce you aſſur'd me, we might from ence diſtinguiſh Seas in the Moon; ay, you or your Friends were God- thers to ſome of 'em. Pray, hat is become of your *Caſpian*-Sea, nd your *Black-Lake*? All Conjec- ure, Madam, *I reply'd*; tho for your adyſhip's ſake, I am very ſorry for it; or thoſe dark places we took to be eas, may perhaps be nothing but rge Cavities; 'tis hard to gueſs a- ght at ſo great a diſtance. But will his ſuffice then, *ſaid ſhe*, to extirpate he People in the Moon? Not altoge- her, *I reply'd*; we will neither deter- nine for, nor againſt them. I muſt wn my Weakneſs (if it be one) *ſaid e*; I cannot be ſo perfectly undeter- nined as you would have me to be, ut muſt believe one way, or the o- her; therefore pray fix me quickly in ny Opinion, as to the Inhabitants of he Moon: preſerve or annihilate them, s you ſhall think fit; and yet me- hinks I have a ſtrange Inclination for em, and would not have 'em deſtroy'd,

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if it were poſſible to ſave 'em. You know, Madam, *ſaid I*, I can deny you nothing; the Moon ſhall be no longer a Deſart, but to do you Setvice, we will repeople her. Since to all appearance the Spots in the Moon do not change, I cannot conceive there are any Clouds about her, that ſometimes obſcure one part, and ſometimes another; yet this doth not hinder, but that the Moon ſends forth Exhalations, and Vapours. Our Clouds which we ſee in the Air, are nothing but Exhalations and Vapours, which at their coming out of the Earth, were ſeparated into ſuch minute Particles, that they could not be diſcern'd; but as they aſcend higher, they are condens'd by the Cold, and by the re-union of their Parts, are render'd viſible; after which they become great Clouds, which fluctuate in the Air, till they return back again in Rain: however theſe Exhalations and Vapours do ſometimes keep themſelves ſo diſpers'd, that they are imperceptible; or if they do aſſemble, it is in forming ſuch ſubtile Dews that they can-

nnot be diſcern'd to fall from any loud. It may likewiſe happen, that ıe Vapours which go out of the Moon or it is incredible that the Moon is ch a Maſs, that all its Parts are of an e- ual Solidity, all at reſt with one another, ıd all incapable of any alteration from ıe Efficacy of the Sun; I am ſure we e yet unacquainted with ſuch a Body: Marble itſelf is of another Nature; and ven that which is moſt ſolid, is ſubject change and alteration; either from ıe ſecret and inviſible motion it hath ithin itſelf, or from that which it re- eives from without) it may ſo happen ıen, that the Vapours which iſſue from ıe Moon, may not aſſemble round her ı Clouds, and may not fall back again ı Rain, but only in Dews. It is ſuffi- ient for this, that the Air with which he Moon is inviron'd, (for it is certain ıat the Moon is encompaſſed with Air s well as the Earth) be a little diffe- ent from our Air, and the Vapours of he Moon a little different from thoſe f the Earth, which is very probable. Hereupon the matter being otherwiſe

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diſpos'd in the Moon than on the Earth, the Effects muſt be different; tho it is of no great conſequence whether they are or no: for from the moment we have found an inward motion in the parts of the Moon, or produced by foreign Cauſes, here is enough for the new birth of its Inhabitants, and a ſufficient and neceſſary Fund for their Subſiſtence. This will furniſh us with Corn, Fruit, Water, according to the cuſtom or manner of the Moon, which I do not pretend to know; and all proportion'd to the wants and uſe of the Inhabitants, with whom I pretend to be as little acquainted. That is to ſay, *reply'd the Counteſs*, You know all is very well, without knowing how it is ſo, which is a great deal of Ignorance upon a very little Knowledge: However, I comfort myſelf, that you have given the Moon her Inhabitants again, and have wrapp'd her in an Air of her own, without which a Planet would ſeem but very naked.

'Tis theſe two different Airs, *ſaid I*, that hinder the Communication of the two Planets: If it was only flying, as

I told you yeſterday, who knows but we may improve it to perfection, tho I confeſs there is but little hopes of it? the great Diſtance between the Moon and the Earth, is a Difficulty not eaſily to be ſurmounted: yet were the Diſtance but inconſiderable, and the two Planets almoſt contiguous, it would be ſtill impoſſible to paſs from the Air of the one into the Air of the other. The Water is the Air of Fiſhes, they never paſs into the Air of the Birds, nor the Birds into the Air of the Fiſh; and yet 'tis not the Diſtance that hinders them, but both are impriſon'd by the Air they breathe in. We find our Air conſiſts of thicker and groſſer Vapours than the Air of the Moon; ſo that one of her Inhabitants arriving at the Confines of our World, as ſoon as he enters our Air, will inevitably drown himſelf, and we ſhall ſee him fall dead on the Earth.

I ſhould rejoice at a Wreck, *ſaid the Counteſs*, as much as my Neighbours on the Coaſt of *Suſſex*: how pleaſant would it be to ſee 'em lie ſcattered on the

Ground, where we might conſider at our eaſe their extraordinary Figures? But what, *ſaid I*, if they ſhould ſwim on the outward Surface of our Air, and be as curious to ſee us, as you are to ſee them; ſhould they angle or caſt a Net for us, as for ſo many Fiſh, would that pleaſe you? Why not, *ſaid the Counteſs*? For my part I would go into their Nets of my own accord, were it but for the pleaſure to ſee ſuch ſtrange Fiſhermen.

You would be very ſick, *ſaid I*, when you were drawn to the top of our Air; for it is not reſpirable in all its extent, as may be ſeen on the tops of ſome very high Mountains: and I admire that they who have the Folly to believe that our *Fairies*, whom they allow to be corporeal, and to inhabit the moſt pure and refin'd Air, do not tell us, that the reaſon why they give us ſuch ſhort and ſeldom Viſits, is, that there are very few among them that can dive and thoſe that can, if it be poſſible to get through the thick Air where we are cannot ſtay half ſo long in it, as one o

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the worſt of Sir *Harry Blunt*'s Sponge-gatherers. Here then are natural Barricades, which defend the Paſſage out of our World, as well as the Entry into that of the Moon: ſo that ſince we can only gueſs at that World, let us fancy all we can of it. For example, I will ſuppoſe that we may ſee there the Firmament, the Sun, and the Stars, of another colour than what they are here; all theſe appear to us through a kind of natural Spectacles, which change and alter the Objects. Theſe Spectacles are our Air, mix'd as it is with Vapours and Exhalations, and which doth not extend itſelf very high. Some of our modern Philoſophers pretend, of itſelf it is blue, as well as the Water of the Sea, and that this Colour neither appears in the one nor in the other, but at a great depth: the Firmament, ſay they, where the fix'd Stars are faſtned, hath no peculiar Light of its own, and by conſequence muſt appear black; but we ſee it through the Air which is blue, and therefore to us it appears blue; which if ſo, the Beams of the Sun and Stars cannot paſs thro

the Air without being ting'd a little with its Colour, and loſing as much of their own: yet were the Air of no colour, it is very certain, that thro a great Miſt, the Light of a Flambeaux at ſome diſtance appears reddiſh, tho it be not its true natural Colour. Our Air is nothing but a great Miſt, which changeth the true Colour of the Sky, of the Sun, and of the Stars; it belongs only to the celeſtial Matter to bring us the Light and Colours, as they really are in all their purity: ſo that ſince the Air of the Moon is of another nature than our Air, or is ſtain'd of another Colour, or at leaſt is another kind of Miſt, which cauſeth other alterations to the Colours of the Celeſtial Bodies; in ſhort, as to the People of the Moon, their Spectacles thro which they ſee every thing, are chang'd.

If it be ſo, *ſaid the Counteſs*, I prefer my Abode before that of the Moon; for I cannot believe the Celeſtial Colours are ſo well ſuited as they are here for if you will let us put green Stars on a red Sky, they cannot be ſo agree-

able as Stars of Gold on an Azure Firmament. To hear you, *ſaid I*, one would think you was chuſing a Petticoat, or a Suit of Knots: but believe me, Nature hath as good a Fancy as Mrs. *Harriſon*; leave it to her to chuſe Colours for the Moon, and I'll engage they ſhall be well ſorted; ſhe will not fail to vary the Proſpect of the Univerſe, at every different point of Sight, and always the alteration ſhall be very agreeable. I know very well, *ſaid the Counteſs*, her Skill in this Point; ſhe is not at the charge of changing the Objects, but only the Spectacles, and hath the credit of this great Variety, without being at any Expence: with a blue Air ſhe gives us a blue Firmament; and perhaps with a red Air, ſhe gives to the Inhabitants of the Moon a red Firmament; and yet ſtill it is but the ſame Firmament: nay I am of opinion, ſhe hath plac'd a ſort of Spectacles in our Imagination, thro which we ſee all things, and which to every particular Man, change the Objects. *Alexander* look'd on the Earth as a fit place to eſta-

bliſh a great Empire; it ſeem'd to *Celadon* a proper Reſidence for *Aſtræa*, and it appear'd to a Philoſopher, a great Planet in the Heavens, cover'd with Fools. I do not believe the Sights vary more between the Earth and the Moon, than they do between one Man's Fancy and another's.

This change in our Imaginations, *ſaid I*, is very ſurprizing; for they are ſtill the ſame Objects, tho they appear different; when in the Moon we may ſee other Objects we do not ſee here, or at leaſt, not ſee all there we do ſee here. Perhaps in that Country they know nothing of the Dawn and the Twilight, before the Sun riſeth, and after the Sun ſets: the Air which encompaſſeth, and is elevated above us, receives the Rays, ſo that they cannot ſtrike on the Earth; and being groſs, ſtops ſome of them, and ſends 'em to us, tho indeed they were never naturally deſign'd us: ſo that the Day-break and the Twilight are a Favour which Nature beſtows on us; they are a Light which regularly we ſhould not have, and which ſhe gives us over

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and above our due. But in the Moon, where apparently the Air is more pure, and therefore not ſo proper to ſend down the Beams it receives from the Sun before his riſing, and after his ſetting, you have not that Light of Grace (as I may call it) which growing greater by degrees, doth more agreeably prepare you for the arrival of the Sun; and which growing weaker, and diminiſhing by degrees, doth inſenſibly prepare you for the Sun's departure: but you are in a profound Darkneſs, where a Curtain (as it were) is drawn all on a ſudden, your Eyes are immediately dazled with the whole Light of the Sun, in all its Glory and Brightneſs; ſo likewiſe, you are on a ſudden ſurpriz'd with utter Darkneſs; the Night and the Day have no medium between them, but you fall in a moment from one Extreme into the other. The Rainbow likewiſe is not known to them in the Moon; for if the Dawn is an effect of the groſſneſs of the Air and Vapours, the Rainbow is form'd in the Clouds, from whence the Rain falls: ſo that the moſt beautiful things

in the World, are produced by thoſe which have no beauty at all. Since then there are no Vapours thick enough, nor no Clouds of Rain about the Moon, farewel Dawn, adieu Rainbow: What muſt Lovers do for Similies in that Country, when ſuch an inexhauſtible Magazine of Compariſons is taken from them?

I doubt not, *ſaid the Counteſs*, but there are thoſe in the Moon as good at Simily, as the greateſt Beau in *Covent-Garden*; and had they neither Sun nor Stars, Pearls nor Rubies, Roſes nor Lillies, yet could ſay as many fine things to a Vizor-Mask, as the perteſt Wit at the Puppet-Show: and they are well enough recompens'd for the loſs of our Dawn and Rainbow; for by the ſame reaſon they have neither Thunder nor Lightning, both which are form'd in the Clouds: How glorious are their Days, the Sun continually ſhining? how pleaſant their Nights, not the leaſt Star is hid from them? They never hear of Storms or Tempeſts, which certainly are an effect of the Wrath of Heaven. Do you think

think then they ſtand in need of our Pity? You are deſcribing the Moon, *I reply'd*, like an enchanted Palace; but do you think it ſo pleaſant to have a ſcorching Sun always over our Head, and not the leaſt Cloud to moderate its Heat? Tho I fancy 'tis for this reaſon that Nature hath made great Cavities in the Moon: we can diſcern 'em eaſily with our Teleſcopes, for they are not Mountains, but ſo many Wells or Vaults in the middle of a Plain; and what do we know but the Inhabitants of the Moon, being continually broil'd by the exceſſive Heat of the Sun, do retire into thoſe great Wells? perhaps they live no where elſe, and 'tis there they build 'em Cities; for we ſtill ſee in the Ruins of old *Rome*, that that part of the City which was under-ground, was almoſt as large as that which was above-ground. I fancy, during the late Siege of *Buda*, they lived there as they do in the Moon; or 'tis but going to the *Fountain-Tavern* Cellar, where the ſeveral Vaults are as ſo many high Streets; the Vats, Pipes, Hogſheads, ſo many different Edifices;

and the Drawers and Coopers, like ſo many *Troglodites*. I perceive you laugh at me; yet if I may be ſo free with a fair Lady, you deſerve it much better than I: for you believe the People in the Moon muſt live upon the Surface of their Planet, becauſe we do ſo upon ours; but quite contrary, ſince we dwell upon the Superficies of our Planet, they ſhould not dwell upon the Superficies of their Planet: if things differ ſo much in this World, what muſt they do in another?

'Tis no matter, *ſaid the Counteſs*, I can never ſuffer the Inhabitants of the Moon to live in perpetual Darkneſs. You will be more concern'd for 'em, *I reply'd*, when I tell you that one of the antient Philoſophers did long ſince diſcover the Moon to be the Abode of the bleſſed Souls departed out of this Life, and that all their Happineſs conſiſted in hearing the Harmony of the Spheres; that is, the Muſick (I had like to have ſaid Noiſe) which is made by the motion of the Celeſtial Bodies: if you have ſeen a *Raree-Show*, you will eaſily com-

comprehend it. But becauſe the Philoſopher pretends to know exactly all they do there, he tells you, that when the Moon is obſcured by the Shadow of the Earth, they no longer hear the heavenly Muſick, but howl like ſo many Souls in Purgatory; ſo that the Moon taking pity of 'em, makes all the haſte ſhe can to get into the Light again. Methinks then, *ſays ſhe*, we ſhould now and then ſee ſome of the bleſſed Souls arrive here from the Moon; for certainly they are ſent to us. I confeſs indeed, *ſaid I*, it would be very pleaſant to ſee different Worlds; ſuch a Voyage, tho but in Imagination, is very delightful; what would it be in Effect? It would be much better certainly than to go to *Japan*, which at beſt, is but crawling from one end of the World to t'other, and after all to ſee nothing but Men. Well then, *ſays ſhe*, let us travel over the Planets as faſt as we can; what ſhould hinder us? Let us place our ſelves at all the different Proſpects, and from thence conſider the Univerſe. But firſt, have we

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any thing more to ſee in the Moon? I believe not, *I reply'd*; at leaſt, you have ſeen all I can ſhew you. Coming out of the Moon, towards the Sun, we ſee *Venus*, which puts me again in mind of *Greenwich*. *Venus* turns upon her ſelf, and round the Sun, as well as the Moon; they likewiſe diſcover by their Teleſcopes, that *Venus*, like the Moon, (if I may ſpeak after the ſame manner) is ſometimes new, ſometimes full, and ſometimes in the Wain, according to the divers Situations ſhe is in, in reſpect of the Earth.

The Moon, to all appearance, is inhabited; why ſhould not *Venus* be ſo too? You are ſo full of your Why's and your Wherefore's, *ſaid ſhe*, interrupting me, that I fancy you are ſending Colonies to all the Planets. You may be certain, ſo I will, *I reply'd*; for I ſee no reaſon to the contrary: We find that all the Planets are of the ſame nature, all obſcure Bodies, which receive no Light but from the Sun, and then ſend it to one another: their Motions are the ſame, ſo that hitherto they are alike; and yet,

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if we are to believe that theſe vaſt Bodies are not inhabited, I think they were made but to little purpoſe: why ſhould Nature be ſo partial, as to except only the Earth? But let who will ſay the contrary, I muſt believe the Planets are peopled as well as the Earth. I find, *ſays the Counteſs* with ſome Concern, a Philoſopher will never make a good Martyr, you can ſo quickly ſhift your Opinion; 'twas not many Minutes ſince the Moon was a perfect Deſart; now the reſt of the Planets are inhabited. Why truly, Madam, *ſaid I*, there is a time for all things; and your true Philoſopher believes any thing, or nothing, as the Maggot bites. Had you taken me in the ſceptical vein, I would have as ſoon granted a Nation in a Muſtard-Ball, as a living Creature in the Moon: but the Tide is turn'd, and all the Planets are peopled like an Ant-hill; yet, Raillery apart, this is not ſo very improbable as you think it: for do you believe we diſcover (as I may ſay) all the Inhabitants of the Earth? There be as many kinds of inviſible as

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viſible Creatures. We ſee from the Elephant to the very Hand-worm, beyond which our Sight fails us; and yet, counting from that minute Creature, there are an Infinity of leſſer Animals, which were they perceptible, would be as little in compariſon with a Mite, as a Mite is of an Ox. How lately have our Virtuoſo's found out the Pepper-Worms, which in the leaſt drop of Water appear like ſo many Dolphins, ſporting in the Ocean! nay, they tell you that the Sharpneſs of Vinegar conſiſts in the Fierceneſs of the little Animals that bite you by the Tongue; not to name the Blue on Plumbs, and twenty Experiments of the like nature.

Nay, to ſhew you that they can ſee as far into a Millſtone as *Deſcartes* himſelf, they have diſcover'd that ſeveral, even of the moſt ſolid Bodies, are nothing but an immenſe Swarm of imperceptible Animals. Do but conſider this little Leaf: why, it is a great World, of a vaſt extent; what Mountains, what Abyſſes are there in it? the Inſects of one ſide know no more of their Fellow-Creatures

ures on t'other ſide, than you and I can ell what they are now doing at the Antipodes: is it not reaſon then that a great Planet ſhould be inhabited? In the hardeſt Stones, for example, in Marble there are an Infinity of Worms, which fill up the Vacuums, and feed upon the Subſtance of the Stone. Fancy then Millions of living Creatures to ſubſiſt many Years on a Grain of Sand; ſo that were the Moon but one continued Rock, ſhe ſhould be gnaw'd by theſe inviſible Mites (as if ſhe were a green Cheeſe) rather than not be inhabited. In ſhort, every thing is animated, and the Stones upon *Salisbury-Plain* are as much alive as a Hive of Bees. Imagine then thoſe Animals which are yet undiſcovered, and add them and thoſe which are but lately diſcover'd, to thoſe we have always ſeen, you will find the Earth ſwarms with Inhabitants. Why then ſhould Nature, which is fruitful to an exceſs here, be ſo very barren in the reſt of the Planets? I muſt own, *ſaid the Counteſs*, you have convinc'd my Reaſon, but you have confounded my Fancy with

ſuch

ſuch Variety, that I cannot imagine how Nature, which hates Repetitions, ſhould produce ſo many different kinds. There is no need of Fancy, *reply'd I*; do but truſt your Eyes, and you will eaſily perceive how Nature diverſifies in theſe ſeveral Worlds.

All human Faces in general are of the ſame Model, and yet the *Europeans* and the *Africans* have two particular Molds nay, commonly every Family have a different Form. What Secret then has Nature to ſhew ſo much Variety in a ſingle Face? Our World, in reſpect of the Univerſe, is but a little Family: all whoſe Faces have ſome Reſemblance; in another place there is another Family, whoſe Faces have a different Air and Faſhion. The Difference too increaſeth with the Diſtance; for whoſoever ſhould ſee an Inhabitant of the Moon, and an Inhabitant of the Earth, would ſoon perceive they were nearer Neighbours than one of the Earth, and one of *Saturn*: here, for example, we have the uſe of Voice; in another World they ſpeak by Signs; and at a greater diſtance they

do

lo not ſpeak at all. Here our Reaſon s form'd by Experience; in the next World, Experience contributes little to-vards it; and in the next to that, old Men know no more than Children. Here we are troubled more with what is to come, than with what is paſt; further off they are not concern'd with either, which, by the way, I think, is much the better. Here 'tis thought we want a ſixth Senſe, which would teach us many things of which we are now ignorant: this ſixth Senſe is apparently in another World, where they want one of the five which we enjoy. Nay, perhaps there is a much greater Number of Senſes; but in the Partition we have made of 'em with the Inhabitants of the other Planets, there are but five fallen to our ſhare, with which we are well contented, for want of being acquainted with the reſt. Our Sciences have Bounds, which the Wit of Man could never paſs; there is a Point where they fail us on a ſudden, the reſt is reſerv'd for other Worlds, where ſomewhat which we know, is unknown to them.

them. This Planet enjoys the Pleaſure of Love, but lies deſolate in ſeveral pla ces by the Fury of War: in another Pla net they enjoy a perpetual Peace, ye in the midſt of that Peace, know no thing of Love, and Time lies on thei hands. In a word, that which Natur practiſes here in little, in diſtributin her Gifts among Mankind, ſhe does a large in other Worlds, where ſhe make uſe of that admirable Secret ſhe hath t diverſify all things, and at the ſame tim makes 'em equal, by compenſating fo the Inequality. This, I confeſs, is on th Borders of Nonſenſe; but a Man is ne ver the leſs a Philoſopher for being a lit tle obſcure, if not unintelligible.

But is it not time, Madam, to be ſe rious; how will you diſpoſe of all theſ Notions? Trouble not your ſelf, *ſay ſhe*, Fancy is a great Traveller: I al ready comprehend theſe ſeveral Worlds, and repreſent to my ſelf their different Characters and Cuſtoms: Some of 'em, I aſſure you, are very extraordinary. I ſee at this moment a thouſand diffe rent Figures, tho I cannot well deſcribe

'em.

em. Oh leave them, *I reply'd*, to your Dreams: They will repreſent them very faithfully.

The Fourth Evening.

I Have been told of a Phyſician that makes his Patients dream as he pleaſes, by preſcribing ſuch a Specifick for their Supper, as works thoſe Impreſſions he would have on the Fancy: of what uſe he may be to the modern Poets, I leave to the Curious, and return to the Counteſs, who either did not dream at all, or nothing to the purpoſe; ſo that continuing our Voyage to the other World, we could only gueſs at their Inhabitants. We were come to *Venus*, and I told her, that *Venus* certainly turn'd on it ſelf, tho no body could tell in what time; and conſequently were ignorant how long her Day laſted; but her Year was compos'd of eight Months, becauſe 'tis in that time ſhe turns round the

the Sun. And ſeeing *Venus* is forty time leſs than the Earth, the Earth appear to them in *Venus* to be a Planet, fort times bigger than *Venus* appears to u on the Earth: and as the Moon is fort times leſſer than the Earth, ſo ſhe ſeem to be juſt of the ſame Magnitude, t the Inhabitants of *Venus*, as here *Venu* ſeems to us.

I ſee then, *ſays the Counteſs*, that th Earth is not to *Venus*, what *Venus* is t the Earth: I mean, that the Earth is too big to be the Mother of Love, or th Shepherd's Star to *Venus*; but the Moo which appears to *Venus* of the ſame Big neſs that *Venus* appears to us, is aſſigne to be the Mother of Love, and Shep herd's Star to *Venus*; for ſuch Names ar only proper for a little briſk airy Planet bright and ſhining as the Goddeſs he ſelf. Oh bleſſed Moon, how happy ar thou to preſide over the Amours of thoſ gallant People, where all, they ſay, i ſoft and moving, and perfectly refin'd from the Droſs of our Wits, who ar fitter for a Bear-Garden than a *Circle*? How groſs is their Courtſhip? how mean

their

eir Raillery, without any Diſtinction Time, Place, or Perſon? they make ve (as they call it) but one way, d the Form is the ſame at a Farce or neral. Be not ſo very ſevere, *I re-y'd*; if ſome of our *Beaux* ſpeak plain *ngliſh*, ſome of your *Belles* like them ever the worſe for it. The Art of Love as much improv'd as the Art of War: he Generals of this Age take a Town two Days, which in the laſt held out many Years; and the Roſes, Lillies, earls, and Rubies (a whining Lover's rain of Artillery) are grown as uſeleſs s Bows and Arrows. Tho after all, I muſt own they have another Standard the Planet *Venus*; there *Clelia* and *Partheniſſa* is below the Language of Grooms and Chamber-maids, and every Porter and Carman a perfect Sir *Courty*: but then conſider the Difference of Climates; *Venus* is much nearer than the Earth is to the Sun, from whence ſhe receives a more vigorous and active Influence.

I find, *ſays the Counteſs*, it is eaſy enough to gueſs at the Inhabitants of *Venus*;

Venus; they reſemble what I have read of the *Moors* of *Granada*, who were a little black People, ſcorched with the Sun, witty, full of Fire, very amorous, much inclin'd to Muſick and Poetry, and ever inventing Maſques and Turnaments in honour of their Miſtreſſes. Pardon me, Madam, *ſaid I*; you are little acquainted with the Planet. *Granada*, in all its Glory, was a perfect *Greenland* to it; and your gallant *Moors*, in compariſon with that People, were as ſtupid as ſo many *Laplanders*.

But what do you think then of the Inhabitants of *Mercury?* They are yet nearer to the Sun, and are ſo full of Fire, that they are abſolutely mad; I fancy they have no Memory at all, like moſt of the Negroes, that they make no Reflexions; and what they do is by ſudden ſtarts, and perfect hap-hazard. In ſhort, *Mercury* is the Bedlam of the Univerſe: the Sun appears to them much greater than it does to us, becauſe they are much nearer to it than we: it ſends them ſo vaſt and ſtrong a Light, that the moſt glorious Day here would be

no

no more with them than a declining Twilight. I know not if they can diſtinguiſh Objects; but the Heat to which they are accuſtomed, is ſo exceſſive, that they would be ſtarv'd with Cold in the torrid Zone. Their Year is but three Months; but we know not the exact length of their Day, becauſe *Mercury* is ſo little, and ſo near the Sun: it is (as it were) loſt in his Rays, and is very hardly diſcover'd by the Aſtronomers; ſo that they cannot obſerve how it moves on its Center; but becauſe it is ſo little, fancy it compleats its Motion in a little time: ſo that by conſequence the Day there is very ſhort, and the Sun appears to them like a vaſt fiery Furnace at a little diſtance, whoſe Motion is prodigiouſly ſwift and rapid; and during their Night, *Venus* and the Earth (which muſt appear conſiderably big) give light to them. As for the other Planets which are beyond the Earth, towards the Firmament, they appear leſs to them in *Mercury*, than they do to us here, and they receive but little Light from them, perhaps none at all: the fixed Stars likewiſe

wiſe ſeem leſs to them, and ſome of 'em totally diſappear, which, were I there, I ſhould eſteem a very great loſs.

What ſignifies the loſs of a few fixed Stars, *ſays the Counteſs?* I pity them for the exceſſive Heat they endure: let us give them ſome Relief, and ſend *Mercury* a few of the refreſhing Showers they have ſometimes four Months together in the hotteſt Countries, during their greateſt extremity. Your Fancy is good, Madam, *I reply'd*; but we will relieve 'em another way. In *China* there are Countries which are extremely hot by their Situation; yet in *July* and *Auguſt* are ſo cold, that the Rivers are frozen: the Reaſon is, they are full of Salt-Petre, which being exhal'd in great abundance by the exceſſive Heat of the Sun, makes a perfect Winter at Midſummer. We will fill the little Planets with Salt-Petre, and let the Sun ſhine as hot as he pleaſes. And yet after all, who knows but the Inhabitants of *Mercury* may have no occaſion either for Rain or Salt-Petre? If it is a certain Truth, that Nature never gives life to any Creature, but

where

where that Creature may live; then thro Cuſtom and Ignorance of a better Life, thoſe People may live happily.

After *Mercury* comes the Sun; but there is no poſſibility of peopling it, nor no room left for a Wherefore. By the Earth which is inhabited, we judge that other Bodies of the ſame nature may be likewiſe inhabited: But the Sun is a Body not like the Earth, or any of the Planets; the Sun is the Source or Fountain of Light; which, tho it is ſent from one Planet to another, and receives ſeveral Alterations by the way, yet all originally proceeds from the Sun: he draws from himſelf that precious Subſtance which he emits from all ſides, and which reflects when it meets with a ſolid Body, and ſpreads from one Planet to another thoſe long and vaſt Trains of Light which croſs, ſtrike thro, and intermingle in a thouſand different Faſhions, and make (if I may ſo ſay) the richeſt Tiſſues in the World. The Sun likewiſe is placed in the Centre, from whence, with moſt Convenience, he may equally diſtribute,

and animate by his Heat. It is then a particular Body, but what ſort of Body has often puzzled better Heads than mine. It was thought formerly a Body of pure Fire; and that Opinion paſſed current till the beginning of this Age when they perceiv'd ſeveral Spots on its Surface. A little after they had diſcover'd new Planets, (of which hereafter) which ſome ſaid were thoſe Spots; for thoſe Planets moving round the Sun when they turn'd their dark half to us muſt neceſſarily hide part of it: and had not the Learned, with theſe pretended Planets, made their court before to most of the Princes in *Europe*, giving the Name of this Prince to one, and of that Prince to another Planet, I believe they would have quarrell'd who ſhould be Maſter of theſe Spots, that they might have named them as they pleas'd.

'Twas but t'other day, *ſays the Coun-teſs*, you were deſcribing the Moon, and call'd ſeveral Places by the Names of the moſt famous Aſtronomers. I was pleas'd with the Fancy: For ſince the Princes have ſeiz'd on the Earth, 'tis

the Philoſophers (who are as proud as the beſt of 'em) ſhould reſerve the Heavens for themſelves without any Competitors. Oh! trouble not your ſelf, *ſaid I*, the Philoſophers make the beſt advantage of their Territories; and if they part with the leaſt Star, 'tis on very good Terms: let me tell you an Acre of Land in *England* is worth ten thouſand in the Moon; but the Spots on the Sun are fallen to nothing; the Actions of *Penſylvania* are not half ſo low: 'tis now diſcover'd that they are not Planets, but Clouds, Streams or Droſs, which riſe upon the Sun, ſometimes in great quantity, ſometimes in leſs; ſometimes they are dark, ſometimes clear; ſometimes they continue a great while, and ſometimes they diſappear as long. It ſeems the Sun is a liquid Matter; ſome think of melted Gold which boils over, as it were, continually, and by the Force of its Motion calls the Scum or Droſs on its Surface, where it is conſum'd, and others ariſe. Imagine then what ſtrange Bodies theſe are, when ſome of them are as big as the

Earth. What a vaſt quantity muſt there be of this melted Gold, and what muſt be the Extent of this great Sea of Light and Fire which they call the Sun? Others ſay, the Sun appears thro their Teleſcopes, which are the Aſtronomers Spectacles, full of Mountains which vomit Fire continually, and are joined together like Millions of *Etna's*. Yet there are thoſe that ſay theſe burning Mountains are pure Viſion, caus'd by a fault in the Spectacles; but what ſhall we truſt, if we muſt diſtruſt our Teleſcopes, to which we owe the knowledge of ſo many new Objects? But let the Sun be what it will, it cannot be at all proper for Habitation; and what pity 'tis not, for how pleaſant would it be? You might then be at the Centre of the Univerſe, where you would ſee all the Planets turn regularly about you; but now we know nothing but extravagant Fancies, becauſe we do not ſtand in the proper Place. There is but one place in the World, where the Study or Knowledge of the Stars is eaſily obtain'd, and what pity 'tis there is no body there

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You forget your ſelf ſure, *ſays ſhe*; were you in the Sun you would ſee nothing, neither Planets nor fixed Stars: doth not the Sun efface all? So that could there be any Inhabitants there, they might juſtly think themſelves the only People in Nature.

I own, *ſaid I*, my Miſtake: I was thinking of the Situation of the Sun, and not of the effect of its Light: I thank you for your Correction; but muſt take the Boldneſs to tell you, that you are in an Errour as well as my ſelf: for were there Inhabitants in the Sun, they would not ſee at all; either they could not bear the Strength of its Light, or for want of a due diſtance, they could not receive it; ſo that things well conſider'd, all the People there muſt be ſtark blind, which is another reaſon why the Sun cannot be inhabited: But let us purſue our Voyage. We are now arriv'd at the Centre, which is always the Bottom or loweſt Place of what is round: if we go on, we muſt aſcend: we ſhall find *Mercury*, *Venus*, the Earth, the Moon, all the Planets we have already viſited; the next is *Mars*: *Mars* hath

nothing curious that I know of; his Day is not quite an hour longer than ours, but his Year is twice as much as our Year: he is a little leſs than the Earth; and the Sun ſeems not altogether ſo large and ſo bright to him, as it appears to us. But let us leave *Mars*, he is not worth our ſtay. But what a pretty thing is *Jupiter*, with his four Moons, or Yeomen of the Guard! they are four little Planets that turn round him, as our Moon turns round us. But why, *ſays ſhe*, interrupting me, muſt there be Planets to turn round other Planets, that are no better than themſelves? I ſhould think it would be more regular and uniform, that all the Planets, little and great, without any diſtinction, ſhould have one and the ſame Motion round the Sun.

Ah, Madam, *ſaid I*, if you knew what were *Deſcartes*'s Whirlpools or Vortexes (whoſe Name is terrible, but their Idea pleaſant) you would not talk as you do. Muſt my Head (*ſays ſhe*, ſmiling) turn round to comprehend 'em, or muſt I become a perfect Fool to underſtand

erſtand the Myſteries of Philoſophy? Vell, let the World ſay what it will, o on with your Whirlpools. I will *aid I*; and you ſhall ſee the Whirlpools re worthy of theſe Tranſports. That hen which we call a Whirlpool or Vorex, is a Maſs of Matter, whoſe Parts re ſeparated or detach'd one from another, yet have all one uniform Motion; nd at the ſame time every one is alow'd, or has a particular Motion of its own, provided it follows the general Motion. Thus a Vortex of Wind, or Whirlwind, is an Infinity of little Particles of Air, which turn round all together, and involve whatever they meet with. You know the Planets are borne up by the Celeſtial Matter, which is prodigiouſly ſubtile and active; ſo that this great Maſs, or Ocean of Celeſtial Matter, which flows as far as from the Sun to the fixed Stars, turns round, and bears the Planets along with it, making them all turn after the ſame manner round the Sun, who poſſeſſes the Centre, but in a longer or a ſhorter time, according as they are farther or nearer in diſtance

to it. There is nothing, to the very Sun, which does not turn, but he turns on himſelf, becauſe he is juſt in the middle of this Celeſtial Matter: And you muſt know by the way, that were the Earth in his place, it muſt turn on it ſelf, as the Sun does. This is the great Vortex, of which the Sun is Lord; yet at the ſame time, the Planets make little particular Vortexes, in imitation of that of the Sun; each of them in turning round the Sun, doth at the ſame time turn round itſelf, and makes a certain Quantity of Celeſtial Matter turn round it likewiſe, which is always prepar'd to follow the Motion the Planet gives it, provided it is not diverted from its general Motion: this then is the particular Vortex of the Planet, which puſhes it as far as the Strength of its Motion reaches; and if by chance, a leſſer Planet falls into the Vortex of a greater Planet, it is immediately borne away by the greater, and is indiſpenſably forc'd to turn round it, tho at the ſame time the great Planet, the little Planet, and the Vortex which encloſes 'em, all turn round

round the Sun. 'Twas thus at the beginning of the World, when we made the Moon follow us, becauſe ſhe was within the reach of our Vortex, and therefore wholly at our diſpoſe. *Jupiter* was ſtronger, or more fortunate than we; he had four little Planets in his Neighbourhood, and he brought 'em all four under his Subjection; and no doubt we, tho a principal Planet, had had the ſame Fate, had we been within the Sphere of his Activity: he is ninety times bigger than the Earth, and would certainly have ſwallow'd us into his Vortex; we had then been no more than a Moon in his Family, when now we have one to wait on us: ſo that you ſee the advantage of Situation, decides often all our good Fortune.

But pray, *ſays ſhe*, who can aſſure us we ſhall ſtill continue as we do now? If we ſhould be ſuch Fools as to go near *Jupiter*, or he ſo ambitious as to approach us, what will become of us? For if (as you ſay) the Celeſtial Matter is continually under this great Motion, it muſt needs agitate the Planets irregularly;

larly; ſometimes drive 'em together and ſometimes ſeparate 'em. Luck is all *ſaid I*; we may win as well as loſe and who knows but we ſhould bring *Mercury* and *Venus* under our Govern ment? they are little Planets, and can not reſiſt us. But in this Particular, Ma dam, we need not hope or fear; the Pla nets keep within their own Bounds, and are oblig'd (as formerly the Kings of *Chin* were) not to undertake new Conqueſts Have you not ſeen when you put Wate and Oil together, the Oil ſwims a-top and if to theſe two Liquors, you add very light Liquor, the Oil bears it up and it will not ſink to the Water; bu put an heavier Liquor, of a juſt weight and it will paſs through the Oil, whic is too weak to ſuſtain it, and ſink till i comes to the Water, which is ſtrong e nough to bear it up: So that in this Li quor, compos'd of two Liquors, whic do not mingle, two Bodies of an une qual weight will naturally aſſume two different places; the one will never aſ cend, the other will never deſcend. Fancy then that the Celeſtial Matter

which

which fills this great Vortex, hath ſeveral reſting-places, one by another, whoſe weight are different, like that of Oil, Water, and other Liquors; the Planets too are of a different weight, and conſequently every Planet ſettles in that place which has a juſt ſtrength to ſuſtain and keep it equilibrate: ſo you ſee 'tis impoſſible it ſhould ever go beyond.

Would to God, *ſays the Counteſs*, our World were as well regulated, and every one among us knew their proper place. I am now in no fear of being over-run by *Jupiter*; and ſince he lets us alone in our Vortex, with our Moon, I do not envy him the four which he hath. Did you envy him, *I reply'd*, you would do him wrong, for he has no more than what he has occaſion for; at the diſtance he is from the Sun, his Moons receive and ſend him but a very weak Light: it is true, that as he turns upon himſelf in ten Hours, his Nights, by conſequence, are but five Hours long; ſo one would think there is no great occaſion for four Moons: but there are other things to be conſidered. Here under the Poles, they have ſix Months Day, and ſix

Months

Months Night, becauſe the Poles are the two Extremities of the Earth, the fartheſt remov'd from thoſe Places where the Sun is over 'em in a perpendicular Line. The Moon ſeems to keep almoſt the ſame courſe as the Sun; and if the Inhabitants of the Pole ſee the Sun, during one half of his courſe of a Year, and during the other half, do not ſee him at all; they ſee the Moon likewiſe during one half of her courſe of a Month, that is, ſhe appears to 'em fifteen Days; but they do not ſee her during the other half. *Jupiter*'s Year is as much as twelve of ours, ſo that there muſt be two oppoſite Extremities in that Planet, where their Night and their Day are ſix Years each. A Night ſix Years long, is a little diſconſolate, and 'tis for that reaſon, I ſuppoſe, they have four Moons; that which (in regard to *Jupiter*) is uppermoſt, finiſheth its courſe about him in ſeventeen Days, the ſecond in ſeven, the third three days and an half, and the fourth in two and forty Hours: and tho they are ſo unfortunate as to have ſix Years Night, yet their courſe being exactly divided into halves,

they

they never paſs above one and twenty Hours, wherein they do not ſee at leaſt the laſt Moon, which is a great Comfort in ſo tedious a Darkneſs: ſo that be where you will, theſe four Moons are ſometimes the prettieſt Sight imaginable; ſometimes they riſe all four together, and then ſeparate according to the Inequality of their courſe; ſometimes they are all in their Meridian, rang'd one above another; ſometimes you ſee 'em at equal Diſtances on the Horizon; ſometimes when two riſe, the other two go down. Oh! how I ſhould love to ſee this pleaſant Sport of Eclipſes! for there is not a day paſſes, but they eclipſe the Sun, or one another; and they are ſo accuſtom'd to this Diverſion in *Jupiter*, that the late Duke of *B——m* in his *Rehearſal*, brought the Dance of Eclipſes from that Planet, as now moſt of our modiſh Dances come out of *France*.

Well, *ſays the Counteſs*, I hope you will people theſe four Moons, tho you ſay they are but little ſecondary Planets, appointed to give light to another Planet during its Night. Do not doubt it, *I reply'd*; theſe Planets are not a jot

the

the worſe to be inhabited, for being forc'd to turn round another Planet of greater Conſequence. I would have then, *ſays ſhe*, the People of theſe four Moons, to be ſo many Colonies under *Jupiter*'s Government; they ſhould receive their Laws and Cuſtoms from him. Would it not be convenient too, *ſaid I*, that they ſhould ſend Deputies with Addreſſes to him? for he hath certainly a more abſolute Command over his Moon, than we have over ours; tho his Power, after all, is but imaginary, and conſiſts chiefly in making them afraid: for that Moon which is neareſt to him, ſees that he is three hundred and ſixty times bigger than our Moon appears to us; for in truth, he is ſo much bigger than ſhe: he is alſo much nearer to them, than our Moon is to us, the which makes him appear the greater, ſo that this formidable Planet hangs continually over their Heads, at a very little diſtance. And if the *Gauls* were afraid heretofore that the Heavens would fall on 'em, I think the Inhabitants of that Moon may well be apprehenſive that *Jupiter* will

at

at ſome time or other overwhelm them. They are, *ſays ſhe*, I fancy, poſſeſſed with that fear, becauſe they are not concern'd at Eclipſes. Every one has their due Folly: we are afraid of an Eclipſe, and they, that *Jupiter* will fall on their Heads. It is very true, *ſaid I*; the Inventer of the third Syſtem, I told you t'other night, the famous *Tycho Brahe*, one of the greateſt Aſtronomers that ever was, did not apprehend the leaſt danger from an Eclipſe, when every body elſe was under the greateſt Conſternation; yet this great Man had as an unaccountable a fear, did a Hare croſs him, or were the firſt Perſon he met in a Morning an old Woman, home preſently went *Tycho Brahe*, he ſhut himſelf up for that day, and would not meddle with the leaſt Buſineſs.

Let us go on with ours, tho, *ſaid the Counteſs*, and leave *Tycho Brahe* to defend his Superſtition. Pray tell me, if the Earth be ſo little in compariſon of *Jupiter*, whether his Inhabitants do diſcover us? Indeed, *ſaid I*, I believe not; for if we appear to him ninety times

leſs

leſs than he appears to us, judge you if there be any poſſibility. Yet this we may reaſonably conjecture, that there are Aſtronomers in *Jupiter*, that after they have made the moſt curious Teleſcopes, and taken the cleareſt Night for their Obſervations, they may have diſcover'd a little Planet in the Heavens, which they never ſaw before. If they publiſh their Diſcovery, moſt People know not what they mean, or laugh at them for Fools: nay, the Philoſophers themſelves will not believe 'em, for fear of deſtroying their own Opinions; yet ſome few may be a little curious; they continue their Obſervations, diſcover the little Planet again, and are now aſſur'd it is no Viſion; then they conclude it hath a Motion round the Sun, which it compleats in a Year: and at laſt (thanks to the Learned) they know in *Jupiter* our Earth is a World, every body runs to ſee it at the end of the Teleſcope, tho 'tis ſo little, 'tis hardly diſcover'd.

It muſt be pleaſant, *ſays ſhe*, to ſee the Aſtronomers of both Planets level-

ling

ing their Tubes at one another, like wo Files of Muſqueteers, and mutually ısking, what World is that? What Peo-ple inhabit it? Not ſo faſt neither, *I eply'd*; for tho they may from *Jupiter* diſcover our Earth, yet they may not know us; that is, they may not have the leaſt Suſpicion it is inhabited: and ſhould any one there chance to have ſuch a Fancy, he might be ſufficiently ridicul'd, if not proſecuted for it. For my part, I believe they have work enough to make Diſcoveries on their own Planet, not to trouble their Heads with ours: And had Sir *Francis Drake* and *Columbus* been in *Jupiter*, they might have had good Employments: why, I warrant you they have not yet diſcover'd the hundredth part of their Planet. But if *Mercury* is ſo little, they are all, as it were, near Neighbours; and 'tis but taking a walk, to go round that Planet. But if we do not appear to 'em in *Jupiter*, they cannot certainly diſcover *Venus* and *Mercury*, which are much leſs than the Earth, and at a greater diſtance; but in lieu of it, they ſee *Mars*, their own four Moons,

Moons, and *Saturn* with his: This, I think, is work enough for their Aſtronomers; and Nature hath been ſo kind to conceal from them the reſt of the Univerſe. Do you think it a Favour then, *ſays ſhe?* Yes, certainly, *ſaid I*; for there are ſixteen Planets in this great Vortex. Nature ſaves us the trouble of ſtudying the Motions of them all, and ſhews us but ſeven, which, I think, is very obliging, tho we know not how to value the Kindneſs; for we have recover'd the other nine which were hid from us, and ſo render the Science of Aſtronomy much more difficult than Nature deſign'd it.

If there are ſixteen Planets, *ſaid ſhe*, *Saturn* muſt have five Moons. 'Tis very true, *ſaid I*; and two of theſe five are but lately diſcover'd: but there is ſomewhat that is more remarkable; ſince his Year is thirty of ours, there are conſequently in him ſome Countries, where their Night is fifteen Years long; and what can you imagine Nature hath invented to give Light, during ſo dreadful a Night? Why, ſhe hath not only given

Saturn

turn five Moons, but ſhe hath encom-
ſs'd him round with a great Circle or
ing, the which being plac'd beyond
e reach of the Shadow which the Bo-
y of that Planet caſts, reflects the Light
f the Sun continually on thoſe Places
here they cannot ſee the Sun at
l.

I proteſt, *ſays the Counteſs*, this is very
rprizing; and yet all is contriv'd in ſuch
reat Order, that it is impoſſible not to
hink but Nature took time to conſider
he Neceſſities of all animate Beings, and
hat the diſpoſing of theſe Moons was
ot a work of Chance; for they are only
ivided among thoſe Planets which are
artheſt diſtant from the Sun, the Earth,
Jupiter, *Saturn*. Indeed it was not
vorth while to give any to *Mercury* or
Venus; they have too much Light al-
eady: and they account their Nights
as ſhort as they are) a greater Bleſſing
han their Days. But pray, why was
ot *Mars* a Moon too? it ſeems he has
one, tho he is much further than the
Earth from the Sun. It is very true,
ſaid I; no doubt but he hath other helps,

tho

tho we don't know 'em: You have ſe
the *Phoſphorus*, both liquid and dry, ho
it receives and imbibes the Rays of t
Sun, and what a great Light it will ca
in a dark Place. Perhaps *Mars* hath m
ny great high Rocks, which are ſo mar
natural *Phoſphorus's*, which in the Da
take in a certain Proviſion of Light, ar
return it again at Night. What thin
you, Madam, is it not very pleaſar
when the Sun is down, to ſee tho
lighted Rocks, like ſo many Illumin
tions at a Birth-day Night? Beſide
there is a kind of Bird in *America* th
yields ſuch a Light, you may read by
in the darkeſt Night: and who know
but *Mars* may have great Flocks of the
Birds, that as ſoon as it is Night, diſperſ
themſelves into all Parts, and ſprea
from their Wings another Day?

I am not at all contented, *ſays ſhe* with your Rocks or your Birds: 'tis pretty fancy indeed; but 'tis a ſign tha there ſhould be Moons in *Mars*, ſinc Nature hath given ſo many to *Saturn* an *Jupiter*: and if all the other Worlds tha are diſtant from the Sun have Moons

why

ıy ſhould *Mars* only be excepted? Ah, adam, *ſaid I*, when you are a little ore dipt in Philoſophy, you will find xceptions in the very beſt Syſtems. here are always ſome things that agree treme well; but then there are others at do not accord at all: thoſe you muſt ave as you found 'em, if ever you in- nd to make an end. We will do ſo by *lars*, if you pleaſe, and ſay no more of im, but return to *Saturn*. What do ou think of his great Ring, in the form f a Semicircle, that reaches from one nd of the Horizon to the other, which eflecting the Light of the Sun, performs he Office of a continual Moon? And nuſt we not inhabit this Ring too, *ſays he?* I confeſs, *ſaid I*, in the Humour I ım in, I could almoſt ſend Colonies eve- ry where; and yet I can't well plant any there, it ſeems ſo irregular a Habitation: but for the five little Moons, they can- not chuſe but be inhabited; tho ſome think this Ring is a Circle of Moons, which follows cloſe to one another, and have an equal Motion, and that the five little Moons fell out of this Circle: how

many Worlds are there then in the Vo
tex of *Saturn*? But let it be how it wi
the People in *Saturn* live very miſerabl
'Tis true, this Ring gives Light to 'e
but it muſt be a very poor one, when t
Sun ſeems to 'em but a little pale St
whoſe Light and Heat cannot but be v
ry weak at ſo great a diſtance: they ſa
Greenland is a perfect *Bagnio*, in comp
riſon of that Planet, and that they wou
expire with Heat in our coldeſt Cou
tries.

You give me, *ſays ſhe*, ſuch an Idea
Saturn, that makes me ſhake with Col
and that of *Mercury* puts me into a F
ver. It cannot be otherwiſe, *I reply'a*
for the two Worlds, which are the E
tremities of this great Vortex, muſt b
oppoſite in all things. They muſt the
ſays ſhe, be very wiſe in *Saturn*; for yo
told me they were all Fools in *Mercur*
If they are not wiſe, *ſaid I*; yet the
have all the appearances of being ver
phlegmatick. They are People tha
know not what it is to laugh; the
take a Day's time to anſwer the lea
Queſtion you can ask them, and ar
ſ

ſo very grave, that were *Cato* living among them, they would think him a *Merry-Andrew.*

It is odd to conſider, *ſays ſhe*, that the Inhabitants of *Mercury* are all Life, and the Inhabitants of *Saturn* quite contrary; but among us, ſome are briſk, and ſome are dull: It is, I ſuppoſe, becauſe our Earth is plac'd in the middle of the other Worlds, and ſo we participate of both Extremes, there is no fix'd or determin'd Character; ſome are made like the Inhabitants of *Mercury*, ſome like thoſe of *Saturn*; we are a Mixture of the ſeveral kinds that are found in the reſt of the Planets. Why, *ſaid I*, do you not approve of the Idea? Methinks it is pleaſant to be compos'd of ſuch a fantaſtical Aſſembly, that one would think we were collected out of different Worlds. We need not travel, when we ſee the other Worlds in Epitome at home.

I am ſure, *ſays the Counteſs*, we have one great Convenience in the Situation of our World; it is not ſo hot as *Mercury* or *Venus*, nor ſo cold as *Jupiter* or

Saturn: and our Country is ſo juſtly plac'd, that we have no Exceſs either of Heat or Cold. I have heard of a Philoſopher, who gave thanks to Nature, that he was born a Man, and not a Beaſt, a *Greek*, and not a *Barbarian*: and for my part, I render thanks, that I am ſeated in the moſt temperate Planet of the Univerſe, and in one of the moſt temperate Regions of that Planet. You have more reaſon, *ſaid I*, to give thanks that you are young, and not old; that you are young and handſome, and not young and ugly; that you are young, handſome, and an *Engliſh* Woman, and not young, handſome, and a *Spaniard*, or an *Italian*: theſe are other-gueſs Subjects for your thanks, than the Situation of your Vortex, or the Temperature of your Country.

Pray Sir, *ſays ſhe*, let me give thanks for all things, to the very Vortex in which I am planted. Our Proportion of Happineſs is ſo very ſmall, that we ſhould loſe none, but improve continually what we have, and be grateful for every thing, tho ever ſo common

or

or inconsiderable. If nothing but exquisite Pleasure will serve us, we must wait a long time, and be sure to pay too dear for it at last. I wish, *said I*, that Philosophy was the Pleasure you propose, that when you think of Vortexes, you would not forget an humble Servant of your Ladyship's. I esteem it a Pleasure, *says she*, while it diverts innocently, but no longer. I will engage for it till to-morrow, *I reply'd*; for the fixed Stars are beyond what you have yet seen.

The Fifth Evening.

THE Counteſs was very impatient to know what would become of the fixed Stars: are they inhabited, *ſays ſhe*, as the Planets are, or are they not inhabited? What ſhall we do with 'em? You may ſoon gueſs, *ſaid I*; the fixed Stars can't be leſs diſtant from the Earth than fifty Millions of Leagues; nay, if you anger an Aſtronomer, he will ſet 'em further. The Diſtance from the Sun to the fartheſt Planet is nothing in compariſon of the Diſtance from the Sun, or from the Earth, to the fixed Stars; it is almoſt beyond Arithmetick. You ſee their Light is bright and ſhining; and did they receive it from the Sun, it muſt needs be very weak after a Paſſage of fifty Millions of Leagues: then judge how much it is waſted by Reflection; for it comes back again as far

ır to us: ſo that forwards and back-
ards, here are an hundred Millions of
eagues for it to paſs; and it is impoſſi-
le it ſhould be ſo clear and ſtrong as the
ight of a fixed Star, which cannot but
roceed from itſelf: ſo that, in a word,
ll the fixed Stars are ſo many Suns.

I perceive, *ſays the Counteſs*, where you
ould carry me: you are going to tell
ıe, that if the fixed Stars are ſo many
uns, and our Suns the Center of a Vor-
ex that turns round him; why may
ot every fixed Star be the Center of
Vortex, that turns round the fixed
tar? Our Sun enlightens the Planets:
hy may not every fixed Star have Pla-
ets to which they give Light? You
ave ſaid it, *I reply'd*, and I will not con-
radict you.

You have made the Univerſe ſo large,
iid ſhe, that I know not where I am, or
hat will become of me: What, is it all
o be divided into Heaps confuſedly,
ne among another? Is every Star the
Center of a Vortex, as big as ours? Is
hat vaſt Space which comprehends our
un and Planets but an inconſiderable

part of the Univerſe? And are there as many ſuch Spaces, as there are fixed Stars? I proteſt it is dreadful. Dreadful, Madam, *ſaid I*; I think it very pleaſant: When the Heavens were a little blue Arch, ſtuck with Stars, methought the Univerſe was too ſtrait and cloſe; I was almoſt ſtifled for want of Air: but now it is enlarg'd in Height and Breadth, and a thouſand and a thouſand Vortexes taken in, I begin to breathe with more freedom, and think the Univerſe to be incomparably more magnificent than it was before. Nature hath ſpar'd no coſt, even to profuſeneſs; and nothing can be ſo glorious, as to ſee ſuch a prodigious number of Vortexes, whoſe ſeveral Centres are poſſeſs'd by a particular Sun which makes the very Planets turn round it. The Inhabitants of a Planet of one of theſe innumerable Vortexes, ſee on all ſides theſe luminous Centers of the Vortex, with which they are encompaſs'd: but perhaps they do not ſee the Planets, who receiving but a faint Light from their Sun, cannot ſend it beyond their own World.

You preſent me with a kind of Perſpective of ſo vaſt a length, that no Eye can reach to the end of it. I plainly ſee the Inhabitants of the Earth, and you have made me diſcover thoſe that dwell in the Moon, and in other Planets of our Vortex; but theſe indeed, I do not ſee ſo clearly as thoſe of the Earth: after theſe, we come to the Inhabitants of the Planets which are in the other Vortexes, but they are ſunk into ſo great a depth, that tho I do all I can to ſee them, yet I muſt confeſs I can hardly perceive 'em. By the Expreſſion you uſe in ſpeaking of 'em, they ſeem to be almoſt annihilated; you ought then to call 'em the Inhabitants of one of thoſe innumerable Vortexes: We ourſelves, for whom the ſame Expreſſion ſerves, muſt confeſs, that we ſcarce know where we are, in the midſt of ſo many Worlds; for my own part, I begin to ſee the Earth ſo fearfully little, that I believe from henceforth I ſhall never be concern'd at all for any thing. That we ſo eagerly deſire to make ourſelves great, that we are always deſigning, always troubling and haraſſing ourſelves,

is certainly becauſe we are ignorant what theſe Vortexes are: but now I hope my new Lights will in part juſtify my Lazineſs; and when any one reproaches me with my Careleſſneſs, I will anſwer, *Ah did you but know what the fix'd Stars are!* It was not fit, *ſaid I*, that *Alexander* ſhould know what they were; for a certain Author who maintains that the Moon is inhabited, very gravely tells us that *Ariſtotle* (from whom no Truth could be long conceal'd) muſt neceſſarily be of an Opinion, back'd with ſo much Reaſon; but yet he could never acquaint *Alexander* with the Secret, fearing he might run mad with Deſpair, when he knew there was another World which he could not conquer. With much more reaſon then was this Myſtery of Vortexes and fix'd Stars kept ſecret in *Alexander*'s time: for tho they had been known in thoſe days, yet a Man would have been a great Fool, to have ſaid any thing of 'em to *Alexander*; it had been but an ill way of making his court to that ambitious Prince: for my part, I that know 'em, am not a little troubled to find my

ſelf

ſelf not one jot the wiſer for all the knowledge I have of 'em; the moſt they can do, according to your way of reaſoning, is but to cure People of their Ambition, and their unquiet reſtleſs Humour, which are Diſeaſes I am not at all troubled with: I confeſs, I am guilty of ſo much Weakneſs, as to be in love with what is beautiful; that's my Diſtemper, and I am confident, the Vortexes can never cure it. What if the other Worlds render ours ſo very little? they cannot ſpoil fine Eyes, or a pretty Mouth; their Value is ſtill the ſame, in ſpite of all the Worlds that can poſſibly exiſt.

This Love, *reply'd the Counteſs*, ſmiling, is a ſtrange thing; let the World go how 'twill, 'tis never in danger; there is no Syſtem can do it any harm. But tell me freely, is your Syſtem true? Pray conceal nothing from me; I will keep your Secret very faithfully; it ſeems to have for its foundation, but a ſlight Probability; which is, that if a fix'd Star be in itſelf a luminous Body, like the Sun, then by conſequence, it muſt, as the Sun is, be the Center and

Soul of a World, and have its Planets turning round about it. But is there an abſolute neceſſity it muſt be ſo? Madam, *ſaid I*, ſince we are in the humour of mingling amorous Follies with our moſt ſerious Diſcourſe, I muſt tell you, that in Love and the Mathematicks, People reaſon alike. Allow ever ſo little to a Lover, yet preſently you muſt grant him more, nay more and more, which will at laſt go a great way. In like manner, grant but a Mathematician one little Principle, he immediately draws a Conſequence from it, to which you muſt neceſſarily aſſent; and from this Conſequence another, till he leads you ſo far (whether you will or no) that you have much ado to believe him. Theſe two ſorts of People, Lovers and Mathematicians, will always take more than you give 'em. You grant, that when two things are like one another in all thoſe things that appear to you, it is poſſible they may be like one another in thoſe things that are not viſible, if you have not ſome good Reaſon to believe otherwiſe. Now this way of arguing have I made

uſe of. The Moon, *ſay I*, is inhabited, ɔecauſe ſhe is like the Earth; and the o-her Planets are inhabited, becauſe they ıre like the Moon: I find the fix'd Stars ɔ be like our Sun, therefore I attribute ɔ them what is proper to that. You are ıow gone too far to be able to retreat, herefore you muſt go forward with a ood Grace. But, *ſays the Counteſs*, if ou build upon this Reſemblance or Like-neſs which is between our Sun and the ix'd Stars, then, to the People of ano-her great Vortex, our Sun muſt appear ıo bigger than a ſmall fix'd Star, and can ɔe ſeen only when 'tis Night with them. Without doubt, Madam, *ſaid I*, it muſt ɔe ſo: Our Sun is much nearer to us, han the Suns of other Vortexes, and herefore its Light makes a much greater mpreſſion on our Eyes, than theirs do. We ſee nothing but the Light of our ɔwn Sun; and when we ſee that, it larkens and hinders us from ſeeing any ɔther Light: But in another great Vor-ex, there is another Sun, which rules nd governs, and in its turn extinguiſh-th the Light of our Sun, which is ne-

ver ſeen there but in the Night, with the reſt of the other Suns, that is, the fix'd Stars: with them, our Sun is faſtned to the great arched Roof of Heaven, where it makes a part of ſome Bear or Bull; for the Planets which turn round about it, (our Earth for example) as they are not ſeen at ſo vaſt a diſtance, ſo no body doth ſo much as dream of 'em. All the Suns then are Day-Suns in their own Vortexes, but Night-Suns in other Vortexes. In his own World or Sphere every Sun is ſingle, and there is but one to be ſeen; but every where elſe, they ſerve only to make a number. May not the Worlds, *reply'd the Counteſs*, notwithſtanding this great Reſemblance between 'em, differ in a thouſand other things? for tho they may be alike in one particular, they may differ infinitely in others.

It is certainly true, *ſaid I*; but the difficulty is to know wherein they differ. One Vortex hath many Planets that turn round about its Sun; another Vortex hath but a few. In one Vortex, there are inferior or leſs Planets, which turn a-

bout thoſe that are greater; in another perhaps there are no inferior Planets: Here, all the Planets are got round about their Sun, in form of a little Squadron; beyond which is a great void Space, which reacheth to the neighbouring Vortexes: In another place, the Planets take their Courſe towards the outſide of their Vortex, and leave the middle void. There may be Vortexes alſo quite void, without any Planets at all; others may have their Sun not exactly in their Centre; and that Sun may ſo move, as to carry its Planets along with it; others may have Planets, which in regard of their Sun, aſcend, and deſcend, according to the change of their Equilibration, which keeps them ſuſpended. But I think I have ſaid enough for a Man that was never out of his own Vortex.

It is not ſo much, *reply'd the Counteſs*, conſidering what a multitude of Worlds there are: what you have ſaid is ſufficient but for five or ſix, and from hence I ſee thouſands.

What, Madam, would you ſay, if I ſhould tell you, there are many more

fix'd

fix'd Stars than thoſe you ſee? and that an infinite number are diſcover'd with Glaſſes, which never ſhew themſelves to our Eyes. In only one Conſtellation, where it may be, we count twelve or fifteen, there are as many to be found as uſually appear in the whole Hemiſphere.

I ſubmit, *ſays the Counteſs*, and beg your pardon; you quite confound me with Worlds and Vortexes. I have yet more to tell you, Madam, *ſaid I:* You ſee that whiteneſs in the Sky, which ſome call the *Milky-Way*; can you imagine what that is? 'Tis nothing but an infinity of ſmall Stars, not to be ſeen by our Eyes, becauſe they are ſo very little; and they are ſown ſo thick, one by another, that they ſeem to be one continu'd whiteneſs. I wiſh you had a Glaſs, to ſee this Ant-hill of Stars, and this Cluſter of Worlds, if I may ſo call 'em: they are in ſome ſort, like the *Maldivian* Iſlands. Thoſe twelve thouſand Banks of Sand, ſeparated by narrow Channels of the Sea, which a Man may leap as eaſily, as over a Ditch; ſo near together are the Vortexes

exes of the Milky-Way, that the People n one World may talk, and ſhake Hands with thoſe of another; at leaſt I believe the Birds of one World may eaſily fly into another; and that Pigeons may be train'd up to carry Letters, as they do in the *Levant*. Theſe little Worlds are excepted out of that general Rule, by which one Sun in his own Vortex, as ſoon as he appears, effaceth the Light of all other foreign Suns. If you were in one of theſe little Vortexes of the Milky-Way, your Sun would not be much nearer to you, and conſequently would not make any much greater ſenſible Impreſſion on your Eyes, than an hundred thouſand other Suns of the neighbouring Vortexes: You would then ſee your Heaven ſhine bright with an infinite number of Fires, cloſe to one another, and but a little diſtant from you; ſo that tho you ſhould loſe the Light of your own particular Sun, yet there would ſtill remain viſible Suns enough beſide your own, to make your Night as light as Day, at leaſt the difference would hardly be perceiv'd; for the truth is, you would never have any

Night

Night at all. The Inhabitants of theſe Worlds, accuſtom'd to perpetual Brightneſs, would be ſtrangely aſtoniſh'd, if they ſhould be told, that there are a miſerable ſort of People, who where they live, have very dark Nights, and when 'tis Day with them, they never ſee more than one Sun; certainly they would think Nature had very little Kindneſs for us, and would tremble with Horror, to think what a ſad Condition we are in.

I do not ask you, *ſaid the Counteſs*, whether in thoſe Worlds of the Milky-way, there be any Moons; I ſee they would be of no uſe to thoſe principal Planets which have no Night, and move in Spaces too ſtrait and narrow to cumber themſelves with the Baggage of inferior Planets: yet pray take notice, that by your liberal Multiplication of Worlds, you have ſtarted an Objection not eaſily anſwer'd. The Vortexes whoſe Suns we ſee, touch the Vortex in which we are; and if it be true, that Vortexes are round, how then can ſo many Bowls or Globes all touch one ſingle one? I would

fain

fain imagine how this may be done, but cannot think which way.

You ſhew a great deal of Wit, Madam, *ſaid I*, in raiſing this Doubt, and likewiſe in not being able to reſolve it; for in itſelf the thing is extreme difficult, and in the manner you conceive it, no anſwer can be given to it; and he muſt be a Fool who goes about to find Anſwers to Objections which are unanſwerable. If our Vortex had the form of a Dye, it would have ſix Squares or flat Faces, and would be far from being round; and upon every of theſe Squares might be plac'd a Vortex of the ſame Figure; but if inſtead of theſe ſix ſquare Faces, it had twenty, fifty, or a thouſand, then might a thouſand Vortexes be plac'd upon it, one upon every flat: and you know very well, that the more flat Faces any Body hath on its outſide, the nearer it approacheth to Roundneſs; juſt as a Diamond cut facet-wiſe on every ſide, if the Facets be very many and little, it will look as round as a Pearl of the ſame bigneſs. 'Tis in this manner that the Vortexes are round; they have an infi-

nite

nite number of Facets on their outſide, and every one of 'em hath upon it another Vortex: theſe Facets are not all equal and alike; but here, ſome are greater, and there, ſome leſs: the leaſt Facets of our Vortex, for example, anſwer to the Milky-Way, and ſuſtain all thoſe little Worlds. When two Vortexes are ſupported by the two next Flats on which they ſtand, if they leave beneath any void ſpace between them, as it muſt often happen, Nature, who is an excellent Huſwife, and ſuffers nothing to be uſeleſs, preſently fills up this void Space with a little Vortex or two, perhaps with a thouſand, which never incommode the others, and become one, two, or a thouſand Worlds more; ſo that there may be many more Worlds than our Vortex hath flat Faces to bear 'em. I will lay a good Wager, that tho theſe little Worlds were made only to be thrown into the Corners of the Univerſe, which otherwiſe would have been void and uſeleſs; and tho they are unknown to other Worlds which they touch, yet they are well ſatisfy'd with

their

heir being where they are. Theſe are he little Worlds whoſe Suns are not to e diſcover'd but with a Teleſcope, nd whoſe number is prodigious. To conclude, all theſe Vortexes are join'd o one another in ſo admirable a manner, hat every one turns round about his Sun, without changing place; every one hath ſuch a turn as is moſt eaſy and agreeable to its own Situation; they take hold of one another, like the Wheels of a Watch, and mutually help one another's Motion: and yet 'tis true, that they act contrary to one another. Every World, as ſome ſay, is like a Foot-ball, made of a Bladder, cover'd with Leather, which ſometimes ſwells of its own accord, and would extend it ſelf, if it were not hinder'd. But this ſwelling World being preſs'd by the next to it, returns to its firſt Figure; then ſwells again, and is again depreſs'd: and ſome affirm, that the reaſon why the fix'd Stars give a twinkling and trembling Light, and ſometimes ſeem not to ſhine at all, is becauſe their Vortexes perpetually puſh and preſs our Vortex,

tex, and ours again continually repulſet theirs.

I am in love with theſe Fancies, *ſai the Counteſs*; I am pleas'd with thei Foot-balls, which ſwell every momen and ſink again, and with theſe World which are continually ſtriving and puſh ing one another: but above all, I ar pleas'd to ſee how this juſtly keeps u the Trade of Light, which is certainl the only Correſpondence that is betwee them.

No, no, Madam, *ſaid I*; Light is no their ſole Commerce; the neighbourin Worlds ſometimes ſend Viſits to us, an that in a very magnificent and ſplendi manner: There come Comets to u from thence, adorn'd with bright ſhin ing Hair, venerable Beards, or Majeſ tick Tails. Theſe, *ſaid the Counteſs*, ar Ambaſſadors, whoſe Viſits may be wel ſpared, ſince they ſerve only to affrigh us. They ſcare only Children, *ſaid I* with their extraordinary Train; but in deed, the number of ſuch Children i now-a-days very great. Comets are no thing but Planets, which belong to

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neighbouring Vortex, they move towards the outside of it: but perhaps this Vortex being differently press'd by those Vortexes which encompass it, it is rounder above than it is below, and it is the lower part that is still towards us. These Planets which have begun to move in a Circle above, are not aware that below their Vortex will fail 'em, because it is as it were broken. Therefore to continue the circular Motion it is necessary that they enter into another Vortex, which we will suppose is ours, and that they cut through the outsides of it. They appear to us very high, and are much higher than *Saturn*; and according to our System, it is absolutely necessary they should be so high, for Reasons that signify nothing to our present Subject. From *Saturn* downwards to the outsides of our Vortex, there is a great void space without any Planets. Our Adversaries often ask us, to what purpose this void Space serves? But let them not trouble themselves any more; I have found an use for it: 'Tis the Apartment of those strange

ſtrange Planets, which come into our World.

I underſtand you, *ſays ſhe*; we do not ſuffer them to come into the Heart of our Vortex, among our own Planets, but we receive them as the *Grand Signior* doth the Ambaſſadors that are ſent to him; he will not ſhew them ſo much Reſpect as to let 'em lodge in *Conſtantinople*, but quarters 'em in one of the Suburbs of the City. Madam, *ſaid I*, we and the *Ottomans* agree likewiſe in this, that as we receive Ambaſſadors, but never ſend any, ſo we never ſend any of our Planets into the Worlds that are next us.

By this, *ſays ſhe*, it appears, that we are very proud; however, I do not yet very well know what I am to believe. Theſe foreign Planets with their Tails and their Beards, have a terrible Countenance, it may be they are ſent to affront us; but ours that are of another make, if they ſhould get into other Worlds, are not ſo proper to make People afraid.

Their Beards and their Tails, Madam,

ſaid

aid I, are not real, they are *Phænome-a*, and but mere Appearances. Theſe oreign Planets differ in nothing from urs; but entring into our Vortex, they eem to us to have Tails or Beards, by certain ſort of Illumination which hey receive from the Sun, and which ath not been yet well explain'd. But ertain it is, that 'tis but a kind of Illumination; and when I am able, I will ell you how 'tis done. I wiſh then, *ays ſhe*, that our *Saturn* would go take a Tail and a Beard in another Vortex, and affright all the Inhabitants of it. That done, I would have him come back again, leaving his terrible Accoutrements behind him, and taking his uſual place amongſt our other Planets, fall to his ordinary Buſineſs. 'Tis better for him, *ſaid I*, not to go out of our Vortex. I have told you how rude and violent the ſhock is, when two Vortexes juſtle one another, a poor Planet muſt needs be terribly ſhaken, and its Inhabitants in no better Condition. We think our ſelves very unhappy when a Comet appears; but 'tis the Comet that is in an ill

caſe.

caſe. I do not believe that, *ſays ſhe*; it brings all its Inhabitants with it in very good Health; there can be nothing ſo diverting as to change Vortexes. We that never go out of our own, lead but a dull Life. If the Inhabitants of a Comet had but the Wit to foreſee the time when they are to come into our World, they that had already made the Voyage, would tell their Neighbours beforehand what they would ſee; they would tell them, that they would diſcover a Planet with a great Ring about it, meaning our *Saturn*; they would alſo ſay, you ſhall ſee another Planet which hath four little ones to wait on it; and perhaps ſome of them, reſolv'd to obſerve the very Moment of their entring into our World, would preſently cry out, *A new Sun, a new Sun!* as Sailors uſe to cry, *Land, Land!*

You have no reaſon then, *ſaid I*, to pity the Inhabitants of a Comet; yet I ſuppoſe you will think their Condition lamentable, who inhabit a Vortex whoſe Sun comes in time to be quite extinguiſhed, and conſequently live in Eternal Night.

Night. How, *cry'd the Counteſs*, can Suns be put out? Yes, without doubt, *ſaid I*; for People ſome thouſand Years ago ſaw fixed Stars in the Sky, which are now no more to be ſeen; theſe were Suns which have loſt their Light, and certainly there muſt be ſtrange Deſolation in their Vortexes, and a general Mortality over all the Planets: for what can People do without a Sun? This is a diſmal Fancy, *ſaid the Counteſs*, I would not if I could help it, let it come into my head. I will tell you if you pleaſe, *I reply'd*, what in this Particular is the Opinion of Learned Aſtronomers. They think that the fixed Stars which have diſappear'd, are not quite extinguiſh'd, but that they are half Suns, that is, they have one half dark, and the other half light; and turning round upon their own Axis or Center, they ſometimes ſhew us their light ſide, and afterwards turning to us their dark Side, we ſee them no more. To oblige you, Madam, I will be of this Opinion, becauſe it is not ſo harſh as the other; but I cannot make it good, but in relation to ſome certain

certain Stars; becauſe as ſome have lately obſerv'd, thoſe Stars have their regulated times of Appearing and Diſappearing, otherwiſe there could be no ſuch thing as half Suns. But what ſhall we ſay of Stars, which totally diſappear, and never ſhew themſelves again after they have finiſh'd their Courſe of turning round upon their own Axis? You are too juſt, Madam, to oblige me to believe that ſuch Stars are half Suns. However, I will try once more what I can do in favour of your Opinion: The Suns are not extinct, they are only ſunk ſo low into the immenſe Depth of Heaven, that we cannot poſſibly ſee them: in this caſe the Vortex follows his Sun, and all's well again. 'Tis true, that the greateſt part of the fixed Stars have not this Motion, by which they remove themſelves ſo far from us, becauſe at other times they might return again nearer to us, and we ſhould ſee them ſometimes greater, and ſometimes leſs, which never happens. But we will ſuppoſe that none but the little, light, and moſt active Vortexes, which ſlip between the others, make cer-

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tain Voyages, after which they return again, while the main Body of Vortexes remain unmov'd. 'Tis likewiſe very ſtrange, that ſome fixed Stars ſhew themſelves to us, ſpending a great deal of time in appearing and diſappearing, and at laſt totally and entirely diſappear. Half Suns would appear again at their ſet and regulated time. Now, Madam, boldly declare your Opinion: Muſt not theſe Stars of neceſſity be Suns, which are ſo much darkned, as not to be viſible to us, yet afterwards ſhine again, and at laſt are wholly extinct? How can a Sun, *ſaid the Counteſs*, be darkned, and quite extinguiſh'd, when it is in its own Nature a Fountain of Light? It may be done, Madam, *ſaid I*, with all the eaſe in the World, if *Deſcartes*'s Opinion be true, that our Sun hath Spots: now whether theſe Spots be Scum or thick Miſts, or what you pleaſe, they may thicken and unite, till at laſt they cover the Sun with a Cruſt, which daily grows thicker, and then farewel Sun. We have hitherto ſcap'd pretty well; but 'tis ſaid, that the Sun for ſome whole Years together hath

look'd very pale: for example, the Year after *Cæſar*'s Death, it was this Cruſt that then began to grow; but the force of the Sun broke and diſſipated it: had it continued, we had been all loſt People. You make me tremble, *reply'd the Counteſs*. And now I know the fatal Conſequences of the Sun's Paleneſs, I believe, inſtead of going every Morning to my Glaſs, to ſee how I look, I ſhall caſt my Eyes up to Heaven, to ſee whether or no the Sun looks pale. Oh, Madam, *ſaid I*, there is a great deal of time required to ruin a World. Grant it, *ſaid ſhe*; yet 'tis but time that is requir'd. I confeſs it, *ſaid I*; all this immenſe Maſs of Matter that compoſes the Univerſe, is in perpetual Motion, no part of it excepted: And ſince every part is moved, you may be ſure that Changes muſt happen ſooner or later; but ſtill in times proportion'd to the Effect. The Antients were pleaſant Gentlemen, to imagine that the celeſtial Bodies were in their own Nature unchangeable, becauſe they obſerved no change in them; but they did not live long enough to confirm their Opinion by

by their own Experience, they were Boys in comparison of us. Give me leave, Madam, to explain my self by an Allegory: If Roses, which last but a day, could write Histories, and leave Memoirs one to another; and if the first Rose should draw an exact Picture of their Gardiner, and after fifteen thousand Rose-Ages, it should be left to other Roses, and so left still to those that should succeed without any change in it; should the Roses hereupon say, we have every day seen the same Gardiner, and in the memory of Roses none ever saw any Gardiner but this, he is still the same he was; and therefore certainly he will die as we do, for there is no Change at all in him: Would not these Roses, Madam, talk very foolishly? And yet there would be more Reason in their Discourse, than there was in what the Antients said concerning celestial Bodies; and tho even to this very day there should appear no visible Change in the Heavens, and the Matter of which they are made, should have all the Signs of an eternal Duration, without any change;

yet I would not believe them unchangeable, till I had the experience of many more Ages. Ought we, who laſt but a Moment, to make our Continuance the meaſure of any other things Duration; 'tis not ſo eaſy a matter to be eternal. To have laſted many Ages of Men, one after another, is no Sign of Immortality. Truly, *ſays the Counteſs*, I find the Worlds are far from being able to pretend to it; I will not do them ſo much honour as to compare them to the Gardiner that lived ſo much longer than the Roſes. I begin to think them like the Roſes themſelves, which blow one day, and die the next: For now I underſtand that if old Stars diſappear, new ones will come in their room, becauſe every Species muſt preſerve itſelf. No Species, Madam, *ſaid I*, can totally periſh; ſome perhaps will tell you, that ſuch new Stars are Suns, which return to our ſight again, after they have been a long time hid from us in the Profundity of Heaven: Others may tell you, they are Suns cleared from that thick Cruſt, which once covered them. If I ſhould think all

ll this poſſible, yet I likewiſe believe hat the Univerſe may be fram'd in ſuch manner, that from time to time it may roduce new Suns; why may not that Matter, which is proper to make a Sun, e diſpers'd here and there, and gather t ſelf again at long run into one certain lace, and lay the Foundation of a new World? I am very much inclin'd to be-ieve ſuch new Productions, becauſe they uit with that glorious and admirable I-dea which I have of the Works of Na-ture. Can we think that wiſe Nature knows no more than the Secret of mak-ing Herbs and Plants live and die by a continual Revolution? I am verily per-ſuaded, and are not you ſo too, Ma-dam, that Nature, without much coſt or pains, can put the ſame Secret in prac-tice upon the Worlds? I now find, *ſays the Counteſs*, the Worlds, the Heavens, and celeſtial Bodies ſo ſubject to change, that I am come to my ſelf again. To come the better again to ourſelves, *I re-ply'd*, let us ſay no more of theſe Mat-ters. We are arriv'd at the very Roof and Top of all the Heavens; and to tell

you whether there be any Stars beyond it, you muſt have an abler Man than I am: You may place Worlds there, or no Worlds, as you pleaſe. 'Tis the Philoſopher's Empire to deſcribe thoſe vaſt inviſible Countries, which are, and are not, or are ſuch as he pleaſes to make 'em: It is enough for me to have carried your Mind as far as you can ſee with your Eyes.

Well, *ſays the Counteſs*, I have now in my head the Syſtem of the Univerſe. How learned am I become! Indeed, Madam, *ſaid I*, you are pretty knowing; and you are ſo with the advantage of believing, or not believing any thing I have ſaid. For all my pains I only beg this Favour, that whenever you ſee the Sun, the Heaven, or the Stars, you will think of me.

The Sixth Evening.

FOR a long time the Counteſs and I had no farther Diſcourſe concerning the Worlds; ſo that I think we had in a manner forgot we ever talk'd about them: when going to make her a Viſit, I happen'd to come in juſt as two Men of Wit, whoſe Characters are well known, were taking leave. You obſerve, *ſaid ſhe*, as ſoon as ſhe ſaw me, what ſort of Viſitors I have had; and I muſt own to you, they have left me under ſome ſuſpicion that you have ſpoil'd my Underſtanding. *I reply'd*, I ſhould be very proud to have had ſo much power over her; for I thought no body could undertake a more difficult Task. I'm afraid however, *ſays ſhe*, 'tis too true. I fell, I know not how, into a Converſation about the Worlds with the Gentlemen you ſaw, who, for ought I know, drew me into it out of mere

Malice. I made no ſcruple of affirming roundly to them, that the Planets were inhabited. One of 'em told me poſitively, he was very ſure, I did not believe it. Poor I, with all the Simplicity imaginable, maintain'd that I did. He took it all as a Feint of one who meant only to be merry; and I doubt the Reaſon why he perſiſted ſo obſtinately in disbelieving me concerning my own Sentiments, was, that he had too great an Eſteem for me to imagine me capable of ſo extravagant an Opinion. The other indeed, whoſe Reſpect for me did not riſe ſo high, took me at my word, and believ'd me: but why would you ſet my Head a running upon a thing, which no one who values me, can ever be perſuaded I am ſerious in maintaining? And why, Madam, *anſwer'd I*, ſhould you maintain it ſeriouſly with Perſons, who, I am confident, never apprehend any Reaſoning which is in the leaſt degree ſerious? Muſt the Inhabitants of the Planets be put to ſuch Hazards? No, let us content ourſelves with our little ſelect Party

ty that believes them, and not publiſh our Myſteries to the Vulgar. I hope, *ſaid ſhe*, you don't call thoſe two Gentlemen the Vulgar. They have a great deal of it, *I anſwered*, but they never reaſon; and the Reaſoners, who are blunt Speakers, and compliment no body, call all ſuch the Vulgar, without any difficulty. On the other hand, ſuch Perſons revenge themſelves by turning the Reaſoners into Ridicule; and it ſeems to be very happily order'd, that each Kind deſpiſes the Talent it wants. One ought, if it were poſſible, to accommodate one's ſelf to every Man after his particular kind. Accordingly, it would have been much better to have made the Inhabitants of the Planets a Subject of Pleaſantry with theſe Gentlemen, than of Reaſoning, becauſe they underſtand Pleaſantry, but not Reaſoning. By this Method, you would have ſent them away with the higheſt Eſteem of you; and the Planets would have loſt not a ſingle Inhabitant of their Number. What, *cry'd the Counteſs warmly*, ſhould I betray the Truth! certainly you are a Man of no

Conſcience. I muſt confeſs, *reply'd I*, that I have no mighty Zeal for Truths of this Nature, and would freely ſacrifice a thouſand of them to the ſmalleſt Conveniencies in Society. For inſtance, I ſee what hinders, and what will continually hinder People from thinking the Opinion of the Planets being inhabited, ſo probable and well grounded, as in reality it is: the Planets always appear to the Eye like Bodies that give Light, and not as large Countries, or ſpacious Fields: We ſhould eaſily believe that Fields or Countries might be inhabited, but not luminous Bodies. 'Tis in vain that Reaſon informs us there are Countries and Fields in the Planets. Reaſon comes too late: the Sight has firſt had its effect upon us; we are deaf to all ſhe can ſay, and the Planets are nothing but luminous Bodies. Beſides, what Shape can their Inhabitants have? Our Imagination muſt immediately repreſent to us their Figures, which is not in our power. The ſhorteſt Way then is, to believe they are not in being. Now, in order to fix Inhabitants in the Planets,

nets, in which I am ſo remotely intereſted, would you have me attack theſe formidable Powers, call'd the Senſes and the Imagination? An Enterprize that requires no ſmall Courage. One cannot eaſily perſuade Men to make their Eyes give place to their Reaſon. I meet with ſeveral who have ſo much Reaſon as to be willing, after a multitude of Proofs, to believe the Planets are Earths; but they do not believe it in the ſame manner as they would if they had not ſeen them under a different Appearance. The Idea they firſt receiv'd of them is perpetually returning, and they never entirely quit it. Theſe are the Perſons who in believing this Opinion of ours, ſeem however to do it a favour, and to incline to it only on account of a certain Pleaſure the Singularity of it affords them.

What! *interrupted ſhe*, is it not ſufficient then, that an Opinion is probable and likely to be true? You would be ſurpriz'd, *I anſwer'd*, if I ſhould ſay this term *probable* and *likely* to be true, is a very modeſt Expreſſion. Is it only pro-

bable

bable there was ſuch a Man as *Alexander?* You are certain of it; and upon what is this Certainty founded? Upon this: you have all the Proofs you can deſire in a matter of this nature; and there is not the leaſt occaſion of doubting to make you ſuſpend your Aſſent: yet you have never ſeen *Alexander*, nor have you a Mathematical Demonſtration that he muſt have been. But what will you ſay if the Caſe ſhould be very much the ſame with the Inhabitants of the Planets? There is no way to give you a ſight of them, nor can you demand it to be demonſtrated like a Point in the Mathematicks; but you have all the Proofs which can be ask'd in ſuch a Caſe: the perfect Reſemblance between the Planets and the Earth which is inhabited; the Impoſſibility to imagine any other Uſe for which they are made; the Fruitfulneſs and Magnificence of Nature, and ſome particular Regards ſhe appears to have had for the Neceſſities of their Inhabitants, by giving Moons, for inſtance, to the Planets which are far off from the Sun,

and

and ſeveral to thoſe which are the moſt diſtant: and, what is very important, there is all this on the one hand, and nothing at all on the other; nor can you find the leaſt Reaſon to queſtion it, unleſs you reaſſume the Eyes and Wit of the Vulgar. In ſhort, ſuppoſing there were theſe Inhabitants, they could not ſhew themſelves by more Tokens, nor more ſenſible ones. After all this, Madam, pray conſider whether you ought to look upon it as a matter merely probable? But you would not have this, *reply'd ſhe*, appear as certain to me, as it does that there was an *Alexander*? Not quite, *anſwer'd I*; for tho we have as many Proofs of the Inhabitants of the Planets as we can come at in the Situation we are plac'd in, yet theſe Proofs are not very numerous. In truth, *cry'd the Counteſs*, I am on the point of rejecting theſe Inhabitants; I am at ſuch a loſs under what Rank to conſider them: they are not abſolutely certain, it ſeems, and yet they are more than probable; this embaraſſes me too much. Ah, Madam, *reply'd I*, never let

let that diſcourage you. The moſt common and ordinary Clocks point out the Hours, but only thoſe which are more curiouſly made, expreſs the Minutes. In like manner, a common Capacity eaſily perceives the difference between a bare Probability, and abſolute Certainty; but it is only a refin'd Underſtanding which obſerves the ſeveral degrees of either; and, as I may ſay, diſtinguiſhes the Minutes. You may place the Inhabitants of the Planets a little ſhort of *Alexander*, but beyond many Points of Hiſtory which are not prov'd. And this, I think, is their proper place. I love Order, *ſays ſhe*, and I am oblig'd to you for ranging my Ideas. But why did you not do it ſooner? Becauſe, *ſaid I*, tho you believ'd the Inhabitants of the Planets a little more or leſs than the matter deſerves, there is no harm done. I am ſure you don't believe the Motion of the Earth as much as you ought; but are you therefore to be pity'd? Oh, for that, *ſays ſhe*, I do as I ought; and you have nothing to reproach me with.

I firmly believe that the Earth moves. In the mean time, *ſaid I*, I have not yet given you the beſt Proof of it. Nay then, *ſays ſhe*, 'tis a ſort of Treachery, to have drawn me in to believe Things, by bringing me only the flighteſt Proofs. What! you don't think me worthy of believing upon good Reaſons? I thought beſt, *I reply'd*, to prove theſe things to your Ladyſhip by little ſoft Reaſonings only, after your own way. Ought I to have produc'd ſturdy and robuſt Arguments, as if I had been attacking a Doctor? Yes, *ſaid ſhe*, I deſire you will at preſent take me for a Doctor, and produce this new Proof of the Earth's Motion.

With all my Heart, *ſaid I*; 'tis this —— I am very well pleas'd with it; perhaps becauſe I fancy it is my own Diſcovery; and yet it is ſo good and ſo natural a Reaſoning, that I dare be confident I am the Inventor. It is very certain, that a conceited Man of Learning, who would undertake to anſwer it, would be forced to talk a great deal; the only way by which a Man of Learning

ing can be confounded. Either the Celeſtial Bodies revolve in 24 Hours round the Earth, or the Earth turning upon its own Axis in 24 Hours, imputes this Motion to all the Celeſtial Bodies. But that they make this Revolution round the Earth, is the moſt improbable Suppoſition in the World, tho the Abſurdity of it does not immediately appear. It is plain, that all the Planets make great Revolutions round the Sun; but theſe Revolutions are very different, according to their ſeveral diſtances from it. The moſt remote perform their Courſe in more Time; which is very natural; and the ſame Order is obſerv'd among the ſecondary Planets which turn about a great one. The four Moons of *Jupiter*, and the five Moons of *Saturn*, deſcribe their Circles in more or leſs time round their principal Planet, according as they are more or leſs diſtant from it. Beſides, the Planets have Motions upon their proper Centers; which Motions likewiſe are unequal. We don't know by what Laws this Inequality is govern'd; whether

ther it is by the different Magnitude of the Planets, or the Velocity of the particular Vortices which ſurround them, and of the liquid Matter thro which they are mov'd. But, in ſhort, this Inequality is certain; and generally ſpeaking, ſuch is the Order of Nature, that whatever is common to many things, is vary'd at the ſame time by particular differences.

I apprehend you, *interrupted the Counteſs*, and believe you have Reaſon in what you ſay. Yes, I am of your Opinion, that if the Planets turn'd about the Earth, they would do it in unequal times, according to their diſtances, as they do about the Sun: Is not that your Meaning? Exactly, Madam, *anſwer'd I*; their unequal Diſtances with reſpect to the Earth, and their different Magnitudes, and the different Velocities of the particular Vortices which incloſe them, muſt produce differences in this pretended Motion round the Earth, as well as in all the other Motions; and the fix'd Stars, which are ſo prodigiouſly diſtant from us, and ſo far

far beyond the reach of whoever could carry them round the Earth by a general Motion, or at leaſt are ſeated in a place where this Motion muſt be very weak; is there not all the appearance imaginable, that they do not turn round the Earth in twenty-four Hours, like the Moon which is ſo very near us? Muſt not the Comets alſo, which belong not to our Vortex, and have Orbits ſo different one from another, and ſuch different Velocities, be excus'd from running round us in the ſame time? No; according to this Opinion, the fix'd Stars and Comets muſt all wheel about the Earth in ſo many Hours. However, if there were ſome Minutes difference in theſe Revolutions, one might be ſatisfy'd; whereas they are perform'd with the moſt exact Equality, or rather with the only exact Equality that is to be found; not a Minute more or leſs. In truth, this Opinion ought to be violently ſuſpected.

Nay, *ſaid the Counteſs*, ſince it is poſſible, this great Equality may be only in our Imagination; I am ſure it exiſts

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no where elſe. I am well enough pleas'd that a Thing which is not the Work of Nature, ſhould light entirely upon us, and that ſhe ſhould be clear'd of it, tho at our Expence. For my part, *anſwer'd I*, I am ſo little a Friend to this perfect Equality, that I do not find it holds ſo far as that the daily Revolutions of the Earth about her own Axis are made preciſely in twenty-four Hours, and are always equal to one another. I am much inclin'd to believe there is a difference. A Difference! *cry'd the Counteſs*: Pray, do not our Pendulums ſhew they are exactly equal? I muſt except, *anſwer'd I*, to the Pendulums; it is impoſſible they themſelves ſhould be exactly true; and if they were ſo ſometimes, one would, in obſerving one diurnal Revolution to be longer or ſhorter than another, believe the Pendulums irregular, rather than ſuſpect the Earth of any Irregularity in her Motion. You ſee what a pleaſant ſort of Reſpect I have for the Earth; I would truſt to her very little more than to a Pendulum; the ſame things

things nearly, which diſorder the one, will diſorder the order; I only believe it requires more Time to diſorder the Earth ſenſibly, than a Pendulum: this is all the Advantage I can allow her. May not the Earth by little and little approach nearer the Sun? and being then in a place where the Matter is more agitated, and the Motion more rapid, ſhe may in leſs Time make her double Revolution both about the Sun and about her own Axis. The Years may be ſhorter, and ſo may the Days; but we may not be able to perceive it, becauſe the Year would ſtill be divided into 365 Days, and the Day into 24 Hours: And ſo without living longer than we do at preſent, we ſhould live more Years; and on the contrary, let the Earth go farther from the Sun, and we ſhall live fewer Years, and yet not leſs Time. It ſeems very likely, *ſaid ſhe*, that when this happens, a Series of Ages would produce but little difference. I grant it, *anſwer'd I*; Nature is not blunt in her Conduct, and unprepar'd; her Method is to do every thing by degrees, which

are

are not ſenſible, unleſs in very eaſy and immediate Alterations. We can ſcarcely diſcern any other than that of the Seaſons; as for the reſt which are leiſurely, they almoſt eſcape us. In the mean time, every thing is in a continual Motion, and there is nothing that is not grown very old, not excepting a certain Girl in the Moon, that was ſeen there by the help of Teleſcopes about twenty Years ago: ſhe had a Face handſom enough; but now her Cheeks are ſunk, her Noſe lengthen'd, her Forehead and Chin advanc'd, ſo that all her Charms are vaniſh'd, and there are great Apprehenſions that her Days are drawing to an end.

What Romance is this, *ſays the Counteſs*, interrupting me —— 'Tis no Rallery, Madam, I aſſure you. It ſeems there was diſcover'd in the Moon a very particular Figure, like the Head of a Woman, appearing from among the Rocks; in which Parts there has happen'd a conſiderable Change; ſome pieces of the Mountains are fallen, and have laid open to the ſight three Points

which can now only ſerve to make the Forehead, Noſe and Chin of an old Woman. Does it not look, *ſays ſhe*, as if there was a malicious Deſtiny that particularly attends Beauty? It was this very Head of the Girl which it ſingled out of the whole Moon to attack. Perhaps to make amends, *anſwer'd I*, the Changes which happen in our Earth, may ſtrike out ſome beautiful Face for the People of the Moon to gaze at. Some Face I mean like that of the Moon; for every one clothes an Object with thoſe Ideas which are familiar to his Thoughts. Our Aſtronomers ſee in the Moon, the Faces of Girls; and perhaps if the Women were to make Obſervations, they would diſcern there the Faces of handſom Men. For my part, Madam, I don't know whether I ſhould not ſee your Ladyſhip's. I muſt confeſs, *ſaid the Counteſs*, it would be extremely obliging in one to ſpy me out in the Moon. But to return to what you told me juſt now; do there happen conſiderable Changes to the Earth?

There

There is ſome Appearance, *ſaid I*, of ſuch a thing The Fables ſay, *Hercules* with his Hands divided the two Mountains *Calpe* and *Abila*, which ſtood between *Africk* and *Spain*, and prevented the Courſe of the Ocean, and that the Sea immediately ruſh'd in with Fury upon the Land, and made the great Gulf call'd the *Mediterranean*. Fables are not always entirely ſuch, but are Hiſtorys of diſtant Times, though diſguis'd either by the Ignorance of People, or from the love they have for Wonders; both which Weakneſſes Mankind have been ſubject to of old. That *Hercules* with his Hands pull'd two Mountains aſunder is not very credible; but that in the Time of a certain *Hercules*, (for there have been fifty of the Name) the Ocean, aſſiſted perhaps by an Earthquake, overturn'd two Mountains which were leſs ſtrong than the reſt, and forc'd a Way between *Europe* and *Africk*, I can believe without much difficulty. Here then was a noble Spot which the Inhabitants of the Moon ſaw break out all at once upon our Earth.

For Seas, you know, Madam, always look like Spots: at leaſt, it is the common Opinion that *Sicily* was ſeparated from *Italy*, and *Cyprus* from *Syria*: ſometimes new Iſlands alſo ſtart up in the Sea; Earthquakes have ſunk ſome Mountains, and produc'd others, and chang'd the Courſe of Planets. Philoſophers make us afraid the Kingdom of *Naples* and *Sicily*, the Soil of which ſtands upon large ſubterraneous Vaults fill'd with Sulphur, ſhould one day fall in, when the Vaults are unable to reſiſt the Fires which are within them, and which at preſent are not diſcharg'd by ſuch Iſſues as *Veſuvius* and *Ætna*. Is not this enough to diverſify the Spectacle we afford to the Inhabitants of the Moon?

I had much rather, *cry'd the Counteſs*, we ſhould tire them with the ſame Appearance perpetually, than divert them by ſwallowing up Provinces.

For ought I know, *anſwer'd I*, there may have been ſeveral burnt up in *Jupiter* a little while ago. Provinces burnt up in *Jupiter!* Certainly, *ſaid ſhe*, this would be a ſtrange piece of News there.

Very

Very ſtrange, *ſaid I*; there has been ſeen this Year in *Jupiter* a long Track of Light, much brighter than any other part of that Planet. We have had our Deluges, and perhaps in *Jupiter* they are liable to Conflagrations. How can we tell? *Jupiter* is ninety times bigger than the Earth, and revolves round his own Axis in ten Hours; whereas we are twenty-four Hours in revolving; ſo that his Motion is 216 times ſtronger than ours. In ſo violent a Rotation, may not the drier and more combuſtible Parts catch Flame, as an Axeltree ſometimes, or an Arrow ſhot with extraordinary force takes fire? But be this as it will, this Light of *Jupiter* is not comparable to another, which in all appearance is as antient as the World, and which however has never been ſeen. How does this Light do to hide it ſelf, *ſaid ſhe?* It muſt have a very particular Art for that.

It ſhews itſelf, *anſwer'd I*, only at the Twilights, which are generally ſtrong enough to hide it; or if they let it appear, either the Vapours of the Hori-

zon ſmother it, or it is ſo ſcarcely perceivable, that unleſs one obſerves very exactly, it is taken for the Twilight itſelf. But in ſhort, for about theſe ſixteen Years, it has been plainly diſtinguiſh'd, and has been the Entertainment of the Aſtronomers for ſome time, whoſe Curioſity wanted to be awaken'd by ſomething new. The diſcovering ever ſo many new ſecondary Planets would not have touch'd them: they were not tranſported, for inſtance, at the laſt two Moons of *Saturn*, as they had been at the Satellites or Moons of *Jupiter*; they were accuſtom'd to all this: But now a Month before and after the Vernal Equinox, when the Sun was ſet, and the Twilight ſhut in, we ſee a certain whitiſh Light reſembling the Tail of a Comet. It is ſeen before Sun-riſe and before the Twilight about the Autumnal Equinox, and about the Winter Solſtice in the Evening and Morning: at other times, as I ſaid, it is loſt in the Twilights, which are too bright, and laſt too long; for they ſuppoſe it always ſubſiſts, and in all likelihood it does ſo.

They

They conjecture it ariſes from a large quantity of groſs Matter which encompaſſes the Sun to a certain diſtance; that the greateſt part of his Rays paſs thro this Incloſure, and come to us in a ſtrait Line; but ſome of them ſtriking upon the inner Surface of it, are tranſmitted down to us, and reach us either before the direct Rays have reach'd us in the Morning, or after they can no longer reach us in the Evening. As theſe reflected Rays are darted from a greater height than the direct, they muſt conſequently be with us ſooner, and go ſlower away.

Upon this foot I muſt retract what I told you, That the Moon could have no Twilights for want of a groſs Air about her like the Earth. But this will be no loſs to her; her Twilights may ariſe from ſuch a Body of Air as ſurrounds the Sun, and which reflects the Rays upon ſuch places where the direct Beams cannot come. And mayn't this, *ſaid the Counteſs*, furniſh Twilights alſo for all the Planets, who will have no occaſion to be each of them encompaſſed with ſuch

a groſs Air, ſince this of the Sun alone may ſerve for all the Planets of the Vortex? I am ready to believe Nature, according to the Oeconomy I know ſhe affects, would employ no other Means. Notwithſtanding this Oeconomy of hers, *ſaid I*, there might be with reſpect to our Earth, two cauſes of the Twilights; one of which, namely the groſs Air about the Sun, would be of very little uſe, and only ſerve as an Object for the Curioſity of the Members of an Obſervatory. But to ſpeak freely; it is poſſible that the Earth alone ſends forth Vapours and Exhalations groſs enough to produce Twilights, and that Nature ſaw it proper to provide by one general Means for the Neceſſities of all the other Planets, which are purer, if I may ſay it, and whoſe Evaporations are more ſubtile. Perhaps among all the Inhabitants of the ſeveral Worlds in our Vortex, we are they who requir'd a groſs and heavy Air to breathe in. With what Contempt would the Inhabitants of other Planets look upon us, if they knew this?

They would be to blame, *says the Countess*; there is no reason to despise us for being encompass'd with a heavy Air, since the Sun himself is in the same Condition. Pray is not this Air produc'd by certain Vapours, as you told me once, which serve to break the first Force of the Rays, which might otherwise have been too violent? I imagine the Sun may have a Veil drawn about him naturally, in order to make him proportion'd to our Uses. In truth, Madam, *said I*, you have struck out the beginning of a System happily enough: You may add, that these Vapours may produce a sort of Showers, which may fall upon the Sun to refresh him, in the same manner as we sometimes throw Water upon a Fire when it is too fierce. There is nothing we ought not to presume from the Dexterity of Nature; but she has another kind of Dexterity wholly singular, to hide herself from us, and we must not assure ourselves too easily that we have found out her Manner of acting, or her Designs. In making new Discoverys, we should not be

too haſty to reaſon, tho we have always Inclination enough to do it; and true Philoſophers are like the Elephants, who in marching, never ſet down a ſecond Foot to the Ground, till they have fix'd the firſt ſure. I think this Compariſon, *interrupted ſhe*, the juſter, becauſe the Merit of either of the Parties, the Elephants and the Philoſophers, conſiſts in any outward Graces or Charms. I agree, that we ſhould imitate the Warineſs of the one and the other; and if you will teach me ſome of the late Diſcoveries, I promiſe you not to make a Syſtem in haſte.

I have told you already, *anſwer'd I*, all the News I know of the Heavens; and I believe there are no freſher. I am mighty ſorry we have no Advices thence, as ſurprizing and marvellous as ſome Obſervations I read the other day, in an Abridgment of the Annals of *China*, written in *Latin*, and printed a little while ago. There one may ſee a thouſand Stars at a time fall from the Sky into the Sea with a great Craſh, or elſe they diſſolve and turn to Rain;

and

and this has been ſeen more than once in *China*. I have found this Obſervation in two ſeveral Times diſtant enough from each other, without reckoning a Star which travels towards the Eaſt, and burſts with a huge Report, like a Fuſee. It is pity theſe Sights are reſerv'd only for *China*, and that our Countries never have a ſhare in them. Not long ſince, all our Philoſophers thought they had a Foundation in Experience, to maintain, That the Heavens and all the Celeſtial Bodies were Incorruptible, and incapable of Change; and at the ſame time, other Men, in another Quarter of the World, ſaw Stars melt down by thouſands. There is ſome difference in this. But, *ſaid ſhe*, have not I always heard the *Chineſe* were very great Aſtronomers? True, Madam; but the *Chineſe* have the advantage to be ſeparated from us by a large Space of Land, as the *Greeks* and *Romans* are by a long Series of Ages; and all Diſtance has a right to impoſe upon us. In truth, I am more and more perſuaded there is a certain Genius which has hitherto been con-

fin'd within our *Europe*, or which at leaſt has extended very little beyond it. Perhaps it has not been permitted to ſpread itſelf over a great Tract of Country at a time, and that ſome Fatality has ſet it ſuch narrow Bounds. Let us enjoy it, while we have it; the beſt of it is, that it does not confine itſelf to the Sciences and dry Speculations, but reaches with ſucceſs even to Things entertaining and agreeable, in which I queſtion whether any People have equal'd us. Theſe, Madam, are the things you ought to employ yourſelf about, and which ought to compoſe your Philoſophy.

The End of the Diſcourſe of the Plurality of Worlds.

A

DISCOURSE

Concerning the

Antients and Moderns.

Tranſlated from the *French* of
Monſ. FONTENELLE.

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THE whole Diſpute for Pre-eminence between the Antients and Moderns being well underſtood, has this ſhort Iſſue, *viz.* to know whether the Trees which formerly grew in our Fields were larger than theſe of the preſent Time. If they were, *Homer*, *Plato*, *Demoſthenes* cannot poſſibly be equall'd in theſe later Ages; but if otherwiſe, they can.

Let

Let us explain this Paradox. If the Antients had more Wit or Capacity than the Moderns, their Brains muſt have been better form'd, of ſtronger or of more delicate Fibres, and fill'd with more animal Spirits. But what could be the Cauſe of this? Their Trees then muſt have been larger and more beautiful: for if Nature at that time was younger and more vigorous, Plants as well as human Brains muſt have ſhar'd of this Youth and Vigour.

Let the Adorers of the Antients take care what they ſay, when they tell us *They* are the Sources of good Taſte and Reaſon, and the Luminaries deſtin'd to give Light to all Mankind: that no body has Wit or Judgment, but in proportion to his Veneration for them; that Nature has exhauſted herſelf in producing thoſe great Originals: For in truth, they make them of a Species different from us, and Philoſophy does by no means agree with all theſe fine Expreſſions. Nature has between her Hands a kind of Clay, which is always the ſame, which ſhe forms and reforms into

a thouſand Shapes, and of which ſhe makes Men, and Beaſts, and Plants: And 'tis ridiculous to fancy that ſhe compos'd *Plato*, *Demoſthenes*, or *Homer* of a finer Mold, or better prepar'd, than the Philoſophers, Orators, and Poets of the preſent time. For tho our Minds are immaterial, I regard here only their Union with the Brain, which is material, and which, according to its various Diſpoſitions, produces all the Difference between them.

But tho the Trees of all Ages may have been equal, thoſe of all Countries are not; and this too makes a Difference among the Wits of Men. Different Ideas are like Plants or Flowers, which do not equally flouriſh in all Climates. Perhaps our Soil of *France* is no more proper for the Reaſonings of the *Egyptians* than for their Palm-Trees: and (without travelling ſo far) perhaps Oranges, which do not grow here ſo kindly as in *Italy*, are a Proof that *Italy* has a Turn of Wit, which cannot exactly be match'd in *France*. It is certain, that by the Enchainment

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and reciprocal Dependance which there is among all Parts of the material World, the Difference of Climates, which ſhews it ſelf in Plants, ought in like manner to extend to human Brains, and have ſome Effect on them too.

However, this Effect is not ſo great or ſenſible, becauſe Art and Culture have more power upon the Brains of Men than upon Earth, which is of a Matter more hard and untractable. Thus the Thoughts of ſome Countries may more eaſily be tranſplanted into others than their Trees and Fruit; and it will not be ſo difficult for us to take the *Italian* Genius in our Writings, as to raiſe the *Italian* Oranges.

And tho 'tis commonly ſaid, that there's a greater Diverſity among Wits than Faces, I am not very ſure 'tis true. For Faces, by ſtedfaſtly regarding one another, do not take new Reſemblances, as Wits may by mutual Commerce. Thus Wits, which are naturally as different as Faces, are brought not to differ ſo much.

The Facility which Wits have of forming themſelves one by another, is the Cauſe that People do not always retain the original Turn which they deriv'd from their own Climate. The Study of *Grecian* Books proportionably works in us the ſame Effect as if we marry'd none but *Greek* Women. 'Tis certain, that by ſuch frequent Alliances, the Blood of *Greece* and that of *France* would alter, and that the particular Look of each Nation would be a little chang'd.

Beſides, as 'tis impoſſible to judge what are the moſt favourable Climates for Wit, but that they have, in all appearance, Advantages and Diſadvantages which counterballance each other; and that thoſe which naturally give more Vivacity, give leſs Juſtice, and ſo of the reſt; it follows, that the Difference of Climates ought to paſs for nothing, provided that Wits are equally cultivated. At moſt, one might imagine that the torrid Zone, and the two frozen, are not very proper for the Sciences. As yet they have not paſs'd *Egypt* and *Mau-*

Mauritania on one ſide, and *Sweden* on the other. Perhaps it has been only by chance that they have confin'd themſelves between Mount *Atlas* and the *Baltick Sea*. No body knows certainly that theſe are the Bounds which Nature has fix'd to them, and whether we may not hope to ſee, at ſome time or other, great Authors among the *Laplanders* or the *Negroes*.

However it be, this ſeems to me to be the whole Matter of the grand Queſtion concerning the Antients and the Moderns. Ages make no natural Difference between Men: the Climate of *Greece* or *Italy* and that of *France*, are too near to create any ſenſible Difference between the *Greeks* or *Latins*, and the *French*: or when they do create any, 'twould be eaſy to efface it; and in ſhort, this Difference would be no more to their Advantage than to ours. It follows then that we are all upon an Equality, Antients and Moderns, *Greeks*, *Latins*, and *French*.

I will not be anſwerable that this Reaſoning ſhall appear concluſive to all the World.

World. If I had employ'd great Flights of Eloquence, and oppos'd Paſſages in Hiſtory which favour the Moderns, to other which favour the Antients; if I had treated thoſe like Pedants, who treat us like Ignorants or ſuperficial Wits, and according to the eſtabliſh'd Law among the Learned, had repay'd Injury for Injury to the Favourers of Antiquity, my Arguments would poſſibly have been better lik'd. But in my opinion, this were to make the Cauſe endleſs, and after a great many choice Declamations on each ſide, 'twould ſurprize one to find that nothing were determin'd. The ſhorteſt way therefore I thought would be to have recourſe to Natural Philoſophy, which alone has the Secret of abridging thoſe Controverſies, which Rhetorick renders infinite.

And thus, for example, after one is convinc'd of the natural Equality between the Antients and the Moderns, there remains no Difficulty: But one ſees plainly that all the Differences, whatever they are, muſt certainly be caus'd

caus'd by foreign Circumſtances, ſuch as Times, Governments, and the State of Affairs in general.

The Antients have invented every thing: ('tis upon this their Partiſans triumph) and therefore they had Wit in a much greater Proportion than we. Not at all. But they had Wit before us: True. Yet they might as well boaſt that they have drank firſt of our Rivers, and inſult us for being forc'd to drink only their Leavings. Had we been in their place, we ſhould have invented; were they in ours, they would have improv'd our Inventions: and this is all the mighty Myſtery.

I ſpeak not here of Inventions which have been purely owing to Chance, and of which one might, if he pleas'd, make a Merit to the moſt ſtupified Blockhead on Earth: I mean only ſuch as require ſome Thought and Effort of Mind. 'Tis certain that the meaneſt of this kind have been reſerv'd only for extraordinary Genius's, and that the moſt that *Archimedes* could have done in the Infancy of the World, would have been

to invent the Plough: But place him in another Age, and he fires the *Roman* Navy with Glaſſes; if that, by the way, be not a Fable.

If a Man were inclin'd to flouriſh on the Subject, he might maintain in honour of the Moderns that the Wit of Man need not be much ſtrain'd for the firſt Diſcoveries, to which Nature itſelf ſeems to guide us; but that it requires a greater Effort to add ſomething: and the greater yet, by how much the more has been added already, becauſe the Matter is more exhauſted; and what remains to be diſcover'd, lies deeper from the View. The Admirers of Antiquity would not poſſibly have neglected ſuch a Reaſoning as this, if it had favour'd their Party. But I will own however, that I think it has not ſufficient Solidity.

'Tis true, that to improve upon Diſcoveries, does often require a greater Effort of Mind, than to have made 'em firſt: but at the ſame time we find leſs Difficulty for this Effort. The Mind is already enlighten'd by theſe very Diſcoveries

veries which it has before its View, we have the Eyes of others added to our own; and if we ſurpaſs the firſt Inventor, 'tis by his own Aſſiſtance: ſo that he has always his Share in the honour of our Work; and if he withdrew that which belongs to him, there would not be more remaining to us than to him.

I carry the equitable Part ſo far on this Head, that I allow the Antients for every thing poſſible, even for a World of falſe Views and bad Reaſonings they have fallen into, and fooliſh Things they have ſaid. Such is our Condition, that 'tis not permitted us at once to arrive at any thing reaſonable, be it on what Subject it will: we muſt firſt be forc'd to wander a long time, and paſs thro many ſorts of Errors, and ſeveral Degrees of Impertinence. It would have been always eaſy, one would think, to find out that the whole Legerdemain of Nature conſiſts in the Figure and Motion of Bodies: And yet before thus much could be attained, there was a Neceſſity of trying *Plato*'s Ideas, *Pythagoras*'s Numbers, *Ariſtotle*'s Qualities;

and

and when all this was found to be falſe, the World was forc'd upon the true Syſtem. Forc'd, I ſay, for indeed there was no other left; and this ſeems to have been withſtood as long as poſſible. We are oblig'd to the Antients for having exhauſted the falſe Ideas as much as they could. There was a Neceſſity to pay that Fine to Error and Ignorance, which they have done; and we ought not to be wanting in our Acknowledgments to thoſe who have acquitted us from it.

This is the Caſe in ſeveral Matters, on which there are a great many Impertinencies, which we ſhould have ſaid, if they had not been ſaid before, and in a manner taken away from us. And yet there are Moderns who ſometimes make a ſhift to lay hold of 'em again, perhaps becauſe they have not been ſo often repeated as they muſt be. Thus being aſſiſted by the Views of the Antients, and even by their Faults themſelves, 'tis not ſtrange we ſhould go beyond them. If we only equall'd them, we muſt be of a very inferiour Make to theirs,

theirs, we muſt be ſcarcely Men as they were.

In the mean time, that the Moderns may be able always to excel the Antients, 'tis neceſſary the Subject be of ſuch a Nature as will admit of this. Eloquence and Poetry require a certain Number of Views leſs extended than the other Arts, and which depend chiefly on the Vivacity of the Imagination. Now Men in a few Ages may have amaſs'd a conſiderable Number of Views; and the Vivacity of the Imagination has no need of a long Train of Experiences, nor of a great many Rules to form it to all the Perfection 'tis capable of. But Natural Philophy, Phyſick, and Mathematicks are compos'd of an infinite Number of Views, and depend on the Juſtneſs of Reaſoning, which ripens by very ſlow degrees, and is always improving. Beſides, 'tis often neceſſary that theſe Arts be aſſiſted by Experiments which Chance makes, and does not carry to the propos'd Point. 'Tis evident that all this is endleſs, and that the laſt Phyſicians or Mathematicians

cians muſt naturally be the moſt accompliſh'd.

And in effect, 'tis certain that the principal Part in Philoſophy, and the Manner of Reaſoning, which from thence extends to every thing elſe, has been brought to a great Perfection in this Age. I very much queſtion whether the Majority will aſſent to the Remark I am going to make; yet I'm reſolv'd to make it for the ſake of thoſe who are Judges of Reaſoning: and I may boaſt too that 'tis no ſmall Courage, for the ſake of Truth, to ſtand the Cenſure of all the reſt, who are no contemptible Number. Let the Subject be what it will, the Antients are too apt to be uncorrect in their Reaſoning. Slight Agreements, little Similitudes, trifling Fancies, rambling and confus'd Harangues paſs with them for Proofs; ſo that to prove, coſts them nothing. But what an Antient would demonſtrate in play, would be a Task to make a poor Modern ſweat; for how ſevere are we now upon Reaſonings? We require 'em to be intelligible, juſt, con-

concluſive. We have the Malice to unravel the leaſt Equivocation either of Thought or Expreſſion, and the Boldneſs to condemn the moſt ingenious Turn in the World, if it does not reach the Matter. Before *Des Cartes* appear'd, People reaſoned much more commodiouſly; and 'twas happy for preceding Ages, that they had not this Man to diſturb them. It was he, as far as I can judge, that brought in this new Method of Reaſoning, much more valuable than his Philoſophy, of which a great part is found to be falſe or uncertain, even according to the Rules he himſelf has taught us. In fine, there reigns in all our valuable Writings, not only of Philoſophy and Mathematicks, but likewiſe of Divinity, Morality, and Criticiſm, ſuch a ſtrict Juſtneſs as till now was very little known, if at 11.

I am perſuaded too, that this will be advanc'd yet further. We have not left daſhing our beſt Writings yet with a little of the old way of Reaſoning: But we ſhall be Antients hereafter; and will it not be juſt that our Poſterity in turn

turn ſhould amend and outdo us, eſpecially in the manner of Reaſoning? which is a Science by itſelf, and the moſt difficult too, tho the leaſt cultivated of all.

As for Eloquence and Poetry, which are the chief Points in diſpute between the Antients and Moderns, tho they are not in themſelves of great Importance, yet I think the Antients may have had the power to attain the Perfection of 'em, becauſe, as I ſaid, it may be attain'd in few Ages; and how many were ſufficient for it, I don't preciſely know. The *Greeks* and *Latins*, I ſay, might have been excellent Poets and Orators; but the Queſtion is, whether they have been ſo. To clear this, would be to enter into an Enquiry which were endleſs, and which, were it ever ſo juſt and exact, would never ſatisfy the Favourers of Antiquity. For which way ſhall they be reaſon'd with? They are reſolv'd to forgive their Antients every thing, nay to admire 'em in every thing. This is particularly the humour of Commentators, the moſt ſuperſtitious

Sect of all the Worſhippers of Antiquity. How happy would our greateſt Beauties think themſelves, if they could inſpire their Lovers with as ſtrong and tender a Paſſion, as that with which a *Greek* or *Latin* Author inſpires his enamour'd Interpreter?

Yet I will venture to ſay ſomething more particular concerning the Eloquence and Poetry of the Antients: not that I am inſenble of the Danger of declaring one's ſelf; but becauſe I fancy that my ſmall Authority, and the little Regard which will perhaps be paid to my Opinions, leave me at full liberty to ſay what I pleaſe. I think, Eloquence has been carry'd to a greater Height among the Antients, than Poetry, and that *Demoſthenes* and *Cicero* are more perfect in their kind, than *Homer* and *Virgil* in theirs; and that for a very natural Reaſon. Eloquence was a Recommendation to every thing in the *Greek* and *Roman* Republicks; and it was as fortunate to be born with a Genius for Speaking well, as it would be now to be born worth ſome Thouſands a Year.

Poetry,

Poetry, on the contrary, was worth nothing; it would turn to no account; and it has been always the ſame, in all kinds of Governments. It is a Misfortune that ſeems inſeparable from it. I think too, that both in Poetry and Eloquence, the *Greeks* muſt yield to the *Romans*; excepting in one kind of Poetry, I mean Tragedy, in which the *Romans* have nothing that can diſpute with the *Greeks*. According to my particular Taſte, *Cicero* is ſuperior to *Demoſthenes*, *Virgil* to *Theocritus* and *Homer*, *Horace* to *Pindar*, and *Titus Livius* and *Tacitus* to all the *Greek* Hiſtorians.

This Order, according to the Hypotheſis we have laid down, is very natural. The *Latins* were Moderns in relation to the *Greeks*. But as Eloquence and Poetry are pretty much limited, there muſt have been a Time when they were carry'd to the higheſt Perfection; and the Time, I take it, for Eloquence and Hiſtory, was the Age of *Auguſtus Cæſar*. I have no Idea of any thing ſuperior to *Cicero* and *Titus Livius*: not that they are without their Faults;

but I believe it impoſſible to have fewer Faults, with ſo great Excellencies; and every one knows, that there is no other way in which we can aſcribe any Perfection to Mankind.

The moſt beautiful Verſification in the World, is that of *Virgil*; and yet it would not have been amiſs perhaps, if he had had Leiſure to have retouch'd it. There are many parts of the *Æneid* which appear to be of the moſt exquiſite and finiſh'd Beauty, and which I believe will never be ſurpaſs'd. As for the Diſpoſition of the Poem in general, the Manner of bringing about the Events, and managing the agreeable Surprizes, the Nobleneſs of the Characters, and Variety of the Incidents, I ſhall not wonder if I ſhould ſee *Virgil* excell'd; and our Romances, which are Poems in Proſe, have already ſhewn us, that it is poſſible.

I do not intend to enter into a farther Detail of Criticiſm on this Head; I would only ſhew, that ſince the Antients may poſſibly have arriv'd to the greateſt Perfection in certain Things

or may not, we ought, when we examine whether they have actually arriv'd to that Perfection, or no, to have no reſpect for their great Names, no indulgence for their Faults, but to treat them, in ſhort, as if they were Moderns. We ſhould be able to hear or ſay, without any ſoftning, that ſuch a thing is an Impertinence in *Homer* or *Pindar*: we ſhould have the Courage to believe, that mortal Eyes may ſpy Faults in theſe Great Genius's. We ſhould be able to ſuffer *Demoſthenes* and *Cicero* to be compar'd to ſome Perſon with a modern Name, and perhaps not of the firſt Rank. How great and prodigious an Effort of Reaſon!

Upon this Occaſion, one cannot help laughing at the fantaſtical Humour of Mankind. Prejudice for Prejudice, it would be more reaſonable certainly to entertain them in favour of the Moderns than of the Antients. The Moderns are Moderns, and naturally ought to out-do the Antients. This Prepoſſeſſion in their favour, would have ſome Foundation. On the contrary, what

are the Grounds of that we have for the Antients? Their Names, which ſound better in our Ears, becauſe they are *Greek* or *Latin*; the Reputation they had of being the chief of their Age, which was true for their Age only; the number of their Admirers, which is very great, as having had time to encreaſe in a long Courſe of Years: All this conſider'd, it were more juſt that we ſhould be prepoſſeſs'd in favour of the Moderns. But Mankind, not content to abandon Reaſon for Prejudices, often chuſe ſuch as are the moſt oppoſite to Reaſon, that can be.

When we ſhall have found that the Antients have arriv'd to the Point of Perfection in any thing, let us content ourſelves to ſay, they cannot be excell'd; but let us not ſay, they cannot be equall'd; a manner of ſpeaking ſo common among their Admirers. Why ſhould we not equal them? As we are Men, we have always a Right to pretend to it. Is it not pleaſant enough, that we ſhould want Courage upon this Point, and that we, who have often ſo abſurd a Vanity on other Occaſions,

ſhould

ſhould ſometimes be capable of an Humility no leſs abſurd? It is decreed, it ſeems, that we muſt be Ridiculous every way, and ſometimes even in Contraries.

Nature remembers, no doubt, how ſhe form'd the Heads of *Cicero* and *Titus Livius*. She produces in all Ages, ſome that are capable of being Great Men; but thoſe Ages do not always permit them to exert their Talents. The Inundation of barbarous Nations; Governments, either abſolutely oppoſite, or little favourable to the Arts and Sciences; Prejudices and Fancies, which may take a thouſand different Forms, ſuch as the Superſtition they have in *China* for dead Bodies, which prevents their making any Diſſections; and univerſal Wars, often eſtabliſh'd, and for a long time Ignorance and a bad Taſte: Add to this, all the various Diſpoſitions of particular Fortunes and Conditions, and you will eaſily apprehend how Nature ſows in vain *Ciceros* and *Virgils* in the World, and how rarely it is that they come up to good. 'Tis ſaid, that

Heaven when it forms great Kings, forms at the ſame time great Poets, to ſing their Praiſes, and great Hiſtorians to record their Actions. Thus far it is true, that in all times the Hiſtorians and Poets are ready, and that Princes need only reſolve to employ them.

The barbarous Ages which follow'd that of *Auguſtus*, and have preceded ours, have furniſh'd the Partiſans of Antiquity with the moſt plauſible of all their Reaſonings. From whence is it, ſay they, that theſe Ages have been ſo groſly ſtupid and ignorant? Certainly it is becauſe the *Greek* and *Latin* Authors were not underſtood, or read: but from the moment that Mankind plac'd before their Eyes theſe excellent Models, Reaſon and a good Taſte began to revive. This is true, and yet proves nothing. Suppoſe a Man who had made a good beginning in the Sciences and polite Learning, ſhould have fallen into a Diſtemper, which had made him forget them; would it be reaſonable to ſay he was become incapable of them? No, he might recover them by

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beginning again with the firſt Elements. Or if any Medicine ſhould at once reſtore his Memory, his Task would be the ſhorter; he would find himſelf in poſſeſſion again of all that he knew before, and would have nothing to do but to go on where he left off. The ſtudying of the Antients has diſſipated the Ignorance and Barbarity of former Ages. I believe it. It gives us at once, juſt and elegant Ideas, which we ſhould have been a long time in forming by ourſelves, but which we ſhould have form'd at laſt, without the help of the *Greeks* and *Latins*, if we had induſtriouſly ſearch'd after them. And whence ſhould we have had them? Why, from the ſame Source from which the Antients had them. The Antients before they became poſſeſs'd of them, trifled for a long time.

The Compariſon we have juſt now made of the Men of all Ages to one Man, may be farther extended through the whole preſent Queſtion concerning the Antients and the Moderns. A good Capacity cultivated, is in a man-

ner a Compoſition of all the Capacities of former Ages: it is the ſame Capacity, cultivated through all that Time. Thus this univerſal Man, who has liv'd from the beginning of the World to this Day, has paſs'd through his Childhood, which was wholly taken up with the moſt preſſing Neceſſities of Life; his Youth, in which he ſucceeded well enough in the Studies of Fancy, ſuch as Poetry and Eloquence, and in which he began likewiſe to reaſon, but with more Fire than Solidity: and he is now arriv'd at his Age of Manhood, in which he reaſons with more Force; and has more Light than ever, but would make much greater Advances, if War, and the Love of Arms had not too much engag'd his Purſuits, and given him for too long a time a Contempt of Learning, to which however he is at laſt return'd.

'Tis pity a Compariſon, which ſets out ſo ſmoothly, cannot be carry'd on farther. But it muſt be own'd that this Man of all Ages will never be old. He will be always equally capable of Improvements proper to Youth, and more

more and more of ſuch as are agreeable to Manhood: That is to ſay, (to quit the the Allegory) Mankind will never decline, and the Views and Diſcoveries of all Men of Capacity will be added to the common Stock, as they ſhall ſucceed one another.

This Stock, which encreaſes daily, of Views we ought to follow, and Rules we ought to practiſe, augments perpetually the Difficulty of the ſeveral kinds of Arts and Sciences: but on the other hand, new Facilities ariſe to balance thoſe Difficulties. I will explain myſelf by Examples. In *Homer*'s Time, 'twas next to a Miracle, that a Man ſhould be able to mould his Diſcourſe into Feet and Numbers, with Syllables long and ſhort, and at the ſame time produce any thing of good Senſe. Poets therefore were allow'd endleſs Licences, and the Age was happy enough in having any ſuch thing as Verſe. *Homer* might in the ſame Line ſpeak five different Languages; he might uſe the *Dorick* Dialect, when the *Ionick* would not fit his purpoſe; or in default of both, he

he might employ the *Attick*, the *Æolick*, or common Speech: that is to ſay, he might ſpeak the Language of *Picardy*, *Gaſcony*, *Normandy*, *Britony*, and common *French*, at one and the ſame time. He might ſtretch out a Word by the addition of a Syllable, if it were too ſhort; or curtail it, if too long, and nobody would have any thing to object: and this Jargon of Languages, this motley Collection of Words metamorphos'd and disfigur'd, was the Language of the Gods, as well it might; for 'tis certain, it was not the Language of Men. By degrees, the World ſaw the Ridiculouſneſs of theſe Liberties granted to Poets. They were therefore retrench'd, one after another, and at preſent the Poets find themſelves quite ſtripp'd of their antient Privileges, and reduc'd to the neceſſity of ſpeaking naturally. This, one would think, ſhould have almoſt ſpoil'd the Trade, or at leaſt very much encreas'd the Difficulty of making Verſes. But it has not; for the Mind is now enrich'd with an infinite Stock of Poetical Ideas, which have

been

been furniſh'd by the Antients. We have their Works in our hands, and are guided by a great Number of Rules and Reflections, which have been made upon the Art: And as theſe were wanting to *Homer*, he has juſtly been allowed for that Want in all the Licences indulg'd to him. In the mean time, I believe, to ſpeak the truth, that his Condition of the two was better than ours. There is no Exactneſs in Compenſations of this Nature.

The Mathematicks and Natural Philoſophy are Sciences, which encreas'd like a Load upon the Learned, till they have been forc'd at laſt to throw it off: But the Methods in the mean time are multiply'd. The ſame Capacity that brings things to Perfection, by adding new Diſcoveries, improves at the ſame time the manner of Learning, by making it ſhorter, and furniſhes new Means of comprehending the new Extenſion it gives to the Sciences. A Philoſopher of this Age is, in reſpect of Learning,

ing, ten times a Philoſopher of the Age of *Auguſtus*; but then he has ten times more Helps and Advantages to become that Philoſopher.

If I were to draw a Picture of Nature, I would repreſent her like Juſtice, with a Balance in her Hand, to ſignify that ſhe employs it in dividing to her Sons their ſeveral Portions; and that for the moſt part ſhe makes pretty near an equal Weight in what ſhe diſtributes to Mankind; Happineſs, Capacity, the Advantages and Diſadvantages of their different Conditions; the Facilities and Difficulties which regard Matters of Wit and Learning.

By virtue of theſe Compenſations we may hope the Ages to come will admire us to an Extravagance, in amends for the little Regard which is paid us in our own Age. Future Criticks will perhaps ſtudy hard to find out in our Writings Beauties we never deſign'd: on the other hand, Faults which are not to be defended, and which the Author himſelf would now give up, may meet

with Advocates of an invincible Courage. Heaven knows with what Scorn, in compariſon of us, they will treat the great Wits and Genius's of their own time, who poſſibly may be *Americans*. Thus it ſeems that Prejudice ſinks us in one Age, to raiſe us in another. We are now the Sacrifice, and then the Divinity. A Sport diverting enough to be look'd upon by impartial Obſervers!

I might extend the Prophecy yet further. The time has been when the *Latins* were Moderns; and then the Complaint was of the Infatuation the World had for the *Greeks*, who were Antients to them. The diſtance of Time between theſe Competitors diſappears to us, who are at ſo much a greater diſtance. They are both Antients to us; and we make no Difficulty of preferring ordinarily the *Latins* to the *Greeks*, becauſe there is no hurt done, in a Victory of the Antients over the Antients. But it would be of the moſt terrible Conſequences, if it were

were a Victory of the Moderns over the Antients. Let us have patience, and by a long Succeſſion of Ages, we ſhall become as it were Cotemporaries with the *Greeks* and *Latins*. And when we are thus all Antients, it is eaſy to foreſee that there will be no Scruple in giving us in many things the Preference. The beſt Works of *Sophocles*, *Euripides*, *Ariſtophanes*, will ſcarcely ſtand before the *Cinna*, *Horace*, *Ariane*, the *Miſantrope*, and many other Tragedies and Comedies written at a good time; for indeed, to ſpeak impartially, it muſt be own'd, that good Time has been paſt for ſome Years. I do not think *Theagenes* and *Chariclea*, *Clitophon* and *Leucippe* will ever be compar'd to the *Cyrus*, *Aſtræa*, *Zayde*, or the *Princeſs of Cleves*. The ſame may be ſaid of the newer kinds of Writing, as Letters of Love and Gallantry, Tales, Opera's, and the like; each of which kinds has furniſhed us with ſome excellent Author, to whom Antiquity has nothing to ſet in oppoſition, and who will not perhaps

haps be ſurpaſs'd by Poſterity. If we were only to inſtance in Songs (a ſort of Writings which perhaps may be loſt, and to which no body pays much Regard) it is certain we have a prodigious Number of them, full of Wit and Spirit; and ſuch as I will venture to ſay, if they had been known to *Anacreon*, he would have ſung oftner than his own. We ſee, by a great variety of Poetical Writings, that the Verſification is capable at preſent of as much Dignity, and at the ſame time of more Juſtneſs and Exactneſs than ever. I have deſign'd to avoid entring into Particulars; therefore I will not undertake to diſplay at large our Riches. But I am convinc'd we are in the Condition of ſome wealthy Lords, who do not keep always an exact Regiſter of their Goods, and have more Poſſeſſions than they think of.

If the great Men of the preſent Age had any Charity for Poſterity, they would adviſe it not to admire them too much, and to aſpire always at leaſt to equal them. Nothing ſo much ſtops

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the Progreſs of Arts; nothing checks the Wit of Man ſo much as an exceſſive Admiration of the Antients. Becauſe the World has happen'd to be blindly devoted to the Authority of *Ariſtotle*, and has ſought for Truth only in his dark and enigmatical Writings, and not in Nature itſelf, Philoſophy has not only made no advancement, but was ſunk into the Depths of a pedantick Jargon, and unintelligible Ideas; from whence it has coſt the greateſt pains imaginable to ſet her free. *Ariſtotle* has never made one true Philoſopher; but he has ſpoil'd many a Genius capable of making one, if left to it ſelf. And the miſchief is, that ſuch a whimſical Prepoſſeſſion being once eſtabliſh'd among Men, continues for a long time. It requires whole Ages to recover out of it, even after the Folly of it is known. If the World ſhould in like manner run mad after *Deſcartes*, and place him in the room of *Ariſtotle*, this too would be attended with almoſt the ſame Inconvenience.

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In the mean time, to ſpeak the whole Truth, it is by no means certain that Poſterity will allow us the Merit of the two or three thouſand Years diſtance, which may be one Day between us and them, as we do at preſent to the *Greeks* and *Latins*. We have all the Symptoms in the World to make us believe that Reaſon will improve, and that People will be generally diſabus'd, and freed from their great Prejudice in favour of Antiquity. Perhaps it may not laſt much longer; perhaps too, as it now ſtands, we may admire the Antients without gaining any thing by it to our ſelves hereafter, or ever being admir'd on the ſame foot in our turn.

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