

A dissertation on comets, extracted from the writings of the most eminent modern astronomers and philosophers. In a letter to a reverend professor. To which is prefixed the theory of a comet / by [according to the sentiments of] Sir Isaac Newton [and other ... astronomers].

Contributors

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A
 DISSERTATION
 ON
 COMETS.

Extracted from the Writings of the most eminent modern
 ASTRONOMERS
 AND
 PHILOSOPHERS.

In a LETTER to a
 Reverend PROFESSOR.

To which is prefixed,
 The THEORY of a COMET, by
 SIR ISAAC NEWTON.

Ego nostris non assentior: non enim existimo Cometen subitaneum ignem, sed inter æterna opera Naturæ.—Quid autem miramur, Cometas, tam rarum Mundi spectaculum, nondum teneri legibus certis, nec initia eorum finesque notescere, quorum ex ingentibus intervallis recursus est?—Veniet tempus, quo illa quæ nunc latent, in lucem dies extrahat, & longioris ævi diligentia. Veniet tempus, quo posteris nostri tam aperta nos necesse mirentur. Erit qui demonstret aliquando, in quibus Cometæ partibus errent, cur tam seducti à cæteris eant, quanti qualesque sint.

SENEC. Quæst. Nat. lib. 7.

L O N D O N :

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[Price One Shilling.]

DISSEMINATION

ON

COMPLAINTS

ASTRONOMICAL



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INTRODUCTION:

Describing the Nature, &c. of Comets, as gathered from Observation, according to the Sentiments of Sir Isaac Newton, and other the best modern Astronomers.



BECAUSE Comets seldom appear, their Nature, Motion, Distance, Tails, and other Particulars regarding them, have not been accurately observed till within less than a Century past.

We think it will not be unacceptable therefore, if, by Way of Introduction to the following Dissertation, we explain, in a few Words, their principal Phænomena, upon which the modern Hypothesis of them is founded.

First then, Comets which proceed according to the Order of the Signs, are all, a little before they disappear, usually more slow or retrograde, if the Earth move between them and the Sun; and, on the contrary, swifter, if the Position of the Earth be in a different Part of the System. But those which proceed contrary to the Order of the Signs, are swifter when the Earth is between them and the Sun,

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and slower, or retrograde, if the Earth be in a contrary Situation. The Reason of this is, that when they wander not among the fix'd Stars, but the Planets, their Appearance is affected by the Earth's Motion in the same Manner as the Planets, which makes them seem to move sometimes slower, sometimes swifter, and even sometimes retrograde.

Secondly, So long as they move swiftly, they proceed, with regard to us, in large Circles; but in the End of their Course they decline from these Circles, and, whenever the Earth is moved one Way, they are borne the contrary. The Reason of this is, because in the End of their Course, when they go from the Earth almost in a right Line, that Part of their apparent Motion, which rises from their Parallaxes, bears a greater Proportion to their whole apparent Motion.

Thirdly, They move in Elipses, the Nave of which is in the Center of the Sun, and by Lines drawn from the Sun, they describe equal Areas in equal Times: The Reason of which is, that they do not rove out of one Vortex into another, with an uncertain Motion; but, as they belong to the solar System, return with a constant and perpetual Motion in their own Orbits.

Fourthly, The Light of their Heads increases in their Recess from the Earth towards the Sun: On the contrary, in their Recess from the Sun towards the Earth, it decreases: Because, when they revolve in the Regions of the Planets, their Access to the Sun bears a Proportion sufficiently great to their whole Distance.

Fifthly, Their Tails appear most large and splendid, immediately after their Transit of the
solar

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solar Region; because their Heads, being then most intensely heated, emit the greatest Quantity of Vapours.

Sixthly, Their Tails always decline from their Opposition to the Sun into those Parts, which their Heads leave as they proceed in their Orbits. Of which the Reason is, that all Smoke, or Vapours, issuing from a Body in Motion, ascends obliquely, still receding from that Part, in which the emitting Body proceeds.

Seventhly, That the Deflexion or Declination, *cæteris paribus*, is less when the Head approaches nearer the Sun, and also less near the Head of the Comet, than at the Extremity of the Tail: Because the Vapour ascends more swiftly near the Head of the Comet, than at the Extremity of the Tail; and when the Comet is less remote from the Sun, than when more.

Eighthly, The Tails in their convex Part are somewhat more splendid, and distinctly terminated, than in their concave Part; because the Vapour in the swelling Part that proceeds, being somewhat fuller and thicker, reflects the Light more copiously.

Ninthly, The Tails, at their upper Extremity, always seem broader than near the Head of the Comet. The Reason of which is, that a Vapour, in open Space, continually rarifies and dilates.

Tenthly, The Tails are transparent, and even the smallest Stars are seen thro' them; because the Vapours, of which they consist, are extremely thin.

These are the chief Phænomena of Comets, and the apparent Reasons of them; which
are

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are little agreeable to the Dreams of the Antients, and the not very happy Conjectures of most modern Philosophers. Yet there were, even among the Antients, some who took them for perpetual Stars, that moved in their own Orbits. *Seneca*, in the Passage we have chosen for a Motto, goes further, and prophesies that some time or other their true Nature will be found out. It has been so in the present Age, by the most excellent *Sir Isaac Newton*, who proves them to be solid, compact, fixed and durable Bodies; and in short, a Kind of Planets, which move freely various Ways in oblique Lines, and very often have a Motion quite contrary to the Course of the other Planets; that their Tail is a very thin Vapour, which the Head or Nut emits in Proportion as it is heated by the Sun.

According to the Reasoning of the same Philosopher, the Duration of Comets is proved by the Degrees of Heat they imbibe in their Perihelia. He made a Calculation, that the Comet in 1680 must contract a Heat 2000 times greater than that of a red hot Iron. Whence he concluded, that its Body must be very compact, and as ancient as the World: Otherwise it could not have resisted the Rays of the Sun, in that Proximity, but must have evaporated. The Line, he says, comprised between the Center of the Sun and this Comet, in its Perihelia, was to the Radius of the Earth's Orbit as 600 to 100,000. The Heat perceived on the Earth, then, was to that of the contrary 360,000 to 10,000,000,000, or as 1 to 28,000. Now as the greatest Heat in Summer is to that of boiling Water, but as 1 to $3\frac{1}{2}$, and as this last is yet four times less than

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than that of red hot Iron, he found that the Iron's Heat was to that of the Comet as 14 to 28,000, or as 1 to 2000.

But the periodical Revolutions of the Comets, is what at present engages the principal Attention of many Philosophers. The Return of that which appear'd in 1682, may be expected in 1757 or 1758; there being the greatest room to believe it was the same that was seen in 1607: For there was so little Difference found between the Velocity, the Nodes, and the Inclinations of the one and the other, that it may be consider'd merely as the Attraction of the Planets, and other Comets.

M. *Cassini* has discovered, that almost all those transient Bodies have a Road different from that of the Planets. This new Zodiac, and periodical Return, removes the only natural Cause we had to apprehend Danger from them: For if there were fortuitous Bodies, which accidentally might fall in with our Ecliptic, what a Disaster would it be for our Earth, if unhappily it should chance to be in the same Point. The Idea of two Bombs, which burst on dashing together in the Air, is infinitely below what we ought to have of such a Rencontre as this. But fortunately for us, it has been discovered that the greatest Part of the Comets, in the Nodes of their Orbits, are much nearer the Sun than our Earth, *Venus*, or *Mercury*. This is the great Foundation of our Security, in the only Particular we have to dread; and in this we learn how many Thanks we owe to the Supreme Being, for so great a Benefit.

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A DISSER-



A

DISSERTATION

ON

COMETS, &c.

To * * * * *

SIR,



HO' I am no Astronomer, ei-
ther in Fact or by Profession,
I have considered carefully what
the best Writers on the Subject
of Comets have published ; but
I must own, that nothing of it
all seems convincing to me, except what has
been said against the popular Error, "That
" they threaten the World with an infinite
" Number of Calamities."

No good Reason for believing that Comets presage.

I cannot comprehend therefore, how so
learned a Man as you, Sir, who from the
very Return of the late Comet, at a Time
prefix'd, should have been convinced that
B they

they are Bodies subject to the ordinary Laws of Nature, and not Prodigies; can run with the Torrent of Mankind, and imagine, with the Vulgar, in Spite of the Reasonings of the wiser Few, that they are Heralds of Arms, sent from God to declare War against the human Species. If you were a Preacher, I should pardon you; because such Thoughts, being naturally the most proper to dress in all the pompous and pathetic Ornaments of Rhetorick, do much more Honour to those who retail them, and make deep Impression on the Consciences of the Hearers, than a hundred other Propositions demonstratively proved. But I cannot relish, that a Collegiate Tutor, who has nothing to persuade the People of, and who ought to nourish his own Mind with the purest Reason, should fall into Sentiments so insupportable, and trust his Faith to Tradition, with a few Scraps of the Poets and Historians, than which there cannot be a worse Foundation.

*Authority of
the Poets.*

To begin with the Poets: You are not ignorant, Sir, that they are all so fond of besprinkling their Works with pompous Descriptions, such as those of Prodigies, and giving an Air of Marvellous to all the Adventures of their Heroes, that, to arrive at these Ends, they invent a thousand strange Things. Far therefore from believing, on their Word, that the Ruin of the *Roman Republic* was the Effect of two or three Comets, I would not even believe that any such Comets did appear, if others had not confirmed it. We are to imagine, that a Man who once takes it in his Head to write
a Poem,

a Poem, takes Possession of all Nature at the same Time; Heaven and Earth act but by his Order; Eclipses or Earthquakes happen if he thinks good; and all the Elements move as he sees Occasion: Armies in the Air, or Monsters on Earth, you behold as many also as he pleases; Angels and Dæmons appear whenever he ordains; the Gods themselves, mounted on Machines, are ready to supply his Occasions; and as Comets, above all Things, are needful for him, because of the Prejudice there is in their Behalf, he certainly seizes all he finds in History: If he finds none, he makes them himself, and makes them in such a Manner, as to shew Heaven most peculiarly interested in his Subject. Who would not laugh, to see Men of Understanding give no other Proof of the Malignity of these new Stars, than the *Terris mutantem regna Cometen* of *Lucan*; the *Regnorum everfor rubuit lethale Cometes* of *Silius Italicus*; the *Nec diri toties arsere Cometæ* of *Virgil*; the *Nunquam terris spectatum impunè Cometen* of *Claudian*, and other like Sayings of the Poets?

Historians, I confess, do not assume the same Liberty of inventing extraordinary Phæ- *Authority of
the Historians.*
nomena: But they discover, for the most Part, so great a Propensity to report all the Miracles and Visions which the Credulity of the Vulgar has authorized, that it would be imprudent to credit all they deliver of this Kind. Whether they believe their Histories would appear too simple, without Prodigies and supernatural Accidents; or that they hope by this Sort of Seasoning to please the

natural Taste of Mankind, and to keep the Reader always in Breath; or that they imagine these miraculous Strokes will signalize their Histories in future Times; it is certain that Historians take great Delight in Tales of the wonderful Class. *Livy*, tho' a Man of good Sense and elevated Genius, is an eminent Proof of this; and his History, otherwise almost perfect, is full of ridiculous Omens.

But, not to call in Question the Authority of the Historians, let us consent to believe there have been as many Comets as they record, and as many Misfortunes in the Years following as they relate. If I grant this so be it; this is all I will grant, and all you can reasonably desire. And what does the Whole of it amount to? I defy you, with all your Subtlety, to infer from it, that the Comets were either the Causes, or the Signs, of those Misfortunes which followed their Apparition. The Testimony of the Historians then, can only prove that Comets have appeared, and that there have been Disorders in the World; which is far from proving that one of these two Things is the Cause or the Prognostic of the other: Unless you will admit, that a Woman, who never puts her Head out at Window in *Fleet-street*, but she sees Coaches pass by, may imagine that she is the Cause of their Passing; or at least, that her putting out her Head should be a Presage to all the Neighbourhood, that Coaches certainly will pass.

*Authority of
Tradition.*

After this it would be superfluous to give a particular Refutation of the Prejudice of Tradition: For it is manifest, that if the
antient

antient superstitious Opinion concerning Comets, has any just Foundation, it consists entirely in the Testimony of Historians, and other Writers of different Ages; so that if this Testimony be of no Weight, as I shall by and by make more apparent, all the Suffrages founded upon it must vanish at once.

Pity we cannot look into the Minds of Men, at the Instant they chuse an Opinion! I am sure if this could be, we should reduce the Votes of Thousands and Thousands to the Authority of two or three Persons, who having broach'd a Doctrine, which they are supposed to have examined thoroughly, impose it on others by the Prejudice of their own Merit; and these again on others, who find it more agreeable to their natural Indolence to believe at once what is told them, than to be at the Pains of considering it themselves. Thus the Number of credulous and idle Followers, by increasing every Day, produces a new Engagement to bring more into an Opinion which they see so general, and which they persuade themselves would never have become so, but for the Solidity of their Reasons who first established it. At last a Man sees himself obliged to believe what all the World believes, for fear of passing for a conceited Fellow, who thinks he knows more than any Body else, and contradicts the most venerable Antiquity: It becomes meritorious to examine nothing, and rely wholly on Tradition.

Judge yourself, if a hundred Millions of Men engaged in an Opinion by such Means, can make it a whit the more probable; and
if

if all the great Prepossession arising from this Multitude of Disciples, ought not in Justice to be reduced to the Opinion of two or three, who perhaps have examined what they teach. Reflect, Sir, on the many fabulous Opinions that have been hunted down within these few Years; Had they not all a great Number of Partisans? Did it not appear that these Sticklers for them, only copied the Sentiments of others? Were all these Opinions then any more than one, than his who broach'd it? By the same Rule conclude, that tho' many Nations, and many Ages, agree to accuse the Comets of all the Disasters that have happened in the World after their Apparition, the Sentiment has no more Probability, than if seven or eight only had embraced it; because among all who do, or have believed this, scarce more have examined it upon the Principles of Philosophy.

Why the Philosophers are not produced.

Would you know, Sir, why I have not made Use of the Authority of the Philosophers, as well as the Poets and Historians? My Reason is this: Because I am perswaded that if the Suffrages of the Philosophers has made any Impression on your Mind, it is only as they make the Tradition more general, and not for the Reasons with which they support it. You know better than to be the Dupe of any Philosopher whatever, provided he attacks you in a Way of Reasoning only; for I must do you the Justice to say, that you follow only the most pure Reason, where you think Reason has any Business. Shall I tell you then, as an old Friend, how you first came to fall into this vulgar Opinion, without

without consulting the Oracle of your Reason? It is because you think there is something *divine* in the Matter, as it has been said of certain Distempers upon the Authority of *Hippocrates* : It is because you imagine that the general Consent of all Nations, thro' all Ages, can proceed only from a Kind of Inspiration ; *Vox Populi, Vox Dei* : It is because you are used, in your Character of a Priest, to reason no longer, as soon as you imagine you spy a Mystery : In a Word, it is because, having a timorous Conscience, you readily believe that the Corruption of the World puts into the Hands of God the most dreadful Scourges ; which however the good Deity will not use, 'till he has seen whether Men will repent, as he mercifully waited a hundred Years before the Deluge. All this, Sir, fills your Head with a sophistical Authority, from which you cannot defend yourself, even by that Address which enables you so well to unravel the false Reasonings of the Logicians.

R E A S O N I.

Against the Presages of Comets.

“ That it is very probable they have no
 “ Power of producing any Effect upon
 “ the Earth.”

Tho' I cannot promise myself, from what I have said, to convince you by Reasons of Philosophy ; I shall however first introduce such as occur to me, and then talk to you
 upon

upon Principles of Religion, to confirm what I have advanced.

Extent of Atmospheres.

It is very uncertain, whether Bodies so remote from the Earth, can emit thither any Matter capable of great Action: For if it be the universal Sentiment of Philosophers, since they have been obliged to abandon the common Opinion concerning the Matter of Comets, that the Atmosphere of the Earth, and the Vapours that it expands, terminate in the middle Region of the Air, at most three or four Leagues high; why should we think that the Atmospheres of Comets extends many Millions of Leagues? No Reason can be assigned why the Planets and Comets should produce Effects quite to the Earth, while the Earth cannot produce any at all beyond so small a Distance.

If Comets emit any Thing but Light.

Will it be said that since Comets send us Light, they may as well send us any Thing else? The Answer is easy. The Light they send us proceeds originally from the Sun, and they contribute to send it hither merely in the Quality of dark Bodies, which reflect it from themselves: So that whatever Hypothesis you have recourse to, to explain the Propagation of Light, whether that of *Aristotle*, *Epicurus*, or *Descartes*, or the Principles of *Sir Isaac Newton*, it will be evident that the Comets may shine upon us without any positive Action of their own, and without emitting to us the least Particle of their own Substance.

If their Light detaches any Atoms.

Will it be said that the Light detaches a Number of Atoms from the Body of the Comet, and brings them to us when it comes hither

hither by Reflection? If this be all, no Addition is requisite to the former Answer. The Atoms which the Light of the Sun exhales from the Earth and the Water, follow the reflected Light but a very little Way, and by Parity of Reason it is the same with those it exhales from other Bodies.

Will it be said, that even the Light reflected by the Comets, is capable of doing great Harm? This is improbable, because that Light is no more, when the Effects ascribed to the Comets are produced; and that, besides, the Action of this Light is so feeble with regard to us, that a single Taper, in the Midst of a Field, would both illuminate and warm the circumambient Air more than this Comet. As it would be ridiculous, therefore, to attribute to the Light of this Lamp the Power of producing great Changes in the Sphere of its Activity, it is equally ridiculous to attribute to the Comets the Power of altering our Elements, and disturbing the public Tranquility. For to own that the Light of Comets is only that of the Sun extremely weakened, and yet to attribute to it Effects that the Sun cannot produce, is like maintaining that a Candle, which cannot keep the Cold out of a Closet, is sufficient to warm all the Inhabitants of a large Town.

Will it be said, that there is much Difference betwixt the Earth and the Comets, and that tho' the Exhalations of the Earth cannot ascend to the Region of the Comets, it does not follow that the Virtue of the Comets cannot extend to us; because it is much easier to descend than to rise, and there is an Ascent

That it is as difficult for Exhalations to descend as to ascend.

from hence to the Comets, but a Descent from them to us? But it is not difficult to demolish this Objection, even upon the old Systems of Philosophy: For if it has any Force, it is from the Supposition that the Earth is in the Centre of the World, and that all Bodies gravitate towards it. As we do not expect, however, at this Day, to meet with many of this Opinion, we shall not take up any Time to refute the Consequences of it. And admitting the Sun to be the Centre of Motion and Gravity, as the Generality of Mankind do now, the whole Objection falls to the Ground.

That the Exhalations of Comets, provided they could reach the earth would produce no Effect there.

But let us grant, for Argument's Sake, that the Comets may send their Exhalations to the Earth; does it follow that Mankind should be affected by them? Not in the least: For an Exhalation, in passing thro' such an immense Space, would be divided into such infinitely small Particles, and these be so expanded over the whole solar System, that they could no more alter any Part of it, than the smallest Grain of Salt, when dissolved, would alter a very large Cistern of Water. Nay, the whole Body of a Comet, reduced to Powder, and expanded in this Manner, could be of no more Consequence to our Globe, than the said Grain of Salt in the Cistern, or, if you please, in a large Pool.

Wrong to be positive without Proof.

Finally, will it be said, that it is not impossible that Comets should elance to the Earth a very active Matter or Quality? This is the most reasonable Thing that can be said on the Subject, and yet it is saying nothing at all; because it is not only possible, but even very apparent, that the Comets elance to the
Earth

Earth neither Quality nor Matter capable of any great Action ; and because in Questions where there is no more Reason for one Side than for the other, those who affirm are always more to blame, than those who suspend their Judgment. So that as we have no positive Reason that may incline us to believe the Influence of Comets, and, on the contrary, as we have many Reasons to incline us to reject that Opinion, those who take the first Side of the Question are manifestly wrong.

R E A S O N II.

That if Comets had the Power to produce any Thing upon Earth, it might as well be Prosperity as Calamity.

In the second Place, supposing that Comets send to the Earth many Particles capable of great Action, there is no more Reason to maintain that they ought to produce Pestilence, War, or Famine, than that they are productive of Health, Peace, and Plenty : For no Man knows the Nature of these *Corpuscula*, their Figure, their Motion, or the other Qualities of their Parts. Is it any better Sense to say, the present Comet, which has not made us a bit warmer than usual for the Time of the Year, will cause a War three Years after it is gone, because, by warming the Mass of Blood, it will make Men more vindictive ; than to say that it will bring on a Peace at that Time, because, by cooling the Mass of Blood, it will render Mankind wiser ?

Objection.

Yes, some perhaps will answer; it being more probable, that the gross Matter, which comes to us from the Extremities of the solar System, not being proportioned to the terrestrial Bodies, does every Thing contrary to us, than it is, that it brings or preserves favourable Dispositions. It may augment the Cold in Winter, and the Heat in Summer, and drive every Thing to Extremes.

Answer.

I answer, All these are Conjectures in the Air, no more probable than what may be made on the other Side. I may as well suppose that this gross Matter is a fat unctuous Ferment, which makes the Earth fertile, like the Slime which the *Nile* leaves after its Inundation; that it purifies the Air from the Seeds of all Diseases, and is so philtrified before it comes to us, as to be incapable of doing us any Injury.

R E A S O N III.

That Astrology, which is the Foundation of all Predictions from the Comets, is the most ridiculous Thing in the World.

In the third Place I say, that the Predictions of Comets turning only upon astrological Principles, they cannot but be very ridiculous; because there never was any Thing more impertinent, more chimerical, than Astrology; nothing more ignominious to human Nature, to the Shame of which, it will be eternally recorded, that there have been Men Cheats enough to deceive others, under Pretence of
knowing

knowing heavenly Things, and Men Fools enough to give credit to those Cheats, so far as to set up the public Office of an Astrologer, and not to dare put on a new Garment, or plant a Tree, without his special Approbation.

Would you know of one of these Professors, what are the particular Things predicted by this Comet? He will tell you, that the particular Virtue of a Comet depends upon the Quality of the Sign, and the House in which it began to appear, and also on the Aspect it was in with the Planets. That this Situation must be particularly regarded, in order to make the Horoscope of a Comet; to which must be added, the Consideration of the Signs thro' which it passes successively. Then he tells you, that there are masculine Signs, and feminine Signs; earthy Signs and watry, cold Signs and hot, diurnal Signs and nocturnal, &c. That every Planet presides over a certain Portion of the Earth, and a certain Species of Mankind, and Things; *Saturn*, for Example, over *Bavaria* and *Spain*, over a Part of *Italy*, over *Ravenna* and *Ingolstadt*, over the *Jews* and the *Moors*; over standing Ponds, Common-Sewers, and Church-Yards; over old Age, over the Spleen, over Black and Tawny, over Sour; for even Colours and Tastes come under their Domination. He will add, that the Signs, and in particular those of the *Zodiack*, have also their proper Divisions upon the Globe of the Earth, for the Exercise of their Power. The *Ram*, for Example, rules over all Things subject to the Planet *Mars*, his Guest, (for you must observe, that every

*Jargon of the
Astrologers.*

every Planet has a Lodging assigned him, in some Sign of the Heavens) which are, The North, a Part of *Italy* and *Germany*, *England*, and the Capital of *Poland*; the Liver, the Gall; Soldiers, Butchers, Bailiffs, Hangmen; Red, Bitter, Pungent. Besides this, he reigns over *Palestine*, *Armenia*, the *Red Sea*, *Burgundy*, the Cities of *Mentz* and *Marseilles*. The Astrologer will tell you farther, that there are twelve Houses to consider in the Heavens, of which each has its particular Functions, and belongs to a certain Planet. For Example, the first House regards Life, and the Constitution of the Body; and the last refers to Enemies, Imprisonments, and the Fidelity of Domesticks. *Mercury*, more than any other Planet, takes Pleasure in the first; and from thence bestows a happy Life, and a strong Constitution. *Venus* delights in the fifth, and promises Joy thro' Children.

*Astrological
Conclusion.*

This, and many other Remarks of the same Nature, being laid down; the Astrologer will tell you to what Countries, what People, or what Cattle the Comet is peculiarly sent, and what Sort of Ills it threatens them with. In the *Ram*, it signifies bloody Wars, great Mortality, the Depression of great Men, the Elevation of those that are mean, terrible Droughts, in the Countries subject to the Domination of that Sign. In the *Virgin*, it signifies dangerous Miscarriages, Imprisonments, the Sterility and Death of many Women. In the *Scorpion*, besides the preceding Ills, it threatens Reptiles and Locusts without Number. In the *Fishes*, Disputes upon Articles of Faith, frightful Apparitions in the
Air,

Air, Civil-Wars, Plagues; and always the Death of great Men.

If it unluckily happens that the Comets pass thro' Signs of a human Figure, as the *Twins*, the *Virgin*, *Orion*, &c. Mankind are to feel the Effects of it. If they pass thro' the Signs of the *Ram*, the *Bull*, the *Swan*, the *Eagle*, the *Fishes*, it is to the Animals of those Species that they are sent. If the Signs are masculine, Males are to suffer by it; if feminine, Women. If they traverse the immodest Parts of any Constellation, the Omen is terrible to unchaste Women. If the Comet is *saturnine* by its Situation, or its Aspect, it produces all the bad Effects ascribed to *Saturn*; as Jealousy, Melancholy, Distrust, and Terror. If in the second House, which is that of *Riches*, it signifies Losses, Thefts, Bankruptcies, and so on: For in general, an Astrologer judges of the Influence of a Comet by the Rule, according to which he pretends that such a Sign, in such a House, and with such an Aspect, presages this or that, to such particular Things.

Very seldom do they make a Comet signify any Thing good. There was however a *Swiss* Astrologer, who, having remarked in 1661, that a Comet passed by the Sign of the *Eagle*, and disappeared at its Feet, assured the World that it foretold the Ruin of the *Turkish* Empire by that of *Germany*: Which was so far from being verified by the Event, that two Years after, the *Turks* had like to have taken all *Hungary*, and would manifestly have invaded the Hereditary *Austrian* Dominions, if the Supply sent to the Emperor by
Comets seldom made to signify any Thing good.
 the

the King of *France*, had not put him in a Condition to make his Peace with the Sultan. The Predictions of an Astrologer are like those of a Poet; always fatal to the *Ottomans*, but without any bad Consequence. For the whole last Century, all the *French* Poets, with the Air of an Oracle, chanted forth the Destruction of the Grand *Turk* by the Kings of *France*, and erected Trophies for the latter upon the Banks of *Jordan* and *Euphrates*. The redoubtable Mr *Despreaux*, who had been so merry at Sallies of this Kind, at last fell into them himself. *I expect Thee*, says he to *Lewis XIV*, *in two Years, upon the Banks of the Hellespont*; and lo! he was as false a Prophet as the rest of his Brethren.

It is no new Thing for Astrologers to reason in this Manner. In the Time of *Pliny* it was the same. *It is no indifferent Matter*, says that Author, *whether the Comets dart their Rays this or that Way, or receive their Virtue from certain Stars, or represent particular Things, or shine in certain Parts of the Heavens*. Now consider, Sir, whether a Man must not have put off all Shame to lay down Principles of this Sort. What, because a Comet appears near certain Stars, which the Antients have been pleased to call the *Virgin*, in Complaisance to the poetic Fiction, which makes *Justice*, or the *Virgin Astræa*, in Disgust with the corrupted World, ascend to Heaven; are Women for this Reason to be barren, or to miscarry, or not to get any Husbands? Can any two Things in the World hang worse together?

It was mere Whimsy that occasioned this Sign to be represented under the Figure of a Woman: For, in fact, it is no more like a human, than any other Form. But if it were true that it resembled a human Figure, have we Eyes good enough, with our best Telescopes, to discern whether it be a Male, or a Female, that it is most like? If we could distinguish even that, how could we know whether it was a Virgin, or a Woman? In a Word, could we make all these subtle Distinctions, and be sure that a certain Number of Stars are so situated as to form the Likeness of a spotless Maid, would it follow that they must communicate to a Body, perhaps thirty millions of Leagues distant, an Influence contrary to the Multiplication of human Nature? It would be infinitely more reasonable to advance this Impertinence; That if a Baker was to make the Figure of a Man or a Woman upon a Cake, that Cake would be turned into Poison for all the Men or all the Women who eat it. One may justly say to the Astrologers, what *Pliny* says of another Species of Cheats: *That to have spoke such a Thing seriously, proves a Man to have a Contempt for those he speaks to, and that the Impunity of Lying is shamefully great.*

*The celestial
Signs mere
imaginary.*

I shall not take up your Time with a Detail of Proofs for what I advance. There are already many good Treatises, universally known, which demonstrate the Falsity of that chimerical Art. I believe that no Man ever writ against Astrologers without confounding them, and who could not say what the *Romans* said of *Africa*, That the Subject afforded them

them a Harvest of Triumphs : If there be any such Writer, he deserves the same Notice that the Emperor *Gallien* took of a certain Knight, upon whom he settled a Pension for having pursued a Bull a long time, without being able to hit him once.

*The Opinion of
the Many not
to be relied on.*

A thousand Instances might be produced from History, of the great Credit Astrology has been in. Whether we consider the ancient *Pagans*, or the modern *Infidels*, nay the *Christians* themselves, and even those of our own Nation, we shall every where meet with a plentiful Harvest. If all this should be thought a Digression, I shall now let you see that it is not a useless one : For my principal Design in it, is to discredit the Authority of Opinions founded upon the Multitude. Can I do this better, than to shew that Astrology, which never had the least Probability for its Foundation, has however infatuated the greatest Part of the World in all Ages? If you say, that tho' the Multitude believe in Astrology, the Opinion founded on its Predictions is false and ridiculous ; it is equally true that the Predictions made from Comets, as they have no other Support but the Principles of Astrology, are no less ridiculous than that Science itself, notwithstanding the great Number of People who believe in them. In all Matters, but those of Faith, the only Favour we should shew to long Possession, and the great Number, is to give them the Preference, every thing else being equal : For if Prejudice be admitted, it should be rather in Favour of one who is singular in his Opinion, than of the Multitude.

R E A S O N

R E A S O N IV.

That if it were true that Comets have always been followed by many Calamities, there would yet be no room to think either that they are the Signs or the Causes of them.

To return to my Point : If it be true, Sir, that there never appeared a Comet, that was not followed by many Calamities, this proceeds only from the Condition of Things in this World, which subjects them to an Infinity of Changes. The same Influence may safely be attributed to whatever we please, as the Marriage of a King, or the Birth of a Prince ; because it is certain that no King was ever married or born, but what some great Misfortunes succeeded in one Part of the World or other. In a Word, it is as probable, as Affairs usually run, that after any Year we fix on, some Calamity will happen in some Part of the World, as it is, that at any Hour of the Day, if an Inhabitant of *Fleet-street* or *Cheapside* looks out at the Window, he will see People passing along the Street. But the Citizen's looking out has no Influence upon the Passengers, and they would go by at the same time if the good Man had kept his Window shut. The Comet in like Manner has no Influence upon Events, and every Thing would have happened just as it did, if no Comet had appeared.

R E A S O N V.

It is false that more Calamities have happened in Years immediately succeeding the Appearance of Comets, than at other Times.

The following Particulars are evident from History. I. That by reflecting on what has passed, either in the whole World, or in any large Part of it, we shall see that as many Misfortunes have happened in Years remote from the Appearance of a Comet, as in those that have fallen nearest to such Appearances. II. That the Years which have been thought infected by the Influence of Comets, are remarkable for as prosperous Events in some Parts of the World, as any other Times whatever. III. That some of the most terrible Events have not been preceded by any Comet, and that the most remarkable Prosperities have been so preceded. To say all in a few Words, we may lay it down for certain, that if we take the whole History of the World, and compute with Care, the Good and the Ill that have been felt in general, within the Compass of fifteen or twenty Years, we shall find that one with another, the Good and the Ill are pretty equally proportioned at all Times; which proves that the Years which follow the Apparition of Comets have nothing to distinguish them from others, and that consequently it is very unjust to judge in Opposition to all Experience.

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The same Observation may be made against those who pretend that great Events depend upon particular Seasons. All that can be proved, with regard to Months, Days, Years, and Numbers, is, that God has not fixed the Events which tend to punish any People, or to the Foundation or Ruin of Empires, more to one Time than another. The contrary would be an Affectation unworthy of the divine Majesty, and which can be attributed to him only by those superstitious Minds, which suppose his Providence always busy about Trifles. The Scripture and the Fathers declaim against this Abuse in many Places, and it is false that History favours it. We might appeal to all that the *Pagans* say concerning lucky and unlucky Days, and concerning the Fatalities they attribute to certain Names, and refute their Opinion from their own Records.

One Time is not more fortunate than another.

It is certain that those who are the least acquainted with History, will cite you many Disorders that happened after the Appearance of Comets, without speaking of any Prosperity that arrived at the same Time. For Example, they retail to you all the Wars that harassed *Europe* between the Year 1618 and the Peace of *Munster*, and throw the whole Load of these Calamities upon the Back of the poor Comet, without saying a Word on the other Side. But, besides that this is stretching the Power of Comets beyond their just Bounds; that what they call an Ill, has been productive of great Good to the best Part of *Christendom*, which was thereby delivered from the Danger it was in of losing its Liberty;

Proof of the Inefficacy of Comets.

erty;

berty ; besides this, I say, who does not perceive, that if we once give ear to all these Quoters of Examples, you open a Way to all Sorts of Superstitions and old Women's Tale : For there is no good Dame who cannot furnish you with a thousand tiresome Circumstances, as the Death of twenty or thirty of her Relations or Friends, upon that Day or Year, in which she made one of thirteen in Company at Table ; and the many Troubles she always went thro' after letting the Salt-seller fall ; without saying a Word of any Party of Pleasure she was in, or any good Fortune that happened to her.

But let us come to real Facts with regard to Comets. It is not now the Question whether they have Power to alter our Elements, whether they predict in Quality of Causes or of Signs, and appear particularly whenever Mankind have any great Misfortunes to suffer. We are to justify the Fact, which we shall hear denied, by some Persons, whenever we mention it.

*Experience,
as some People
manage it, a
formidable En-
trenchment.*

I remember to have read in *Cicero*, that the Knowledge of Omens is more founded upon the Observation of Events, than upon Reason ; and that in Things of this Nature we ought not to enquire after the Causes, like *Carneades* and *Panætius*, who, with *Epicurus*, were almost the only Infidels with regard to this pretended Science. When they asked if it was *Jupiter* that ordained the Crow to scream on the left Hand, and the Raven to scream on the right ; all the Answer they got was, that it ill became them to pry so far into those Matters ; that since the Experience of all Ages confirmed the Truth of Divination,

tion, they ought to be contented ; that there were Herbs of which the Virtues were known, but not the Cause which produced those Effects ; notwithstanding which, no Man scrupled to use them in Physick. On this Occasion, *Cicero* produces a great many Things in Nature, the Properties of which are known to us, but not the Causes of all those Properties, and makes his Brother, the Dialogist, say, that *he is content, with knowing such Things are done, tho' he is ignorant in what Manner.*

This, Sir, is exactly your Case : Let a Philosopher press you as much as he will upon the Manner in which Comets predict our Misfortunes ; all you have to say to him is, that tho' he knows not in what Manner the Sun illuminates the World, he is not the less assured, with the Rest of Mankind, that the Sun does illuminate the World, because Experience evidently demonstrates it : That, for the same Reason, Experience having taught us that Comets are followed by Misfortunes, we ought to believe they are ominous, tho' we know not in what Manner they are so. One may, I must own, attack you very successfully in this Entrenchment ; but, while you are able to appeal still to Experience, you will always find a Place of Security. For this Reason, Sir, I refer you first to the Tribunal of Experience, and will let you see that it does not decide in your Favour.

In the seven Years that followed the two frightful Comets of 1665, can you in Conscience say that *Europe* was extremely afflicted, and in Danger of being ruin'd? Do you re- mark any Calamities, more than common in

Comparison of the Years that followed 1665 with those that preceded 1652, in both which Comets appear'd.

those

those Years? Did any barbarous Nations, like the *Huns*, the *Goths*, the *Uians*, the *Normans*, bring Desolation upon a Number of Provinces? Did the Pestilence depopulate the most flourishing Kingdoms, and send to the Grave one half of Mankind? Was Famine complained of in most Countries? Were Monarchs dethron'd by the Rebellion of their Subjects, or the Usurpation of their Neighbours? What Heresies and Schisms arose in that Period? Was Impunity of Crimes authorized by those in Power? On the contrary, is it not true that Pestilence, War, and Famine, spared the human Species as much as Humanity has Reason to expect?

I find but four Wars recorded during that whole Time; that of the *Turks* and the *Venetians*; that of the *Spaniards* and the *Portuguese*; that of the *Dutch* and the *English*; and the Campaign of *Lisse*, between the *French* and the *Spaniards*. The two first, which began long before the Comet appear'd, were happily ended in this very Time; and the other two were ended almost as soon as begun. Does not this shew us that the Influence of the Comets in Question was more inclined to Peace than War, because it terminated Wars that had begun without their Participation, and soon brought on a Pacification of those which begun under their Reign.

The Year
1668 *peculiarly*
prosperous.

The Year 1668 was peculiarly prosperous, because, by the Treaty of *Aix la Chapelle*, the King of *Spain* recovered a Province that he could never have reconquered, and secured to himself the Possession of all that remained to him of the *Low Countries*, which he must
infallibly

infallibly have lost, if the War had continued. Peace became general in all the West, which alone is a great Happiness to Mankind. All the Christian Princes laid aside their Jealousies and Suspicions. Can we say, after this, that the Comets of 1665 were followed by a Deluge of Calamities? Ought we not to laugh at the Astrologers, who foretold that Schisms, Heresies, Bloodshed, and a thousand other horrid Ills, would be the Consequence of them?

It signifies little, on the other Side, to mention the Plague of *London* in 1665; the Fire of the same City the next Year; the Earthquake in 1667, which swallow'd up the Republick of *Ragusa*; the burning of Mount *Aetna* in 1669, and other Accidents of the same Nature: These were indeed dreadful Things to those who suffered particularly by them, but were neither of general Consequence, nor very extraordinary; and it is easy to shew that at other Times, more tragical Misfortunes of the same Kind have happen'd; as the Fire of *Moscow*, the Capital of *Muscovy*, which was entirely reduced to Ashes by the *Tartars* in 1571; the Earthquake in *Asia*, in the Reign of *Tiberius*, which swallowed up twelve large Cities in one Night; that which destroyed 20,000 *Lacedemonians*, and buried their whole City under a Part of Mount *Taigetus*, 469 Years before *Christ*; that which happen'd in *Canada* in the Year 1663, and that in *Peru* in 1604, which in less than an Hour overset almost every Thing for an Extent of 300 Leagues long, and 70 broad; the burning of *Vesuvius* in 1631; the Plague which depopulated the Capital of the Empire,

Calamities between 1665, and 1672.

which pursued the Emperor to *Prague*, whither he fled for Refuge, and afterwards spread itself in several Provinces with frightful Effects. Besides, ought these two or three Calamities to over-balance the Felicity brought by so many Treaties of Peace, and the Revival of Literature and Science in *France*, from whence it has spread over the *Northern* Nations? Never pretend to say, that I have not taken a Period sufficiently extensive: For common Sense must assure us, that if Comets predict any Thing, it is for the first six or seven Years that follow them; and it is upon this very Foundation that their Malignity is proved from History.

*Calamities
that happened
in Europe be-
tween 1645
and 1652.*

For Variety, Sir, let us look over another Set of Years, selected from a Time entirely purified of all the ill Air of Comets. Reflect on what passed in *Europe* between the Year 1645, and the Comet that appear'd in 1652. You will see the long Wars of *Germany*, said to be predicted by the Comet in 1618, entirely put an end to at *Munster*: But you must allow that Comet a very tedious Time to purge itself, if you think its Influence continued as long as this War. The three last Campaigns of the Allies against the House of *Austria*, so remarkable for many bloody Actions, fall within the Period that I have chosen. To mention only the Battle of *Norlingen*, in which the Prince of *Conde* fully revenged the Affront, which the *Swedes* had received there ten or twelve Years before; and the Sacking of *Prague*, when many Ladies, of the first Quality, were reduced to the hard Terms of being exposed in
the

the Streets, in their Smocks only. Even these were not the worst Calamities that happened within this Period, when a furious Spirit of Sedition seemed to be let loose all over *Europe*.

We find *Charles I*, King of *England*, condemned to Death by his own Subjects, and beheaded with many shocking Circumstances. We find his Son, *Charles II*, obliged to hide himself in an Oak, after having seen all his Troops cut in Pieces at the Battle of *Worcester*; to fly afterwards out of his Kingdom, almost without Necessaries; happy that in this poor Condition he could elude the Search made after his Person, and avoid the Fate of his Father. We find *France* torn in Pieces by a cruel Civil-War, which lost her almost all the Conquests she had made in twelve Campaigns; sensible of the pernicious Shame of destroying herself, like the *Roman Republick*, when no other Power was able to hurt her. We find the Kingdom of *Naples* in Rebellion against her Sovereign; the *French* at War with the *Spaniards* in *Flanders*, *Italy*, and *Catalonia*; *Portugal* in Arms against *Holland*, and against *Spain* at the same Time; *Kmielniski*, General of the *Cossacks*, in Rebellion against *Poland*, and in League with the *Tartars*, filling that Kingdom with Desolation; taking Advantage of the Death of the brave *Uladislaus*, bringing the *Cham* into *Poland*, joining him, and, with an Army that has had no Equal since *Attila*, besieging the *Poles* in their Entrenchments, and reducing them to the last Extremity. We find that the Peace concluded in 1649, on Conditions very disadvantageous to *Poland*, is of short

*Seditions in
this Period.*

Duration, and Hostilities are again renewed by fresh Irruptions of the *Cossacks* and *Tartars*, who commit a thousand Outrages, and cause the utmost Calamities before they are totally defeated. We find the *Muscovites* in such a furious Insurrection, that the Chief Ministers of State cannot find an Asylum, even in the Palace of their Emperor, against the Insolence of the Mutineers. The *Czar* gives up to them the Victims they demand, suffers his principal Officers to be knock'd on the Head with Clubs, and, after having got off his Brother-in-law, who was also his Favourite, begs his Pardon of the People. We see in *Constantinople* Seditions so horrible, that Sultan *Ibrahim*, after having been compell'd to abandon the Vizer *Azem* to the Fury of the Mob, who strangle him, is himself strangled in Turn. Nor was this all: The *Janissaries* and *Spahis*, who are the principal Forces of the *Ottoman* Empire, grew so outrageous against each other, that they are upon the Point of deciding their Quarrel by Force of Arms. The Sultana *Kiosem* who governs the State during the Minority of the young Sultan her Grand-son, conspires to have him strangled by the *Janissaries*: But the Sultan's Mother prevents her by a Counter-plot, procures her to be strangled in his Room, and cuts off the Chief Officers of the *Janissaries*. We see the *Venetians* at War with the *Turks*, which spreads the most frightful Calamities thro' all the Coasts of *Dalmatia* and the *Archipelago*. We meet with a hundred other Disorders, the Detail of which would be tiresome, as I think it superfluous. What I have

have mentioned is more than sufficient to make you own, that the seven Years which I pitch'd upon after the two Comets, are not half so full of calamitous Events as these I am now speaking of, which were the Sequel of no Comet, but, on the contrary, preceeded that in 1652, and followed those Years allotted to the Expiration of that in 1618.

Confess it then frankly, Sir, *That there are Inference. Calamities without Comets, and Comets without Calamities*; and that to reason after the vulgar Manner, the Peace of *Munster* ought to pass for a Sign of the Judgments of God, because it was followed by so many Misfortunes all over *Europe*.

Our proverbial Friend will, I know, tell me on this Occasion, that *One Swallow does not make a Summer*. My Answer is: Let him turn over History with Care, and he will find what Examples he pleases of the same Nature. A *German* Author of the *XVIth* Century, named *Elias Major*, has collected a great Number of them, and remarks expressly, that the most celebrated Treaties of Peace have been concluded soon after the Apparition of some Comet; that many idolatrous Nations have been converted to the Gospel, in Times marked with the same Character; and that the same Things might be said of the Foundation of the most celebrated Universities. For you, Sir, who are so deep in the Canons, the Fathers, and the Casuists, as to have no Time for such a Lecture, I have by and by an Argument that requires no such Reading at all.

R E A S O N VI.

That the general Persuasion of Mankind is of no Weight to prove the malignant Influences of Comets.

Auguries and Oracles.

But I have yet one more philosophical Reason, and, I think, no inconsiderable one. General Tradition, and the unanimous Consent of Mankind, are no Prescription against Truth. If they were, we must own, that all the Superstitions which the *Romans* learned of the *Tuscans*, in relation to Auguries and Prodigies, and all the Impertinencies of the *Pagans* regarding Divination, were so many incontestable Truths, because Mankind had as much Prevention in their Favour, as in Favour of Comets. We must own that the Devil, the Father of Lies, did nevertheless, for a long Succession of Ages, give out Oracles full of Truth, Sincerity, and Faithfulness: For there was a Time when all the World gave Credit to Oracles. It would be impossible to answer this Argument, reported by *Cicero*, *That the Oracle of Delphos had never become so famous, nor had all Nations and Kings sent thither so many Presents, if all Ages had not experienced the Truth of its Answers.* What could be more plausible than this, allowing it once proved that *Apollo* did utter many true Oracles. But the Whole falls to the Ground when we deny the Principle it is founded on, *viz. That Opinions generally establish'd are true.* Nothing is in Fact more false than this Maxim,

Maxim, even from the Example of that very Oracle, which was consulted from all Parts; tho' its ambiguous Answers were a fatal Snare to many Nations, and an Effect of the most abominable Imposture. It is with good Reason then that I deny the Principle founded on general Belief, since it is easy every Day to discover a thousand Blunders in the most universally received Opinions. That, for Example, of the *Dog-star*, which is thought to bring sultry unwholsome Weather: Whereas our Reason assures us there is nothing more false than the pretended Fervor of that Star; and Experience, ever so little attended to, will convince us, that *July*, oftner than *August*, is the hottest Month in the Year. *Dog-star.*

What has been affirmed of certain Remedies, that you must have Faith in order to give them their Effect, may be applied to a great Number of Traditions. Would you wish not to be undeceiv'd? Believe without examining: For if you employ some Time to search Things with a critical Temper, you will soon find that Experience does not agree with the public Voice. Here follow more Examples of it.

If there are any celestial Bodies whose Influences can have any Virtue upon our Earth, the Moon doubtless is the chief, as being the nearest to us. Hence we believe her to be the Cause of a great many Things. She occasions an Increase and Decrease in the Marrow and Brain of Animals; regulates Heat and Cold, Rain and Tempests. If we have rainy Weather at a new Moon, you must not expect to have fine Weather return, 'till she *Moon's Influence.*

she is at the Full : If the Rain cease not then, you must wait with Patience 'till the next Change. It is just the same with Droughts, Frosts, &c. because the Conjunctions and Oppositions of the Moon have the Property of changing the Weather. Hence it is that in Conversation, since nothing occurs more frequently than the Subject of Rain, Cold, Drought, and the like, we often hear some of the Complainants enquire after the Full or New Moon, and console themselves upon the Change that is then to happen. These are Sentiments common to all Countries, and to Persons of all Conditions.

*Absurdity of
that Notion.*

Yet those who have taken the Pains, for twenty or thirty Years successively, to examine the Marrow of Animals, have remarked, that in what State soever the Moon be, some Bones are found with a great deal of Marrow in them, and others with a very little : Which shews that the Moon has no Part in all this, any more than it has in the Fullness or Emptiness of Oysters and Crabs. I say the same Thing with regard to the Change of the Weather, and maintain, after having observed it attentively a great while, that there is no one Day to be fixed on in all the *Lunar* Months, in which the Transition from rainy to fine Weather, from Thaw to Frost, or the like, is more frequent than in another. If we had a good Series of Observations, we should find that the Temperament of the Air depends so little upon the Full Moon, that we might reckon as many dry Moons, whose Change was in wet Weather, as we could rainy Moons after Changes
of

of the same Kind: So true is it, that the Change of the Weather follows no Rule that is known to us. It would be easy for me to demonstrate, that Reason is in this quite contradictory to the common Sentiment: But I chuse rather to appeal to Experience, which is no less in my Favour, tho' the Error still remains. Nor is it surprizing that an Error should become general, when we see how little Men consult their own Understanding while they give Credit to what Others say, and the little Advantage they make of the Opportunities they meet with, to undeceive themselves.

Give me Leave to ask you, Sir, if you ever took notice of the Croud of Authors, who have said, one after another, *That a Man weighs more Fasting than after a Meal; that a Drum-head made of Sheep-skin, would burst at the Sound of a Drum-head made of Wolf's-skin; that Vipers destroy their Mothers in coming out of their Belly, and occasion the Death of their Sires the Moment they are form'd;* with other Things of the same Nature? Men have not been content to receive these for certain Facts, but have taken the Pains to search the Causes of them: They have been applied to moral Subjects; Advocates have done themselves Honour by alluding to them at the Bar; Preachers have drawn from them a thousand fine Comparisons; an infinite Number of Themes have been given on them in the Classes at the University. Yet all these Things are contrary to Experience, as those have testified who have had the Curiosity to clear them up.

And of several others.

*Causes of the
Authority of
an Opinion.*

It appears farther, that Men of Learning sometimes take as little Caution as the Vulgar, and that a Tradition, fortified by their Testimony, is not for that Reason exempt from Falsehood. Let us not be imposed on then by the Name of Scholar. How do we know, if a great Doctor, who advances a particular Opinion, has taken more Pains for his own Conviction, than the most ignorant Fellow who believes it without Reflection? If the Doctor takes a Thing as much upon Trust, his Voice has no more Authority than that of the Clown; because the Weight of any Man's Testimony, ought to be in Proportion to the Degree of Certainty he has acquired, by examining thoroughly into the Fact.

I repeat it again: A Sentiment cannot become probable from the great Number of those who follow it, but in Proportion as it has appeared true to Persons independent of all Prevention, by the single Force of a judicious Examination, accompanied with Exactness, and a thorough Knowledge of Things. It has been very well said, that one ocular Witness is more credible than ten who speak upon Hear-say: And we may as justly say, that one Man of Understanding, who speaks nothing but what he has fully considered, and found proof against all Objections, gives more Weight to his Sentiment than a hundred thousand vulgar Minds, who follow one another like Sheep, and depend intirely upon the Credit of their Leaders. For this Reason *Themistius* and *Cicero* have expressly declared; the first, that he would give more Credit to what *Plato* should signify by a Nod of the Head,

Head, than to what all the other Philosophers should affirm upon Oath; and the latter, that the single Authority of *Plato*, without any Proof, would demolish all his Incredulity.

I had forgot one very essential Remark, which permit me to introduce here. Mankind have generally had a frightful Idea of Eclipses, as if they were Omens of the most tragical Events. Both the antient *Pagans*, and the modern *Christians*, have had very strange Thoughts on this Subject.

*Superstition
with regard to
Eclipses.*

Nicias, General of the Army which the *Athenians* had sent into *Sicily*, after many Losses, saw himself obliged to return home. All Things having been prudently concerted to hoist sail without the Enemy's Knowledge, an Eclipse of the Moon intervened. *Nicias*, instead of improving an Opportunity so favourable, was seized with such a superstitious Fear, that he durst not stir from his Post. On the contrary, he thought it adviseable to stay a whole Lunar Revolution, in the Imagination that the Influences of the Moon extended to her next Opposition, or at least to her Change. This was more than even the Diviners required, who would have confined him not above three Days. What was the Consequence? The General, by attempting to avoid the Persecution of the Eclipse, had his Retreat entirely cut off, was himself taken Prisoner, and saw all his Army ruined by one Means or other.

*Among the Pa-
gans.*

All the fine Harangues that *Agathocles* made to his Soldiers, when they disembark'd in *Africa*, could not support them against the Terror they were seized with upon having

seen the Sun eclipsed during their Voyage. But by good Luck *Agathocles* was less superstitious than *Nicias*, and consequently better able to use his own Understanding. He took upon himself to interpret the Prodigy, and told the Troops, that if the Eclipse had indeed happened before their Embarkation, the Prefage would have been to their Disadvantage; but as it fell out after they had set sail, the Prediction turned against those they were going to War with. By this Means he calmed their Terror; and others have made the same Use of these Appearances since. All History however confirms the Fact, that Eclipses were in general looked upon as fatal Omens.

Among the
Christians.

The same Opinion is yet prevalent among the Multitude. Modern Historians seldom mention an Eclipse, without telling us that it predicted the Death of such a King, the Sedition of a certain Province, or some like Misfortune which falls in their Way. From common Almanack-Makers, up to those who only calculate Nativities of Quality, there is not one but will tell you that Eclipses are ominous of War, Famine, Pestilence, Inundations, the Death of great Men, and other calamitous Matters: And they meet with more Credit on these Articles, than when they only foretel Rain or Cold. There happened an Eclipse in 1654, from which some predicted no less than a Deluge like that of *Noah*, or the total End of the World by Fire: Others went no farther than State-Convulsions, and the entire Ruin of *Rome*. They had, in short, so intimidated Mankind, that those who were content to shut themselves

elves up in Cellars, or close Chambers, well warmed and perfumed, passed for very hardy People, and thought they had a Right to laugh at those who were fearful. This was only what their Physicians ordered, to avert the bad Influence of the Eclipse: And, in Reality, they had great Force of Mind, in Comparison with those who dreaded the End of the World. The Consternation was so great, that a Country *French* Priest, not being able to confess all his Parishioners who were in Apprehensions of Death, was obliged to tell them, *that they need not be in so much Hurry, for the Eclipse was put off for a Fortnight.*

Thus you see both Antients and Moderns, *Pagans* and *Christians*, are perfectly united in this Sentiment, that Eclipses are ominous of great Misfortunes. Yet nothing is more false; because Eclipses can neither be the Cause, nor the Sign, of any Evil whatever.

I say an Eclipse, either of the Moon or the Sun, can do us no Harm; because the utmost it effects, is to prevent the Earth from being illuminated a short Time, which can be of no bad Consequence. When *Pericles*, one of the greatest Men of Antiquity, who had been freed from all vain Apprehensions by the Philosopher *Anaxagoras*, was ready to sail on a great Expedition, with the Fleet under his Command, an Eclipse of the Sun so terrified the Pilot, that he was all in Confusion. *Pericles*, seeing this, spread his Cloak before the Man's Eyes, and ask'd him if he felt any bad Consequence from it. *None at all*, says the Pilot. *There is no Harm then*, replies *Pericles*, *in the Sun's being eclipsed: For all the Difference*
betwixt

That Eclipses cannot be the Cause of Ill.

betwixt my Cloak, which covers your Eyes, and the Body that eclipses the Sun, is, that the latter is bigger than the former. This Reflection is so adapted to all Capacities, that it is surprizing more do not make it.

Every one will allow, that, without the least Injury to Health, a Man may be whole Days in Places much darker than the Obscurity of the greatest Eclipse, and that a Tree may be close covered three or four Hours, without affecting either the Leaves or the Fruit thro' the rest of the Year. Every Country-man wou'd be glad at some Times to lengthen the Nights, that the Heat of the Sun might not continue so long upon the Fruits of the Earth. Thick Clouds, which obscure the Air for several Days together, much more than an Eclipse of four or five Digits can do for a Minute, are often found to be advantageous. If the Moon should stay a whole Day in her Conjunction with the Sun, can it be imagined the Earth would receive any Damage from it? A Man may live a whole Day without eating or drinking, and yet not die, nor fall sick, nor be the worse three Days after: Yet every one knows that Nourishment is more necessary to Life than the Light of the Sun, which some Nations live without for Months together. How comes it to pass then that the Moon cannot, for a few Moments only, intercept the Rays of the Sun, but it must bring on numerous Calamities? What is merrier still; why must the Malignity of this Eclipse go to Court only, chuse the King from among all his Attendants, and throw him into a mortal Fever? Can

Can any Thing be more ridiculous, than to see People, who fortify themselves against the Rays of the Sun by all the Artifices imaginable, behind Windows, Blinds, and Curtains ; who are afraid to stir out in the Day, without a Mask or an Umbrella ; to see these very People tremble at the Thought of an Eclipse, which, properly speaking, may perhaps be only a good Office which the Moon does the Earth in very sultry Weather ?

An Eclipse can no more be the Sign, than it can be the Cause of those Ills that afflict Mankind ; which is the last Resource of all your astrological Predicters. The Reasons are these : I. Eclipses are the Effects of an Order so natural, that there is no petty Astronomer who cannot foretel the Day and Hour of their Appearance, many Ages before it comes : II. They happen at all Times, and in every Country ; sometimes more than four in the same Year ; often at Hours when no Body perceives them, but those who wait on Purpose ; often when Clouds quite hide them from our Sight.

The first of these Reasons is exceeding strong : For if Eclipses are the natural and necessary Consequences of the celestial Motions, they fall out independently of Man, and without any Relation to his Merits or Demerits, and must certainly happen all the same, whether God has or has not a Mind to chastise Mankind : They cannot then be ominous of the divine Justice. Besides, we must renounce all Reason, or allow that an Effect of Nature cannot be the Sign of any Thing, except it either produces that Thing, or is produced

Nor the Signs.

produced by it, or that they both depend upon the same Cause. If by examining the Cause of the Movements of certain Beasts, which are said to presage Rain, we find that the same Cause produces Rain, or has a necessary Connection with that which produces Rain, we shall be to blame if we deny that these Motions are ominous of wet Weather: Otherwise we ought certainly to deny it, upon the same Principle as we reject the Superstitions of the antient *Pagans*, who imagined that the Flight of a Bird predicted the winning or losing of a Battle.

In a Word, what Probability is there that God should chuse for the Sign of his Corrections, a Thing that happens four or five Times in a Year, and very often without coming to any one's Knowledge, except from the Almanack? Signs of this Nature, to give them wherewithal to make Impression upon reasonable Creatures, should be very rare, not sent to foretel the common Inconveniencies which traverse the Life of Man every Year, but to denounce the severest of God's Vengeance in his most dreadful Ire: They ought not to depend purely and simply upon the natural Course of second Causes, nor to happen behind Clouds, or in the Night while Men are asleep.

*Application
to Comets of
what has
been said con-
cerning Eclip-
ses.*

What I have said against Eclipses, holds equally good against Comets, which is the Reason I have dwelt so long on that Subject. If you allow that Comets do not cause, but only predict the Misfortunes that follow them, my next Proposition will fully answer you. Before I dismiss this, let me remark,

as I have done concerning Eclipses, that Comets are attended with some Circumstances, which prove they cannot be ominous of Evil to come.

They are very frequent. No less than seven are recorded between the Year 1298 and 1314, twenty-six between 1500 and 1543, fifteen or sixteen between 1556 and 1597. Sometimes they have appeared every Year, for many Years running. It is no uncommon Thing to see two in the same Year, either in different Months, or at different Hours of the same Day. Four at a Time appeared in 1529; eight or nine in the single Year 1618. Those who were no Astronomers could see none between 1665 and 1688, but these Gentlemen could discover them in 1668, 1672, 1676, and 1677. Some Comets plunge into the solar Rays the second Day of their Appearance, and are no more to be seen. Others, in all Probability, make their whole Revolution quite unseen by us, because of their constant Proximity to the Sun's Body: Such was that mentioned by *Seneca*, which was seen by Chance during a Solar Eclipse, and never at any other Time.

Must you not own, Sir, that these Circumstances by no Means agree with a Sign, which God sends expressly to forewarn us of our Calamities? Should these Signs be so frequent? Do they not lose their Efficacy when we are accustom'd to them? If Mankind still beheld them with superstitious Eyes, after they had seen twenty-six in the Space of forty-four Years, was it not because they made no Use of their Reason? Would the Almighty send

us Signs, which only the Ignorance of Men makes them acknowledge for such? Why so many Comets in one and the same Year? Is not one Sign of the same Kind enough at one Time? But why, above all, are those Comets sent, which only two or three Astronomers can see? Do not such Signs lose their Effect, and frustrate the End which Providence proposes in sending them? How can we imagine that God would send us invisible Signs, or Signs that should be seen by only two or three faithless Astronomers, who are never likely to exhort Mankind to Repentance? Why does he suffer Signs, which can answer the Purpose they are sent for only in Proportion as they are seen, to make their Course in a Part of the Heavens where the Sun renders them invisible? Examine all this well, Sir, and you will see that an infinitely-wise Providence can never work to so little Purpose.

It is in vain to tell me, that we must not criticise on the Operations of God. That is Chicanery, as I shall make appear. The fairest Way, to remove the Difficulties I have surrounded you with, is to own that Comets are Works of Nature, which, without any Relation to the Happiness or Misery of Man, revolve in their Orbits according to the general Laws of Motion: And, as you cannot maintain that those Comets, which are seen by two or three Persons only, were Signs to Mankind, confess that there are Comets which signify nothing. Whence it will result, that none of them all can foretel any Thing; because the Difference between a Comet that appears to all the World, and one

one that makes only a very private Appearance, is no more than this: That the latter is farther from us than the former; which can make no Alteration in the Nature of these Bodies.

R E A S O N VII. *founded on
Divinity.*

That if Comets were ominous of Calamities, God must have wrought Miracles to confirm the World in Idolatry.

I could add more Reasons to the preceding, and more Authorities to support each of them, if I did not know, Sir, that you are to be convinced only by religious Arguments. Such is that I now offer, which occurred to me upon recollecting my former Ideas concerning the Comet in 1665.

A Clergyman of my Acquaintance, who had often in vain laboured to persuade me that the said Phænomenon was predictive of some Ill, no sooner heard of the Death of Philip IV, King of Spain, but he came to me in all Haste, and asked, with an Air of Triumph, *If I had yet the Obstinacy to maintain, after such an Example, that Comets did no Harm to the World?* I told him, in Conformity to his Profession, that as God did nothing in vain, it was absurd to think he should send a Comet either to advance, or to foretel the Death of that Monarch; that a Prince worn out with Ills and Infirmities, who for a

*Occasion of
this Argument.*

long Time had been supported, almost in Spite of Nature, by the Inventions of Physick, might certainly die, without God's sending, to take away his Life, a Body a hundred Times larger than the Earth, and filled, like *Pandora's* Box, with all Sorts of Maledictions; that it was so little necessary for God to inform the World of his Intention to take to himself the King of *Spain*, that all *Europe* was amazed he could subsist so long under his Distempers. My Friend could make me no Reply. A late Reflexion upon this Thought convinced me farther, that those who maintain the Predictions of Comets, not only make God do very idle Things, but Things altogether unworthy of his Holiness. I prove it thus:

Comets can foretel only in Quality of Signs.

It is an Article of Faith, that the Liberty of Man is superior to the Influence of the Stars, and that no physical Quality drives him necessarily to Evil. Thence I conclude that Comets are not the Cause of those Wars that kindle in the World, because the Design of making War, as well as the Acts of Hostility committed in Consequence of it, are all Effects of Man's Free-will. A Comet, then, at the most, can be no more than a Signal of those Ills that are ready to happen on Earth, which God exhibits to the Eyes of Mankind, to incline them, by their Penitence, to prevent the dreadful Tempest, with which they are threatned: For I have irrefragably proved, by my first Reason, that the Atoms of a Comet have no Efficacy to produce the Plague, Famine, or any other Alteration in our Elements.

ments. Admit then, that Comets are only Signs of Calamities to come.

It follows hence, that they are Bodies made on extraordinary Occasions, and no way dependent on the Chain of second Causes: For if they were produced by the Efficacy, and according to the natural Progress of second Causes, they could signify nothing with regard to Futurity, except the Effects which we know to be necessarily connected with them. They presage, therefore, neither War, nor Pestilence, nor Famine; because it is an Article of Faith, that the free Actions of Man, such as War, have no necessary Connection with the Qualities of a Body; and Reason informs us, that in Famine or Plague there is no necessary Connection with Comets. Comets then must be form'd miraculously by God, to advertise Mankind of the Calamities prepar'd for them, in case they do not repent. God must give them an Elevation and Motion, which may render them conspicuous to all the People in the Universe, that no Man may plead Cause of Ignorance.

Observe, Sir, a little, the terrible Consequence which flows from hence. It is, That God has wrought many of the most signal Miracles, to animate, almost thro' all the World, the languishing Zeal of Idolaters, and oblige them to offer Sacrifices, Vows, and Prayers to their false Divinities, with more Devotion than they had customarily done. For as before the Establishment of Christianity, God was known only in a little Corner of *Judea*, and had abandon'd all the other Nations of the World to their own bewilder'd Ways,

*A strange
Consequence re-
sulting hence.*

Ways, no body, but the *Jews* only, understood what it was to appease the true God, when he appeared angry. All that they knew to do, in this Coniternation, was to fall down before their Idols, offer them Victims, consult the Demons, and act, by their Advice, what was most disagreeable to God. So that to light up Comets in the Heavens, was nothing else, properly speaking, than to redouble the Acts of Idolatry; and this was, in Reality, all that God could promise himself from them.

I do not deny but there have been Persons of good Sense among the Heathens, who acknowledged that the true Means of pleasing the Divinity, was not to offer sumptuous Hecatombs in his Honour, but to live justly, and that this was the only Sacrifice which could appease an incensed Heaven.

The Pagan Expiations proper only to provoke the true God.

*A strange
- v. 200. 201. 202.
- 203. 204. 205.*

But, whatever they might own, it was not to this that they had Recourse, when they would disarm the Vengeance of God. They did not immediately renounce their Pride, and the Hatred they bore their Enemies: They did not pardon the Injuries they had received; mortify their Avarice; break with their Mistresses; humbl themselves inwardly before God, with real Grief for their Want of Virtue: They did not promise a Conversion of the Heart, a general Reformation of their Thoughts, their Words, and their Actions. These were hard Conditions, and Money would not purchase them. They chose rather, therefore, to pay for the Building of Chapels, to fill the Temples of the Divinities with Gifts and Oblations, and contribute

tribute to the Expence of all the Expiations which the Sybilline Books, the Oracles, the Augurs, or the Priests thought fit to institute. The Demons knew this, and, being permitted, by the Judgment of God, to triumph over the Credulity of Mankind, exhibited as often as possible extraordinary Phænomena; perceiving well that this would foment Idolatry, and keep up the Vigour of Sacrifices, Feasts, and other paganish Superstitions.

Innumerable Instances might be produced, to support every Particular here advanc'd. And it signifies nothing to say that the Demons had no Hand in these Matters, which were only the Juggles of their Priests. Whether the evil Spirits sent real Prodigies, or their Priests only feigned them, or whether the pure Effects of Nature were not often construed into Prodigies; the Fact remains good, that the People were frightened, and that their Terror did not bring them to true Repentance. All that they did, on the Appearances of Prodigies, to appease the Wrath of the Gods, was in no Sense proper to appease the true God; did not in the least diminish the Empire of Sin in the Heart; but, on the contrary, was entirely adapted to make the divine Majesty redouble his Rage. Hence it evidently results, that God did not create and exhibit Comets to terrify Mankind, and declare to them, that, if they did not expiate their Faults, they should be severely punished.

Upon the Whole, how much soever we examine antient History, we shall find it contribute

contribute to establish these three Truths. I. That Things which were taken for Signs of the Divine Anger, whether extraordinary Appearances or monstrous Productions, contributed only to foment the sacrilegious Worship of Idols, instead of eradicating Sin from the Heart. II. That the Devil could find no better Secret for the Extension of Idolatry, than that of terrifying People by real or supposed Prodigies. III. That the Apparition of a Prodigy, true or false, always acquired new Honours to the false Deities. We are obliged, then, to conclude, that God, by his Miracles, concurred with the Devil to establish and extend the *Pagan* Superstitions; or we must deny that Comets are exhibited in the Heavens as Signs to warn us of the Approach of divine Vengeance, in case of Impenitence.

God's Abhorrence of Idolatry.

Which of these two, Sir, is most agreeable to our Idea of the divine Majesty? Think if it be possible that the same God, who declares by his Prophets, that nothing is more abominable to him than the Worship of Idols; who testifies more Indignation against his People, when they sacrifice upon Mountains and under green Trees, when they honour the Gods of the Gentiles, than when they fall into Theft, Murder, and Adultery; who begins his Law with a double Prohibition against serving any other God but him; who, to give the more Weight to this Prohibition, proposes himself under the Character of a God all-powerful and jealous, extending the Punishment of Offences to Children of the fourth Generation, and his Goodness to obedient

obedient Parents thro' a thousand Descendants; whereas he contents himself with simply forbidding Murder, Theft, Unchastity, and Calumny: That God, who punished the Adoration of the Golden Calf by the most signal Vengeance, by leaving his People to serve the whole Host of Heaven, and thereby bring on themselves the Punishment of a long and painful Captivity; in a Word, who would not suffer his Servants even to eat of Things sacrificed to Idols: Think if it be possible, I say, that this very God should kindle up new Luminaries from time to time in the Heavens to intimidate the Nations of the Earth, and infallibly drive them to all the Acts of Idolatry which each thought proper to expiate his Crimes, and disarm the Divine Vengeance; the *Gauls* and the *Carthaginians*, for Example, to sacrifice Numbers of Men: Excreable Abomination! for which the Divine Majesty, by the Mouth of his Prophets, expresses so much Indignation against the Jews, who, in Imitation of many others, burnt their Children to the Honour of Idols; and for which he punished, in such an exemplary Manner, the Kings *Achaz* and *Manasseh*.

If I have proved that those Comets, which appeared before the Publication of the Gospel, were not formed expressly to advertise Mankind of the Distress, which God in his Anger prepared for them; it is evident, that those which have appeared since that time have no more Right to that Character, the same Reason still subsisting against them.

For *first*, If Comets before the Vocation of the *Gentiles* were mere natural Effects, as

H

well

*Comets no
more Ominous
now than be-
fore Christ.*

well as Eclipses and Earthquakes; it would be as ridiculous to say that now, since the Conversion of the *Pagans*, Comets have changed their Kind, and are no longer Works of Nature, but miraculous Signs, as it would be to pretend that Eclipses, since that time, are become supernatural Effects. And if Comets are pure Works of Nature, it is evident, that they cannot be Signs of future Evils; as well because, (what I have already shewn) they have no Connexion with Evil to come, as because there is no Revelation which informs us that God has established them for such Signs. Ought not this to have been told us, as well as that the Rainbow is a Surety that there will be no second Deluge?

Secondly, The same Theological Reason, which amounts to a Proof for the Time preceding Christianity, has the same Force thro' all Ages since: For, notwithstanding the admirable Progress of the Cross of *Christ*, the greatest Part of Mankind have continued *Idolators*, or turned *Mahometans*. At present, extended as Christianity is, and tho' it has made its Way into the New World, it is certain that most of the Nations of the Earth are still plunged in the thick Darkness of Infidelity. So that if God proposed to denounce his Anger by sending Comets, it must follow that he proposed to re-animate a false and sacrilegious Devotion among Mankind; to augment the Number of the Pilgrims to *Mecca*, and of the Offerings that are constantly made there to the most infamous Impostor that ever lived; to cause the Building of new Mosques; to make the *Torlaquis* and *Dervises* invent new Superstitions,

stitins, and to occasion an infinite Number of other abominable Things. For tho' *Saturn* and *Jupiter* are no longer known, Mankind are not less prostituted, than anciently, to the most extravagant Idolatry.

Without speaking of the horrid Ceremonies practised in *Mexico* and *Peru* not long since, and of those human Sacrifices made in Honour of their Idols, which the *Spaniards* have put an End to in the Places they are possessed of; who that has read, does not know that the *Indians*, the *Chinese*, and the *Japanese*, are most miserably wide of the Mark in all that regards Religion; that they worship Apes and Cows; consult the Devil in burning Mountains, and carry their false Devotion so far as to bury themselves alive, or drown themselves, in order to obtain the Honour of Canonization; that they build Temples to the Devils, and to the Prince of the Devils expressly by Name (which is more than the Antients ever did) and give Way to all the Excesses of a blind and mad Superstition? Now there is so great a Connexion between believing that the God we adore is angry, and the tendering to him more zealously the Worship established by Custom, that it is impossible to desire that an idolatrous Nation should know that Heaven is in Wrath, without desiring it to renew the Exercise of its Religion with double Ardor. Consequently, if God creates Comets to teach Men that he is angry with them, and that, if they do not appease his just Indignation, he will chastise them severely; it must be his Design that all Infidel Nations should recur, with new Ardor,

Idolatry of the modern Pagans.

each to his own Worship, and abominable Ceremonies: Which being false and impious, we are obliged, by Principles of Religion, to say, that in the Intention of God Comets cannot predict any Evil. Allowing at the same Time, that if there be extraordinary celestial Illuminations in any Part, visible only to some City, or to some Country that knows the true God, as it happened formerly over the City of *Jerusalem*, they ought to be taken for Signs, sent by a particular Providence.

That Comets have particular Characters, which shew they cannot be Signs.

But to imagine that a Body, which makes the Tour of the World every Day, and does not appear to threaten Christians more than Heathens, the *English* more than the *Spaniards*, is a Prodigy, which every Nation is to believe that God has made expressly to denounce its Ruin, is utterly incredible; because, besides my former Reasons, it is impossible that every Nation should be obliged to dread Adversity from the Sight of a Comet. For it appears from History, and even from every One's Reflexions, that God never chastises all Mankind at the same Time. The most general Afflictions always spare whole Nations. The Divine Providence dispenses its Favours in such Manner, that every one has its Part in turn; and there never was seen, since the Deluge, a general Chastisement all at once, nor a Profusion of good Fortune, at the same Time, all over the Earth. God, were he to act otherwise, would disconcert the whole Chain of his Providence. Now, as the Experience of a great Number of Comets, which have appeared, does not teach us that God has ever made use of so extraordinary a Conduct, there

is

is no room to imagine, when we see any of these transient Luminaries, that God designs to do more than he has done on other Occasions. We know, by the Events that have followed Comets, that when any have appeared, the Design of Providence has not been to plunge all the Nations of the World in an Abyfs of Calamities: On the contrary, that Providence has designed to shower down its Favours on many People. Whence it follows, that all the People upon Earth, when they have seen a Comet, were not obliged to apprehend they were going to be overwhelmed with Calamities. Nay it is not even possible, if they consider the Course of Providence, that they should in general have such Apprehensions: For God, for the most Part, makes use of one Nation to chastise another, giving to Those the good Things he suffers them to take from These. If at the Time when the *Persians* ought to have dreaded the Downfal of their Empire, the *Macedonians* had feared the Destruction of their Kingdom, is it not certain they had been in an Error? Whence I infer, that if it was God's Intention that all People, who see Comets, should think their Time approaching, it must be his Intention that the greatest Part of Mankind should deceive themselves: Those, for example, whom he has decreed to conquer those Kingdoms, which his Wisdom sees proper to overthrow. Now as it would be impious to believe that God can have such Intentions, it is impossible that the *Macedonians*, for instance, were obliged, under the Penalty of a mortal Fine, to believe that the Comet which appeared at
the

the Beginning of *Alexander's* Reign, threatened them with total Ruin. God therefore, not being capable of obliging Men to judge falsely of Things, cannot possibly have any such Design, as to engage all the People in the World to believe, that every Comet they see is a Prediction of their own Misfortune. Yet this must be his Design, if the vulgar Opinion of Comets were true. It is false therefore, and cannot be cleared of Impiety on any other Account, than from the little Reflection Mankind make upon the Circumstances of Comets, where they are taken for Signs of Malediction.

*Summary of
his Argument.*

In all probability, we should in general get rid of this Prejudice, if every one would consider, with sound Judgment, the following Particulars. I. That Comets have nothing in particular, which may signify to any People, that it is to them expressly they are sent. II. That if they have any Commission to denounce the Wrath of God, they make the Denunciation in general to all the People of the Earth. III. That they are very equivocal Signs, which could not, for example, have foretold the Destruction of the *Greek* Empire, without predicting the Prosperity of the *Ottomans*; the Death of one Pope, without presaging the Elevation of another; the Death of a Conqueror, without referring to the Bonfires that will be kindled in other Nations, which dreaded the being brought under the Yoke of his Power. IV. That they are Signs so general and obscure, that we see no Indication of what is in fact to arrive, more than of what will not happen. V. In a Word, That they
are

are Signs accompanied with many Circumstances unworthy the Wisdom and Holiness of God. I have touched upon some of these Circumstances in speaking of Eclipses, and could produce more of them were it necessary.

You, Sir, may think of the Matter what you please: For my Part, I cannot take it into my Head that God proposes any thing more in the Formation of Comets, with Regard to us, than what he proposes in all other natural Effects. All those who have raised themselves to God by the Knowledge of natural Things, cannot but enter into the Views of his Providence in the Formation of his Creatures. But I cannot comprehend how a Man that takes for a Miracle what is not so, has any Notion of the End which God proposes; because to me it does not seem probable, that God can ever have design to lead us into false Judgment. Upon this Principle I believe, that if God designed to advertise Mankind of the Calamities that threatened them, he would do it by Means which would be not only very intelligible to those he directed the Threatning to, but which could not be misconstrued by those he intended to distinguish by his Favours.

This, I think, is sufficient to degrade Comets from the Rank that has been given them, as being Prodigies sent by God as the Heralds of his Judgments. It would be worthy only the fabulous Divinities, such as *Pan* and *Apollo*, to inject false Alarms into the Minds of Men, and not to explain themselves but by Enigmas.

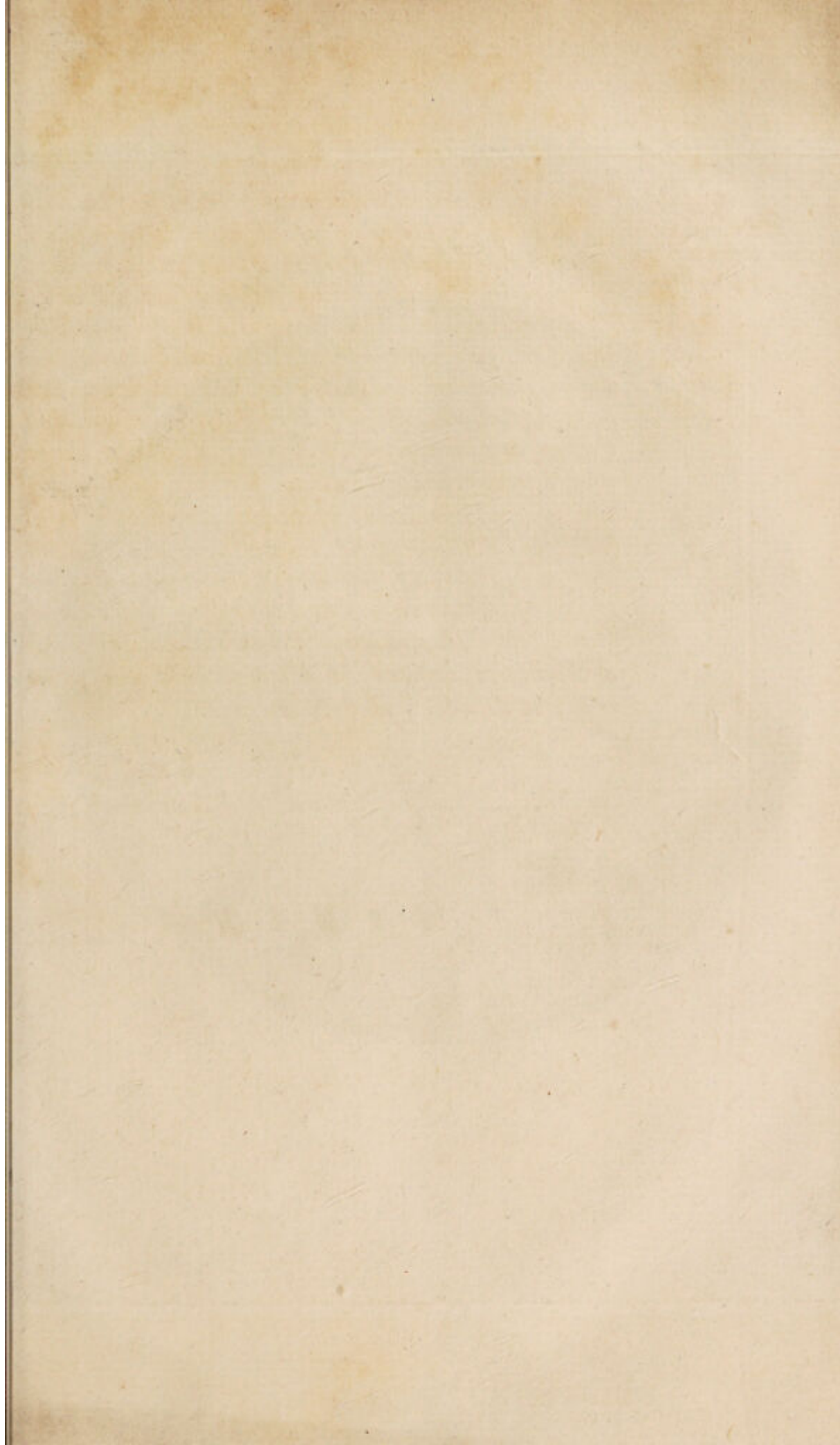
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ing Comets.*

It would have been as easy to trace the Rise of this, and many other popular Errors, as it is to demolish any one of them; and to have proved the whole from undeniable historical Testimonies. But as this would be extending my Letter beyond the Bounds I have prescribed my self, as well as beyond what the Subject may require, I shall only say in general (what my Author, Mr B yle, has at large made apparent) *That the Opinion concerning Comets, which makes them pass for Presages of publick Calamities, is a Relick of the antient Pagan Superstition, founded in the general Passion of Mankind to dive into Futurity; and that it was introduced and preserved in Christianity thro' a Prejudice, natural to all who take Things on trust, in favour of Antiquity.*

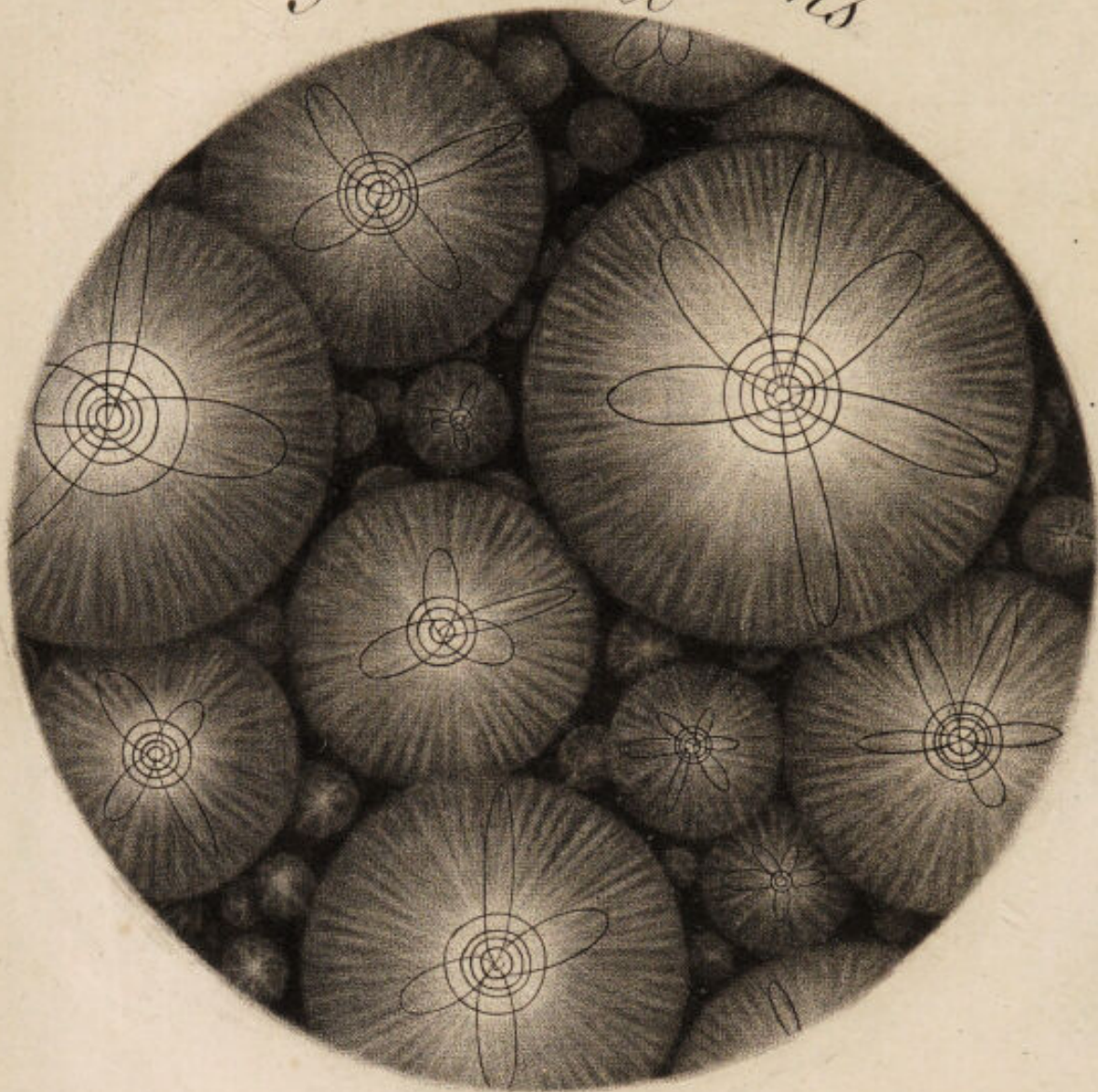
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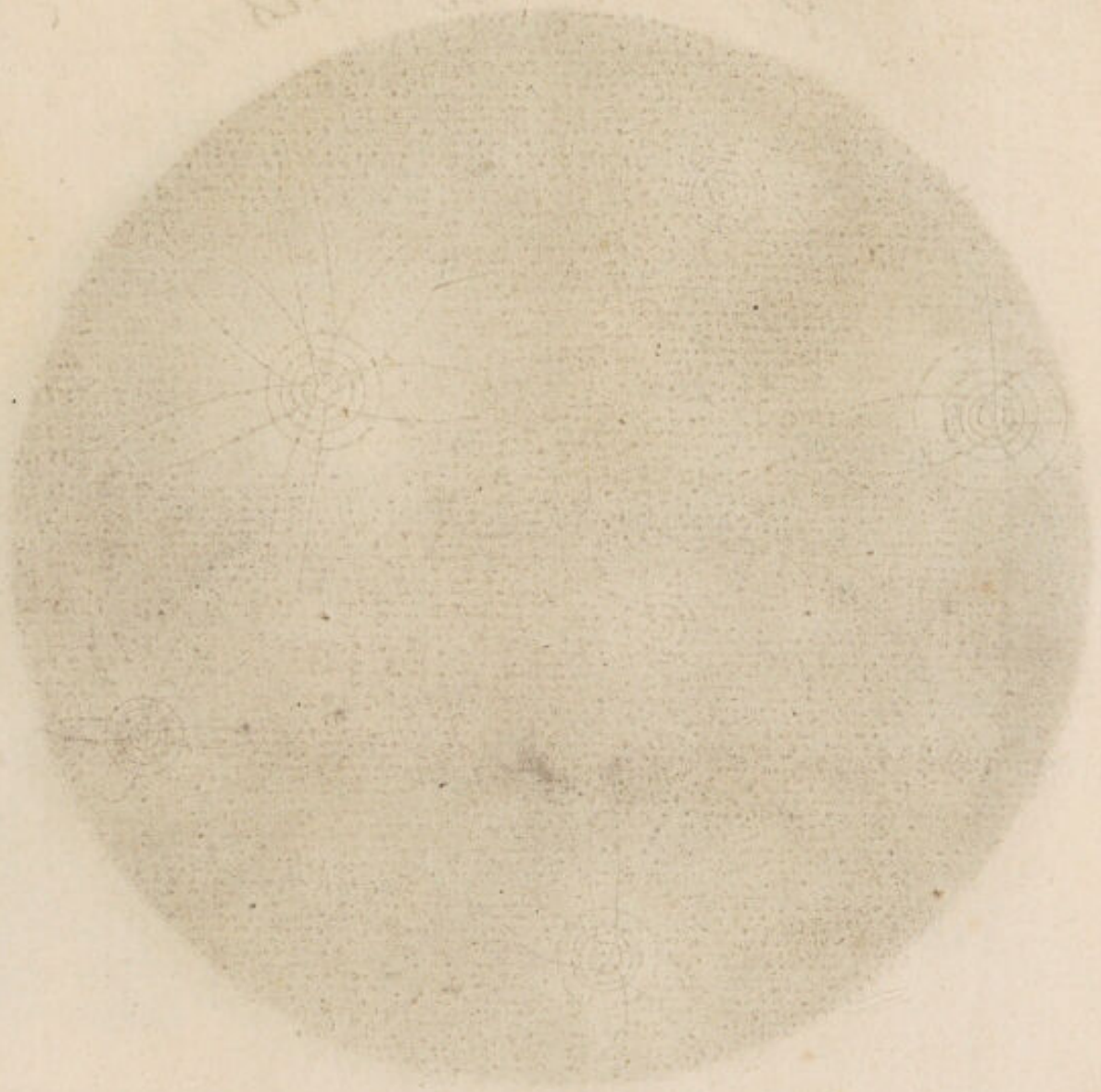




Siderial Systems



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