

## Church History II Readings

Most documents are in both the course packet and the network.

\* Not in packet (too large or other issues)

Network folder: "Fileserver/SeminaryPublic/Church History Course/CH II Readings"

1. Archbishop Albert Mainz. *The Commission of Indulgences in The European Reformations Sourcebook*. ed Carter Lindberg. Malden: Blackwell, 2000. 29-30.
  2. Martin Luther. *95 Theses*, available at <http://www.iclnet.org/pub/resources/text/wittenberg/luther/web/ninetyfive.html>
  3. Martin Luther. 1) *Appeal to German Nobility*, 2) *Babylonian Captivity of the Church*, 3) *Disputation on Scholasticism in The European Reformations Sourcebook*. ed Carter Lindberg. Malden: Blackwell, 2000. 28, 36-39.
  4. *Peace of Augsburg* available at <http://www.uoregon.edu/~sshoemak/323/texts/augsburg.htm>
  5. Martin Luther, *Freedom of Christian*, in *Martin Luther's Basic Theological Writings* Ed Timothy Lull. Minneapolis: Fortress, 2005. p386-411.
  7. Philip Melancthon *Augsburg Confession* Prolog, Articles 1-5, 8, 9, 18, 20 available at <http://www.iclnet.org/pub/resources/text/wittenberg/wittenberg-boc.html#ac>
- Extra: Join Catholic-Lutheran Statement on Justification  
[http://www.vatican.va/roman\\_curia/pontifical\\_councils/chrstuni/documents/rc\\_pc\\_chrstuni\\_doc\\_31101999\\_cath-luth-joint-declaration\\_en.html](http://www.vatican.va/roman_curia/pontifical_councils/chrstuni/documents/rc_pc_chrstuni_doc_31101999_cath-luth-joint-declaration_en.html)

1. Zwingli, selections 6.9-6.14 in *The European Reformations Sourcebook*. ed Carter Lindberg. Malden: Blackwell, 2000. p. 109-114.
2. John Calvin. *Institutes of the Christian Religion* 9.7-9.8 in *The European Reformations Sourcebook*. ed Carter Lindberg. Malden: Blackwell, 2000. 173-178.
3. *Schleitheim Confession of Faith* 7.10 in *The European Reformations Sourcebook*. ed Carter Lindberg. Malden: Blackwell, 2000. p. 132-133.
4. *Thirty Nine Articles of Church of England*. 12.21 in *The European Reformations Sourcebook*. ed Carter Lindberg. Malden: Blackwell, 2000. p 232-234, or <http://www.victorianweb.org/religion/39articles.html>
5. John Calvin, *Letter on Usury*, 14.11 in *The European Reformations Sourcebook*. ed Carter Lindberg. Malden: Blackwell, 2000 p. 271-272

Edict of Nantes, 10.22 in *The European Reformations Sourcebook*. ed Carter Lindberg. Malden: Blackwell, 2000 p. 271-272 p. 201

1. Ignatius Loyola *Spiritual Exercises, Rules to Have True Sentiment in the Church* available at <http://www.fordham.edu/halsall/source/loyola-spirex.html>
2. Theresa of Avila. Autobiography, Theresa's Arguments of the Chapters available at <http://www.ccel.org/ccel/teresa/life.v.html> and Chapter XII available at <http://www.ccel.org/ccel/teresa/life.viii.xiii.html>
3. *Council of Trent - Decrees on Scripture, Sacraments, Justification, Indulgences* in Bettenson ed. *Documents of the Christian Church* Third Edition. Oxford: Oxford University Press, 1999. 275-282.

4. Francis De Sales *Devout Life*, Prayer, Preface and First Part of Introduction in *Introduction to the Devout Life*, available at [http://www.ccel.org/ccel/desales/devout\\_life.toc.html](http://www.ccel.org/ccel/desales/devout_life.toc.html)

1. Juan Gines de Sepulveda and Bartolome de las Casas. *On the Indians*. in *The European Sourcebook*. ed Carter Lindberg. Malden: Blackwell, 2000. 279-281.

2. Francis Xavier *Letter from India*. Available at <http://www.fordham.edu/halsall/mod/1543xavier1.html>

3. Chinese Rites Documents, excerpts at <http://www.fordham.edu/halsall/mod/1715chineserites.html>

4. Denis Diderot. *Supplement to the Voyage of the Bougainville*. in Paul Hyland. *The Enlightenment, A Sourcebook and Reader*. London: Routledge, 2003. pp. 320-327, or <http://www.csun.edu/~jaa7021/hist496/diderot.htm>

1. Blaise Pascal, *Pensees Series III* available at <http://www.classicallibrary.org/pascal/pensees/pensees03.htm>

2. Galileo Galilei, *Letter to Grand Duchess Christina*, available at <http://www.fordham.edu/halsall/mod/galileo-tuscany.html>

3. Robert Bellarmine, *Letter on Galileo* available at <http://www.fordham.edu/halsall/mod/1615bellarmine-letter.html>

4. Isaac Newton, *Mathematical Principles of Natural Philosophy*. Available at <http://www.fordham.edu/halsall/mod/newton-princ.html>

1. Thomas Hobbes, *Leviathan*, Chapters XIII, XIV, available at <http://www.fordham.edu/Halsall/mod/hobbes-lev13.asp>

2. Leibniz, *Summary of the Controversy Reduced to Formal Argument*, in *Theodicy*, trans. E.M. Huggard, La Salle, Illinois: Open Court, 1985, pp 377-388. [http://www.uvm.edu/~lдероссе/courses/intro/leibniz\\_theodicy.pdf](http://www.uvm.edu/~lдероссе/courses/intro/leibniz_theodicy.pdf)

\*1. Locke, *A Letter Concerning Toleration* available at <http://etext.lib.virginia.edu/etcbin/toccer-reldem?id=LocTole.xml&images=images/modeng&data=/texts/english/modeng/parsed&tag=public&part=all>  
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1. Voltaire, *Lisbon Earthquake* in *The Portable Voltaire*. In Paul Hyland. *The Enlightenment, A Sourcebook and Reader*. London: Routledge, 2003. p 77-82. <http://geophysics-old.tau.ac.il/personal/shmulik/LisbonEq-letters.htm>

2. Thomas Jefferson, *Letter to Danbury Baptist Association* available at <http://www.loc.gov/loc/lcib/9806/danpre.html>

3. John Adams, *Constitution of the Commonwealth of Massachusetts*. Preamble and Part I Available at <http://www.mass.gov/legis/const.htm>

4. *Civil Constitution of Clergy* available at <http://history.hanover.edu/texts/civilcon.html>

5. St. Just, *Republican Institute* available at <http://history.hanover.edu/texts/stjust.html>

6. Immanuel Kant, *What is Enlightenment?* Available at <http://www.english.upenn.edu/~mgamer/Etexts/kant.html> .

1. Karl Marx, *Scientific Socialism*, available at  
<http://www.fordham.edu/halsall/mod/marx-summary.html>
- \*2. John Stuart Mill, *Utilitarianism*, Chapters 2 and 5, available at  
<http://www.constitution.org/jsm/util5.htm>  
 See network folder.
- \*1. Francois Viscount de Chateaubriand, *Genius of Christianity*, Book I, pp 43-70.  
[http://www.archive.org/stream/geniuschristiani00chatuoft/geniuschristiani00chatuoft\\_djvu.txt](http://www.archive.org/stream/geniuschristiani00chatuoft/geniuschristiani00chatuoft_djvu.txt)  
 See network folder.
2. Pope Pius IX, *Syllabus of Errors*, available at  
<http://www.ewtn.com/library/PAPALDOC/P9SYLL.HTM>
- \*3. First Vatican Council, *First Dogmatic Constitution on Church of Christ*, available at  
<http://www.ewtn.com/library/COUNCILS/V1.HTM>  
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- \*1. Leo XIII, *Rerum Novarum*, available at  
[http://www.vatican.va/holy\\_father/leo\\_xiii/encyclicals/documents/hf\\_l-xiii\\_enc\\_15051891\\_rerum-novarum\\_en.html](http://www.vatican.va/holy_father/leo_xiii/encyclicals/documents/hf_l-xiii_enc_15051891_rerum-novarum_en.html)  
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- \*1. Pius XI, *Quadragesimo Anno*, available at  
[http://www.vatican.va/holy\\_father/pius\\_xi/encyclicals/documents/hf\\_p-xi\\_enc\\_19310515\\_quadragesimo-anno\\_en.html](http://www.vatican.va/holy_father/pius_xi/encyclicals/documents/hf_p-xi_enc_19310515_quadragesimo-anno_en.html)  
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- \*2. Pius X, *Encyclical Against Modernism*, available at  
[http://www.vatican.va/holy\\_father/pius\\_x/encyclicals/documents/hf\\_p-x\\_enc\\_19070908\\_pascendi-dominici-gregis\\_en.html](http://www.vatican.va/holy_father/pius_x/encyclicals/documents/hf_p-x_enc_19070908_pascendi-dominici-gregis_en.html)  
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3. Romano Guardini, *The Spirit of the Liturgy*. Trans. Ada Lana. New York: Crossroads,  
<http://www.ewtn.com/library/LITURGY/SPRLIT.txt>

PENSEES

by Blaise Pascal

### SECTION III: OF THE NECESSITY OF THE WAGER

184. A letter to incite to the search after God.

And then to make people seek Him among the philosophers, sceptics, and dogmatists, who disquiet him who inquires of them.

185. The conduct of God, who disposes all things kindly, is to put religion into the mind by reason, and into the heart by grace. But to will to put it into the mind and heart by force and threats is not to put religion there, but terror; *terrorem potius quam religionem*.<sup>[22]</sup>

186. *Nisi terrerentur et non docerentur, improba quasi dominatio videretur* (St. Augustine, Epistle 48 or 49),<sup>[23]</sup> *Contra Mendacium ad Consentium*.

187. Order.--Men despise religion; they hate it and fear it is true. To remedy this, we must begin by showing that religion is not contrary to reason; that it is venerable, to inspire respect for it; then we must make it lovable, to make good men hope it is true; finally, we must prove it is true.

Venerable, because it has perfect knowledge of man; lovable because it promises the true good.

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233. Infinite--nothing.--Our soul is cast into a body, where it finds number, dimension. Thereupon it reasons, and calls this nature necessity, and can believe nothing else.

Unity joined to infinity adds nothing to it, no more than one foot to an infinite measure. The finite is annihilated in the presence of the infinite, and becomes a pure nothing. So our spirit before God, so our justice before divine justice. There is not so great a disproportion between our justice and that of God as between unity and infinity.

The justice of God must be vast like His compassion. Now justice to the outcast is less vast and ought less to offend our feelings than mercy towards the elect.

We know that there is an infinite, and are ignorant of its nature. As we know it to be false that numbers are finite, it is therefore true that there is an infinity in number. But we do not know what it is. It is false that it is even, it is false that it is odd; for the addition of a unit can make no change in its nature. Yet it is a number, and every number is odd or even (this is certainly true of every finite number). So we may well

know that there is a God without knowing what He is. Is there not one substantial truth, seeing there are so many things which are not the truth itself?

We know then the existence and nature of the finite, because we also are finite and have extension. We know the existence of the infinite and are ignorant of its nature, because it has extension like us, but not limits like us. But we know neither the existence nor the nature of God, because He has neither extension nor limits.

But by faith we know His existence; in glory we shall know His nature. Now, I have already shown that we may well know the existence of a thing, without knowing its nature.

Let us now speak according to natural lights.

If there is a God, He is infinitely incomprehensible, since, having neither parts nor limits, He has no affinity to us. We are then incapable of knowing either what He is or if He is. This being so, who will dare to undertake the decision of the question? Not we, who have no affinity to Him.

Who then will blame Christians for not being able to give a reason for their belief, since they profess a religion for which they cannot give a reason? They declare, in expounding it to the world, that it is a foolishness, *stultitiam*,<sup>[28]</sup> and then you complain that they do not prove it! If they proved it, they would not keep their word; it is in lacking proofs that they are not lacking in sense. "Yes, but although this excuses those who offer it as such and takes away from them the blame of putting it forward without reason, it does not excuse those who receive it." Let us then examine this point, and say, "God is, or He is not." But to which side shall we incline? Reason can decide nothing here. There is an infinite chaos which separated us. A game is being played at the extremity of this infinite distance where heads or tails will turn up. What will you wager? According to reason, you can do neither the one thing nor the other; according to reason, you can defend neither of the propositions.

Do not, then, reprove for error those who have made a choice; for you know nothing about it. "No, but I blame them for having made, not this choice, but a choice; for again both he who chooses heads and he who chooses tails are equally at fault, they are both in the wrong. The true course is not to wager at all."

Yes; but you must wager. It is not optional. You are embarked. Which will you choose then? Let us see. Since you must choose, let us see which interests you least. You have two things to lose, the true and the good; and two things to stake, your reason and your will, your knowledge and your happiness; and your nature has two things to shun, error and misery. Your reason is no more shocked in choosing one rather than the other, since you must of necessity choose. This is one point settled. But your

happiness? Let us weigh the gain and the loss in wagering that God is. Let us estimate these two chances. If you gain, you gain all; if you lose, you lose nothing. Wager, then, without hesitation that He is. "That is very fine. Yes, I must wager; but I may perhaps wager too much." Let us see. Since there is an equal risk of gain and of loss, if you had only to gain two lives, instead of one, you might still wager. But if there were three lives to gain, you would have to play (since you are under the necessity of playing), and you would be imprudent, when you are forced to play, not to chance your life to gain three at a game where there is an equal risk of loss and gain. But there is an eternity of life and happiness. And this being so, if there were an infinity of chances, of which one only would be for you, you would still be right in wagering one to win two, and you would act stupidly, being obliged to play, by refusing to stake one life against three at a game in which out of an infinity of chances there is one for you, if there were an infinity of an infinitely happy life to gain. But there is here an infinity of an infinitely happy life to gain, a chance of gain against a finite number of chances of loss, and what you stake is finite. It is all divided; where-ever the infinite is and there is not an infinity of chances of loss against that of gain, there is no time to hesitate, you must give all. And thus, when one is forced to play, he must renounce reason to preserve his life, rather than risk it for infinite gain, as likely to happen as the loss of nothingness.

For it is no use to say it is uncertain if we will gain, and it is certain that we risk, and that the infinite distance between the certainty of what is staked and the uncertainty of what will be gained, equals the finite good which is certainly staked against the uncertain infinite. It is not so, as every player stakes a certainty to gain an uncertainty, and yet he stakes a finite certainty to gain a finite uncertainty, without transgressing against reason. There is not an infinite distance between the certainty staked and the uncertainty of the gain; that is untrue. In truth, there is an infinity between the certainty of gain and the certainty of loss. But the uncertainty of the gain is proportioned to the certainty of the stake according to the proportion of the chances of gain and loss. Hence it comes that, if there are as many risks on one side as on the other, the course is to play even; and then the certainty of the stake is equal to the uncertainty of the gain, so far is it from fact that there is an infinite distance between them. And so our proposition is of infinite force, when there is the finite to stake in a game where there are equal risks of gain and of loss, and the infinite to gain. This is demonstrable; and if men are capable of any truths, this is one.

"I confess it, I admit it. But, still, is there no means of seeing the faces of the cards?" Yes, Scripture and the rest, etc. "Yes, but I have my hands tied and my mouth closed; I am forced to wager, and am not free. I am not released, and am so made that I cannot believe. What, then, would you have me do?"

True. But at least learn your inability to believe, since reason brings you to this, and yet you cannot believe. Endeavour, then, to convince yourself, not by increase of proofs of

God, but by the abatement of your passions. You would like to attain faith and do not know the way; you would like to cure yourself of unbelief and ask the remedy for it. Learn of those who have been bound like you, and who now stake all their possessions. These are people who know the way which you would follow, and who are cured of an ill of which you would be cured. Follow the way by which they began; by acting as if they believed, taking the holy water, having masses said, etc. Even this will naturally make you believe, and deaden your acuteness. "But this is what I am afraid of." And why? What have you to lose?

But to show you that this leads you there, it is this which will lessen the passions, which are your stumbling-blocks.

The end of this discourse.--Now, what harm will befall you in taking this side? You will be faithful, humble, grateful, generous, a sincere friend, truthful. Certainly you will not have those poisonous pleasures, glory and luxury; but will you not have others? I will tell you that you will thereby gain in this life, and that, at each step you take on this road, you will see so great certainty of gain, so much nothingness in what you risk, that you will at last recognise that you have wagered for something certain and infinite, for which you have given nothing.

# Modern History Sourcebook:

## Galileo Galilei:

### Letter to the Grand Duchess Christina of Tuscany, 1615

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#### **To the Most Serene Grand Duchess Mother:**

Some years ago, as Your Serene Highness well knows, I discovered in the heavens many things that had not been seen before our own age. The novelty of these things, as well as some consequences which followed from them in contradiction to the physical notions commonly held among academic philosophers, stirred up against me no small number of professors-as if I had placed these things in the sky with my own hands in order to upset nature and overturn the sciences. They seemed to forget that the increase of known truths stimulates the investigation, establishment, and growth of the arts; not their diminution or destruction.

Showing a greater fondness for their own opinions than for truth they sought to deny and disprove the new things which, if they had cared to look for themselves, their own senses would have demonstrated to them. To this end they hurled various charges and published numerous writings filled with vain arguments, and they made the grave mistake of sprinkling these with passages taken from places in the Bible which they had failed to understand properly, and which were ill-suited to their purposes.

These men would perhaps not have fallen into such error had they but paid attention to a most useful doctrine of St. Augustine's, relative to our making positive statements about things which are obscure and hard to understand by means of reason alone. Speaking of a certain physical conclusion about the heavenly bodies, he wrote: "Now keeping always our respect for moderation in grave piety, we ought not to believe anything inadvisedly on a dubious point, lest in favor to our error we conceive a prejudice against something that truth hereafter may reveal to be not contrary in any way to the sacred books of either the Old or the New Testament."

Well, the passage of time has revealed to everyone the truths that I previously set forth; and, together with the truth of the facts, there has come to light the great difference in attitude between those who simply and dispassionately refused to admit the discoveries to be true, and those who combined with their incredulity some reckless passion of their own. Men who were well grounded in astronomical and physical science were persuaded as soon as they received my first message. There were others who denied them or remained in doubt only because of their novel and unexpected character, and because they had not yet had the opportunity to see for themselves. These men have by degrees come to be satisfied. But some, besides allegiance to their original error, possess I know not what fanciful interest in remaining hostile not so much toward the things in question as toward their discoverer. No longer being able to deny them, these men now take refuge in obstinate silence, but being more than ever exasperated by that which has pacified and quieted other men, they divert their thoughts to other fancies and seek new ways to damage me.

I should pay no more attention to them than to those who previously contradicted me-at whom I always laugh, being assured of the eventual outcome-were it not that in their new calumnies and persecutions I perceive that they do not stop at proving themselves more learned than I am (a claim which I scarcely contest), but go so far as to cast against me the imputations of crimes which must be, and are, more abhorrent to me than death itself. I cannot remain satisfied merely to know that the injustice of this is recognized by those who are acquainted with these men and with me, as perhaps it is not known to others.

Persisting in their original resolve to destroy me and everything mine by any means they can think of, these men are aware of my views in astronomy and philosophy. They know that as to the arrangement of the parts of the universe, I hold the sun to be situated motionless in the center of the revolution of the celestial orbs while the earth revolves about the sun. They know also that I support this position not only by refuting the arguments of Ptolemy and

Aristotle, but by producing many counter-arguments; in particular, some which relate to physical effects whose causes can perhaps be assigned in no other way. In addition there are astronomical arguments derived from many things in my new celestial discoveries that plainly confute the Ptolemaic system while admirably agreeing with and confirming the contrary hypothesis. Possibly because they are disturbed by the known truth of other propositions of mine which differ from those commonly held, and therefore mistrusting their defense so long as they confine themselves to the field of philosophy, these men have resolved to fabricate a shield for their fallacies out of the mantle of pretended religion and the authority of the Bible. These they apply with little judgement to the refutation of arguments that they do not understand and have not even listened to.

First they have endeavored to spread the opinion that such propositions in general are contrary to the Bible and are consequently damnable and heretical. They know that it is human nature to take up causes whereby a man may oppress his neighbor, no matter how unjustly, rather than those from which a man may receive some just encouragement. Hence they have had no trouble in finding men who would preach the damnability and heresy of the new doctrine from their very pulpits with unwonted confidence, thus doing impious and inconsiderate injury not only to that doctrine and its followers but to all mathematics and mathematicians in general. Next, becoming bolder, and hoping (though vainly) that this seed which first took root in their hypocritical minds would send out branches and ascend to heaven, they began scattering rumors among the people that before long this doctrine would be condemned by the supreme authority. They know, too, that official condemnation would not only suppress the two propositions which I have mentioned, but would render damnable all other astronomical and physical statements and observations that have any necessary relation or connection with these.

In order to facilitate their designs, they seek so far as possible (at least among the common people) to make this opinion seem new and to belong to me alone. They pretend not to know that its author, or rather its restorer and confirmer, was Nicholas Copernicus; and that he was not only a Catholic, but a priest and a canon. He was in fact so esteemed by the church that when the Lateran Council under Leo X took up the correction of the church calendar, Copernicus was called to Rome from the most remote parts of Germany to undertake its reform. At that time the calendar was defective because the true measures of the year and the lunar month were not exactly known. The Bishop of Culm, then superintendent of this matter, assigned Copernicus to seek more light and greater certainty concerning the celestial motions by means of constant study and labor. With Herculean toil he set his admirable mind to this task, and he made such great progress in this science and brought our knowledge of the heavenly motions to such precision that he became celebrated as an astronomer. Since that time not only has the calendar been regulated by his teachings, but tables of all the motions of the planets have been calculated as well.

Having reduced his system into six books, he published these at the instance of the Cardinal of Capua and the Bishop of Culm. And since he had assumed his laborious enterprise by order of the supreme pontiff, he dedicated this book *On the celestial revolutions* to Pope Paul III. When printed, the book was accepted by the holy Church, and it has been read and studied by everyone without the faintest hint of any objection ever being conceived against its doctrines. Yet now that manifest experiences and necessary proofs have shown them to be well grounded, persons exist who would strip the author of his reward without so much as looking at his book, and add the shame of having him pronounced a heretic. All this they would do merely to satisfy their personal displeasure conceived without any cause against another man, who has no interest in Copernicus beyond approving his teachings.

Now as to the false aspersions which they so unjustly seek to cast upon me, I have thought it necessary to justify myself in the eyes of all men, whose judgment in matters of religion and of reputation I must hold in great esteem. I shall therefore discourse of the particulars which these men produce to make this opinion detested and to have it condemned not merely as false but as heretical. To this end they make a shield of their hypocritical zeal for religion. They go about invoking the Bible, which they would have minister to their deceitful purposes. Contrary to the sense of the Bible and the intention of the holy Fathers, if I am not mistaken, they would extend such authorities until even in purely physical matters - where faith is not involved - they would have us altogether abandon reason and the evidence of our senses in favor of some biblical passage, though under the surface meaning of its words this passage may contain a different sense.

I hope to show that I proceed with much greater piety than they do, when I argue not against condemning this book, but against condemning it in the way they suggest - that is, without understanding it, weighing it, or so much as reading it. For Copernicus never discusses matters of religion or faith, nor does he use argument that depend in any way upon the authority of sacred writings which he might have interpreted erroneously. He stands always upon physical conclusions pertaining to the celestial motions, and deals with them by astronomical and geometrical demonstrations, founded primarily upon sense experiences and very exact observations. He did not ignore the Bible,

but he knew very well that if his doctrine were proved, then it could not contradict the Scriptures when they were rightly understood and thus at the end of his letter of dedication, addressing the pope, he said:

"If there should chance to be any exegetes ignorant of mathematics who pretend to skill in that discipline, and dare to condemn and censure this hypothesis of mine upon the authority of some scriptural passage twisted to their purpose, I value them not, but disdain their unconsidered judgment. For it is known that Lactantius - a poor mathematician though in other respects a worthy author - writes very childishly about the shape of the earth when he scoffs at those who affirm it to be a globe. Hence it should not seem strange to the ingenious if people of that sort should in turn deride me. But mathematics is written for mathematicians, by whom, if I am not deceived, these labors of mine will be recognized as contributing something to their domain, as also to that of the Church over which Your Holiness now reigns."

Such are the people who labor to persuade us that an author like Copernicus may be condemned without being read, and who produce various authorities from the Bible, from theologians, and from Church Councils to make us believe that this is not only lawful but commendable. Since I hold these to be of supreme authority I consider it rank temerity for anyone to contradict them-when employed according to the usage of the holy Church. Yet I do not believe it is wrong to speak out when there is reason to suspect that other men wish, for some personal motive, to produce and employ such authorities for purposes quite different from the sacred intention of the holy Church.

Therefore I declare (and my sincerity will make itself manifest) not only that I mean to submit myself freely and renounce any errors into which I may fall in this discourse through ignorance of matters pertaining to religion, but that I do not desire in these matters to engage in disputes with anyone, even on points that are disputable. My goal is this alone; that if, among errors that may abound in these considerations of a subject remote from my profession, there is anything that may be serviceable to the holy Church in making a decision concerning the Copernican system, it may be taken and utilized as seems best to the superiors. And if not, let my book be torn and burnt, as I neither intend nor pretend to gain from it any fruit that is not pious and Catholic. And though many of the things I shall reprove have been heard by my own ears, I shall freely grant to those who have spoken them that they never said them, if that is what they wish, and I shall confess myself to have been mistaken. Hence let whatever I reply be addressed not to them, but to whoever may have held such opinions.

The reason produced for condemning the opinion that the earth moves and the sun stands still in many places in the Bible one may read that the sun moves and the earth stands still. Since the Bible cannot err; it follows as a necessary consequence that anyone takes a erroneous and heretical position who maintains that the sun is inherently motionless and the earth movable.

With regard to this argument, I think in the first place that it is very pious to say and prudent to affirm that the holy Bible can never speak untruth-whenver its true meaning is understood. But I believe nobody will deny that it is often very abstruse, and may say things which are quite different from what its bare words signify. Hence in expounding the Bible if one were always to confine oneself to the unadorned grammatical meaning, one might fall into error. Not only contradictions and propositions far from true might thus be made to appear in the Bible, but even grave heresies and follies. Thus it would be necessary to assign to God feet, hands and eyes, as well as corporeal and human affections, such as anger, repentance, hatred, and sometimes even the forgetting of things past and ignorance of those to come. These propositions uttered by the Holy Ghost were set down in that manner by the sacred scribes in order to accommodate them to the capacities, Of the common people, who are rude and unlearned. For the sake of those who deserve to be separated from the herd, it is necessary that wise expositors should produce the true senses of such passages, together with the special reasons for which they were set down in these words. This doctrine is so widespread and so definite with all theologians that it would be superfluous to adduce evidence for it.

Hence I think that I may reasonably conclude that whenever the Bible has occasion to speak of any physical conclusion (especially those which are very abstruse and hard to understand), the rule has been observed of avoiding confusion in the minds of the common people which would render them contumacious toward the higher mysteries. Now the Bible, merely to condescend to popular capacity, has not hesitated to obscure some very important pronouncements, attributing to God himself some qualities extremely remote from (and even contrary to) His essence. Who, then, would positively declare that this principle has been set aside, and the Bible has confined itself rigorously to the bare and restricted sense of its words, when speaking but casually of the earth, of water, of the sun, or of any other created thing? Especially in view of the fact that these things in no way concern the primary

purpose of the sacred writings, which is the service of God and the salvation of souls - matters infinitely beyond the comprehension of the common people.

This being granted, I think that in discussions of physical problems we ought to begin not from the authority of scriptural passages but from senseexperiences and necessary demonstrations; for the holy Bible and the phenomena of nature proceed alike from the divine Word the former as the dictate of the Holy Ghost and the latter as the observant executrix of God's commands. It is necessary for the Bible, in order to be accommodated to the understanding of every man, to speak many things which appear to differ from the absolute truth so far as the bare meaning of the words is concerned. But Nature, on the other hand, is inexorable and immutable; she never transgresses the laws imposed upon her, or cares a whit whether her abstruse reasons and methods of operation are understandable to men. For that reason it appears that nothing physical which senseexperience sets before our eyes, or which necessary demonstrations prove to us, ought to be called in question (much less condemned) upon the testimony of biblical passages which may have some different meaning beneath their words. For the Bible is not chained in every expression to conditions as strict as those which govern all physical effects; nor is God any less excellently revealed in Nature's actions than in the sacred statements of the Bible. Perhaps this is what Tertullian meant by these words:

"We conclude that God is known first through Nature, and then again, more particularly, by doctrine, by Nature in His works, and by doctrine in His revealed word."

From this I do not mean to infer that we need not have an extraordinary esteem for the passages of holy Scripture. On the contrary, having arrived at any certainties in physics, we ought to utilize these as the most appropriate aids in the true exposition of the Bible and in the investigation of those meanings which are necessarily contained therein, for these must be concordant with demonstrated truths. I should judge that the authority of the Bible was designed to persuade men of those articles and propositions which, surpassing all human reasoning could not be made credible by science, or by any other means than through the very mouth of the Holy Spirit.

Yet even in those propositions which are not matters of faith, this authority ought to be preferred over that of all human writings which are supported only by bare assertions or probable arguments, and not set forth in a demonstrative way. This I hold to be necessary and proper to the same extent that divine wisdom surpasses all human judgment and conjecture.

But I do not feel obliged to believe that the same God who has endowed us with senses, reason and intellect has intended us to forego their use and by some other means to give us knowledge which we can attain by them. He would not require us to deny sense and reason in physical matters which are set before our eyes and minds by direct experience or necessary demonstrations. This must be especially true in those sciences of which but the faintest trace (and that consisting of conclusions) is to be found in the Bible. Of astronomy; for instance, so little is found that none of the planets except Venus are so much as mentioned, and this only once or twice under the name of "Lucifer." If the sacred scribes had had any intention of teaching people certain arrangements and motions of the heavenly bodies, or had they wished us to derive such knowledge from the Bible, then in my opinion they would not have spoken of these matters so sparingly in comparison with the infinite number of admirable conclusions which are demonstrated in that science. Far from pretending to teach us the constitution and motions of the heavens and other stars, with their shapes, magnitudes, and distances, the authors of the Bible intentionally forbore to speak of these things, though all were quite well known to them. Such is the opinion of the holiest and most learned Fathers, and in St. Augustine we find the following words :

"It is likewise commonly asked what we may believe about the form and shape of the heavens according to the Scriptures, for many contend much about these matters. But with superior prudence our authors have forborne to speak of this, as in no way furthering the student with respect to a blessed life-and, more important still, as taking up much of that time which should be spent in holy exercises. What is it to me whether heaven, like a sphere surrounds the earth on all sides as a mass balanced in the center of the universe, or whether like a dish it merely covers and overcasts the earth? Belief in Scripture is urged rather for the reason we have often mentioned; that is, in order that no one, through ignorance of divine passages, finding anything in our Bibles or hearing anything cited from them of such a nature as may seem to oppose manifest conclusions, should be induced to suspect their truth when they teach, relate, and deliver more profitable matters. Hence let it be said briefly, touching the form of heaven, that our authors knew the truth but the Holy Spirit did not desire that men should learn things that are useful to no one for salvation."

The same disregard of these sacred authors toward beliefs about the phenomena of the celestial bodies is repeated to us by St. Augustine in his next chapter. On the question whether we are to believe that the heaven moves or stands still, he writes thus:

"Some of the brethren raise a question concerning the motion of heaven, whether it is fixed or moved. If it is moved, they say, how is it a firmament? If it stands still, how do these stars which are held fixed in it go round from east to west, the more northerly performing shorter circuits near the pole, so that the heaven (if there is another pole unknown to us) may seem to revolve upon some axis, or (if there is no other pole) may be thought to move as a discus? To these men I reply that it would require many subtle and profound reasonings to find out which of these things is actually so; but to undertake this and discuss it is consistent neither with my leisure nor with the duty of those whom I desire to instruct in essential matters more directly conducing to their salvation and to the benefit of the holy Church."

From these things it follows as a necessary consequence that, since the Holy Ghost did not intend to teach us whether heaven moves or stands still, whether its shape is spherical or like a discus or extended in a plane, nor whether the earth is located at its center or off to one side, then so much the less was it intended to settle for us any other conclusion of the same kind. And the motion or rest of the earth and the sun is so closely linked with the things just named, that without a determination of the one, neither side can be taken in the other matters. Now if the Holy Spirit has purposely neglected to teach us propositions of this sort as irrelevant to the highest goal (that is, to our salvation), how can anyone affirm that it is obligatory to take sides on them, that one belief is required by faith, while the other side is erroneous? Can an opinion be heretical and yet have no concern with the salvation of souls? Can the Holy Ghost be asserted not to have intended teaching us something that does concern our salvation? I would say here something that was heard from an ecclesiastic of the most eminent degree: "That the intention of the Holy Ghost is to teach us how one goes to heaven. not how heaven goes."

But let us again consider the degree to which necessary demonstrations and sense experiences ought to be respected in physical conclusions, and the authority they have enjoyed at the hands of holy and learned theologians. From among a hundred attestations I have selected the following:

"We must also take heed, in handling the doctrine of Moses. that we altogether avoid saying positively and confidently anything which contradicts manifest experiences and the reasoning of philosophy or the other sciences. For since every truth is in agreement with all other truth, the truth of Holy Writ cannot be contrary to the solid reasons and experiences of human knowledge."

And in St. Augustine we read:

"If anyone shall set the authority of Holy Writ against clear and manifest reason, he who does this knows not what he has undertaken; for he opposes to the truth not the meaning of the Bible, which is beyond his comprehension, but rather his own interpretation, not what is in the Bible, but what he has found in himself and imagines to be there."

This granted, and it being true that two truths cannot contradict one another, it is the function of expositors to seek out the true senses of scriptural texts. These will unquestionably accord with the physical conclusions which manifest sense and necessary demonstrations have previously made certain to us. Now the Bible, as has been remarked, admits in many places expositions that are remote from the signification of the words for reasons we have already given. Moreover, we are unable to affirm that all interpreters of the Bible speak by Divine inspiration for if that were so there would exist no differences among them about the sense of a given passage. Hence I should think it would be the part of prudence not to permit anyone to usurp scriptural texts and force them in some way to maintain any physical conclusion to be true, when at some future time the senses and demonstrative or necessary reasons may show the contrary. Who indeed will set bounds to human ingenuity? Who will assert that everything in the universe capable of being perceived is already discovered and known? Let us rather confess quite truly that "Those truths which we know are very few in comparison with those which we do not know."

We have it from the very mouth of the Holy Ghost that God delivered up the world to disputations, so that man cannot find out the work that God hath done from the beginning even to the end. In my opinion no one, m contradiction to that dictum, should close the road to free philosophizing about mundane and physical things, as if everything had already been discovered and revealed with certainty. Nor should it be considered rash not to be

satisfied with those opinions which have become common. No one should be scorned in physical disputes for not holding to the opinions which happen to please other people best, especially concerning problems which have been debated among the greatest philosophers for thousands of years. One of these is the stability of the sun mobility of the earth, a doctrine believed by Pythagoras and all his followers, by Heracleides of Pontus (who was one of them), by Philolaus, the teacher of Plato, and by Plato himself according to Aristotle. Plutarch writes in his Life of Numa that Plato, when he had grown old, said it was absurd to believe otherwise. The same doctrine was held by Aristarchus of Samos, as Archimedes tells us; by Seleucus the mathematician, by Nicetas the philosopher (on the testimony of Cicero), and by many others. Finally this opinion has been amplified and confirmed with many observations and demonstrations by Nicholas Copernicus. And Seneca, a most eminent philosopher, advises us in his book on comets that we should more diligently seek to ascertain whether it is in the sky or in the earth that the diurnal rotation resides.

Hence it would probably be wise and useful counsel if, beyond articles which concern salvation and the establishment of our Faith, against the stability of which there is no danger whatever that any valid and effective doctrine can ever arise, men would not aggregate further articles unnecessarily. And it would certainly be preposterous to introduce them at the request of persons, who, besides not being known to speak by inspiration of divine grace, are clearly seen to lack that understanding which is necessary in order to comprehend, let alone discuss, the demonstrations by which such conclusions are supported in the subtler sciences. If I may speak my opinion freely, I should say further that it would perhaps fit in better with the decorum and majesty of the sacred writings to take measures for preventing every shallow and vulgar writer from giving to his compositions (often grounded upon foolish fancies) an air of authority by inserting in them passages from the Bible, interpreted (or rather distorted) into senses as far from the right meaning of Scripture as those authors are near to absurdity who thus ostentatiously adorn their writings. Of such abuses many examples might be produced, but for the present I shall confine myself to two which are germane to these astronomical matters. The first concerns those writings which were published against the existence of the Medicean planets recently discovered by me, in which many passages of holy Scripture were cited. Now that everyone has seen these planets, I should like to know what new interpretations those same antagonists employ in expounding the Scripture and excusing their own simplicity. My other example is that of a man who has lately published, in defiance of astronomers and philosophers, the opinion that the moon does not receive its light from the sun but is brilliant by its own nature. He supports this fancy (or rather thinks he does) by sundry texts of Scripture which he believes cannot be explained unless his theory is true; yet that the moon is inherently dark is surely as plain as daylight.

It is obvious that such authors, not having penetrated the true senses of Scripture, would impose upon others an obligation to subscribe to conclusions that are repugnant to manifest reason and sense, if they had any authority to do so. God forbid that this sort of abuse should gain countenance and authority, for then in a short time it would be necessary to proscribe all the contemplative sciences. People who are unable to understand perfectly both the Bible and the science far outnumber those who do understand them. The former, glancing superficially through the Bible, would arrogate to themselves the authority to decree upon every question of physics on the strength of some word which they have misunderstood, and which was employed by the sacred authors for some different purpose. And the smaller number of understanding men could not dam up the furious torrent of such people, who would gain the majority of followers simply because it is much more pleasant to gain a reputation for wisdom without effort or study than to consume oneself tirelessly in the most laborious disciplines. Let us therefore render thanks to Almighty God, who in His beneficence protects us from this danger by depriving such persons of all authority, reposing the power of consultation, decision, and decree on such important matters in the high wisdom and benevolence of most prudent Fathers, and in the supreme authority of those who cannot fail to order matters properly under the guidance of the Holy Ghost. Hence we need not concern ourselves with the shallowness of those men whom grave and holy authors rightly reproach, and of whom in particular St. Jerome said, in reference to the Bible:

"This is ventured upon, lacerated, and taught by the garrulous old woman, the doting old man, and the prattling sophist before they have learned it. Others, led on by pride, weigh heavy words and philosophize amongst women concerning holy Scripture. Others- oh shame!-learn from women what they teach to men, and (as if that were not enough) glibly expound to others that which they themselves do not understand. I forebear to speak of those of my own profession who, attaining a knowledge of the holy Scriptures after mundane learning, tickle the ears of the people with affected and studied expressions, and declare that everything they say is to be taken as the law of God. Not bothering to learn what the prophets and the apostles have maintained, they wrest incongruous testimonies into their own senses-as if distorting passages and twisting the Bible to their individual and contradictory whims were the genuine way of teaching, and not a corrupt one."

I do not wish to place in the number of such lay writers some theologians whom I consider men of profound learning and devout behavior, and who are therefore held by me in great esteem and veneration. Yet I cannot deny that I feel some discomfort which I should like to have removed, when I hear them pretend to the power of constraining others by scriptural authority to follow in a physical dispute that opinion which they think best agrees with the Bible, and then believe themselves not bound to answer the opposing reasons and experiences. In explanation and support of this opinion they say that since theology is queen of all the sciences, she need not bend in any way to accommodate herself to the teachings of less worthy sciences which are subordinate to her; these others must rather be referred to her as their supreme empress, changing and altering their conclusions according to her statutes and decrees. They add further that if in the inferior sciences any conclusion should be taken as certain in virtue of demonstrations or experiences, while in the Bible another conclusion is found repugnant to this, then the professors of that science should themselves undertake to undo their proofs and discover the fallacies in their own experiences, without bothering the theologians and exegetes. For, they say, it does not become the dignity of theology to stoop to the investigation of fallacies in the subordinate sciences; it is sufficient for her merely to determine the truth of a given conclusion with absolute authority, secure in her inability to err.

Now the physical conclusions in which they say we ought to be satisfied by Scripture, without glossing or expounding it in senses different from the literal, are those concerning which the Bible always speaks in the same manner and which the holy Fathers all receive and expound in the same way. But with regard to these judgments I have had occasion to consider several things, and I shall set them forth in order that I may be corrected by those who understand more than I do in these matters—for to their decisions I submit at all times.

First I question whether there is not some equivocation in failing to specify the virtues which entitle sacred theology to the title of "queen." It might deserve that name by reason of including everything that is included from all the other sciences and establishing everything by better methods and with profounder learning. It is thus, for example, that the rules for measuring fields and keeping accounts are much more excellently contained in arithmetic and in the geometry of Euclid than in the practices of surveyors and accountants. Or theology might be queen because of being occupied with a subject which excels in dignity all the subjects which compose the other sciences, and because her teachings are divulged in more sublime ways.

That the title and authority of queen belongs to theology in the first sense, I think, will not be affirmed by theologians who have any skill in the other sciences. None of these, I think, will say that geometry, astronomy, music, and medicine are much more excellently contained in the Bible than they are in the books of Archimedes, Ptolemy, Boethius, and Galen. Hence it seems likely that regal preeminence is given to theology in the second sense; that is, by reason of its subject and the miraculous communication of divine revelation of conclusions which could not be conceived by men in any other way, concerning chiefly the attainment of eternal blessedness.

Let us grant then that theology is conversant with the loftiest divine contemplation, and occupies the regal throne among sciences by dignity. But acquiring the highest authority in this way, if she does not descend to the lower and humbler speculations of the subordinate sciences and has no regard for them because they are not concerned with blessedness, then her professors should not arrogate to them-selves the authority to decide on controversies in professions which they have neither studied nor practiced. Why, this would be as if an absolute despot, being neither a physician nor an architect but knowing himself free to command, should undertake to administer medicines and erect buildings according to his whim—at grave peril of his poor patients' lives, and the speedy collapse of his edifices.

Again, to command that the very professors of astronomy themselves see to the refutation of their own observations and proofs as mere fallacies and sophisms is to enjoin something that lies beyond any possibility of accomplishment. For this would amount to commanding that they must not see what they see and must not understand what they know, and that in searching they must find the opposite of what they actually encounter. Before this could be done they would have to be taught how to make one mental faculty command another, and the inferior powers the superior, so that the imagination and the will might be forced to believe the opposite of what the intellect understands. I am referring at all times to merely physical propositions, and not to supernatural things which are matters of faith.

I entreat those wise and prudent Fathers to consider with great care the difference that exists between doctrines subject to proof and those subject to opinion. Considering the force exerted by logical deductions, they may ascertain that it is not in the power of the professors of demonstrative sciences to change their opinions at will and apply themselves first to one side and then to the other. There is a great difference between commanding a mathematician

muscles, tendons, nerves, and bones; or when examining the functions of the heart and the other principal organs, he seeks the seat of the vital faculties, notes and observes the admirable structure of the sense organs, and (without ever ceasing in his amazement and delight) contemplates the receptacles of the imagination, the memory, and the understanding. Likewise, that which presents itself to mere sight is as nothing in comparison with the high marvels that the ingenuity of learned men discovers in the heavens by long and accurate observation....

Your Highness may thus see how irregularly those persons proceed who in physical disputes arrange scriptural passages (and often those illunderstood by them) in the front rank of their arguments. If these men really believe themselves to have the true sense of a given passage, it necessarily follows that they believe they have in hand the absolute truth of the conclusion they intend to debate. Hence they must know that they enjoy a great advantage over their opponents, whose lot it is to defend the false position; and he who maintains the truth will have many senseexperiences and rigorous proofs on his side, whereas his antagonist cannot make use of anything but illusory appearances, quibbles, and fallacies. Now if these men know they have such advantages over the enemy even when they stay within proper bounds and produce no weapons other than those proper to philosophy, why do they, in the thick of the battle, betake themselves to a dreadful weapon which cannot be turned aside, and seek to vanquish the opponent by merely exhibiting it? If I may speak frankly, I believe they have themselves been vanquished, and, feeling unable to stand up against the assaults of the adversary, they seek ways of holding him off. To that end they would forbid him the use of reason, divine gift of Providence, and would abuse the just authority of holy Scripture- which, in the general opinion of theologians, can never oppose manifest experiences and necessary demonstrations when rightly understood and applied. If I am correct, it will stand them in no stead to go running to the Bible to cover up their inability to understand (let alone resolve) their opponents' arguments, for the opinion which they fight has never been condemned by the holy Church. If they wish to proceed in sincerity, they should by silence confess themselves unable to deal with such matters. Let them freely admit that although they may argue that a position is false, it is not in their power to censure a position as erroneous - or in the power of anyone except the Supreme Pontiff, or the Church Councils. Reflecting upon this, and knowing that a proposition cannot be both true and heretical, let them employ themselves in the business which is proper to them; namely, demonstrating its falsity. And when that is revealed, either there will no longer be any necessity to prohibit it (since it will have no followers), or else it may safely be prohibited without the risk of any scandal.

Therefore let these men begin to apply themselves to an examination of the arguments of Copernicus and others, leaving condemnation of the doctrine as erroneous and heretical ' to the proper authorities. Among the circumspect and most wise Fathers, and in the absolute wisdom of one who cannot err, they may never hope to find the rash decisions into which they allow them selves to be hurried by some particular passion or personal interest. With regard to this opinion, and others which are not directly matters of faith, certainly no one doubts that the Supreme Pontiff has always an absolute power to approve or condemn; but it is not in the power: of any created being to make things true or false, for this belongs to their own nature and to the fact. Therefore in my judgment one should first be assured of the necessary and immutable truth of the fact, over which no man has power. This is wiser counsel than to condemn either side in the absence of such certainty, thus depriving oneself of continued authority and ability to choose by determining things which are now undetermined and open and still lodged in the will of supreme authority. And in brief, if it is impossible for a conclusion to be declared heretical while we remain in doubt as to its truth, then these men are wasting their time clamoring for condemnation of the motion of the earth and stability of the sun, which they have not yet demonstrated to be impossible or false ....

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# Modern History Sourcebook:

## Robert Bellarmine: Letter on Galileo's Theories, 1615

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Galileo's letter of 1614 to the Grand Duchess Christina Duchess of Tuscany was not widely known, and was ignored by Church authorities. When a year later the Carmelite provincial Paolo Foscarini supported Galileo publicly by attempting to prove that the new theory was not opposed to Scripture, Cardinal Robert Bellarmine, as "Master of Controversial Questions," responded.

On April 12, 1615 the saint wrote to Foscarini:

"I have gladly read the letter in Italian and the treatise which Your Reverence sent me, and I thank you for both. And I confess that both are filled with ingenuity and learning, and since you ask for my opinion, I will give it to you very briefly, as you have little time for reading and I for writing:

"First. I say that it seems to me that Your Reverence and Galileo did prudently to content yourself with speaking hypothetically, and not absolutely, as I have always believed that Copernicus spoke. For to say that, assuming the earth moves and the sun stands still, all the appearances are saved better than with eccentrics and epicycles, is to speak well; there is no danger in this, and it is sufficient for mathematicians. But to want to affirm that the sun really is fixed in the center of the heavens and only revolves around itself (i. e., turns upon its axis ) without traveling from east to west, and that the earth is situated in the third sphere and revolves with great speed around the sun, is a very dangerous thing, not only by irritating all the philosophers and scholastic theologians, but also by injuring our holy faith and rendering the Holy Scriptures false. For Your Reverence has demonstrated many ways of explaining Holy Scripture, but you have not applied them in particular, and without a doubt you would have found it most difficult if you had attempted to explain all the passages which you yourself have cited.

"Second. I say that, as you know, the Council [of Trent] prohibits expounding the Scriptures contrary to the common agreement of the holy Fathers. And if Your Reverence would read not only the Fathers but also the commentaries of modern writers on Genesis, Psalms, Ecclesiastes and Josue, you would find that all agree in explaining literally (ad litteram) that the sun is in the heavens and moves swiftly around the earth, and that the earth is far from the heavens and stands immobile in the center of the universe. Now consider whether in all prudence the Church could encourage giving to Scripture a sense contrary to the holy Fathers and all the Latin and Greek commentators. Nor may it be answered that this is not a matter of faith, for if it is not a matter of faith from the point of view of the subject matter, it is on the part of the ones who have spoken. It would be just as heretical to deny that Abraham had two sons and Jacob twelve, as it would be to deny the virgin birth of Christ, for both are declared by the Holy Ghost through the mouths of the prophets and apostles.

"Third. I say that if there were a true demonstration that the sun was in the center of the universe and the earth in the third sphere, and that the sun did not travel around the earth but the earth circled the sun, then it would be necessary to proceed with great caution in explaining the passages of Scripture which seemed contrary, and we would rather have to say that we did not understand them than to say that something was false which has been demonstrated. But I do not believe that there is any such demonstration; none has been shown to me. It is not the same thing to show that the appearances are saved by assuming that the sun really is in the center and the earth in the heavens. I believe that the first demonstration might exist, but I have grave doubts about the second, and in a case of doubt, one may not depart from the Scriptures as explained by the holy Fathers. I add that the words ' the sun also riseth and the sun goeth down, and hasteneth to the place where he ariseth, etc.' were those of Solomon, who not only spoke by divine inspiration but was a man wise above all others and most learned in human sciences and in the knowledge of all created things, and his wisdom was from God. Thus it is not too likely that he would affirm something which was contrary to a truth either already demonstrated, or likely to be demonstrated. And if you tell me that Solomon spoke only according to the appearances, and that it seems to us that the sun goes around when actually it is the earth which moves, as it seems to one on a ship that the beach moves away from the ship, I shall answer that one who departs from the beach, though it looks to him as though the beach moves away, he knows that he is in error and corrects it, seeing clearly that the ship moves and not the beach. But with regard to the

sun and the earth, no wise man is needed to correct the error, since he clearly experiences that the earth stands still and that his eye is not deceived when it judges that the moon and stars move. And that is enough for the present. I salute Your Reverence and ask God to grant you every happiness."

Notes:

Solange Hertz makes the problem clear in her commentary on this letter (in an article which contends that the earth is indeed the center of the Universe):

"There are many such passages in the Bible, outstanding among them being, of course, the one relating how Joshua commanded, "Move not, O sun, toward Gabaon, nor thou, O moon, toward the valley of Ajalon," whereupon, "the sun and the moon stood still, till the people revenged themselves of their enemies" (Jos.10:12-13). And again, as St. Robert Bellarmine pointed out, the Preacher says, "The sun riseth and goeth down and returneth to his place: and there rising again, maketh his round by the south and turneth again to the north" (Eccles. 1:5-6)

"Scripture also specifies that the Earth is immovable in the face of these solar and lunar peregrinations, Psalm 92 stating flatly that God "hath established the world which shall not be moved." Psalm 103 says He has "founded the earth upon its own bases ; it shall not be moved forever and ever," Psalm 95 telling us God has "corrected the world, which shall not be moved." Again, in I Paralipomenon 16:30, "He hath founded the earth immovable," and according to Job 26:7, God by His power "stretched out the north over the empty space and hangeth the earth upon nothing." No less an authority than the Catechism of the Council of Trent, in its commentary on the Creed, states furthermore, "The earth also God commanded to stand in the midst of the world, rooted in its own foundation."

Action by the Congregation of the Index

In 1616 the Congregation of the Index -- founded by St. Pius V in 1571 and now headed by Cardinal Bellarmine acting in the name of Paul V -- was forced to take action, based on the findings of consultors to the Holy Office. Without naming Galileo, it banned all writings which treated of Copernicanism as anything but an unproven hypothesis,

"because it has come to the attention of this Congregation that the Pythagorean doctrine which is false and contrary to Holy Scripture, which teaches the motion of the earth and the immobility of the sun, and which is taught by Nicholas Copernicus in *De Revolutionibus Orbium Caelestium* and by Diego de Zuniga's *On Job*, is now being spread and accepted by many - as may be seen from a letter of a Carmelite Father entitled 'Letter of the Rev. Father Paolo Antonio Foscarini, Carmelite, on the Opinion of the Pythagoreans and of Copernicus concerning the Motion of the Earth and the Stability of the Sun, and the New Pythagorean System of the World,' printed in Naples by Lazzaro Scoriggio in 1615: in which the said Father tries to show that the doctrine of the immobility of the sun in the center of the world, and that of the earth's motion, is consonant with truth and is not opposed to Holy Scripture.

"Therefore, so that this opinion may not spread any further to the prejudice of Catholic truth, it ( the Sacred Congregation ) decrees that the said Nicholas Copernicus' *De Revolutionibus Orbium*, and Diego de Zuniga's *On Job*, be suspended until corrected; but that the book of the Carmelite Father, Paolo Foscarini, be prohibited and condemned, and that all other books likewise, in which the same is taught, be prohibited."

Continuing Condemnation: 1664

Taking her information from *The Pontifical Decrees against the Doctrine of the Earth's Movement and the Ultramontane Defense of Them*, compiled in 1870 by the English Catholic priest William W. Roberts, the Catholic creationist writer Paula Haigh has pointed out that a generation after Galileo's death:

"In 1664 the Church went to further lengths to extirpate his error: The Index for that year was prefixed by a Bull. Entitled *Speculatores Domus Israel*, it was signed by Pope Alexander VII, who declared, 'We, having taken the advice of our Cardinals, confirm and approve with Apostolic authority by the tenor of these presents, and command and enjoin all persons everywhere to yield to this Index a constant and complete obedience.'

"The importance of this document cannot be minimized, for it included and re-affirmed not only previous formal condemnations, but 'all the relevant decrees up to the present time, that have been issued since the Index of our

predecessor Clement" Miss Haigh therefore rightly concludes, "The evidence for papal infallibility in the Galileo case rests then upon the Bull of Alexander VII in 1664."

She discerns a twofold basis for its authority: "1) The decrees of the Index and the Inquisition which were based on the truth of the Church's tradition, especially as in this case it rested upon the unanimity of the Fathers and the constant position of the Church; and 2) the infallibility of the Pope speaking in his own official capacity as Head of the Church and therefore ex cathedra, even though not defining any new dogma but simply affirming tradition.

"The modern theologians have never addressed the problem posed by this Bull of Alexander VII. If they had, they would need to admit its direct papal authority and search for some subsequent document by a subsequent pope that formally and specifically abrogated, i.e., nullified the 1664 Bull. But no such document has ever been found or produced.

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Source:

Texts extracted from

Solange Strong Hertz: "Galileo Recanted" in Beyond Politics: A Meta-Political View of History.  
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# Modern History Sourcebook:

## Isaac Newton:

### The Mathematical Principles of Natural Philosophy

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#### [Excerpts]

*[The Rules of Reasoning in Philosophy]*

#### *RULE I*

*We are to admit no more causes of natural things, than such as are both true and sufficient to explain their appearances.*

To this purpose the philosophers say, that Nature does nothing in vain, and more is in vain, when less will serve; for Nature is pleased with simplicity, and affects not the pomp of superfluous causes.

#### *RULE II*

*Therefore to the same natural effects we must, as far as possible, assign the same causes.*

As to respiration in a man, and in a beast; the descent of stones in Europe and in America; the light of our culinary fire and of the sun; the reflection of light in the earth, and in the planets

#### *RULE III*

*The qualities of bodies, which admit neither intension nor remission of degrees, and which are found to belong to all bodies within reach of our experiments, are to be esteemed the universal qualities of all bodies whatsoever.*

For since the qualities of bodies are only known to us by experiments, we are to hold for universal, all such as universally agree with experiments; and such as are not liable to diminution, can never be quite taken away. We are certainly not to relinquish the evidence of experiments for the sake of dreams and vain fictions of our own devising; nor are we to recede from the analogy of Nature, which is wont to be simple, and always consonant to itself. We no other way know the extension of bodies, than by our senses, nor do these reach it in all bodies; but because we perceive extension in all that are sensible, therefore we ascribe it universally to all others, also. That abundance of bodies are hard we learn by experience. And because the hardness of the whole arises from the hardness of the parts, we therefore justly infer the hardness of the undivided particles not only of the bodies we feel but of all others. That all bodies are impenetrable we gather not from reason, but from sensation. The bodies which we handle we find impenetrables and thence conclude impenetrability to be a universal property of all bodies whatsoever. That all bodies are moveable, and endowed with certain powers (which we call the forces of inertia) or persevering in their motion or in their rest, we only infer from the like properties observed in the bodies which we have seen. The extension, hardness, impenetrability, mobility, and force of inertia of the whole result from the extension, hardness, impenetrability, mobility, and forces of inertia of the parts: and thence we conclude that the least particles of all bodies to be also all extended, and hard, and impenetrable, and moveable, and endowed with their proper forces of inertia. And this is the foundation of all philosophy. Moreover, that the divided but contiguous particles of bodies may be separated from one another, is a matter of observation; and, in the particles that remain undivided, our minds are

able to distinguish yet lesser parts, as is mathematically demonstrated. But whether the parts so distinguished, and not yet divided, may, by the powers of nature, be actually divided and separated from one another, we cannot certainly determine. Yet had we the proof of but one experiment, that any undivided particle, in breaking a hard and solid body, suffered a division, we might by virtue of this rule, conclude, that the undivided as well as the divided particles, may be divided and actually separated into infinity.

Lastly, if it universally appears, by experiments and astronomical observations, that all bodies about the earth, gravitate toward the earth; and that in proportion to the quantity of matter which they severally contain; that the moon likewise, according to the quantity of its matter, gravitates toward the earth; that on the other hand our sea gravitates toward the moon; and all the planets mutually one toward another; and the comets in like manner towards the sun; we must, in consequence of this rule, universally allow, that all bodies whatsoever are endowed with a principle of mutual gravitation. For the argument from the appearances concludes with more force for the universal gravitation of all bodies, than for their impenetrability, of which among those in the celestial regions, we have no experiments, nor any manner of observation. Not that I affirm gravity to be essential to all bodies. By their inherent force I mean nothing but their force of inertia. This is immutable. Their gravity is diminished as they recede from the earth.

#### *RULE IV*

*In experimental philosophy we are to look upon propositions collected by general induction from phenomena as accurately or very nearly true, notwithstanding any contrary hypotheses that may be imagined, till such time as other phenomena occur, by which they may either be made more accurate, or liable to exceptions.*

This rule we must follow that the argument of induction may not be evaded by hypotheses.

Isaac Newton, *The Mathematical Principles of Natural Philosophy*, trans. A. Motte (London, 1729). [Capitalization and spelling have been modernized.]

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# Modern History Sourcebook:

## Thomas Hobbes: Leviathan, Chaps 13-14, 1651

### CHAPTER XIII: OF THE NATURAL CONDITION OF MANKIND AS CONCERNING THEIR FELICITY AND MISERY

NATURE hath made men so equal in the faculties of body and mind as that, though there be found one man sometimes manifestly stronger in body or of quicker mind than another, yet when all is reckoned together the difference between man and man is not so considerable as that one man can thereupon claim to himself any benefit to which another may not pretend as well as he. For as to the strength of body, the weakest has strength enough to kill the strongest, either by secret machination or by confederacy with others that are in the same danger with himself.

And as to the faculties of the mind, setting aside the arts grounded upon words, and especially that skill of proceeding upon general and infallible rules, called science, which very few have and but in few things, as being not a native faculty born with us, nor attained, as prudence, while we look after some what else, I find yet a greater equality amongst men than that of strength. For prudence is but experience, which equal time equally bestows on all men in those things they equally apply themselves unto. That which may perhaps make such equality incredible is but a vain conceit of one's own wisdom, which almost all men think they have in a greater degree than the vulgar; that is, than all men but themselves, and a few others, whom by fame, or for concurring with themselves, they approve. For such is the nature of men that how so ever they may acknowledge many others to be more witty, or more eloquent or more learned, yet they will hardly believe there be many so wise as themselves; for they see their own wit at hand, and other men's at a distance. But this proveth rather that men are in that point equal, than unequal. For there is not ordinarily a greater sign of the equal distribution of any thing than that every man is contented with his share.

From this equality of ability arise the quality of hope in the attaining of our ends. And therefore if any two men desire the same thing, which nevertheless they cannot both enjoy, they become enemies; and in the way to their end (which is principally their own conservation, and sometimes their delectation only) endeavour to destroy or subdue one another. And from hence it comes to pass that where an invader hath no more to fear than another man's single power, if one plant, sow, build, or possess a convenient seat, others may probably be expected to come prepared with forces united to dispossess and deprive him, not only of the fruit of his labour, but also of his life or liberty. And the invader again is in the like danger of another.

And from this diffidence of one another, there is no way for any man to secure himself so reasonable as anticipation; that is, by force, or wiles, to master the persons of all men he can so long till he see no other power great enough to endanger him: and this is no more than his own conservation requireth, and is generally allowed. Also, because there be some that, taking pleasure in contemplating their own power in the acts of conquest, which they pursue farther than their security requires, if others, that otherwise would be glad to be at ease within modest bounds, should not by invasion increase their power, they would not be able, long time, by standing only on their defence, to subsist. And by consequence, such augmentation of dominion over men being necessary to a man's conservation, it ought to be allowed him.

Again, men have no pleasure (but on the contrary a great deal of grief) in keeping company where there is no power able to overawe them all. For every man looketh that his companion should value him at the same rate he sets upon himself, and upon all signs of contempt or undervaluing naturally endeavours, as far as he dares (which amongst them that have no common power to keep them in quiet is far enough to make them destroy each other), to extort a greater value from his contemners, by damage; and from others, by the example.

So that in the nature of man, we find three principal causes of quarrel. First, competition; secondly, diffidence; thirdly, glory.

The first maketh men invade for gain; the second, for safety; and the third, for reputation. The first use violence, to make themselves masters of other men's persons, wives, children, and cattle; the second, to defend them; the third, for trifles, as a word, a smile, a different opinion, and any other sign of undervalue, either direct in their persons or by reflection in their kindred, their friends, their nation, their profession, or their name.

Hereby it is manifest that during the time men live without a common power to keep them all in awe, they are in that condition which is called war; and such a war as is of every man against every man. For war consisteth not in battle only, or the act of fighting, but in a tract of time, wherein the will to contend by battle is sufficiently known: and therefore the notion of time is to be considered in the nature of war, as it is in the nature of weather. For as the nature of foul weather lieth not in a shower or two of rain, but in an inclination thereto of many days together: so the nature of war consisteth not in actual fighting, but in the known disposition thereto during all the time there is no assurance to the contrary. All other time is peace.

Whatsoever therefore is consequent to a time of war, where every man is enemy to every man, the same is consequent to the time wherein men live without other security than what their own strength and their own invention shall furnish them withal. In such condition there is no place for industry, because the fruit thereof is uncertain: and consequently no culture of the earth; no navigation, nor use of the commodities that may be imported by sea; no commodious building; no instruments of moving and removing such things as require much force; no knowledge of the face of the earth; no account of time; no arts; no letters; no society; and which is worst of all, continual fear, and danger of violent death; and the life of man, solitary, poor, nasty, brutish, and short.

It may seem strange to some man that has not well weighed these things that Nature should thus dissociate and render men apt to invade and destroy one another: and he may therefore, not trusting to this inference, made from the passions, desire perhaps to have the same confirmed by experience. Let him therefore consider with himself: when taking a journey, he arms himself and seeks to go well accompanied; when going to sleep, he locks his doors; when even in his house he locks his chests; and this when he knows there be laws and public officers, armed, to revenge all injuries shall be done him; what opinion he has of his fellow subjects, when he rides armed; of his fellow citizens, when he locks his doors; and of his children, and servants, when he locks his chests. Does he not there as much accuse mankind by his actions as I do by my words? But neither of us accuse man's nature in it. The desires, and other passions of man, are in themselves no sin. No more are the actions that proceed from those passions till they know a law that forbids them; which till laws be made they cannot know, nor can any law be made till they have agreed upon the person that shall make it.

It may peradventure be thought there was never such a time nor condition of war as this; and I believe it was never generally so, over all the world: but there are many places where they live so now. For the savage people in many places of America, except the government of small families, the concord whereof dependeth on natural lust, have no government at all, and live at this day in that brutish manner, as I said before. Howsoever, it may be perceived what manner of life there would be, where there were no common power to fear, by the manner of life which men that have formerly lived under a peaceful government use to degenerate into a civil war.

But though there had never been any time wherein particular men were in a condition of war one against another, yet in all times kings and persons of sovereign authority, because of their independency, are in continual jealousies, and in the state and posture of gladiators, having their weapons pointing, and their eyes fixed on one another; that is, their forts, garrisons, and guns upon the frontiers of their kingdoms, and continual spies upon their neighbours, which is a posture of war. But because they uphold thereby the industry of their subjects, there does not follow from it that misery which accompanies the liberty of particular men.

To this war of every man against every man, this also is consequent; that nothing can be unjust. The notions of right and wrong, justice and injustice, have there no place. Where there is no common power, there is no law; where no law, no injustice. Force and fraud are in war the two cardinal virtues. Justice and injustice are none of the faculties neither of the body nor mind. If they were, they might be in a man that were alone in the world, as well as his senses and passions. They are qualities that relate to men in society, not in solitude. It is consequent also to the

same condition that there be no propriety, no dominion, no mine and thine distinct; but only that to be every man's that he can get, and for so long as he can keep it. And thus much for the ill condition which man by mere nature is actually placed in; though with a possibility to come out of it, consisting partly in the passions, partly in his reason.

The passions that incline men to peace are: fear of death; desire of such things as are necessary to commodious living; and a hope by their industry to obtain them. And reason suggesteth convenient articles of peace upon which men may be drawn to agreement. These articles are they which otherwise are called the laws of nature, where of I shall speak more particularly in the two following chapters.

## CHAPTER XIV

### OF THE FIRST AND SECOND NATURAL LAWS, AND OF CONTRACTS

THE right of nature, which writers commonly call *jus naturale*, is the liberty each man hath to use his own power as he will himself or the preservation of his own nature; that is to say, of his own life; and consequently, of doing anything which, in his own judgement and reason, he shall conceive to be the aptest means thereunto.

By liberty is understood, according to the proper signification of the word, the absence of external impediments; which impediments may oft take away part of a man's power to do what he would, but cannot hinder him from using the power left him according as his judgement and reason shall dictate to him.

A law of nature, *lex naturalis*, is a precept, or general rule, found out by reason, by which a man is forbidden to do that which is destructive of his life, or taketh away the means of preserving the same, and to omit that by which he thinketh it may be best preserved. For though they that speak of this subject use to confound *jus* and *lex*, right and law, yet they ought to be distinguished, because right consisteth in liberty to do, or to forbear; whereas law determineth and bindeth to one of them: so that law and right differ as much as obligation and liberty, which in one and the same matter are inconsistent.

And because the condition of man (as hath been declared in the precedent chapter) is a condition of war of every one against everyone, in which case every one is governed by his own reason, and there is nothing he can make use of that may not be a help unto him in preserving his life against his enemies; it followeth that in such a condition every man has a right to every thing, even to one another's body. And therefore, as long as this natural right of every man to every thing endureth, there can be no security to any man, how strong or wise soever he be, of living out the time which nature ordinarily alloweth men to live. And consequently it is a precept, or general rule of reason: that every man ought to endeavour peace, as far as he has hope of obtaining it; and when he cannot obtain it, that he may seek and use all helps and advantages of war. The first branch of which rule containeth the first and fundamental law of nature, which is: to seek peace and follow it. The second, the sum of the right of nature, which is: by all means we can to defend ourselves.

From this fundamental law of nature, by which men are commanded to endeavour peace, is derived this second law: that a man be willing, when others are so too, as far forth as for peace and defence of himself he shall think it necessary, to lay down this right to all things; and be contented with so much liberty against other men as he would allow other men against himself. For as long as every man holdeth this right, of doing anything he liketh; so long are all men in the condition of war. But if other men will not lay down their right, as well as he, then there is no reason for anyone to divest himself of his: for that were to expose himself to prey, which no man is bound to, rather than to dispose himself to peace. This is that law of the gospel: Whatsoever you require that others should do to you, that do ye to them. And that law of all men, *quod tibi fieri non vis, alteri ne feceris*.

To lay down a man's right to anything is to divest himself of the liberty of hindering another of the benefit of his own right to the same. For he that renounceth or passeth away his right giveth not to any other man a right which he had not before, because there is nothing to which every man had not right by nature, but only standeth out of his way that he may enjoy his own original right without hindrance from him, not without hindrance from another. So that the effect which redoundeth to one man by another man's defect of right is but so much diminution of impediments to the use of his own right original.

Right is laid aside, either by simply renouncing it, or by transferring it to another. By simply renouncing, when he cares not to whom the benefit thereof redoundeth. By transferring, when he intendeth the benefit thereof to some certain person or persons. And when a man hath in either manner abandoned or granted away his right, then is he said to be obliged, or bound, not to hinder those to whom such right is granted, or abandoned, from the benefit of it: and that he ought, and it is duty, not to make void that voluntary act of his own: and that such hindrance is injustice, and injury, as being sine jure; the right being before renounced or transferred. So that injury or injustice, in the controversies of the world, is somewhat like to that which in the disputations of scholars is called absurdity. For as it is there called an absurdity to contradict what one maintained in the beginning; so in the world it is called injustice, and injury voluntarily to undo that which from the beginning he had voluntarily done. The way by which a man either simply renounceth or transferreth his right is a declaration, or signification, by some voluntary and sufficient sign, or signs, that he doth so renounce or transfer, or hath so renounced or transferred the same, to him that accepteth it. And these signs are either words only, or actions only; or, as it happeneth most often, both words and actions. And the same are the bonds, by which men are bound and obliged: bonds that have their strength, not from their own nature (for nothing is more easily broken than a man's word), but from fear of some evil consequence upon the rupture.

Whensoever a man transferreth his right, or renounceth it, it is either in consideration of some right reciprocally transferred to himself, or for some other good he hopeth for thereby. For it is a voluntary act: and of the voluntary acts of every man, the object is some good to himself. And therefore there be some rights which no man can be understood by any words, or other signs, to have abandoned or transferred. As first a man cannot lay down the right of resisting them that assault him by force to take away his life, because he cannot be understood to aim thereby at any good to himself. The same may be said of wounds, and chains, and imprisonment, both because there is no benefit consequent to such patience, as there is to the patience of suffering another to be wounded or imprisoned, as also because a man cannot tell when he seeth men proceed against him by violence whether they intend his death or not. And lastly the motive and end for which this renouncing and transferring of right is introduced is nothing else but the security of a man's person, in his life, and in the means of so preserving life as not to be weary of it. And therefore if a man by words, or other signs, seem to despoil himself of the end for which those signs were intended, he is not to be understood as if he meant it, or that it was his will, but that he was ignorant of how such words and actions were to be interpreted.

The mutual transferring of right is that which men call contract.

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Leibniz: This is the best of all possible worlds  
excerpted from *Theodicy*,  
available on Project Gutenberg

<http://www.gutenberg.org/files/17147/17147-h/17147-h.htm>

## APPENDICES

### SUMMARY OF THE CONTROVERSY REDUCED TO FORMAL ARGUMENTS

Some persons of discernment have wished me to make this addition. I have the more readily deferred to their opinion, because of the opportunity thereby gained for meeting certain difficulties, and for making observations on certain matters which were not treated in sufficient detail in the work itself.

#### Objection I

*Whoever does not choose the best course is lacking either in power, or knowledge, or goodness.*

*God did not choose the best course in creating this world.*

*Therefore God was lacking in power, or knowledge, or goodness.*

#### Answer

I deny the minor, that is to say, the second premiss of this syllogism, and the opponent proves it by this

#### Prosyllogism

*Whoever makes things in which there is evil, and which could have been made without any evil, or need not have been made at all, does not choose the best course.*

*God made a world wherein there is evil; a world, I say, which could have been made without any evil or which need not have been made at all.*

*Therefore God did not choose the best course.*

### **Answer**

I admit the minor of this prosyllogism: for one must confess that there is evil in this world which God has made, and that it would have been possible to make a world without evil or even not to create any world, since its creation depended upon the free will of God. But I deny the major, that is, the first of the two premisses of the prosyllogism, and I might content myself with asking for its proof. In order, however, to give a clearer exposition of the matter, I would justify this denial by pointing out that the best course is not always that one which tends towards avoiding evil, since it is possible that the evil may be accompanied by a greater good. For example, the general of an army will prefer a great victory with a slight wound to a state of affairs without wound and without victory. I have proved this in further detail in this work by pointing out, through instances taken from mathematics and elsewhere, that an imperfection in the part may be required for a greater perfection in the whole. I have followed therein the opinion of St. Augustine, who said a hundred times that God permitted evil in order to derive from it a good, that is to say, a greater good; and Thomas Aquinas says (in libr. 2, Sent. Dist. 32, qu. 1, art. 1) that the permission of evil tends towards the good of the universe. I have shown that among older writers the fall of Adam was termed felix

culpa, a fortunate sin, because it had been expiated with immense benefit by the incarnation of the Son of God: for he gave to the universe something more noble than anything there would otherwise have been amongst created beings. For the better understanding of the matter I added, following the example of many good authors, that it was consistent with order and the general good for God to grant to certain of his creatures the opportunity to exercise their freedom, even when he foresaw that they would turn to evil: for God could easily correct the evil, and it was not fitting that in order to prevent sin he should always act in an extraordinary way. It will therefore sufficiently refute the objection to show that a world with evil may be better than a world without evil. But I have gone still further in the work, and have even shown that this universe must be indeed better than every other possible universe.

## **Objection II**

*If there is more evil than good in intelligent creatures, there is more evil than good in all God's work.*

*Now there is more evil than good in intelligent creatures.*

*Therefore there is more evil than good in all God's work.*

## **Answer**

I deny the major and the minor of this conditional syllogism. As for the major, I do not admit it because this supposed inference from the part to the whole, from intelligent creatures to all creatures, assumes tacitly and without proof that creatures devoid of reason cannot be

compared or taken into account with those that have reason. But why might not the surplus of good in the non-intelligent creatures that fill the world compensate for and even exceed incomparably the surplus of evil in rational creatures? It is true that the value of the latter is greater; but by way of compensation the others are incomparably greater in number; and it may be that the proportion of number and quantity surpasses that of value and quality.

The minor also I cannot admit, namely, that there is more evil than good in intelligent creatures. One need not even agree that there is more evil than good in the human kind. For it is possible, and even a very reasonable thing, that the glory and the perfection of the blessed may be incomparably greater than the misery and imperfection of the damned, and that here the excellence of the total good in the smaller number may exceed the total evil which is in the greater number. The blessed draw near to divinity through a divine Mediator, so far as can belong to these created beings, and make such progress in good as is impossible for the damned to make in evil, even though they should approach as nearly as may be the nature of demons. God is infinite, and the Devil is finite; good can and does go on ad infinitum, whereas evil has its bounds. It may be therefore, and it is probable, that there happens in the comparison between the blessed and the damned the opposite of what I said could happen in the comparison between the happy and the unhappy, namely that in the latter the proportion of degrees surpasses that of numbers, while

in the comparison between intelligent and non-intelligent the proportion of numbers is greater than that of values. One is justified in assuming that a thing may be so as long as one does not prove that it is [380] impossible, and indeed what is here put forward goes beyond assumption. But secondly, even should one admit that there is more evil than good in the human kind, one still has every reason for not admitting that there is more evil than good in all intelligent creatures. For there is an inconceivable number of Spirits, and perhaps of other rational creatures besides: and an opponent cannot prove that in the whole City of God, composed as much of Spirits as of rational animals without number and of endless different kinds, the evil exceeds the good. Although one need not, in order to answer an objection, prove that a thing is, when its mere possibility suffices, I have nevertheless shown in this present work that it is a result of the supreme perfection of the Sovereign of the Universe that the kingdom of God should be the most perfect of all states or governments possible, and that in consequence what little evil there is should be required to provide the full measure of the vast good existing there.

**Voltaire: "Poem on the Lisbon Disaster, or: An Examination of that Axiom 'All Is Well,'" 1755**

Oh, miserable mortals! Oh wretched earth!  
Oh, dreadful assembly of all mankind!  
Eternal sermon of useless sufferings!  
Deluded philosophers who cry, "All is well,"  
Hasten, contemplate these frightful ruins,  
This wreck, these shreds, these wretched ashes of the dead;  
These women and children heaped on one another,  
These scattered members under broken marble;  
One-hundred thousand unfortunates devoured by the earth  
Who, bleeding, lacerated, and still alive,  
Buried under their roofs without aid in their anguish,  
End their sad days!  
In answer to the half-formed cries of their dying voices,  
At the frightful sight of their smoking ashes,  
Will you say: "This is result of eternal laws  
Directing the acts of a free and good God!"  
Will you say, in seeing this mass of victims:  
"God is revenged, their death is the price for their crimes?"  
What crime, what error did these children,  
Crushed and bloody on their mothers' breasts, commit?  
Did Lisbon, which is no more, have more vices  
Than London and Paris immersed in their pleasures?  
Lisbon is destroyed, and they dance in Paris!