A Catholic Theologian
Responds to Copernicanism:
The Theological *Judicium* of
Paolo Foscarini's *Lettera*

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Summary: *This paper is an in-depth analysis of the Carmelite Paolo Foscarini's role in the debate on Copernican cosmology in the early seventeenth century. Using as a point of departure the 1616 **Judicium** issued by the Catholic Church against Foscarini's pro-Copernican treatise, this analysis will lead to a clearer understanding of the discussions on the fluidity or hardness of celestial bodies, and more generally on the conflicting Biblical and Copernican models.*

On March 5, 1616, the Roman Catholic Church's Sacred Congregation of the Index issued a decree prohibiting, until corrected, both Nicholas Copernicus' classic work, the *De revolutionibus orbium coelestium*, and the *In Iob commentaria* by the Spanish theologian Diego de Zuñiga, a portion of which dealt with the reconciliation of the Copernican system with the Bible. The same decree condemned absolutely the *Lettera . . . sopra l'opinione de' Pittagorici e del Copernico della mobilita della terra e stabilita del sole* by the Carmelite Paolo Foscarini, a work which appeared in print in 1615.¹ This treatise by Foscarini was prohibited on the twin grounds of claiming that the new astronomy of Copernicus was consonant with the truth and reconcilable with the Bible. In his role as an ardent exponent of the Copernican cosmology and ally of Galileo, Foscarini has been duly noticed but insufficiently studied by historians.²

Some attention has been paid to Foscarini's role as a Copernican spokesman by historians interested either in chronicling the spread of Copernicanism in Europe or in detailing the events leading up to the condemnation

of 1616, which itself set the stage for Galileo's personal condemnation of 1633. This paper will give an in-depth analysis of neglected evidence concerning the condemnation, the theological *Judicium* written soon after the appearance of Foscarini's pro-Copernican treatise. Such an account will enable us to understand in a more profound manner the issues at stake in the debate over Copernicanism within the Catholic community in the early seventeenth century.

Soon after the publication of the *Lettera*, certain persons in Rome began to raise theological objections to Foscarini's argument, objections which led Galileo's Roman friend, Monsignor Giovanni Ciampoli, to fear an imminent suppression.³ These objections are reflected in an anonymous document entitled the *Judicium de epistola F. Pauli Foscarini de mobilitate terrae*, printed in 1881–1882 from the manuscript copy by the famous nineteenth-century Galileo scholar Domenico Berti.⁴ The *Judicium* is important because it supplies specific information about the theological climate in Rome when the "Copernican question" was under consideration by the Holy Office of the Inquisition.⁵

Although short, only two printed pages, the *Judicium* was full of antipathy for the positions advanced by Foscarini in his *Lettera*. Indeed, the first line branded the *Lettera* with the censure of "*temeritas*" (rashness), and Foscarini was charged with refuting the truth and deriding all those who teach opposing opinions.⁶ The anonymous author of the *Judicium* then proceeded to strike at the essence of Foscarini's position concerning the "probability" and "verisimilitude" of the Copernican theory by denying any and all probability to such a theory. As he said, "something cannot be clearly probable which is clearly against sacred writings."⁷ The arguments concerning the philosophical and scientific superiority of Copernicanism raised by Foscarini were not dealt with in the *Judicium*. Instead the battle against the *Lettera* was fought solely in terms of biblical exegesis.

The author catalogued the errors in Foscarini's pro-Copernican work, complete with specific page citations. Allegedly, these errors were due to the improper and excessive use of the modes of interpretation adopted by Foscarini, particularly the theory of accommodation and the use of the figurative interpretation of biblical passages to support a reconciliation between Copernicus and Sacred Scriptures.

The first such misinterpretation considered in the *Judicium* concerned the problem of what constitutes a day in the account of the six days of creation contained in the Book of Genesis. This was not of minor importance

as it had been a classic problem of Catholic biblical exegesis from late ancient times. The majority of Catholic exegetes had argued that the term "day" must be interpreted literally, while a minority, represented by such eminent theologians as saint Augustine and his Renaissance follower, Thomas de Vio, Cardinal Caietan, contended that "day" must be understood in an allegorical fashion.⁸ The works of this minority were well known to Foscarini and he defended, in his *Lettera*, a non-literal interpretation of the term "day" in the biblical account of creation.

In the text of the *Lettera* Foscarini had raised serious doubts concerning the true meaning of the "days of creation." As he pointed out, Genesis 1 described the creation of light before all else, including the sun and the moon, and yet the Bible then said that this was the evening and the morning of the first "day." How was this so? Did the terms "day" and "night" have reference to a "rolling" about of celestial light in the heavens and not to the supposed motion of the sun about the earth, Foscarini asked. If one wished to adopt such an interpretation of the "days" of creation and one wished to see them as referring to the circulation of celestial light from a starting point back to the selfsame point, then Foscarini raised a major objection.

Why does the Bible use the words "morning" and "evening" when it describes the "days of creation," words which denote the sun's relationship to the earth? As Foscarini said, "the *Morning* is that time when the Sun begins to wax light, and to rise above the *Horizon* in the East, and becomes visible in our *Hemisphaere*, and *Evening* is the time in which the Sun declines in the West, and approacheth with its light neerer to the other opposite *Horizon* and *Hemisphaere* which is contiguous to this of ours."⁹ Therefore, he concluded, the words "evening," "morning" and "day" must not be seen as speaking "absolutely" of a circulation of celestial light but only according to us ("*secundum nos*") and in respect to us ("*respectu nostri*").

Foscarini's contention that the words of Genesis should be interpreted as speaking from our point of view was explicitly rejected in the *Judicium*. As the author responded, although a day and night does not take place at the same time throughout the universe but only in one or the other hemisphere, we cannot say that this is sufficient proof that the passages in Genesis only refer to us and to appearance, *secundum apparentiam*, and are not in accord with the physical reality of the day.¹⁰ The misuse of this kind of biblical interpretation led Foscarini into a reconciliation which, said the *Judicium*, "wrenches sacred writings and expounds them against the common explica-

tion of the Holy Fathers, which is consonant with the more common, indeed with the most universal and truthful beliefs of almost all the Astronomers.”¹¹

Foscarini’s “false” reconciliation was then demonstrated by selecting certain sections of the *Lettera* which were to be refuted. The biblical passages chosen in the *Judicium* were fundamental in the debate between the Copernicans and the anti-Copernicans as these passages spoke of the earth being “fixed” in some way. The concept of the earth being “fixed” in the universe was understood by many Catholic exegetes as establishing the immobility of the earth. Consequently, the author of the *Judicium* attacked Foscarini’s treatment of Psalms 92:1, “For he hath established the world which shall not be moved” and 103:5, “Who hast founded the earth upon its own bases: it shall not be moved for ever and ever,” as speaking according to appearances and our way of perceiving things, rather than as speaking according to the truth of things.¹²

The attempt to understand these passages according to appearances, *secundum apparentiam*, was rejected in this instance on the grounds that when a real reason or, in the Aristotelian terms used in the *Judicium*, “efficient cause” is assigned to a phenomenon, it is not possible to understand it only according to appearances. “Here however the Holy Spirit assigns a reason or cause for the immobility of the Earth and states that the immobility [of the earth] is founded on the Earth’s own stability.”¹³ The author of the *Judicium* thus made the classic anti-Copernican equation of “stability” with terrestrial “immobility,” an equation found in a number of Counter-Reformation biblical commentaries.¹⁴

Next the author of the *Judicium* dealt with the variety of ways Foscarini had attempted to refute the identification of stability and terrestrial immobility. Foscarini’s attempt on pages 38 and 39 of the *Lettera* to interpret away the “fixity” and supposed “immobility” of the earth by explaining “fixity” and “immobility” as the constancy and stability of the earth’s motions, and not as an absolutely motionless state, was flatly rejected. The *Judicium* based this rejection on the ingenious grounds that the very same things (constancy and stability of motions) could be said of the moon and of the other celestial (planetary) and starry spheres. Consequently, Sacred Scriptures would be saying nothing peculiar about the earth and the point of these specific biblical passages would be lost.¹⁵

This same objection was raised to Foscarini’s interpretation of Ecclesiastes 1:4, “One generation passeth away, and another generation cometh: but the earth standeth for ever,” as referring not to “immobility” in the

usual sense but to remaining in one's proper place in the universe, a place to be understood in the Copernican sense of a rotating and revolving planet third from the central sun. Again it was argued, in the *Judicium*, that to interpret Ecclesiastes 1:4, one of the most important passages in the exegetical debate over the Copernican theory, in Foscarini's way was to deny all specific point to the passage, as the same thing, remaining in one's proper place in the universe, can be said of all things in the cosmos. Why then does Ecclesiastes 1:4 speak only of the earth standing forever? Obviously, according to the author of the *Judicium*, the use of the verb form "stat" ("standeth") in Ecclesiastes 1:4 must signify "motionless" in some way other than Foscarini allowed.¹⁶

The last point raised by the author of the *Judicium* is of particular interest to students of cosmology, for it related to one of the most hotly debated issues of that time, *i.e.* the solidity and hardness of the celestial spheres. As was made clear in the earlier analysis of the physical ideas present in the *Lettera*, Foscarini had explicitly rejected the notions of solidity and rigidity of the heavens in favor of a physical heaven that was composed of a most rare and tenuous matter, fluid in nature and in no way different from the terrestrial elements save for its lower density.¹⁷

In this way Foscarini had allied himself with those who were arguing against features of the Aristotelian cosmos such as the "incorruptibility," "immutability" and "solidity/hardness" of the heavens. Foscarini linked this dissolution of the Aristotelian cosmos with the Copernican astronomy, thus lending confirmation to Amos Funkenstein's suggestion of a special compatibility of heliocentrism with the concept of the homogeneity of the universe.¹⁸ The rejection of the "incorruptible," "immutable" and "hard" celestial spheres was not a uniquely Copernican proposition, as such a rejection was made or implied by non-Copernican scientists and philosophers such as Tycho Brahe, Francesco Patrizi, Christopher Clavius and Christopher Scheiner.

The debate over the nature of the heavens was fought as much in terms of the Bible and the Church Fathers as it was in terms of astronomical observations and philosophical argumentation. The re-emphasis on the Bible and the Fathers by Protestant and Catholic theologians in this period may have led to an increasing willingness to deny Aristotelian concepts of the "hardness" and "incorruptibility" of the heavens.¹⁹ Certain early modern Catholic authors began to use biblical quotations and patristic authorities to support the theory of an "elemental" and "material" heaven, with the

qualities of “fluidity” and “corruptibility.” Cornelius Valerius, professor of Latin at the University of Louvain, in his *Physicae seu de naturae philosophia institutio* (1567) used religious authorities to such a purpose.²⁰

Even more pertinent to the case of Foscarini is the fact that Prince Federico Cesi, head of the Roman Accademia dei Lincei and ally of Galileo, defended the concepts of a “fluid” and “elemental” cosmos in his *De caeli unitate* (1618). Indeed, Cesi may even have written this work as part of a plan to resuscitate the Copernican cause after the Condemnation of 1616. What is equally significant is that Cardinal Bellarmine, to whom Cesi addressed his work, and who was by no means sympathetic to Copernicanism, accepted Cesi’s theses with equanimity and responded that these positions were most certainly true.²¹

Bellarmino had himself broken away from the traditional cosmology as early as the 1570s and the concepts of “fluidity” and “corruptibility” were being defended in Jesuit colleges by the 1620s as “probable” on theological, if not on physical, grounds. By mid-century, these concepts were considered unobjectionable in terms of the rules of the Jesuit Order, as distinct from the proscribed Copernican theses of the diurnal rotation and annual revolution of the earth.²²

A “Mosaic” and “Patristic” cosmology thus arose as a rival to the Aristotelian cosmology of the solid/hard incorruptible heavens. Indeed, anti-Aristotelians such as Campanella were led to proclaim:

That the heavens, and especially the stars, are not composed of a fifth type of matter, but of the four elements or perhaps only a fire, was once taught by all philosophers and by Saints Augustine, Ambrose, Basil, Justin, Cyril, Chrysostom, Theodoret, Bernard in his sermon “Mulier amicta sole,” and by the Master of the Sentences. In Book IV of his *Hexameron* Ambrose proves this from Scripture, where it is said, “The heavens will perish and all will wear out like a garment” [Psalm 101:26–27, Hebrews 1:10–11]. Philoponus says the same thing when he explains the books of Aristotle’s *De caelo* against Aristotle and in favor of the Christians.

Nevertheless, without being condemned, as they say, by the Scriptures, many scholastics say that the heavens are composed of a fifth type of matter. But Ambrose has attacked this in innumerable places as an imaginary and diabolical invention, as have Justin and Basil also.²³

The author of the *Judicium* rejected this rival cosmology. Without reference to then current cosmological debates or to Foscarini’s specific references to the location of comets above the moon and the existence of sunspots (phenomena taken by many to prove the falsity of the tenets of “hardness” and “incorruptibility”) the *Judicium* blithely rejected the new cosmology on

the grounds that it contradicted Job 37:18: "Thou perhaps hast made the heavens with him, which are most strong, as if they were of molten brass." Although largely ignored in the Middle Ages, this text was widely used by seventeenth-century thinkers to uphold the concept of hard celestial spheres.²⁴

Because the Latin Vulgate version of this passage, in contrast to the Hebrew original and the King James translation, presented the adjective "most strong" ("*solidissimi*") in the superlative degree, the passage from Job could easily be used by Catholic thinkers to support the concept of a heaven, or heavens, "most solid."²⁵ By adopting this approach, the author of the *Judicium* attempted to fight fire with fire, upholding the "traditional" cosmology by pointing to corroborative texts in the Bible.

Another example of this approach can be found in Francisco Valles' *De iis quae physicae in libris scripta sunt, sive de sacra philosophia* (1587), where a "Mosaic" or "sacred philosophy" was constructed on the basis of biblical and patristic sources to defend, rather than refute, the traditional Aristotelian cosmology. Valles, physician to Philip II of Spain and a highly esteemed author in his time, denied that heaven might be in any way similar to the earth. To speak of an elemental heaven and of "heavenly water" and "heavenly fire," as some Church Fathers had done, should only be understood metaphorically, with heavenly "elements" having none of the qualities associated with terrestrial fire and water. According to Valles, the heavens must be absolutely pure and immutable, unlike the earth.²⁶ He also defended the notion of the solidity and hardness of the heavenly spheres on the basis of Job 37:18,²⁷ and was acknowledged by none other than Tycho Brahé himself as an authority in this regard before Tycho rejected this tenet.²⁸ Valles saw the defense of the Aristotelian universe with a motionless earth at its center as a religious duty for Catholic thinkers.²⁹

This duty was taken up by the author of the *Judicium*, who defended both the motionless status of the earth and the solidity/hardness of the heavens on biblical grounds. Although Foscarini considered the "fluidity" and "mutability" of the heavens as part of the Copernican cosmology, he never thought these specific theories in need of extended reconciliation with Sacred Scriptures nor had he ever expressly dealt with Job 37:18. However, the author of the *Judicium*, in this case as well, raised the specter of religious unorthodoxy and attempted to refute Foscarini's ordinary methods of defence.

In the case of Job 37:18, the idea that the Bible speaks according to appearances was inadequate, according to the *Judicium*, because the

“solidity” of the heavens is not visibly apparent to us. Therefore this passage cannot be explicated by utilizing such a common exegetical tool.³⁰ The implication was, of course, that Job 37:18 had to be taken in the simple literal sense of affirming the solidity and hardness of the celestial spheres. It is important to emphasize, however, that the author of the *Judicium* did not reject the use of the theory of accomodation and the explication of biblical passages according to appearances *in toto*, but only the specific applications by Foscarini in his pre-Copernican tract. Such exegetical tools were used by the most orthodox Catholic exegetes of the Counter-Reformation era. As an apposite example dealing with the question of the heavenly spheres, the Jesuit exegete Benedict Pererius used the theory of accomodation and exegesis *secundum apparentiam* in his commentary on Genesis to reconcile those biblical passages which seemed to ascribe motion to the planets themselves with the Aristotelian idea of invisible spheres which move the planets.³¹

The intense concern of thinkers such as Francisco Valles and the author of the *Judicium* to defend not only geocentrism and terrestrial immobility but also the traditional terrestrial/celestial dichotomy lends weight to Peter Barker and Bernard Goldstein's bold assertion that the Copernican Revolution has been misinterpreted of late. Arguing against the view that the Copernican Revolution was primarily a shift from a geocentric to a heliocentric cosmos, they have contended that “if a single over-riding issue is to be identified (and any such attempt would surely be an oversimplification) then it is not heliocentrism vs. geocentrism but the debates surrounding the celestial-terrestrial distinction.”³²

The *Judicium* abruptly ended with a summary refutation of Foscarini's denial of the solidity (and hardness) of the spheres. There was no attempt to conclude the work and it has the character of notes or a brief, perhaps prepared for the Congregation of the Holy Office which was in the process of considering the Copernican cosmology. It may even have been prepared for one or more of the Consultors of the Holy Office, men assigned the official task of judging matters of theological error for the Cardinals of the Congregation of the Holy Office. These Consultors were clerics, expert in canon and conciliar law and sacred theology, not in the natural sciences. This may explain the exegetical and theological nature of the *Judicium*, as well as the concomitant neglect of scientific matters and the extremely conservative position taken on the issue of the hardness of the heavens, especially

when contrasted with such theological orthodox and anti-Copernican thinkers as Clavius and Bellarmine.³³

Foscarini, in Rome at the time the *Judicium* was composed, either heard of the work or was shown a copy for he proceeded to compose several versions of a theological defense of his *Lettera*. To protect himself, he forwarded one of these versions, along with a copy of the *Lettera*, to Cardinal Bellarmine, senior theologian of the Church, for his opinion.³⁴ Unfortunately, Foscarini's exegetical arguments in favor of the reconcilability of Copernicus and the Bible did not carry the day. For the moment, Foscarini's opponent conquered and the new cosmology was condemned. However, in the end, the arguments of Copernicus, Foscarini and Galileo were triumphant in terms of reading the Book of Nature and the Book of God.

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Notes

1. S. Pagano, ed. *I documenti del processo di Galileo Galilei* (Vatican City: Pontificia Academia Scientiarum, 1984), pp. 102–103, and M. Finocchiaro, ed. and trans. *The Galileo Affair: A Documentary History* (Berkeley: University of California Press, 1989), pp. 148–150.
2. Recent studies of Foscarini include: E. Boaga, O. Carm., "Annotazioni e documenti sulla vita e sulle opere di Paolo Antonio Foscarini, teologo copernicano (c. 1562–1616)," *Carmelus*, 37 (1990), 173–216; R. J. Blackwell, *Galileo, Bellarmine and the Bible* (Notre Dame: University of Notre Dame Press, 1991); I. A. Kelter, "Paolo Foscarini's *Lettera to Galileo*: The Search for Proofs of the Earth's Motion," *The Modern Schoolman*, 70 (1992), 31–44.
3. D. Berti, "Antecedenti al processo galileiano e alla condanna della dottrina copernicana," *Atti della R. Accademia dei Lincei*, 279, serie terza, *Memorie della classe di scienze morali, storiche e filologiche*, 10 (1881–1882), 57, and S. Drake, *Galileo at Work: His Scientific Biography* (Chicago: University of Chicago Press, 1978), p. 245.
4. D. Berti, "Antecedenti. . .," pp. 72–73. This manuscript belonged to the Accademia dei Lincei, Manuscript Collection Volpicelliano A. c. 151 and is now in the Biblioteca Corsiniana, Rome. For a brief discussion of this collection, see D. Berti, "Antecedenti. . .," pp. 60–67, and his *Copernico e le vicende del sistema copernicano in Italia* (Rome: G. B. Paravia, 1876), pp. 224–227.
5. For discussions of the inquisitorial investigation, see: R. J. Blackwell, *Galileo, Bellarmine and the Bible*, esp. pp. 52–110; M. Bucciantini, *Contro Galileo: Alle origini dell'affaire* (Florence: Leo S. Olschki, 1995), pp. 9–97; R. Feldhay, *Galileo and the Church* (Cambridge: Cambridge University Press, 1995), pp. 1–52; and A. Fantoli, *Galileo: For Copernicanism and for the Church* (Notre Dame: University of Notre Dame Press, 1996), pp. 169–270.

6. D. Berti, "Antecedenti. . .," p. 72.
7. The English translations of passages from the *Judicium* were made by the present author. The original Latin is quoted in the notes. D. Berti, "Antecedenti. . .," p. 72. "*Non potest esse evidenter probabile quod est evidenter contra sacras literas.*" The words *sacras literas* seem to include the Bible and the writings of the Church Fathers, as did the medieval scholastic tradition concerning *scriptura sacra*. B. Vawter, *Biblical Inspiration* (Philadelphia: Westminster Press, 1972), p. 47. Another translation of the *Judicium* can be found in R. J. Blackwell, *Galileo, Bellarmine and the Bible*, pp. 253–254.
8. F. Robbins, *The Hexameral Literature: A Study of the Greek and Latin Commentaries on Genesis* (Chicago: University of Chicago Press, 1912), pp. 20–22, and N. Steneck, *Science and Creation in the Middle Ages: Henry of Langenstein (d. 1397) on Genesis* (Notre Dame: University of Notre Dame Press, 1976), pp. 29–30. On Caietan, see William Wallace's commentary in Thomas Aquinas, *Summa theologiae*, ed. and trans. W. A. Wallace (New York: McGraw-Hill, 1964), 10:225, and R. Jenkins, *Pre-Tridentine Doctrine: A Review of the Commentary on the Scriptures of Thomas de Vio* (London: David Nutt, 1891), pp. 15–16 are useful. Whereas Foscarini also adopted a non-literal interpretation of the "days" of creation, he did not adopt the specific allegorical interpretation proposed by Augustine and Caietan.
9. P. Foscarini, *Lettera . . . sopra l'opinione de' Pittagorici e del Copernico della mobilita della terra e stabilita del sole* (Naples: Lazzaro Scoriggio, 1615), p. 25; T. Salusbury, *Mathematical Collections and Translations: The First Tome* (London: William Heybourn, 1661), p. 484. R. J. Blackwell provides a new translation of the *Lettera* in *Galileo, Bellarmine and the Bible*, pp. 217–251.
10. D. Berti, "Antecedenti. . .," p. 72.
11. D. Berti, "Antecedenti. . .," pp. 72–73: "... tamen ejus conciliatio extorqueat sacras literas et exponat illas contra comunem explicationem Sanctorum Patrum, quae consona est comunior imo comunissimae et verissimae sententiae omnium fere Astronomorum."
12. In the Vulgate Latin translation these Psalms read as follows: "*Etenim firmavit orbem terrae, qui non commovebitur*" and "*Qui fundasti terram super stabilitatem suam, Non inclinabitur in saeculum saeculi.*"
13. D. Berti, "Antecedenti. . .," p. 73: "*Haec explicatio audiri non potest, nam ubi assignatur realis ratio vel causa alicujus effectus, non potest id intelligi secundum apparentiam tantum; ibi autem Spiritus Sanctus assignat rationem immobilitatis Terrae et inquit eam esse quia fundata est super stabilitatem suam.*"
14. I. A. Kelter, "The Refusal to Accomodate: Jesuit Exegetes and the Copernican System," *Sixteenth Century Journal*, 26 (1995), 273–283.
15. D. Berti, "Antecedenti. . .," p. 73.
16. D. Berti, "Antecedenti. . .," p. 73. In the Vulgate Latin translation Ecclesiastes 1:4 reads as follows: "*Generatio praeterit, et generatio advenit; Terra autem in aeternum stat.*"
17. P. Foscarini, *Lettera*, 45–46; T. Salusbury, *Mathematical Collections*, p. 494.

18. A. Funkenstein, *Theology and the Scientific Imagination from the Middle Ages to the Seventeenth Century* (Princeton: Princeton University Press, 1986), pp. 68–70.
19. W. H. Donahue, *The Dissolution of the Celestial Spheres 1595–1650* (New York: Arno Press, 1981), pp. 38–39, and E. Grant, “Were There Significant Differences Between Medieval and Early Modern Scholastic Natural Philosophy? The Case for Cosmology,” *Noûs*, 18 (1984), p. 13.
20. W. H. Donahue, *The Dissolution of the Celestial Spheres*, pp. 39–40.
21. M. A. Biagi and B. Basile, eds. *Scienziati del seicento* (Milan: Riccardo Ricciardi Editore, 1981), pp. 9–38.
22. For an edition and translation of Bellarmine’s cosmologically radical theological lectures, which were delivered at Louvain in the early 1570s, consult U. Baldini and G. V. Coyne, s.j., eds., *The Louvain Lectures (Lectiones Lovanienses) of Bellarmine and the Autograph Copy of his 1616 Declaration to Galileo* (Vatican City: Specola Vaticana, 1984), pp. 3–23. G. Baroncini, “L’insegnamento della filosofia naturale nei collegi italiani dei Gesuiti (1610–1670): Un esempio di nuovo Aristotelismo,” in G. P. Brizzi, ed., *La “Ratio Studiorum”: Modelli culturali e pratiche educative dei Gesuiti in Italia tra cinque e seicento* (Rome: Bulzoni, 1981), pp. 176–178.
23. T. Campanella, o.p., *A Defense of Galileo the Mathematician from Florence*, ed. and trans. R. J. Blackwell (Notre Dame: University of Notre Dame Press, 1994), p. 86.
24. E. Grant, *Planets, Stars, and Orbs: The Medieval Cosmos, 1200–1687* (Cambridge: Cambridge University Press, 1994), pp. 324–363. In the Latin Vulgate translation Job 37:18 reads as follows: “*Tu forsitan cum eo fabricatus es caelos, Qui solidissimi quasi aere fusi sunt.*”
25. E. Rosen, “The Dissolution of the Solid Celestial Spheres,” *Journal of the History of Ideas*, 46 (1985), pp. 24–25. In the King James translation Job 37:18 reads as follows: “Hast thou with him spread out the sky, which is strong, and as a molten looking-glass?”
26. G. Zanier, *Medicina e filosofia tra '500 e '600* (Milan: Franco Angeli, 1983), p. 29, and V. Navarro Brotóns, “The Reception of Copernicus in Sixteenth-Century Spain: The Case of Diego de Zúñiga,” *Isis*, 86 (1995), pp. 60–61.
27. L. Thorndike, *A History of Magic and Experimental Science* (New York: Columbia University Press, 1941), 6:357.
28. E. Rosen, “The Dissolution . . .,” p. 24.
29. G. Zanier, *Medicina e filosofia*, p. 37; V. Navarro Brotóns, “Contribución a la historia del copernicanismo en España,” *Cuadernos Hispanoamericanos*, 95 (1974), p. 9.
30. D. Berti, “Antecedenti. . .,” p. 73.
31. A. Williams, *The Common Expositor: An Account of the Commentaries on Genesis 1572–1633* (Chapel Hill: University of North Carolina Press, 1948), p. 186. See also U. Baldini and G. V. Coyne, s.j., eds., *The Louvain Lectures*, p. 34, n. 40.
32. P. Barker and B. R. Goldstein, “Is Seventeenth-Century Physics Indebted to the Stoics?,” *Centaurus*, 27 (1984), p. 150.

33. J. Langford, *Galileo, Science and the Church* (Ann Arbor: University of Michigan Press, 1971), p. 88, and J. M. Pernicone, *The Ecclesiastical Prohibition of Books* (Washington: Catholic University of America Press, 1932), pp. 55–57.
34. For the Italian version of Bellarmine's response to Foscarini, see Galileo Galilei, *Opere*, ed. A. Favaro (Florence: G. Barbèra, 1929–1939), 12:171–172. For a recent translation, see R. J. Blackwell, *Galileo, Bellarmine and the Bible*, pp. 265–267.