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# Our New Galileo Affair

CRAIG A. FORD JR.
*Saint Norbert College, USA*
craig.ford@snc.edu

*This essay argues that the current Roman Catholic ecclesial climate with respect to its teachings on gender identity and sexual orientation constitutes our own contemporary version of the Galileo Affair. After a consideration of the historical circumstances of the Galileo Affair of the 17th century, I argue not only that the institutional risk factors for a subsequent Galileo Affair have not been adequately mitigated; I argue also that the presence of discourse impasse, preemptive judgments, and exclusionary policies on the part of Church leaders make it likely that we are in the midst of another Galileo Affair.*

**Keywords:** Galileo Affair, homosexuality, transgender, magisterium, LGBTQ, Moral Theology

This article is a cautionary tale built on top of an analogy. It compares two events: one that has ended and one that is still very much ongoing. The one that has ended is known as the Galileo Affair, a series of events that took place between 1610 and 1633 and which led to the trial and condemnation of Italian astronomer, physicist, and engineer Galileo Galilei on charges of heresy by the Roman Catholic Holy Office (also known as the Inquisition). For those unfamiliar with Galileo's story, it may not be immediately obvious why studying the affair would be of interest at all. That is, of course, until one learns the specific charge of heresy on which Galileo was condemned. As history reveals, Galileo was condemned because he believed, on the basis of his scientific research, that the Earth revolved around the sun and that the sun was at the center of what we know now as our planetary system. The church condemned this truth in the name of God on the basis of its historically established teaching that privileged the Ptolemaic theory of the universe—a theory

*Craig A. Ford, Jr., Ph.D. (Boston College), is Assistant Professor of Theology and Religious Studies at St. Norbert College in De Pere, WI. He is also on faculty at the Institute for Black Catholic Studies at Xavier University of Louisiana, the United States' only Catholic Historically Black College or University (HBCU). He writes at the intersection of Queer theory/theology, Black studies, and the Catholic moral tradition. He is the recipient, for the present essay, of the Catholic Theological Society of America's 2022 Catherine Mowry LaCugna Award.*

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that placed the Earth at the center of the "world," with the sun and the other stars and planets revolving around it. Galileo was right. The church, declaring the truth a heresy, was wrong.

The second event—the one that is happening now—characterizes the current Roman Catholic ecclesial climate with respect to official theologies of gender identity and sexuality. Anyone familiar with the situation will recognize that these topics are becoming more divisive. On the one hand, based on their scholarly work, virtually all mainstream scientific bodies—those representing both natural and social scientists—have found homosexuality to be a normal variation within the world as we know it. On the other hand, the Roman Catholic Church in its official teaching finds homosexuality (considered as a sexual orientation) to be problematic insofar as it leads to same-sex sexual acts, which official teaching condemns as acts of "great depravity" that are therefore *ab*normal and *extremely* problematic from a moral perspective.[1] As seen in the seventeenth-century Galileo Affair, the principal grounds for this resistance to the scientific consensus on homosexuality are, once again, historically established teaching. For its part, the conversation on gender identity, particularly transgender identity, is still very much in its nascent stages, but fault lines similar to those we've seen on homosexuality are developing.

Taking notice of these surface similarities, what I propose to do in this article is to see what lessons can be learned for today from a more thorough examination of Galileo's situation in the seventeenth century. The benefit of hindsight, of course, is that what Galileo underwent was regrettable. The reason why I hope to frame this article ultimately as a "cautionary tale" is to avoid another series of such events. There are important observations that can be made—both theological and scientific—that can help us navigate these waters today, regardless of what position one might take on the moral questions related to sexual orientation and gender identity.

To accomplish this, this article is organized into two sections. The first provides an overview of the Galileo Affair, with a particular emphasis on the epistemological dimensions of the affair regarding the negotiation of tensions between emerging scientific insight, on the one hand, and, on the other, doctrines taken to be securely established within the received authoritative tradition of the church. The second section switches to our current context: first, by analyzing the current institutional risk factors that set the stage for a recurrence of the Galileo Affair; second, by showing how the current ecclesial climate is marked by an impasse in discourse, an ominous warning of an impending repetition of the Galileo Affair; and third, by showing how

[1] *Catechism of the Catholic Church*, §2357, https://www.vatican.va/archive/ENG0015/_INDEX.HTM.

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we can incorporate lessons from the first Galileo Affair in order to avoid a second.

### The Galileo Affair

Understanding the Galileo Affair is more complex than is often represented in the popular imagination. Popularly understood, the Galileo Affair is remembered as an exemplary episode in the history of conflict between "science" and "religion," where each domain represents a distinct epistemological method for coming to arrive at truth. Galileo, the champion of science, arrives at his beliefs through evidence and hypothesis testing, and, for its part, religion, represented by the Roman Catholic Church, offers truth on the basis of faith, often mediated through scripture and tradition.

Like most framings, there is an element of truth to this. For example, in the series of events that led to Galileo's first being officially notified in 1616 that he was "to abandon completely the . . . opinion that the sun stands still at the center of the world and the earth moves, and henceforth not to hold, teach, or defend it in any way whatever, either orally or in writing," the group of theologians consulted to authorize such a judgment believed that Copernicus's theory was "formally heretical" and "erroneous in faith."[2] The problem, however, was that none of these theologians had any competency in astronomy, and, perhaps even more incredulously, they were able to complete their deliberations in just four days. As Annibale Fantoli comments, "Obviously, in the unshakable certainty of their philosophical and theological convictions, the qualifiers did not consider it necessary that they have more time in order to pass their judgment. And, as for that, after months in Rome of heated arguments about the case, they must have already had their minds clearly made up on the matter."[3] And later in 1633, despite Galileo's publishing of his famous work *Dialogue Concerning Two Chief World Systems* in the previous year, Galileo's condemnation would come principally from the fact that he did not stick to the terms of the 1616 injunction—not, as one might have expected, from an examination of the particular evidence that Galileo was bringing to light through his research.[4] Judging from these two snapshots alone, Galileo's

[2] "Special Injunction (26 February 1616)," in *The Galileo Affair: A Documentary History*, ed. Maurice A. Finocchiaro (Berkeley: University of California Press, 1989), 147–48, and "Consultants' Report on Copernicanism (24 February 1616)," in *The Galileo Affair*, 146–47, respectively.

[3] Annibale Fantoli, *The Case of Galileo: A Closed Question?* trans. George V. Coyne, SJ (Notre Dame, IN: University of Notre Dame Press, 2012), 99–100.

[4] See Richard Blackwell, "Could There Be Another Galileo Case?," in *Cambridge Companion to Galileo*, ed., Peter Machamer (New York: Cambridge University Press, 1998), 355.

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specific scientific findings were completely irrelevant to the ecclesiastical proceedings to which he was subject. This certainly provides some evidence for the "science vs. religion" framing.

But such a framing would be both inaccurate and simplistic. The actual substance of the Galileo Affair—and furthermore, what makes it interesting from a theological point of view—are the specific *theological* questions that were pushed to the forefront at this time, questions related to theological epistemology and to the proper exercise of magisterial authority in the face of emerging scientific and philosophical insight. What the "science vs. religion" framing overlooks and renders inaccurate and simplistic about the Galileo Affair is the fact that the affair actually featured a rather nuanced internal theological debate about the place of scientific inquiry in understanding divine revelation. Rather than representing separate epistemological domains—which may be a framing that says more about the secularizing society in which we live than about the Galileo Affair itself—scientific and theological discourses were intertwined at every point.

One can see this point clearly by returning to the statement issued by the 1616 group of theologians who consulted on the question of "Copernicanism" in the name of the Holy Office. Their report reads, in part, as follows:

> Propositions to be assessed:
>
> 1. The sun is at the center of the world and completely devoid of local motion.
> Assessment: All said that this proposition is foolish and absurd in philosophy, and formally heretical since it explicitly contradicts in many places the sense of Holy Scripture, according to the literal meaning of the words and according to the common interpretation and understanding of the Holy Fathers and the doctors of theology.
> 2. The earth is not the center of the world, nor motionless, but it moves as a whole and also with diurnal motion.
> Assessment: All said that this proposition receives the same judgment in philosophy and that in regard to theological truth it is at least erroneous in faith.[5]

The important item to note here is the *rationale* upon which these two heliocentric propositions are being condemned. As the theologians write, heliocentrism was not only "absurd and foolish" on the basis of scripture; it was also judged to be so on the basis of philosophy—that is "natural philosophy," or the field of study that roughly corresponded to what we would

[5] "Consultants' Report on Copernicanism," in *The Galileo Affair*, 146.

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call "science" today. There were, then, both theological *as well as scientific* grounds upon which heliocentrism was judged to be false. Those scientific grounds maintained that the Earth was motionless at the center of a complex system of spheres and that the sun, among other objects, circled around it. This theory, initially proposed by Greek mathematician Eudoxus (409–365 BCE) would be famously adopted by Aristotle (383–21 BCE), and then finally given authoritative shape in Ptolemy's astronomy (d. ca. 168 CE).[6]

But where the report engages theological objections, the largest share of them were based on Scripture, and three passages were often produced in order to show that heliocentrism was false. One can read, for example, in Psalms 104:5 that the Lord "set the earth on its foundation, so that it shall never be shaken" (NRSV), which could be taken to imply the earth's immobility. Or, alternatively, to establish the sun's movement, one could turn to Ecclesiastes 1:5, where one reads that "The sun rises and the sun goes down, and hurries to the place where it rises." But perhaps one of the most common passages used was Joshua 10:12-13, in which God performs a miracle in which "the sun stood still, and the moon stopped," which enabled the Israelites to conquer the Amorites.[7] Presumably, according to this logic, the sun would have had to have been moving first in order for God to subsequently stop it. And if this were literally true, then heliocentrism would be false.

As expected, accompanying these scriptural citations (and their interpretations) was a particular hermeneutic—one that was heavily inflected by the Catholic response to the Reformation in the sixteenth century. Against the Reformers' *sola scriptura* impulse and also *for* the purpose of retaining both its temporal and spiritual authority as an institution, the Catholic response to the Reformation at Trent featured a retrenchment of teaching authority within the organization of the church's magisterium. "Furthermore," Trent proclaimed, "in order to restrain petulant spirits, [the Council] decrees that no one, relying on his own skill, shall,—in matters of faith, and of morals . . . presume to interpret the Sacred Scripture contrary to that sense which holy Mother Church—to whom it belongs to judge the true sense and interpretation of the holy Scriptures—hath hold and doth hold."[8] With respect to the aforementioned scriptural citations, that sense was decidedly *not* hospitable to heliocentrism.[9]

[6] See Fantoli, *The Case of Galileo*, 6–11.

[7] See Maurice A. Finocchiaro, introduction to *The Galileo Affair*, 24.

[8] Council of Trent, "Decree Concerning the Edition and the Use of Sacred Books" (Session IV, 08 April 1546)," in *Dogmatic Canons and Decrees of the Council of Trent and Vatican Council I Plus the Decree on the Immaculate Conception and the Syllabus of Errors of Pope Pius IX* (Rockford, IL: Tan Books and Publishers, 1977 [1912]), 10. See also Blackwell, "Could There Be Another Galileo Case?," 353.

[9] Incidentally, it should be noted that both Luther and Melanchthon opposed Copernicanism as well. For his part, Luther regarded Copernicus as a "mad man" who "wanted to turn astronomy on its head." See Fantoli, *The Case of Galileo*, 45.

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This retrenchment of authority can be clearly seen in an episode contemporaneous with the Galileo Affair, but one not actually involving Galileo. Instead, the protagonist for Copernican heliocentrism would be Carmelite Provincial Antonio Foscarini, who in 1615 would argue in his own *Letter of the Reverend Father Master Antonio Foscarini, Carmelite, on the Opinion of the Pythagoreans and of Copernicus Concerning the Mobility of the Earth and the Stability of the Sun and the New Pythagorean System of the World, etc.* that all ostensibly troublesome scriptural passages could be reconciled with the Copernican system.[10] Affirming the position of the church against this would be the famous Robert Cardinal Bellarmine, who, fifteen years earlier in 1600, had condemned another priest—this one a Dominican named Giordano Bruno— to be burned at the stake for adhering to Copernicanism.[11] In response to Foscarini, who had sent a copy of his book to Bellarmine to examine, Bellarmine would write that Copernicus's theory was "a very dangerous thing" and that both ancient and modern scriptural commentators agreed that "the sun is in heaven and turns around the earth with great speed, and that the earth is very far from heaven and sits motionless at the center of the world."[12] In justifying this view, Bellarmine would not only make reference to Trent, but he would also effectively maintain that the infallibility of Scripture on this point was secured *ex parte dicentis* (on the part of the speaker). This designation, in contrast to maintaining infallibility *ex parte objecti* (as regards the topic), based the infallibility of these anti-Copernican scriptural interpretations on the claim that the author of Scripture is the Holy Spirit. "And so," Bellarmine would continue, "it would be heretical to say that Abraham did not have two children and Jacob twelve, as well as to say that Christ was not born of a virgin, because both are said by the Holy Spirit through the mouth of the prophets and the apostles."[13] Such a posture made it clear that Bellarmine thought that the prospect of proving heliocentrism true was an impossibility:

> I say that if there were a true demonstration that the sun is at the center of the world and the earth in the third heaven, and that the sun does not circle the earth but the earth circles the sun, then one would have to proceed with great care in explaining the Scriptures that appear contrary; and say rather that we do not understand them than that what is demonstrated is false . . . but in regard to the sun and the earth, no wise man has any need to correct the error, since he clearly experiences that the earth stands still and that the

[10] See Fantoli, *The Case of Galileo*, 78ff.

[11] See Fantoli, *The Case of Galileo*, 49–52.

[12] "Cardinal Bellarmine to Foscarini (12 April 1615)," in *The Galileo Affair*, 67–68.

[13] "Cardinal Bellarmine to Foscarini (12 April 1615)," in *The Galileo Affair*, 68.

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> eye is not in error when it judges that the sun moves, as it is also not in error when it judges that the moon and the stars move.[14]

A year later in 1616, this same Cardinal Bellarmine would be dispatched by Pope Paul V, later to report that Galileo had been officially notified that "the doctrine attributed to Copernicus . . . is contrary to Holy Scripture and cannot be defended or held."[15]

Now, in fairness to critics of Copernicus's theory, there were a number of difficulties. Three of them are important for our discussion here. First, while Copernicus's theory had the advantage of simplicity in the calculation of planetary motions, Copernicus lacked the physics that would confirm his work. Such proof of heliocentrism would arrive only with Newton's discoveries more than a century later in 1687.[16] Second, and more directly relevant to our argument here, by the time Copernicus would step on to the scene, the Ptolemaic system had itself been so thoroughly established that it itself had served as the *scientific* grounding for the theological objections raised by Bellarmine and others. Thus it was possible, as we saw previously, for the theologians consulted in 1616 to say that Copernicus's theory was "foolish and absurd in philosophy" *as well as* "formally heretical." So, while it could be said that the Catholic Church was wrong to eventually condemn Galileo, and even while it can also rightly be maintained that such a condemnation was irresponsibly derived, it cannot be said that the orientation of the Catholic Church at the time was either strictly fideist or antiscientific. For if it is true that Galileo was condemned on the basis of the book of Joshua, it is equally true that he was condemned on the basis of Aristotle's *On the Heavens*. "One can, therefore, conclude," Fantoli writes, "that at the basis of the certainty with which in 1616 the Church rejected Copernicanism (with an intention that it be definitive) was not only the theology of the epoch, but also, and first of all, the philosophy that was so closely linked to the theology as to constitute an inseparable whole."[17]

A third set of difficulties was epistemological, and by extension, was potentially the most difficult to overcome. The first, as noted by Michael Finocchiaro,

[14] "Cardinal Bellarmine to Foscarini (12 April 1615)," in *The Galileo Affair*, 68–69. For more commentary on this point, see Fantoli, *Galileo: For Copernicanism and for the Church*, trans. George V. Coyne, SJ (Vatican City: Vatican Observatory Foundation, 1994), 173–80, and Fantoli, *The Case of Galileo*, 78–84. See also Ernan McMullin, "Galileo on Science and Scripture," in *Cambridge Companion to Galileo*, 283.

[15] "Cardinal Bellarmine's Certificate (26 May 1616)," in *The Galileo Affair*, 153.

[16] See Fantoli, *Galileo*, 469.

[17] Fantoli, *The Case of Galileo*, 120. See also, McMullin, "Galileo on Science and Scripture," in *Cambridge Companion to Galileo*, 272.

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had to do with the epistemological status of the senses. After all, we don't perceive the Earth to be moving, nor do we perceive the sun as motionless (because it appears to rise and set). Consequently, these observations may very well count in favor of something like a Ptolemaic system.[18] But even if the senses should be doubted on the grounds that the world may at times appear differently from how it really is—which would be espoused by anyone who was familiar with optical illusions, as Bellarmine and others certainly were—there would still remain the question of what standard of evidence would need to be met in order for one to be justified in revising one's beliefs. It is this question that would occupy Galileo for the majority of his career, both in his scientific work as well as in what could very easily be classified as his theological-exegetical work.

Born in Pisa in 1564, Galileo was quickly recognized as a young man with extraordinary intellectual talent, and, in 1589 at the age of twenty-five, was appointed lecturer in mathematics at the University of Pisa.[19] By this point in time, the Aristotelian-Ptolemaic system was beginning to undergo difficulties, mainly because the Aristotelian doctrine of the immobility of the heavens was being challenged by the appearance of a number of comets and the emergence of a nova in 1572. Discrepancies such as these would be famously engaged by Danish astronomer Tycho Brahe (1546–1601) who, in response, would incorporate some of Copernicus's calculations into his theory, but would still leave the Earth at the center of what was called the "world." Galileo would remain dissatisfied with Brahe's system for the entirety of his career, which according to Fantoli, would have "appeared to [Galileo] as a compromise without any real physical meaning."[20] In 1597, Galileo would write to Johannes Kepler, whose laws of planetary motion would also be of signal importance for the eventual collapse of the Ptolemaic system, that he had "already come many years ago to the opinion of Copernicus," though it would not be until March 1610, with the publication of the *Starry Messenger*, that Galileo would be fully convinced of the truth of Copernicus's system.

Because of a number of Galileo's scientific observations—among which included his discovery of Jupiter's moons and the phases of Venus—the possibility of refuting Galileo on scientific grounds was becoming more difficult. Yet it was exactly at this point when scientific objections to Galileo's work were becoming weaker that theological and scriptural objections were rising in prominence. The problem, however, was that Galileo was not a theologian.

[18] See Finocchiaro, introduction to *The Galileo Affair*, 5–10.

[19] For these biographical details I follow Peter Machamer, in the introduction to the *Cambridge Companion to Galileo*, 1–26, and Fantoli, *The Case of Galileo*, 5–31.

[20] Fantoli, *The Case of Galileo*, 22–23.

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Nevertheless, this did not stop Galileo from writing in the area of scriptural interpretation. It was this decision, as history would reveal, that would place him on a direct and unfortunate collision course with both the Congregation of the Holy Roman Office, established in 1552 by Paul III to "control all matters concerning faith and morals," and with the Congregation of the Index, which had as its goal "preventing the distribution of printed material containing ideas contrary to Catholic faith and morals."[21]

Essentially at issue was how to interpret a statement that all parties acknowledged as true, namely, "When scripture can be taken in a literal sense, it should not be interpreted differently."[22] From one angle, this statement can be taken in the way exemplified in the theological argument of Cardinal Bellarmine, who maintained that the divine authorship of the Scriptures, buttressed no doubt by the popularity of the Ptolemaic and by the other epistemological concerns raised previously, guaranteed heliocentrism's falsity. Naturally, Galileo was alarmed by such an interpretation, and so he put himself to the task of articulating an alternative sense of the statement, a feat that he would accomplish in two essays published in 1615: first, in his "Considerations on the Copernican Opinion," and second, in his "Letter to the Grand Duchess Christina."

As both documents unfold, Galileo articulates three principles of a theological epistemology that negotiates emerging scientific insight, on the one hand, with the existence of scriptural divine revelation, on the other, with a special eye toward specifying hermeneutical principles for cases where emerging scientific insight is taken to conflict with what is believed to be divinely revealed in Scripture. The first is the "unity of truth" principle, which maintains that truth, though it may be discovered through multiple avenues, ultimately has only one origin, namely God, and thus cannot be contradictory. "For," Galileo explains, "the Holy Scripture and nature derive equally from the Godhead, the former as the dictation of the Holy Spirit and the latter as the most obedient executrix of God's orders."[23] So, based on this principle alone, it cannot be the case *both* that the sun moves (as one might find, for example, in the book of Joshua) *and* that it does not (as Galileo's experiments were suggesting). Scientific discovery and Scripture *are* and *must be* ultimately compatible. But when there is a presumed conflict between science and Scripture on the basis

[21] See Fantoli, *The Case of Galileo*, 73–74.

[22] Fantoli, *The Case of Galileo*, 53. Here Fantoli is quoting anti-Copernican Aristotelian philosopher Ludovico delle Colombe, who published his *Against the Motion of the Earth* in 1611.

[23] "Letter to the Grand Duchess Christina," in *The Galileo Affair*, 93.

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of a question that *can* be investigated scientifically in nature, Galileo maintains that the *priority* for determining the truth of the matter should be given to the scientists, with the recognition that Scripture may need to be reinterpreted thereafter.

This observation, in fact, is the basis for both the second and third principles. In cases where a given scientific theory putatively in conflict with a received interpretation of Scripture has *not* been proven, Galileo maintains essentially that the question should not be foreclosed by an interpretation of Scripture unfavorable to the scientific theory. In other words, the question should remain open until the fact of the matter can be discovered. This is the second principle.

This brings us to the third principle, which applies to those cases where scientific investigation *has proven* or otherwise has demonstrated that a received interpretation of Scripture is no longer viable. In such cases, Scripture must be reinterpreted appropriately. As Galileo writes:

> I do not think one has to believe that the same God who has given us senses, language and intellect would want to set aside the use of these and give us by other means the information we can acquire with them, so that we would deny our senses and reason even in the case of those physical conclusions which are placed before our eyes and intellect by our sensory experiences or by necessary demonstrations.[24]

In support of these latter two principles, Galileo adduces a number of reasons. The first is the acknowledgment of a simple domain distinction: the purpose of Scripture is to provide one with all the information one needs to know to obtain eternal salvation. The purpose of science, by contrast, is to ascertain the nature and function of what God has created. It is encapsulated in the famous dictum, which Galileo takes from a certain Cardinal Baronio with whom he was in contact, that "the intention of the Holy Spirit is to teach us how one goes to heaven and not how heaven goes."[25] The second, as Galileo saw it, was that such an epistemological approach saves the church from potential embarrassment, namely the embarrassment of espousing something as divinely revealed that is, or very well could be, proven false. Galileo observes, "It would perhaps be wise and useful advice not to add without necessity to the articles pertaining to salvation and to the definition of the faith, against the firmness of which there is no danger that any valid and effective

[24] "Letter to the Grand Duchess Christina," in *The Galileo Affair*, 94.
[25] "Letter to the Grand Duchess Christina," in *The Galileo Affair*, 96.

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doctrine could ever emerge."[26] A third reason has to do with preserving the authority of Scripture. After all, if the Holy Spirit is taken to be the author of the Scriptures—a observation that Galileo never contested—and if the Holy Spirit is infallible *ex parte dicentis*, then the only way to save the authority of the Scriptures given the unity of truth principle would be to reinterpret the Scriptures in a way that agrees with the science when the science has disqualified a given scriptural interpretation. This harmonized reading, Galileo would write, would be the "true meaning" of Scripture:

> I should think that it would be proper to ascertain the facts first, so that they could guide us in finding the true meaning of Scripture; this would be found to agree absolutely with demonstrated facts, even though *prima facie* the words would sound otherwise, since two truths cannot contradict each other.[27]

The most important reason Galileo would have for his point of view, however, was that his view was not his own. It was actually Augustine's first. Augustine writes:

> There should be no doubt about the following: whenever the experts of this world can truly demonstrate something about natural phenomena, we should show it not to be contrary to our Scripture; but whenever in their books they teach something contrary to the Holy Writ, we should without any doubt hold it to be most false and show this by any means we can; and in this way we should keep the faith of our Lord . . . in order not to be seduced by the verbosity of false philosophy or frightened by the superstition of fake religion.[28]

[26] "Letter to the Grand Duchess Christina," in *The Galileo Affair*, 97. More pointedly, Galileo makes it clear that *another* embarrassment would befall the church *ad extra*, namely the scorn of nonbelievers:

> Now, it is very scandalous, as well as harmful and to be avoided at all costs, that any infidel should hear a Christian speak about these things as if he were doing so in accordance with Christian Scripture and should see him err so deliriously as to be forced into laughter . . . For how can they believe our books in regard to the resurrection of the dead, the hope of eternal life, and the kingdom of heaven, when they catch a Christian committing an error about something they know very well, when they declare false his opinion taken from those books, and when they find these full of fallacies in regard to things they have already been able to observe or to establish by unquestionable argument? ("Letter to the Grand Duchess Christina," 112).

[27] "Letter to the Grand Duchess Christina," in *The Galileo Affair*, 104.

[28] "Letter to the Grand Duchess Christina," in *The Galileo Affair*, 101, quoting Augustine, *On the Literal Interpretation of Genesis*. A more recent translation of this passage can be found in Augustine, *The Literal Meaning of Genesis*, Vol. 1, trans. John Hammond Taylor, SJ (New York: Paulist Press, 1982), 1.21.

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Such words could be taken to maintain, at the very least, Galileo's third principle. But Augustine confirms the second as well. Concerning the second, Augustine writes:

> In matters that are obscure and far beyond our vision, even in such as we may find treated in Holy Scripture, different interpretations are sometimes possible without prejudice to the faith we have received. In such a case, we should not rush in headlong and so firmly take our stand on one side that, if further progress in the search of truth justly undermines this position, we too fall with it. That would be to battle not for the teaching of Holy Scripture but for our own, wishing its teaching to conform to ours, whereas we ought to wish ours to conform to that of Sacred Scripture.[29]

Writing on the significance of the argument Galileo gives, Fantoli observes that Galileo formulates "the principle of the autonomy of the study of nature"—an autonomy that nevertheless celebrates an intimacy with the Christian faith insofar as it is "autonomous scientific research that will allow a better understanding of the obscure meaning of certain biblical passages concerning nature."[30] Galileo's position was also strengthened insofar as he was not proposing a scriptural hermeneutics *de novo*, but was instead drawing on one of, if not on *the*, most authoritative theologian in the ancient Western Christian world. Galileo's third principle also had the welcome fortune of harmonizing, at least in theory, with the position of Cardinal Bellarmine, whom, as we observed previously, maintained that if Copernicus's theory could be shown to be true, then, "One would have to proceed with great care in explaining the Scriptures that appear contrary; and say rather that we do not understand them than that what is demonstrated is false."

But, of course, this was not the situation that Galileo found himself in. With Copernicus's theory unproven, Galileo was essentially arguing on the strength of his second principle—the one that was meant to apply to situations where the received scriptural interpretation had not yet been shown to be false. And here Galileo's argument amounted to a number of prudential principles associated with the virtue of maintaining an open mind. "I should think," he would write in one place, "it would be very prudent not to allow anyone to commit and in a way to oblige scriptural passages to have to maintain the truth of any physical conclusions whose contrary could ever be proved

[29] Augustine, *The Literal Interpretation of Genesis*, 1.18.37.

[30] Fantoli, *The Case of Galileo*, 85.

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to us by the senses and demonstrative and necessary reason."[31] After all, "If the earth *de facto* moves, we cannot change nature and arrange for it not to move. But we can rather easily remove the opposition of Scripture with the mere admission that we do not grasp its true meaning. Therefore, the way to be sure not to err is to begin with astronomical and physical investigations, and not with Scriptural ones."[32] Applying this directly to his own situation, Galileo would write even more strongly in this prudential key:

> It is true that it is not the same to show that one can save the appearances with the earth's motion and the sun's stability, and to demonstrate that these hypotheses are really true in nature. But it is equally true, or even more so, that one cannot account for such appearances with the only commonly accepted system. The latter is undoubtedly false, while it is clear that the former, which can account for them, may be true.[33]

Here, Galileo is making an argument that comes as close to "leveling" with one's opponent as one could possibly expect. If it had become clear—as it had, by the time—that Ptolemy's astronomy was inadequate (something that even Brahe's system conceded), then one should at least not foreclose the possibility of trying out a potentially viable candidate. This was Galileo's defense of heliocentrism—a way not only of defending Copernicus's theory but also a way for him to provide an alternative interpretation to the commonly agreed upon principle, "When scripture can be taken in a literal sense, it should not be interpreted differently." And here, as we've seen before, Galileo follows Augustine, where "literal" does not have its modern meaning, but instead where "literal" means following the intention of Scripture's divine author in harmony with what is shown to exist in creation and studied by scientists.[34]

As we know, it did not work. After the warning that Galileo would receive from the Vatican in 1616 not to persist in holding heliocentrism to be true, Galileo would nevertheless, by his own admission, continue to engage

[31] "Letter to the Grand Duchess Christina," in *The Galileo Affair*, 96. See also, Galileo's words a little later (104):

> I should think that it would be proper to ascertain the facts first, so that they could guide us in finding the true meaning of Scripture; this would be found to agree absolutely with demonstrated facts, even though prima facie the words would sound otherwise, since two truths cannot contradict each other.

[32] "Considerations on the Copernican Opinion," in *The Galileo Affair*, 82.

[33] "Considerations on the Copernican Opinion," in *The Galileo Affair*, 83.

[34] See John Hammond Taylor SJ, "Introduction," in Augustine, *The Literal Meaning of Genesis,* 10. Also, Augustine, *De Doctrina Christiana*, trans. Edmund Hill OP (New York: New City Press, 1996), III.34–41.

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Copernicanism "hypothetically."[35] Sixteen years later in 1632, Galileo would publish his famous work *Dialogue Concerning Two Chief World Systems*, which compared Ptolemy's and Copernicus's systems, with the latter's emerging—to any trained reader, at least—as the victor. This would result in Galileo's trial for heresy, beginning on April 12, 1633, and concluding on June 21, 1633. Unable to convince the authorities in his case that he had not overstepped the bounds of Bellarmine's injunction given to him in 1616—and even after offering to amend any potentially offensive portions of his *Dialogue* in order to effectively weaken the pro-Copernicus stance of the book—Galileo formally recanted his espousal of heliocentrism:

> I, Galileo . . . seventy years of age . . . swear that I have always believed, I believe now, and with God's help I will believe in the future all that the Holy Catholic and Apostolic Church holds, preaches, and teaches. However, whereas, after having been judicially instructed with injunction by the Holy Office to abandon completely the false opinion that the sun is the center of the world and does not move and the earth is not the center of the world and moves . . . I wrote and published a book in which I treat of this already condemned doctrine and adduce very effective reasons in its favor, without refuting them in any way.. . . Therefore . . . with a sincere heart and unfeigned faith I abjure, curse, and detest the above-mentioned errors and heresies . . . and I swear that in the future I will never again say or assert, orally or in writing, anything which might cause a similar suspicion about me.[36]

According to the Holy Office, Galileo was "vehemently suspected of heresy," which, despite how provisional this charge may appear to the contemporary reader, was actually a serious crime reserved for those who "occasionally utter propositions that offend listeners"; for "those who distributed books on the index"; for "those who married while in holy orders"; and for "those who listen to sermons by heretics."[37] The punishments were equally serious. In addition to recanting his heliocentric view, Galileo was sentenced to formal imprisonment—starting at age seventy, no less. The *Dialogue*, his book, was banned. And last, Galileo was forbidden to publish in the future.[38] The effect of Galileo's conviction of vehement suspicion of heresy was effectively to silence Galileo for the rest of his life because any subsequent infraction, even in the case of subsequent repentance, would have resulted in his hanging and the

[35] "In the month of February, 1616, the Lord Cardinal Bellarmine told me that, as the opinion of Copernicus, if adopted absolutely, was contrary to Holy Scripture, it must neither be held nor defended but that it could be taken and used hypothetically," quoted in Fantoli, *Galileo*, 403.

[36] "Galileo's Abjuration (22 June 1633)," in *The Galileo Affair*, 292.

[37] Finocchiaro, introduction to *The Galileo Affair,* 13–15.

[38] See Machamer, introduction to the *Cambridge Companion to Galileo*, 23–24.

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burning of his cadaver.[39] A week after the conclusion of his trial, Galileo was permitted to go to Siena under house arrest to the residence of an old friend, Archbishop Ascanio Piccolomini, soon to be allowed to finish out his sentence at his own home near Florence six months after that. Galileo could receive no visitors, and he was permitted to leave his home only to attend mass at a nearby church.[40] Galileo died in 1642.

### Today's Galileo Affair

Nearly 400 years have elapsed since Galileo was condemned by the Holy Roman Office (now known under its current name, the Dicastery for the Doctrine of the Faith). It is my belief, however, that the initial wound opened up by the Galileo Affair has not been closed. Far from it, that wound has continued to fester precisely as the unresolved theological problem of how to negotiate emerging scientific insight that has implications for beliefs or doctrines that the Roman Catholic Church considers to be authoritative. This is coming to a head with respect to the topics of gender identity and sexual orientation. What I want to do in this section is to show more clearly how the contours of our contemporary situation are analogous to those that resulted in the trial and condemnation of Galileo, a task all the more urgent in face of the declaration that, according to the Vatican, the Galileo Affair is definitively closed.

### John Paul II's 1992 Speech and the Institutional Risk Factors for Another Galileo Affair

On October 31, 1992, John Paul II delivered a speech to the Pontifical Academy of Sciences, an event that took place roughly ten years after John Paul II had assembled a commission to study the Galileo Affair.[41] Though it is possible to see the document as a vindication of Galileo, the reality of the document is, upon closer inspection, a partial vindication of Galileo at best—one unfortunately marred by a mischaracterization of Galileo's actions as well as by an attitude that can hardly be regarded as forthcoming with respect to the church's actions both during and after the affair.[42] Rather than clarity and a

[39] See Fantoli, *The Case of Galileo*, 206–07.

[40] See Fantoli, *Galileo*, 463; also Fantoli, *The Case of Galileo*, 215–16.

[41] John Paul II, Address to the Plenary Session on The Emergence of Complexity in Mathematics, Physics, Chemistry, and Biology (October 31, 1992), https://www.pas.va/en/magisterium/saint-john-paul-ii/1992-31-october.html.

[42] See, for example, Alan Cowell, "After 350 Years, Vatican Says Galileo Was Right: It Moves," *New York Times*, October 31, 1992, https://www.nytimes.com/1992/10/31/world/after-350-years-vatican-says-galileo-was-right-it-moves.html.

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path away from the Galileo Affair what instead emerges is a series of risk factors for a return toward it.

Let's begin where John Paul II gets things right. As the reader will see, no fewer than three times in his speech does John Paul II correctly identify the "errors of the theologians of the time" as thinking that "our understanding of the physical world's structure was, in some way, imposed by the literal sense of Sacred Scripture."[43] Indeed, the theologians failed to recognize "the formal distinction between Sacred Scripture and its interpretation," which should have led them to "examine their own criteria for scriptural interpretation."[44] Such recognitions are, to be sure, the benefit of hindsight. John Paul II even extends some credit toward Galileo, who "showed himself to be more perceptive in this regard than the theologians who opposed him"—even going so far as to recognize Galileo's "Letter to the Grand Duchess Christina" as a "short treatise on biblical hermeneutics."[45]

By John Paul II's own admission, then, it would seem that Galileo did two jobs successfully in the seventeenth century, the work of a scientist as well as the work of a theologian. Yet this is not exactly what we find. In John Paul II's words, Galileo committed his own error:

> Like most of his adversaries, Galileo made no distinction between the scientific approach to natural phenomena and a reflection on nature, of the philosophical order, which that approach generally calls for. That is why he rejected the suggestion made to him to present the Copernican system as a hypothesis, inasmuch as it had not been confirmed by irrefutable proof. Such, therefore, was *an exigency of the experimental method* of which he was the inspired founder.[46]

The nature of this error appears to be that Galileo misrepresented the status of the Copernican theory as demonstrably proven when in fact it was not, with the result that Galileo is said to have been unfaithful to the requirements of the scientific method. In terms of the epistemological principles specified in the previous section of this article, John Paul II is accusing Galileo of believing that heliocentrism should have been considered under principle three, where the

[43] John Paul II, Address to the Plenary Session on The Emergence of Complexity in Mathematics, Physics, Chemistry, and Biology, 12.

[44] John Paul II, Address to the Plenary Session on The Emergence of Complexity in Mathematics, Physics, Chemistry, and Biology, 5 (emphasis removed), and 9, respectively.

[45] John Paul II, Address to the Plenary Session on The Emergence of Complexity in Mathematics, Physics, Chemistry, and Biology, 5.

[46] John Paul II, Address to the Plenary Session on The Emergence of Complexity in Mathematics, Physics, Chemistry, and Biology, 5 (italics in original).

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scientific theory in question is proven, rather than under principle two, where a given theory has not yet been demonstrated. Such an accusation against Galileo, however, is false. What Galileo *believed* was that Copernicus's theory best explained the phenomena he studied. He did *not* believe that he had proof of it. Otherwise, why would Galileo plead in his 1615 writings for church authorities to have more patience before condemning a view that had the possibility of being discovered as true? This is a classic case of misrepresentation on the part of the Vatican.[47]

Though clearly counterfactual in view of the historical record with respect to Galileo, this distinction that John Paul II nevertheless names between the "scientific approach to natural phenomena," on the one hand, and "a reflection on nature, of the philosophical order," on the other, is still worth pursuing because it emerges as especially important in John Paul II's analysis. Science, the former pope maintains, aims at "a rigorous description and formalization of the data [of] experience," whereas philosophy, by contrast, is the "study of the global meaning of the data of experience." Where science studies phenomena, philosophy "considers phenomena just as much as their interpretation."[48] Importantly, this disciplinary boundary is porous: the scientist is, and often must, work in both disciplinary registers. That is, the scientist not only answers the question of *what* something is or of *how* something functions, but—in order to do such a procedure well—the scientist must also have some sort of interpretative framework that can confer *meaning* onto what they are encountering. "In his effort to establish a rigorous description and formalization of the data or [*sic*] experience, the scientist is led to have recourse to *metascientific concepts*, the use of which is, as it were, demanded by the logic of his procedure."[49] Among the most obvious examples of such "metascientific concepts" are certain moral categories, such as "bad" or "good," or indeed any other set of concepts that provide a direct vantage point onto the metaphysical or normative contours of one's own overarching worldview.

This point should not be controversial. Consider the field of biomedicine, where, for the sake of argument, a scientist is studying the sorts of microbes

[47] Fantoli writes, "In agreement with many Galileo scholars, I do not think that [Galileo] ever claimed to have certain proofs of Copernicanism . . . If anything, the accusation would be that he had erred by considering as valid an argument that was not so. But this is an error of judgment (found not infrequently even in the greatest of modern scientists), not an indication of infidelity to the experimental method" (*The Case of Galileo*, 244).

[48] John Paul II, Address to the Plenary Session on The Emergence of Complexity in Mathematics, Physics, Chemistry, and Biology, 2–3.

[49] John Paul II, Address to the Plenary Session on The Emergence of Complexity in Mathematics, Physics, Chemistry, and Biology, 2.

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in the human body. Assuming that the scientist has the appropriate instruments, he or she should be able to observe any number of microbes present in the human body. The ability, however, to make any judgments about whether the microbes present in a given body are good or bad depends on a number of "metascientific criteria," among which are the evaluative criteria involved in discerning a state of overall health and well-being, considerations that might involve not only judgments about the individual patient but also could potentially involve social or environmental judgments as well.

Applied to the Galileo Affair, it is possible for one to see how Galileo's scientific observations clashed with the reigning metascientific concepts of the day, namely those associated with the Ptolemaic system that incorporated perceptual observations (like the apparent nonmovement of the Earth) alongside certain Greek ideas around perfection and movement. Galileo's observations, in other words, challenged not only how to make sense of the planetary system, it challenged ideas about the *metaphysical* structure of the known universe—a fact that could account for a nontrivial amount of the resistance that Galileo received. To compare it to the biomedical example, Galileo's observations were equivalent to rejecting the received wisdom about what constituted health in bodies—ideas that were held for millennia. These older, and in some senses more basic, ideas were not going down without a fight. And a fight is what Galileo got.

Once again, the former pope's analysis seems correct. Scientific inquiry and philosophy find their interests intertwined through the involvement of any number of "metascientific" concepts, and part of the crisis of the Galileo Affair was this breakdown in negotiating the metascientific implications of Galileo's scientific observations and theories. When one adds theology to the fields with an interest in both scientific and metascientific concepts—given theology, after all, also carries both metaphysical and normative implications *and* was also doubtlessly crucial to the mismanagement of the Galileo Affair, as John Paul II readily admits—one gets a complete picture of the academic disciplines implicated in the Galileo Affair.

But how to avoid another Galileo Affair? This is where the wound of the Galileo Affair, rather than being closed, is actually still open. Echoing Galileo's own convictions in his 1615 letter to the Grand Duchess, John Paul II begins by articulating the unity-of-truth principle. "There exist two realms of knowledge," John Paul II writes, "one which has its source in Revelation and one which reason can discover by its own power. To the latter belong especially the experimental sciences and philosophy. The distinction between the two realms of knowledge ought not to be understood as opposition."[50] Theology,

[50] John Paul II, Address to the Plenary Session on The Emergence of Complexity in Mathematics, Physics, Chemistry, and Biology, 12.

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though unnamed in this quote, is the field of study that works most closely with the former font, that is, revelation as manifested in both Scripture and the tradition of the church. Together, all of these disciplines are subject to the principle.

From here, John Paul II makes three recommendations. The first calls for "a clarification on the part of all disciplines of knowledge" that "obliges them to define more clearly their own field, their approach, their methods, as well as the precise import of their conclusions."[51] And, to this end, John Paul II does propose such a boundary, the clearest of which is the commendation that "in fact, the Bible does not concern itself with the details of the physical world, the understanding of which is the competence of human experience and reasoning."[52] This is helpful as far as it goes—and no doubt, were this heeded in the seventeenth century, the Galileo Affair as we know it might never have happened—but theology is also much more than biblical studies, and, it is moreover possible, especially in philosophy as well as theology, to implicate metascientific concepts without recourse to the Bible. It does seem, therefore, that such clarification on disciplinary boundaries is necessary; it's just not clear that John Paul II gives us a clear idea of what those boundaries are or about how they are to be maintained.

Beyond this recommendation, John Paul II makes a prudential one aimed principally at those who discharge pastoral roles within the church:

> By virtue of her own mission, the Church has the duty to be attentive to the pastoral consequences of her teaching. Before all else, let it be clear that this teaching must correspond to the truth. But it is a question of knowing how to judge a new scientific datum when it seems to contradict the truths of faith. The pastoral judgement which the Copernican theory required was difficult to make, in so far as geocentrism seemed to be a part of scriptural teaching itself. It would have been necessary all at once to overcome habits of thought and to devise a way of teaching capable of enlightening the people of God. Let us say, in a general way, that the pastor ought to show a genuine boldness, avoiding the double trap of a hesitant attitude and of hasty judgement, both of which can cause considerable harm.[53]

This passage is worth quoting at length for several reasons. The first reason has to do with the recognition of how high the stakes of the question were for the church during the seventeenth century. Rightly, John Paul II observes that advocating for the truth is a non-negotiable mandate within the life of the

[51] John Paul II, Address to the Plenary Session on The Emergence of Complexity in Mathematics, Physics, Chemistry, and Biology, 6.

[52] John Paul II, Address to the Plenary Session on The Emergence of Complexity in Mathematics, Physics, Chemistry, and Biology, 12.

[53] John Paul II, Address to the Plenary Session on The Emergence of Complexity in Mathematics, Physics, Chemistry, and Biology, 7.

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church, but, at the same time, the path toward the truth in the context of the Galileo Affair was not clear for church leaders, especially insofar as accepting Galileo's recommendations would not have involved simply revising scientific theories, but indeed would have also involved supplanting one fundamental way of viewing the known universe—one that moreover seemed to be securely expressed in the Bible—for another that only made sense to a handful of scientists. And then there was the additional problem of communicating all of this to the wider church, the vast majority of whom were not scientists themselves. John Paul II's observation—"It would have been necessary all at once to overcome habits of thought and to devise a way of teaching capable of enlightening the people of God"—seems almost euphemistic in view of this.

But the second reason why this passage is important is related to John Paul II's initial recommendation: like the recommendation to clarify disciplinary boundaries, it is not clear what John Paul II's pastoral approach looks like in action. He counsels, once again wisely, that those serving in pastoral roles are to avoid "the double trap of a hesitant attitude and of hasty judgement, both of which can cause considerable harm," but it is not clear how this is supposed to be done without more guidance—guidance that is not forthcoming in this speech.

So, we encounter John Paul II's third recommendation, which essentially institutionalizes the process by which another Galileo Affair might be avoided. That recommendation is to commend the requisite discernment process associated with controversial emerging scientific insight to the Pontifical Academy of Sciences, the same audience to whom John Paul II is making his speech. John Paul II writes, "And *the purpose of your Academy* is precisely *to discern and to make known*, in the present state of science and within its proper limits, *what can be regarded as an acquired truth* or at least as enjoying such a degree of probability that it would be imprudent and unreasonable to reject it."[54] From one angle, this is an important step forward. As we observed, one of the problems with the Galileo Affair in 1616 was that Galileo was condemned by a number of theologians who had no particular competency in astronomy. Even at the 1633 trial where Galileo was forced to recant, Galileo's theological examiners were not interested in his scientific findings per se; they were instead interested in whether he had violated the injunction not to promote Copernicanism. To deputize an organization of scientists to review scientific findings, therefore, is most definitely an improvement over the church's protocol in the Galileo Affair.

[54] John Paul II, Address to the Plenary Session on The Emergence of Complexity in Mathematics, Physics, Chemistry, and Biology, 13 (emphasis in original).

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Presumably, then, it would be the academy that would put into practice the other recommendations that John Paul II advanced. It is they who would attempt to maintain appropriate disciplinary boundaries—something presumably reflected in the academy's stated goal not only of "stimulating an interdisciplinary approach to scientific knowledge," but also of "fostering interaction between faith and reason and encouraging dialogue between science and spiritual, cultural, philosophical and religious values." And it would also be they who would attempt to discern how best to chart a path forward with respect to pastoral application and communication related to questions at the intersection of faith and science—something once again hinted at by their goal of "promoting education and the public's understanding of science."[55]

The problem, however, is that this body, however scientific, ultimately serves at the pleasure of the Vatican. It is fully financed by the Vatican. Both its permanent and honorary members, while chosen "on the basis of their eminent original scientific studies and of their acknowledged moral personality, without any ethnical or religious discrimination," are all appointed "for life by sovereign act of the Holy Father." And all modifications of the organization's statutes are reserved for the pope, under whose "exalted and direct protection" the academy is placed.[56] Any solutions, then, to the problems of opacity that institutionalizing these procedures may solve are negated by the very large problem of what is classically a potential conflict of interest. The scientist may be able to go far in the discernment of truth related to emerging scientific insight, but only as far as the Vatican will allow. One cannot readily see how this differs from the situation in which Galileo found himself in the seventeenth century.

Recognition of the aforementioned limitations gives us some of the reasons for believing that the Catholic Church is still at an institutional risk for another Galileo Affair. First, as previously noted and as recognized by other commentators, the Vatican has still declined to tell the complete truth about the history of the Galileo Affair, and at times has actively worked to obstruct the telling of the truth about the Galileo Affair.[57] Second, when the Vatican acknowledges the need for reform, the process for enacting those reforms is vague and not clearly delineated. And third, at the point where one might turn to an institutional organization to help manage some of the difficulties associated with

[55] Both of these quotes are taken from the Pontifical Academy's website (https://www.pas.va/en/about/goals.html).

[56] All of these citations are drawn from the Pontifical Academy's statutes (https://www.pas.va/en/about/statutes.html).

[57] These tales are transmitted in Fantoli, *The Case of Galileo*, 215–47.

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negotiating potentially controversial scientific insight within the context of a faith tradition, one is confronted instead with a conflict of interest that reflects the institutional contours of the original Galileo Affair.

John Paul II concludes his 1992 speech with an image that manages to encapsulate all the promise as well as the perils of the previous discussion. He begins by observing what he calls "two modes of development" related to human beings. One dimension is horizontal and it "involves culture, scientific research, and technology." The second, corresponding by contrast to "what is deepest in the human being," is the vertical dimension that allows the person, "transcending the world and transcending himself," to situate themselves "in relation to his origin and end." This image, potentially even cruciform, gives a spatial grounding to what one might see as the goals of science and faith, respectively—two modes of knowledge: one helping us understand the world around us; the other helping us relate all that we know to the creator that both grounds and transcends it all. "In this twofold direction, horizontal and vertical," John Paul II summarizes, "man realizes himself fully as a spiritual being and as *homo sapiens*"—the human who seeks to know.[58] As Galileo's story unfolded, one began to see just how difficult charting within the horizon of this twofold direction is. The wisdom of John Paul II's analysis is that, like that of Galileo, he agreed that the work of scientists should be prioritized, especially in any investigations corresponding to the horizontal dimension of humankind's existence, especially when an investigation has implications for the vertical dimension. "The scientist who is conscious of this twofold development and takes it into account contributes to the restoration of harmony," John Paul II writes. But unlike that of Galileo, the shape that such an investigation takes is not *necessarily* shielded from certain peremptory actions of church officials that could effectively repeat the seventeenth-century affair. Consequently, the harmony that John Paul II calls for, the harmony that he invests within the work of the scientist, is already the work of a certain *type* of scientist—the scientist who serves at the pleasure of the Vatican. Here lies the risk of another Galileo Affair.

### Discourse Impasse on Sexual Orientation and Gender Identity

The next matter to consider, after naming the institutional risk factors for another Galileo Affair, is to assess whether relations between the hierarchical magisterium—that is, the teaching authority within the Roman Catholic Church that resides with its bishops, including the pope—and what we might

[58] John Paul II, Address to the Plenary Session on The Emergence of Complexity in Mathematics, Physics, Chemistry, and Biology, 14.

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call, for lack of a better term, the "mainstream scientific community," resemble the relationship that existed during the Galileo Affair. If the relationship conditions are similar—if, that is, one can detect a discourse impasse similar to the one that took place in the seventeenth century—then we will have reason to suspect that the Galileo Affair might repeat itself. And this, we will see, is exactly what is happening with respect to the topics of sexual orientation and gender identity.

Unlike the interdisciplinary context of the Galileo Affair where the questions at stake were those dealing with physics, mathematics, and astronomy, church teaching related to sexual orientation and gender identity concern the subject matter of human flourishing. In this regard, interested disciplines include not only theology and philosophy but also the social sciences—fields of study that ask questions such as "How do we live?," "How do we organize?," "What do we believe?," "Who gets to decide?," and "How do we make the world better, kinder, and more just?"[59]—as well as the natural sciences, to the extent that these fields also shed light on what it may mean for human beings to live well.

For its part, official church teaching related to sexual orientation and gender identity has consolidated around a particular account over the last fifty years.[60] Foundational to this account is a dimorphic account of sexual

[59] This definition as well as the aforementioned questions I have borrowed from the National Institute of Social Sciences are from "What Is 'Social Science?,'" https://www.socialsciencesinstitute.org/what-is-social-science.

[60] There are many resources available that consolidate these positions, for which I provide a summary in the following paragraphs. For ecclesial resources related to homosexuality, the reader can consult the following documents from the Dicastery for the Doctrine of the Faith [formerly the Congregation for the Doctrine of the Faith], *Persona Humana* (November 7, 1975), https://www.vatican.va/roman_curia/congregations/cfaith/documents/rc_con_cfaith_doc_19751229_persona-humana_en.html, §8; *Letter to the Bishops of the Catholic Church on the Pastoral Care of Homosexual Persons* (October 1, 1986), https://www.vatican.va/roman_curia/congregations/cfaith/documents/rc_con_cfaith_doc_19861001_homosexual-persons_en.html; *Some Considerations Concerning the Response to Legislative Proposals on the Non-Discrimination of Homosexual Persons* (July 24, 1992), https://www.vatican.va/roman_curia/congregations/cfaith/documents/rc_con_cfaith_doc_19920724_homosexual-persons_en.html; *Considerations Regarding Proposals to Give Legal Recognition to Unions Between Homosexual Persons* (June 3, 2003), https://www.vatican.va/roman_curia/congregations/cfaith/documents/rc_con_cfaith_doc_20030731_homosexual-unions_en.html; and, most recently, *Responsum of the Congregation for the Doctrine of the Faith to a Dubium Regarding the Blessing of the Unions of Persons of the Same Sex* (March 15, 2021), https://press.vatican.va/content/salastampa/en/bollettino/pubblico/2021/03/15/210315b.html. The most recent document concerning homosexuality from the United States Conference of Catholic Bishops is *Ministry to Persons*

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difference and a correspondingly binary account of gender. More plainly, this means that there exist only male persons and female persons who are destined, in turn, for socialization only as men and women, respectively. This constellation of beliefs constitutes gender essentialism, and it sits as the basis for the denial, in official Catholic teaching, of the legitimacy of transgender identity and nonbinary gender identities. Consequently, gender identity outside of the gender binary is taken to be morally illegitimate, and any sort of gender transition is taken to constitute an improper use of freedom to defy the design of the creator.

Beyond gender essentialism, these two genders are understood to be complementary, meaning that they exhibit, at the ontological level, a polarity that is expressed in a number of contrasting dispositions and behaviors based in one's gender that are nevertheless intended by God's design for cooperation with and mutual fulfillment in the other gender (specifically in one's married spouse). This complementarity is taken to be realized physiologically in the different roles that men and women have in the process of sexual reproduction, and it is further taken to be deepened through the cultural expression of a number of gender-based roles and dispositions that are also divinely ordained: men are disposed for leading, and women for nurturing, for example.[61] The most pervasive piece of evidence taken for the existence of this gender complementarity, however, is the frequency of opposite-sex sexual desire that rests at the root of other desires for intimate union, both romantic and sexual among many persons. For these reasons, same-sex attraction

*with a Homosexual Inclination: Guidelines for Pastoral Care* (November 14, 2006), https://www.usccb.org/resources/ministry-to-persons-of-homosexual-iinclination_0.pdf. Teachings on homosexuality are also summarized in the *Catechism of the Catholic Church*, https://www.vatican.va/archive/ENG0015/__P85.HTM, §2357–2359, https://www.vatican.va/archive/ENG0015/_INDEX.HTM. The sole document issued from the Vatican concerning transgender and gender nonbinary identities is from the Dicastery for Culture and Catholic Education [formerly the Congregation for Catholic Education], *"Male and Female He Created Them": Towards a Path of Dialogue on the Question of Gender Theory in Education* (February 2, 2019), https://www.vatican.va/roman_curia/congregations/ccatheduc/documents/rc_con_ccatheduc_doc_20190202_maschio-e-femmina_en.pdf. The USCCB Committee on Doctrine recently released a doctrinal note that has relevance for transgender and gender nonbinary persons seeking medical care during their transitions; see "On the Moral Limits to Technological Manipulation of the Body" (March 20, 2023), https://www.usccb.org/resources/Doctrinal%20Note%202023-03-20.pdf.

[61] See John Paul II, *Mulieris Dignitatem* (August 15, 1988), https://www.vatican.va/content/john-paul-ii/en/apost_letters/1988/documents/hf_jp-ii_apl_19880815_mulieris-dignitatem.html. Here the vocation of women is directed essentially toward motherhood or virginity, see §17–22.

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is understood to be "objectively disordered" to the extent that the associated sexual desires are directed toward the improper sexual "object," that is, not toward the opposite gender. Same-sex sexual activity, for its part, is regarded as "intrinsically evil" because such acts are regarded as being incapable of moral goodness in themselves, nor are they regarded as capable of direction toward any morally good end. This constellation of beliefs, based in gender complementarity, constitutes the basis for moral opposition to homosexuality in official church teaching.

Using the categories widely in circulation today, the upshot of church teaching related to sexual orientation is that, from a moral perspective, sexuality can be expressed validly only within a heterosexual (marital) relationship. This ordering is moreover divinely ordained and, on these grounds, is taken to be the "natural" way that human beings are to live sexually. Homosexual sexual activity is thus prohibited.

> Basing itself on Sacred Scripture, which presents homosexual acts as acts of grave depravity, tradition has always declared that "homosexual acts are intrinsically disordered." They are contrary to the natural law. They close the sexual act to the gift of life. They do not proceed from a genuine affective and sexual complementarity. Under no circumstances can they be approved.[62]

Though there is much that can be discussed about the substance of these teachings themselves, the primary import of these teachings for our discussion is found in *how* the hierarchical magisterium defends these views. On grounds similar to those involved in the seventeenth-century Galileo Affair, today the hierarchical magisterium invokes the precedent of historically established teaching in order to defend its views. Same-sexual acts, in view of the hierarchical magisterium, are ultimately wrong because they contradict both Scripture and tradition. This is the common refrain. It was mentioned, for example, in the 1986 document *On the Pastoral Care of Homosexual Persons*, in which the Dicastery for the Doctrine of the Faith maintains, "As in every moral disorder, homosexuality prevents one's own fulfillment and happiness by acting contrary to the creative wisdom of God . . .Thus, the church's teaching today is *in organic continuity with the Scriptural perspective and with her own constant tradition*."[63] It can also be located in the Dicastery's direct condemnation of same-sex unions: "Sacred Scripture condemns homosexual

[62] *Catechism of the Catholic Church*, §2357. The *Catechism* here quotes *Persona Humana*, §8.

[63] Congregation for the Doctrine of the Faith, *On the Pastoral Care of Homosexual Persons*, §7–8 (emphasis mine).

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acts 'as a serious depravity.'. . . This same moral judgment is found in many Christian writers of the first centuries and is *unanimously accepted by Catholic tradition*."[64]

The same pattern emerges when one considers official teaching related to transgender and gender nonbinary identities. Here, because concerns about transgender identity in theology are of fairly recent vintage, there is no invocation of a constant teaching. Nevertheless, invocations of tradition and Scripture build toward a similar end. Writing in reference to contemporary gender studies curricula, the Dicastery for Education maintains that while these curricula "allegedly convey a neutral conception of the person and of life, yet [they] in fact reflect an anthropology *opposed to faith and right reason*."[65] And later, in defense of its gender essentialist position that a binary conception of gender ontologically distinguishes men from women (thereby ruling out the legitimacy of gender transition at a metaphysical level), the Congregation writes, that "Holy Scripture reveals the wisdom of the Creator's design."[66]

Now, strictly speaking, the natural and social sciences have no specific role to play in conversations about scriptural interpretation and tradition, but they can offer a great deal of insight into what one might take to be "natural," both in the minimal sense of what one might take to be "typical" behavior observed in a given species and in the animal kingdom more broadly, and in the fuller sense of behavior that is nonpathological or "normal." They can also be useful to the extent that—as the hierarchical magisterium recognizes—the existence of homosexuality implicates psychological questions.[67] To this end—and to take only same-sex sexual activity as an example—natural scientists have been pointing out how same-sex sexual behavior is normal both in human and nonhuman species. One prominent American ecologist and evolutionary biologist, Joan Roughgarden, writes, "By 1984, male homosexual behavior had been reported in sixty-three mammalian species. A 1999 review featured detailed descriptions of male and female homosexual behavior in over one hundred mammalian species."[68] And among our closest evolutionary siblings,

[64] Dicastery for the Doctrine of the Faith, *Consideration Regarding Proposals to Give Legal Recognition to Unions Between Homosexual Persons*, 4 (emphasis mine).

[65] Dicastery for Culture and Catholic Education, *Male and Female He Created Them*, 1 (emphasis mine). The Congregation is here quoting from a 2011 public address of Benedict XVI.

[66] Dicastery for Culture and Catholic Education, *Male and Female He Created Them,* 32.

[67] The *Catechism*, for example, mentions that, for homosexuality, "its psychological genesis remains largely unexplained" (§2357). To this extent, then, the testimony of psychology is helpful in clarifying the warrant for official church teaching in this area.

[68] Joan Roughgarden, *Evolution's Rainbow: Diversity, Gender, and Sexuality in Nature and People* (Berkeley: University of California Press, 2013), 134. See also Anne Fausto-Sterling, *Sexing the Body: Gender Politics and the Construction of Sexuality*, updated ed. (New York: Basic Books, 2020).

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primates, homosexual activity also occurs. Here's what happens among the bonobos, our evolutionary siblings living mainly in central Africa:

> In bonobo female same-sex encounters, the two females face each other. One clings with arms and legs to her partner, who lifts her off the ground. The females rub their genital swellings side to side, then grin and squeal during orgasm, a form of mating called genito-genital rubbing (GG-rubbing). In bonobo male same-sex encounters, the two males rub humps: standing back to back, one male rubs his scrotum against the buttocks of the other. Another position, penis-fencing, involves two males hanging face to face from a branch while rubbing their erect penises together. Bonobos don't have anal intercourse, but they do have sporadic oral sex, hand massages of the genitals, and lots of intense French kissing. With all these choices of sexual activity, bonobos have even developed a set of hand signals to tell each other what they'd like. These signals are used in both between-sex and same-sex sexual encounters.[69]

Same-sex sexual activity is also found among both male and female members of other primate species, including the Japanese macaques; lemurs; squirrel monkeys; white-faced capuchins; the savanna, hamadryas, and gelada baboons; hanuman lagurs; and gorillas.[70]

For their part, social scientists have echoed the judgment that homosexuality is normal since at least 1973, when homosexuality was officially removed from the *Diagnostic and Statistical Manual of Mental Disorders*. In fact, in a 2009 resolution, the American Psychological Association maintained both that "same-sex sexual and romantic attractions, feelings, and behaviors are normal and positive variations of human sexuality regardless of sexual orientation identity," and furthermore that the organization "encourages advocacy groups, elected officials, mental health professionals, policy makers, religious professionals and organizations, and other organizations to seek areas of collaboration that may promote the wellbeing of sexual minorities."[71] And just a year earlier in 2008, the American Psychological Association, together with the American Academy of Pediatrics, the American Association

[69] Roughgarden, *Evolution's Rainbow*, 144.

[70] See Roughgarden, *Evolution's Rainbow*, 138–48. Though a number of studies have focused on human animals alone in an attempt to discern a biological basis to homosexuality, a 2019 study has found that non-heterosexual sexuality in humans is too complex to predict on the basis of genetics alone. See Ganna et al., "Large-Scale GWAS Reveals Insights into the Genetic Architecture of Same-Sex Sexual Behavior," *Science* 365, no. 6456 (August 30, 2019), https://www.science.org/doi/10.1126/science.aat7693.

[71] American Psychological Association, "Resolution on Appropriate Affirmative Responses to Sexual Orientation Distress and Change Efforts" (August 5, 2009), https://www.apa.org/about/policy/sexual-orientation.

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of School Administrators, the American Counseling Association, the American Federation of Teachers, the American School Counselor Association, the American School Health Association, the Interfaith Alliance Foundation, the National Association of School Psychologists, the National Association of Secondary School Principals, the National Association of Social Workers, the National Education Association, and the School Social Worker Association of America wrote, "The idea that homosexuality is a mental disorder or that the emergence of same-sex attraction and orientation among some adolescents is in any way abnormal or mentally unhealthy has no support among any mainstream health and mental health professional organizations."[72]

One witnesses a similar divide between the hierarchical magisterium and mainstream natural and social scientific communities when the topic of transgender gender identity arises. Speaking on the existence of the gender binary, the Vatican—this time writing through the Dicastery for Catholic Education—will maintain that "the data of biological and medical science shows that 'sexual dimorphism' (that is, the sexual difference between men and women) can be demonstrated scientifically by such fields such as genetics, endocrinology and neurology."[73] But things are so not clear on the other side, at least if we take "demonstrate" to have the seriousness it had to Cardinal Bellarmine during the seventeenth-century Galileo Affair. "A body's sex is too complex. There is no either/or," claims Anne Fausto-Sterling.[74] Later she writes:

> Knowledge about the embryology and endocrinology of sexual development, gained during the nineteenth and twentieth centuries, enables us to understand that human males and females all begin life with the same structures; complete maleness and femaleness represent the extreme ends of a spectrum of body types. That these extreme ends are the most frequent has lent credence to the idea that they are not only natural (that is, produced by nature) but normal (that is, they represent both a statistical and

[72] Just the Facts Coalition, *Just the Facts about Sexual Orientation and Youth: A Primer for Principals, Educators, and School Personnel* (2008), 5, https://www.apa.org/pi/lgbt/resources/just-the-facts.pdf.

[73] Dicastery for Culture and Catholic Education, *Male and Female He Created Them*, 24.

[74] Fausto-Sterling, *Sexing the Body*, 3. The purpose of the text, now in its second edition, was to provide a biological basis for an argument originally made by feminist philosopher Judith Butler, who believed that not only our ideas about gender, but also our ideas about sex, were socially constructed. Butler writes, "In other words, 'sex' is an idea construct which is forcibly materialized through time. It is not a simple fact or static condition of the body, but a process whereby regulatory norms materialize 'sex' and achieve this materialization through a forcible reiteration of norms" (Judith Butler, *Bodies That Matter* [New York: Routledge, 1993], xii).

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> social ideal). Knowledge of biological variation, however, allows us to conceptualize the less frequent middle spaces as natural, although statistically unusual.[75]

As for sexual identity, so for gender identity, where there also exist persons whose lives exist in similar "less frequent middle spaces." These are the lives of transgender and gender nonbinary people—people who typically experience gender incongruence, which is the recognition that their perceived gender identity does not match the gender assigned to them at birth. In many cases, gender incongruence is accompanied by the presence of various forms of psychological stress, including depression, anxiety, and suicide ideation. This psychological distress constitutes the experience of gender dysphoria.[76] Addressing whether a transgender identity necessarily constitutes a psychological abnormality, the American Psychological Association writes:

> A psychological state is considered a mental disorder only if it causes significant distress or disability. Many transgender people do not experience their gender as distressing or disabling, which implies that identifying as transgender does not constitute a mental disorder. For these individuals, the significant problem is finding affordable resources, such as counseling, hormone therapy, medical procedures and the social support necessary to freely express their gender identity and minimize discrimination.[77]

For many people, the symptoms associated with gender dysphoria are resolved through a process called transitioning, which corresponds to steps taken by an individual to identify with their perceived (rather than assigned) gender identity. Some methods of transition are reversible—such as adopting new pronouns, cross-dressing, and, in some cases, taking medicines that delay the changes of puberty (known as "puberty blockers")—whereas others are irreversible, such as gender-affirming surgical procedures.[78] Though the science is still developing, a recent meta-analysis of twenty-seven studies,

[75] Fausto-Sterling, *Sexing the Body*, 81.

[76] American Psychiatric Association, "What Is Gender Dysphoria?" (August 2022), https://www.psychiatry.org/patients-families/gender-dysphoria/what-is-gender-dysphoria.

[77] American Psychological Association, "Transgender People, Gender Identity, and Gender Expression" (2014), https://www.apa.org/topics/lgbtq/transgender. Importantly, this recognizes that not all people who experience gender dysphoria will later identify as transgender.

[78] There is a lively debate at present about the reversibility of certain hormonal treatments, especially in the context of adolescent transgender patient care. For more information, see WPATH (World Professional Association for Transgender Health)'s *Standards of Care*, 8th edition, https://www.tandfonline.com/doi/pdf/10.1080/26895269.2022.2100644, chap. 6; and Emily Bazelon, "The Battle over Gender Therapy," *New York Times*

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pooling nearly 7,929 transgender patients who underwent any type of (irreversible) gender-affirming surgery, found that the pooled prevalence of regret after gender-affirming surgery was 1 percent.[79] In other words, transitioning is helping people.

In the face of this evidence, the hierarchical magisterium is delegitimizing efforts that would either normalize the existence of transgender persons or the means by which they transition by condemning what it calls "gender ideology." As defined by Pope Francis, this "gender ideology":

> Denies the difference and reciprocity in nature of a man and a woman and envisages a society without sexual differences . . . This ideology leads to education programs and legislative enactments that promote a personal identity and emotional intimacy radically separated from the biological difference between male and female. Consequently, human identity becomes the choice of the individual, one which can change over time.[80]

Positioned this way, gender ideology sits at the root of all efforts to normalize gender transition (both in its reversible and irreversible forms); it sits at the roots of all efforts to raise any challenges to a binary conception of sex and gender; and it sits at the root of all legislative changes in society that would seek to protect transgender and gender nonbinary people from discrimination and other harms. Gender ideology is simply any idea that might undermine current official teachings related to gender identity.

What we are witnessing is the *sine qua non* of any future Galileo Affair: discourse impasse. In this case, this discourse impasse is occurring between the emerging insights of the scientific community concerning sexual orientation and gender identity, on the one hand, and on the other, the claims of the hierarchical magisterium denying the validity of those insights on the grounds that the normalization of homosexuality and transgender identity is not possible on the basis of Scripture and tradition. This is similar to the seventeenth-century Galileo Affair to the extent that Galileo's espousal of Copernicus's heliocentrism was also condemned by the hierarchical magisterium on the basis of Scripture and the beliefs of the church witnessed throughout history.

*Magazine*, June 15, 2022, https://www.nytimes.com/2022/06/15/magazine/gender-therapy.html.

79 Bustos, et al., "Regret after Gender-affirmation Surgery: A Systematic Review and Meta-analysis of Prevalence," *Plastic and Reconstructive Surgery—Global Open* 9, no. 3 (March 2021): e3477, https://pubmed.ncbi.nlm.nih.gov/33968550/.

80 Pope Francis, *Amoris Laetitia: On Love in the Family* (March 19, 2016), https://www.vatican.va/content/dam/francesco/pdf/apost_exhortations/documents/papa-francesco_esortazione-ap_20160319_amoris-laetitia_en.pdf, §56.

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This is not, however, where the similarity ends. The similarity also extends to the fact that the hierarchical magisterium is not only denying the validity of these claims on *theological* grounds; they are also doing so on grounds that they are taking to be *scientific*. In one case, the science is actually, in view of mainstream scientists, both outdated and harmful. Acting out of the conviction that homosexuality is in part a psychological problem, some Catholic dioceses in the United States—like the Archdiocese of Denver—continue to encourage persons experiencing same-sex attraction to undergo "conversion" or "reparative" therapy.[81] These "therapies," which are regarded by the American Psychological Association as "umbrella terms that include sustained efforts to discourage or change behaviors related to LGBTQ+ identities and expressions" are now commonly called "sexual orientation change efforts" or "gender identity change efforts" in order to "differentiate them from evidence-based forms of therapy."[82] Beyond the Archdiocese of Denver, the United States Conference of Catholic Bishops continues to make cautious recommendations of the practice.[83]

When one returns to the topic of gender identity, for which the science is comparatively more nascent, we are witnessing on the part of some dioceses the practice of dismissal of the experiences of transgender and gender-nonbinary people. Take, for example, the judgment coming out of the Diocese of Arlington under the heading "The Witness of Science":

> We know from biology that a person's sex is genetically determined at conception and present in every cell of the body. Because the body tells us

[81] Jason Salzman, "Colorado's Ban on 'Conversion Therapy' Won't Stop the Catholic Church," *Rewire News Group*, January 28, 2019, https://rewirenewsgroup.com/article/2019/01/28/colorados-ban-on-conversion-therapy-wont-stop-the-catholic-church/. For past recommendations, see United States Conference of Catholic Bishops, "Always Our Children: A Pastoral Message to Parents of Homosexual Children and Suggestions for Pastoral Ministers" (1997), https://www.usccb.org/resources/Always%20Our%20Children.pdf. This document was superseded by "Ministry to Persons with a Homosexual Inclination: Guidelines for Pastoral Care" (2006), https://www.usccb.org/about/doctrine/publications/upload/ministry-to-persons-of-homosexual-iInclination.pdf. Both documents, however, provide cautious recommendations of the practice, the former on page 6, and the latter on page 7.

[82] American Psychological Association, "Banning Sexual Orientation and Gender Identity Change Efforts: Suggested Discussion Points with Resources to Oppose Transgender Exclusion Bills," https://www.apa.org/topics/lgbtq/sexual-orientation-change.

[83] See "Ministry to Persons with a Homosexual Inclination," https://www.usccb.org/about/doctrine/publications/upload/ministry-to-persons-of-homosexual-iInclination.pdf, 7. This practice was also recommended in the earlier version of this document, "Always Our Children," https://www.usccb.org/resources/Always%20Our%20Children.pdf, 6.

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> about ourselves, our biological sex does in fact indicate our inalienable identity as male or female. Thus, so-called "transitioning" might change a person's appearance and physical traits (hormones, breasts, genitalia, etc.) but does not in fact change the truth of the person's identity as male or female, a truth reflected in every cell of the body. Indeed, no amount of "masculinizing" or "feminizing" hormones or surgery can make a man into a woman, or a woman into a man.[84]

Such a reaction is not limited to the actions of specific dioceses. Commenting on the document *Male and Female He Created Them*, Paul Schutz writes:

> Despite its strong stance against the validity of transgender experience . . . the instruction also calls for dialogue, wherein involved parties listen, reason, and propose. Yet the CCE [Congregation for Catholic Education] simultaneously rejects science that contravenes complementarity and appears open only to research that aims "to achieve a deeper understanding of the ways in which sexual difference between men and women is lived out in a variety of cultures."[85]

This leads him to the conclusion that "the dismissal of transgender experience as rebellion against nature serves only to end dialogue before it begins and again employs an anthropology that contradicts contemporary science and reaches well beyond what Genesis can provide."[86]

We are also witnessing on the part of the hierarchical magisterium policies that are actually aimed at expelling gay and lesbian people from Catholic institutions, such as schools and churches. Today, LGBTQ+ teachers in Catholic schools are fired simply for being in same-sex relationships,[87] and in some dioceses, persons who have lived openly in same-sex marriages can be, under certain circumstances, denied a Catholic funeral.[88] Moreover, according

[84] Most Rev. Michael F. Burbidge, "A Catechesis on the Human Person and Gender Ideology," Diocese of Arlington, August 12, 2021, https://www.arlingtondiocese.org/bishop/public-messages/2021/a-catechesis-on-the-human-person-and-gender-ideology/.

[85] Paul Schutz, "En-Gendering Creation Anew: Rethinking Ecclesial Statements on Science, Gender, and Sexuality with William R. Stoeger, SJ," *Horizons* 48 (2021): 34–68, at 51.

[86] Schutz, "En-Gendering Creation Anew," 54.

[87] Michael J. O'Loughlin, "Firing of L.G.B.T. Catholic Church Workers Raises Hard (and New) Questions," *America*, February 13, 2018, https://www.americamagazine.org/politics-society/2018/02/13/firing-lgbt-catholic-church-workers-raises-hard-and-new-questions.

[88] Most Rev. Thomas J. Paprocki, "Decree Regarding Same-Sex 'Marriage' and Related Pastoral Issues," June 12, 2017, https://newwaysministryblog.files.wordpress.com/2017/06/same-sex-marriage-policies-decree-6-12-2017.pdf.

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to the United States Conference of Catholic Bishops, gays and lesbians "should not be encouraged" to come out publicly;[89] and, in some interpretations of church documents, they are not supposed to have ministry leadership positions that deal with sexuality, even if they take a neutral stance with respect to the teaching on same-sex sexual acts.[90]

The situation is even more dire with respect to transgender and gender nonbinary people. Take here one of the most recent examples: the document "Catechesis and Policy on Questions Concerning Gender Theory," released by the Archdiocese of Milwaukee in January 2022. The decree prohibits, among other things, recognizing transgender persons with their chosen pronouns; it prohibits lettings transgender people use the bathrooms and locker rooms corresponding to their chosen gender; it prohibits dressing in ways that reflect the transgender person's identity; and it forbids transgender students from participating on the sports teams corresponding to their chosen gender.[91] Most infamously, in the Diocese of Marquette, MI, any person who has "attempted gender transitioning" or who "publicly identifies as a different gender than his or her biological sex" may not be "Baptized, Confirmed, or received into full communion in the Church" unless they have repented.[92] Nor may transgender persons present themselves for Holy Communion, nor receive the Anointing of the Sick, nor may they serve as lectors, as extraordinary ministers of Holy Communion, as catechists, or as members of pastoral or finance councils unless they have "repented."[93] These policies are not scarce:

[89] United States Conference of Catholic Bishops, "Ministry to Persons with a Homosexual Inclination, https://www.usccb.org/resources/ministry-to-persons-of-homosexual-iInclination_0.pdf.

[90] Dicastery for the Doctrine of the Faith, *Pastoral Care of Homosexual Persons*, §14–18.

[91] Archdiocese of Milwaukee, "Catechesis and Policy on Questions Concerning Gender Theory" (January 20, 2022), https://www.archmil.org/ArchMil/attachments/2022GenderTheoryfinal.pdf. This document joins a number of others just like it, coming out of places like the Diocese of Marquette, "Created in the Image and Likeness of God: An Instruction on Some Aspects of the Pastoral Care of Persons with Same-Sex Attraction and Gender Dysphoria" (July 29, 2021), https://dioceseofmarquette.org/pastoral-messages-instructions-and-resources; and the Archdiocese of St. Louis, "Compassion and Challenge" (June 1, 2020), https://www.archstl.org/Portals/0/Pastoral%20letters/Compassion%20and%20Challenge%20-%20letter%20size.pdf. For reporting around this issue, see Brian Roewe, "Milwaukee Archdiocese Takes Aim at Trans Persons in Sweeping New Policy," *National Catholic Reporter*, January 26, 2022, https://www.ncronline.org/news/people/milwaukee-archdiocese-takes-aim-trans-persons-sweeping-new-policy.

[92] Diocese of Marquette, "Created in the Image and Likeness of God," §IV.A.4, https://files.ecatholic.com/32488/documents/2022/10/07-29-21%20Instruction-Created%20in%20the%20Image%20and%20Likeness%20of%20God1.pdf?t=1665591344000.

[93] Diocese of Marquette, "Created in the Image and Likeness of God," §IV.B and IV.D.

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by one count, though they vary in severity of language and length, there are more than thirty of these sorts of documents just in the United States alone.[94]

The shape, then, of the discourse impasse concerning sexual orientation and gender identity is not just being fought alongside the fault line between mainstream scientists and the hierarchical magisterium; we are also witnessing intensified efforts to segregate LGBTQ+ people from Catholic spaces—a not insignificant echo of the dismissal that Galileo also experienced at the hands of policies handed down by church officials. If the institutional risk factors attending the Galileo Affair left by John Paul II is the tinder, this configuration of interactions is, without a doubt, the match.

## Changing Course: Lessons from the Seventeenth-Century Galileo Affair for the Present Day

The Galileo Affair started when Galileo emerged as a champion for an emerging scientific theory in 1610, and it ended with his being silenced by the Roman Catholic Church in 1633. In our current day, we are not quite as close to how Galileo's Affair ended, but we are—if I have argued successfully—in the midst of the beginning, if not the continuation of, a new one. One important reason why is because, as I have argued in this article, the institutional risk factors for another Galileo Affair have not been adequately mitigated: the solutions either are too vaguely described, or, if they are enacted, they may lead to just the sort of institutional arrangement that is liable to repeat the Galileo Affair. It is in light of this that the discourse impasse on sexual orientation and gender identity, together with the ejection of LGBTQ+ people from Catholic spaces on the part of the hierarchical magisterium, form ominous signs.

If we are to change course, we must heed the main lesson from Galileo that was never properly appreciated or instituted: we must recognize when to apply his second epistemological principle that is relevant when emerging scientific insight comes head-to-head with established historical church teaching. This means, first, refusing to preempt scientific discussion with premature theological condemnation, thereby letting the scientists do their work to tell us more about sexual orientation and transgender identity. This also means, second, letting scientists tell us more about the "nature" that God created, from all points of intellectual inquiry—a stance that will allow us to honor the unity-of-truth principle that is as theological as it is scientific. Both of these points deserve, in closing, some elaboration.

[94] See Palmieri's working list of such policies both in the United States and beyond: David Palmieri, "Policies," https://drive.google.com/drive/folders/1yVCuDjFJKdwTZIsHKorWfZmuISr3sKgF.

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In the realm of moral theology, the best way to respect Galileo's second principle is to recognize that, when it comes to questions involving sexual orientation and gender identity, we must embrace epistemic humility. Such a stance is warranted with the recognition that, following scholars like Richard Gaillardetz, concrete moral norms—that is, moral statements that are "concerned with changing moral contexts and empirical data"—are not the sorts of statements susceptible to the charism of infallibility.[95] The greatest evidence of this is the fact that doctrines related to Christian morality have indeed changed, and sometimes drastically.[96] Despite the fact that all the church's moral teaching comes from out of Scripture and tradition, then, we must avoid the embarrassing situation remarked by Galileo, where the Catholic Church would need to change official teaching because it was offered prematurely.

More positively, this means embracing what Margaret Farley has importantly offered as the grace of self-doubt. [97]

> If the greatest temptation of religious persons is self-righteousness, then the second-greatest is the grasping for certitude—fighting self-doubt in ways that shut the mind and sometimes close the heart. The grace of self-doubt is what allows for epistemic humility, the basic condition for communal as well as individual moral discernment . . . It allows listening to the experiences of others, taking seriously reasons that are alternative to our own, rethinking our own last word.[98]

This grace of self-doubt allows for a more serious reclamation of the insight of the Second Vatican Council that "it [the church] profits from the experience of past ages, from the progress of the sciences, and from the riches hidden in various cultures, through which greater light is thrown on human nature and new avenues to truth are opened up."[99] And it means injecting a recognition of contingency into documents that seek to proclaim the "truth" about sexuality and gender identity that deduce acceptable practice virtually

[95] Richard Gaillardetz, *Teaching with Authority: A Theology of the Magisterium in the Church* (Collegeville, MN: Liturgical Press, 1997), 108–14, at 113.

[96] See John T. Noonan Jr., *A Church that Can and Cannot Change: The Development of Catholic Moral Teaching* (Notre Dame, IN: University of Notre Dame Press, 2005).

[97] See Margaret A. Farley, "Ethics, Ecclesiology, and the Grace of Self-Doubt," in *Changing the Questions: Explorations in Christian Ethics*, ed. Jamie L. Manson (Maryknoll, NY: Orbis Books, 2015), 161–81.

[98] Farley, "Ethics, Ecclesiology, and the Grace of Self-Doubt," 180.

[99] Vatican II, *Gaudium et Spes* (December 7, 1965), §44, https://www.vatican.va/archive/hist_councils/ii_vatican_council/documents/vat-ii_const_19651207_gaudium-et-spes_en.html.

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from scriptural and theological premises alone.[100] It also means rejecting the essentially question-begging practice of only seeking the engagement of professional scientists and medical practitioners when it serves this preconceived "truth."[101] An example of the latter practice is seen, for example, in the Diocese of Green Bay, WI, where the diocese "supports and encourages" psychological counseling for adolescents experiencing gender dysphoria, so long as the medical professionals providing such care "hold a correct Christian anthropology of the human person and who understand and adhere to Catholic teaching."[102]

Lastly, respecting Galileo's second principle means allowing a robust, interdisciplinary investigation of the truth of "nature" concerning sexual orientation and gender identity to flourish within the church's institutional structure itself—one that draws scientific discussion into direct contact with the "metascientific concepts" that John Paul II pointed out in his 1992 speech. One way to do this would be for the Vatican to create the institutional space for genuine theological debate on these questions by convening theologians of different ideological persuasions.[103] Though it is maybe too early to tell at this point, Pope Francis may be recognizing the importance of such an institutional space with the revised statutes for the Pontifical Academy of Theology issued in his recent *motu proprio* "Ad theologiam promovendam," in which the Pope calls for theology to become intentionally more transdisciplinary.[104]

[100] One of the most prominent examples of such (problematic) reasoning of this is John Paul II's *Man and Women He Created Them: A Theology of the Body*, trans. Michael Waldstein (Boston, MA: Pauline Books and Media, 2006).

[101] This is a pattern that we have witnessed with respect to sexual orientation, where therapies are recommended only if they are ultimately seen as supporting (or, at the very least, not undermining) official church teaching.

[102] Diocese of Green Bay, "Education Policy Manual SY 22–23," https://docs.google.com/document/d/1Rnq1qw_QwtQ7eM0KyBX4HDfnxeoU-9TFh_5O1GUnK5c/edit#heading=h.26m55dakmi6l, §5045.1 and §5045.2 (70–71).

[103] Importantly, this is different from the International Theological Commission, which in its current structure, hosts discussions, then writes a document that is later approved by the prefect of the Dicastery of the Doctrine of the Faith, who serves as the president of the International Commission. For more information about the ITC, see its governing statutes as proclaimed by John Paul II, *Tredecim Anni* (August 6, 1982), https://www.vatican.va/content/john-paul-ii/en/motu_proprio/documents/hf_jp-ii_motu-proprio_06081982_tredecim-anni.html.

[104] Francis is specifically requesting that the Pontifical Academy of Theology "develop, in constant attention to the scientific nature of theological reflection, transdisciplinary dialogue with other scientific, philosophical, humanistic and artistic knowledge, with believers and non-believers, with men and women of different Christian denominations and different religions," Pope Francis, "Ad theologiam promovendam,"

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Once these various positions have been clarified, these debates, when published could resemble the *Acta*, that is, the proceedings of the major conferences hosted by other pontifical academies like the Pontifical Academy of the Sciences and the Pontifical Academy of the Social Sciences.[105] Indeed, if all the existing Pontifical Academies can take steps to reduce their potential conflicts of interest while also maintaining their affiliation with the Vatican—taking steps such as having an independent governance structure—then they should host conferences on these same topics reflecting their own various areas of disciplinary expertise.[106] Such lively debate is already underway among theologians outside the Vatican.[107]

This entire academic conversation concerning sexual orientation and gender identity, though, should be just one part of a genuinely *ecclesial* discernment that should occur among the people of God construed in the broadest sense—lay and clergy alike. This is the wisdom of Pope Francis's style of leadership, one that encourages a genuine culture of encounter across lines of

(November 1, 2023), https://www.vatican.va/content/francesco/it/motu_proprio/documents/20231101-motu-proprio-ad-theologiam-promovendam.html, §9. This translation is mine.

[105] Pontifical Academy of Sciences, "Acta," https://www.pas.va/en/publications/acta.html, and Pontifical Academy of Social Sciences, "Acta," https://www.pass.va/en/publications/acta.html.

[106] To date, I have not found any *Acta* from either Pontifical Academy dedicated to questions related to sexual orientation and gender identity. The Pontifical Academy of Sciences did release the proceedings of a working group, a *scripta varia*, on the topic, "What Is Our Real Knowledge about the Human Being?" One essay does address the topic, but the findings are entirely preliminary, calling for the academy to study sexual difference more closely. See Janet Martin Soskice, "*Imago Dei* and Sexual Difference," Pontifical Academy of Sciences, *Scripta Varia* 109 (Vatican City: Libreria Editrice Vaticana, 2007): 116–26, https://www.pas.va/content/dam/casinapioiv/pas/pdf-volumi/scripta-varia/sv109/sv109-soskice.pdf.

[107] This robust debate among theologians is already occurring, and the literature offering new theological syntheses regarding sexual orientation and gender identity is already extensive. Some recent considerations include Stephen Goertz, ed., *"Who Am I to Judge?" Homosexuality and the Catholic Church* (Boston, MA: De Gruyter, 2022); two of my own pieces: "Transgender Bodies, Catholic Schools, and a Queer Natural Law Theology of Exploration," *Journal of Moral Theology* 7, no. 1 (January 2018): 70–98; "'Born That Way?' The Challenge of Trans/Gender Identity for Catholic Theology," in *Sex, Love, and Families: Catholic Perspectives*, ed. Jason King and Julie Rubio (Collegeville, MN: Liturgical Press, 2020), 91–101; and Elizabeth Sweeny Block, "Christian Moral Freedom and the Transgender Person," *Journal of the Society of Christian Ethics* 41, no. 2 (Fall/Winter 2021): 331–48. A recent theological argument given in defense of current teachings related to sexual orientation and gender identity belongs to Abigail Favale, *The Genesis of Gender: A Christian Theory* (San Francisco, CA: Ignatius Press, 2022).

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difference and one that it witnessed most concretely in his calls for ecclesial renewal in the direction of synodality.[108] Accordingly, some theologians have seen great hope in this example, in thinking of the church as a space for holding difference and hosting multiplicity that, hardly detracting from unity, can lead actually toward a more robust sense of it.[109] Such incorporation of the lived experience of others is all the more vital in this discussion because, unlike in Galileo's case where he was studying stars, in this situation we are genuinely studying people—people whose stories, in all their beauty and struggle, matter for scientific and theological discourse concerning sexual orientation and gender identity. Taking these steps, and others in their spirit, may be one of the best ways to learn the lesson of the Galileo Affair and to honor the extraordinary work of the man remembered in its title.

[108] See Pope Francis, *Fratelli Tutti* (October 3, 2020), https://www.vatican.va/content/francesco/en/encyclicals/documents/papa-francesco_20201003_enciclica-fratelli-tutti.html, 215: "Life, for All Its Confrontations, Is the Art of Encounter."

[109] In this vein, see, for example, Cristina L. H. Traina, "Ecclesiology and Trans*Inclusion," *Journal of the Society of Christian Ethics* 42, no. 2 (Fall/Winter 2022): 363–81; Ish Ruiz, "Synodality in the Catholic Church: Toward a Conciliar Ecclesiology of Inclusion for LGBTQ+ Persons," *Journal of Moral Theology* 12, no. 2 (2023): 55–77; and Lisa Fullam, "Transgender Students in Catholic Schools, Probabilism, and Reciprocity of Conscience," in *Conscience and Catholic Education: Theology, Administration, & Teaching*, ed. Kevin C. Baxter and David E. DeCosse (Maryknoll, NY: Orbis Books, 2022).

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