

The Story of the Church and Science

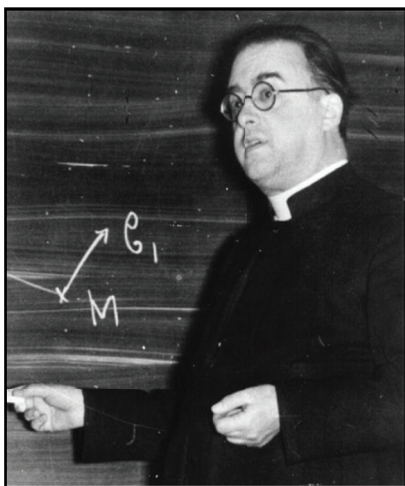
BY DAN KUEBLER

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NEAR THE END OF THE 19TH CENTURY, scientist and co-founder of the New York University School of Medicine John William Draper penned an influential polemic titled *History of the Conflict Between Religion and Science*. In the book, Draper argued that “the history of science is not a mere record of isolated discoveries; it is a narrative of the conflict of two contending powers, the expansive force of human intellect on one side, and the compression arising from traditionary faith and human interests on the other.”¹ Among the various “traditionary

¹ John William Draper, *History of the Conflict Between Religion and Science* (D. Appleton, 1875), vi.



faiths” mentioned specifically in the book, it was Catholicism that most attracted Draper’s ire, as he viewed Catholicism, with its hierarchical structure and doctrinal pronouncements, as particularly antithetical to scientific progress. Draper’s book was wildly popular in the United States and was translated into at least 10 different languages. The problem with the book, as modern historians of science have adequately

demonstrated, was that it was inaccurate in almost every respect.

Setting the Record Straight

As the historian of science Ronald Numbers pointed out in a lecture, Draper’s book “was in fact less of a dispassionate history, which it wasn’t, than a screed against Roman Catholics and what they had [apparently] done to inhibit scientific progress.”² Despite the book’s factual problems, it gave birth to the myth that the Church has been diametrically opposed to science—a myth that has remained somewhat prevalent in the culture down to the present time. Certainly, one can find examples of conflict when one searches through the two millennia of interactions between the Church and science (the Galileo episode is one obvious example). However, the reality is that conflict does not dominate this history. In fact, while one can point to churchmen throughout history who have had issues with different scientific discoveries and theories, one is hard-pressed to find any other example besides the Galileo case in which the Church condemned a specific scientific theory.

² Ronald Numbers, “Myths and Truths in Science and Religion: A Historical Perspective,” lecture, Downing College, Cambridge, May 11, 2006, https://web.archive.org/web/20171011022345/https://www.faraday.st-edmunds.cam.ac.uk/CIS/Numbers/Numbers_Lecture.pdf.

Not only has this history not been dominated by conflict, but any cursory examination of the actual historical record reveals the sheer magnitude of support and encouragement offered by the Church to those engaged in scientific discovery. In fact, the Church was the primary patron of scientific research from the Middle Ages up through the 17th century. According to theologian Richard DeClue, “The Church and her high-ranking officials were primary patrons of budding scientists, promoting and financially supporting their work of advancing scientific knowledge” during this period.³ As the historian of science John Heilbron put it, “The Roman Catholic Church gave more financial and social support to the study of astronomy for over six centuries . . . than any other, and probably all, other institutions.”⁴ And it was not only astronomy that the Church funded; nearly every branch of science benefitted from the Church’s largesse.

Despite this reality, the popular story of the history of science in the West is that science lay dormant during the Middle Ages because the Church dominated the culture with her backward, superstitious thinking. In this telling of the tale, it wasn’t until the Renaissance fueled the intellectual rebirth of classical humanist thinking that the chains of Church dogma were loosened, and science could finally flourish. The truth, though, is quite the opposite. In fact, one can see that in the Middle Ages the foundations were being established for the rise of modern science, in large part through the efforts of the Catholic Church.

The modern university, a bastion of scientific discovery, has its roots in the medieval cathedral schools founded by the Church to educate clergy. As these schools developed into autonomous universities, the Church actively supported this transition, even protecting the members of the university by allowing them to be tried in the more lenient ecclesiastical courts (as opposed to civil courts) when it came to legal affairs. According to the historian Michael Shank, “if the medieval church had intended to

³ Richard DeClue, “The Catholic Church’s Role in the Development of Modern Science,” *Church Life Journal* (September 14, 2023), <https://churchlifejournal.nd.edu/articles/the-catholic-churchs-role-in-the-development-of-modern-science/>.

⁴ John Heilbron, *The Sun and the Church: Cathedrals as Solar Observatories* (Harvard University Press, 1999), 3.

discourage or suppress science, it certainly made a colossal mistake in tolerating—to say nothing of supporting—the university. In this new institution, Greco-Arabic science and medicine for the first time found a permanent home.”⁵ To greater or lesser degrees, students at these universities were exposed to mathematics, natural philosophy, astronomy, biology, and medical science—all with the tacit blessing of the Church.

Given the Church’s support of both science and the new universities, it should not be surprising that clergy were involved in nearly every scientific field during this period. Nicole Oresme, who later became a bishop, developed arguments in the 14th century to support the notion that the earth rotated. Another bishop, St. Albert the Great, made significant advancements in the understanding of botany, geology, and zoology in the 13th century, stressing the importance of experimentation to understand the natural world. According to the historian of science Lawrence Principe, the Franciscans of the 13th and 14th centuries, through their meticulous work in the study of alchemy, made many advances in our understanding of chemistry.⁶ From the 13th century, the Franciscan friar Robert Bacon is recognized as one of the earliest advocates for experimental science, and he performed systematic studies on the nature of light and optics. Finally, Copernicus, who proposed the heliocentric model of the solar system in the 1500s, was a canon of the Catholic Church, a cleric with an administrative function.

These and countless other examples should dispel the notion that the Church was looking to squash scientific advancements during the rise of modern science in the West. In fact, nearly all respectable historians of science recognize that the Church has played a key role in aiding the flourishing of scientific discovery in the Western world. Even Galileo’s work, despite his ultimate condemnation, was actively supported and admired by many in the Church, and he was allowed to continue his scientific writing, albeit

⁵ Michael Shank, “Myth 2: That the Medieval Church Suppressed the Growth of Science,” in *Galileo Goes to Jail: And Other Myths about Science and Religion*, ed. Ronald L. Numbers (Harvard University Press, 2009), 22.

⁶ See Lawrence M. Principe, *The Secrets of Alchemy* (University of Chicago Press, 2013), esp. 63–64.

on circumscribed topics, throughout the remainder of his life from his villa near Florence.

The Church's Stake in Science

So, why did the Church support science? Was it merely a coincidence of history, or was there an underlying theological impetus? The latter seems to be the case, as the Church has many theological reasons (along with practical ones) to support scientific discovery of the natural world. The most foundational of these reasons is that, from the very beginning, the Church has seen creation as a gift from God, one that is both good and ordered and which reflects the wisdom and mind of the Creator. As Psalm 19:2–3 states, “The heavens declare the glory of God; the firmament proclaims the work of his hands. Day unto day pours forth speech; night unto night whispers knowledge.” If creation is God’s handiwork, then an investigation of the order and structure of nature should bring us closer to the author of that creation. The *Catechism* explains this well: “Each of the various creatures, willed in its own being, reflects in its own way a ray of God’s infinite wisdom and goodness” (CCC 339).

As opposed to ancient religions, which typically viewed creation as chaotic, disordered, and ruled by capricious demonic powers, the Genesis account of creation makes clear that “all of this comes from one power, from God’s eternal Reason.”⁷ Knowing that we are rational creatures made in his image, sharing however humbly in his divine reason, we should have confidence in our ability to uncover the order God has imparted to his creation. This confidence does not stem from our own human ingenuity, but rather from the knowledge that God is reason itself and has both imparted order into his creation and given us the gifts to comprehend this order.

Given this, it should not be surprising that the Church has supported science throughout the ages. Science, in addition to

⁷ Benedict XVI (Joseph Ratzinger), *In the Beginning . . . : A Catholic Understanding of the Story of Creation and the Fall* (Eerdmans, 1995), 5.

being a means of advancing human flourishing and alleviating suffering, is an important means toward uncovering the truth about creation. As such, it can reveal truths regarding the Creator. Even in modern times, this synergistic relationship between Catholic theology and scientific discovery has yielded much fruit. Not only have Catholic institutions supported and promoted scientific discovery throughout the 19th and 20th centuries, but major scientific luminaries during this time—such as Gregor Mendel, the founder of modern genetics, and Georges Lemaître, the father of big bang cosmology—were Catholic clergy. In addition, the Pontifical Academy of Sciences, an institution that was initially founded in 1603 and has been reconstituted in various forms over the years, has as its stated mission to “honour pure science wherever it may be found, ensure its freedom and encourage research for the progress of science.”⁸ It fulfills this mission by engaging preeminent scientists on major issues, including evolution, climate change, stem cell research, and neuroscience, to ensure science is best implemented for the common good.

Scientific Inquiry: Important Limits

This does not mean that the Church supports the unfettered autonomy of science; scientific inquiry, like any human endeavor, involves moral and ethical questions that go well beyond its scope. As Pope John Paul II has pointed out, “Scientists cannot, therefore, hold themselves entirely aloof from the sorts of issues dealt with by philosophers and theologians.”⁹ Because of this overlap, conflicts do arise between the Church and specific scientists or scientific organizations. However, it is important to note that these are not conflicts between the Church and science per se; rather, they are conflicts over different philosophical worldviews.

⁸ Pontifical Academy of Science, “Facts at a Glance,” <https://www.pas.va/en/about.html>.

⁹ John Paul II, “Letter of His Holiness John Paul II to Reverend George V Coyne, S.J., Director of the Vatican Observatory,” June 1, 1988.

For example, there are those who argue science has demonstrated that there is no God or that there is no purpose to the universe. Clearly, these positions are at odds with the faith. Such positions, though, aren't scientific at all, as there is no set of possible scientific experiments that one can perform that would address these questions satisfactorily. Instead, such views stem from an underlying scientism: a *philosophical* view that modern, empirical science is the only path to true knowledge. For those clouded by such views, disciplines like theology and philosophy are inherently suspect, and immaterial entities such as God, purpose, and transcendent moral truths simply don't exist. Yet this position—that science is the only repository of truth—is self-refuting because it is not itself a scientific claim.

A second category of pseudo-conflicts between faith and science involves questions regarding where to draw the boundaries of permissible scientific experimentation. The Church's stance on embryo-destructive research is an example of this. Once again though, this conflict is not really about science as the Church is not arguing that some scientific conclusion is wrong. Rather, she is arguing for the dignity and worth of human life at all stages of development. At its root, this is a disagreement regarding ethics and morality, and it is unavoidable because everyone approaches science with a specific set of moral and ethical principles. In fact, even the most atheistic scientists would agree that some moral or ethical lines should not be crossed. Among scientists who approve of embryo-destructive research, for example, it is agreed that human experimentation on prisoners without their consent or experiments on young, vulnerable children are immoral and unethical.

The True Story

These conflicts regarding what type of scientific experiments society should permit are not, then, conflicts between "science" and the Church. Rather, they are disagreements regarding where to draw the moral and ethical boundaries of acceptable science. The Church in her wisdom has drawn a very clear line regarding the dignity of the human person at all stages of life. For the Church, all science must be

at the service of man rather than putting man, or certain classes of man, at the service of science.

This is an important point given the state of modern society. As Karol Wojtyła warned in a 1968 letter he wrote to Henri de Lubac, “The evil of our times consists in the first place in a kind of degradation, indeed in a pulverization, of the fundamental uniqueness of each human person.”¹⁰ Science can either be a tool that hastens this pulverization—if it is used to subjugate and dehumanize people—or it can be used to enhance the dignity of all human lives.

It is against the improper use of science, rather than against any specific scientific discovery, that the Church rightly has raised her voice. This is as it should be, given that the Church has an obligation to defend the dignity of all human persons and safeguard the transmission of the faith. In this role, the Church not only has a long history of supporting scientific discovery, she also has continually advocated that scientific advancement be used for the true betterment of mankind, rather than as a tool that undermines man’s dignity and purpose. This story, the one in which the Church both supports science and upholds the dignity and ultimate destiny of the human person, is the true story of the Catholic Church and science.

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¹⁰ Personal letter from Wojtyła to Henri de Lubac, cited in de Lubac, *At the Service of the Church: Henri de Lubac Reflects on the Circumstances That Occasioned His Writings*, trans. Anne Elizabeth Englund (Ignatius Press, 1989), 171–72.