





# Science Versus Religion

## The War That Never Was

By Joshua Moritz

MANY THINK THE RELATIONSHIP BETWEEN SCIENCE AND RELIGION—ESPECIALLY THE CHRISTIAN RELIGION—HAS BEEN ONE OF CONFLICT, DEBATE, OR EVEN ALL-OUT WARFARE. ASK THE AVERAGE PERSON ON THE STREET, AND THEY WILL LIKELY TELL YOU THE WAR BETWEEN SCIENCE AND RELIGION IS AS OLD AS HISTORY.

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# EVERYONE SEEMS TO KNOW FOR A “FACT” THAT RELIGION AND SCIENCE HAVE ALWAYS HAD A HARD TIME GETTING ALONG.

**This common notion, that science and religion have experienced a long history of conflict or warfare, is called the conflict thesis by historians of science and religion.**

This article is divided in several parts. The first examines the historical roots and social context of the origin of the conflict thesis.

Later parts will then evaluate three historical cases that are often cited in support of the conflict thesis: (1) that Christopher Columbus was persecuted by the Roman Catholic Church for holding that the Earth is a globe and not flat; (2) that the Church hounded, tortured, and imprisoned Galileo Galilei (and Nicolaus Copernicus before him) for suggesting that the sun is the center of the solar system; and (3) that John T. Scopes—the defendant in the famous 1925 Scopes Monkey Trial—was a “martyr for science” who heroically taught evolution and paid the price by being thrown behind bars. Investigation of these three cases will demonstrate that the language of warfare falls far short of historical reality. A more accurate understanding of these events reveals a complexity of interactions characterized by both creative tension and constructive dialogue.<sup>1</sup>

## Where does the myth of the ages-long warfare between religion and science derive?

### SCIENCE AND RELIGION AT WAR: THE BIRTH OF A MODERN MYTH

In Dan Brown’s best-selling novel *Angels and Demons* (also a 2009 movie), the hero of the story, Harvard professor Robert Langdon, asserts that “early scientists were branded alive, on the chest, with the symbol of a cross,” and “outspoken scientists like Copernicus were murdered by the church for revealing scientific truths.” He also declares, “Since the beginning of history, a deep rift has existed between science and religion,” and “religion has always persecuted science.”<sup>2</sup>

While Hollywood films are not typically viewed as authoritative sources for historical truth, high school and college textbooks generally are.

And here one often finds the same theme—that the Christian church has resisted science and persecuted scientists from the beginning. Many textbooks include references to popes who banned the number zero or excommunicated Halley’s Comet, bishops who opposed vaccination





and human dissection, or how the Catholic Church burned at the stake the early scientist Giordano Bruno (1548–1600) for his scientific support of heliocentrism.<sup>3</sup>

**Students are often surprised to learn that these stories are false in a variety of ways. As a number of contemporary historians of science have pointed out, the truth is that the church never did any of these things.** In fact, the Catholic Church encouraged the early practices of vaccination and supported human dissection. Moreover, there is not one clearly documented instance of the church ever burning anyone at the stake for scientific opinions.<sup>4</sup>

**While professional historians of science try their best to set the record straight, a good story dies hard, and the notion of the perennial warfare between science and religion is a persistent myth.**

But from where does the myth of the ages-long warfare between religion and science derive? According to historian of science Thomas Dixon, the conflict thesis was invented by anti-church rationalists of the European Enlightenment in the late 1700s and then embellished and propagated by anti-Christian secular “free-thinkers” in the late 1800s.<sup>5</sup> **The Enlightenment rationalists contrasted their own “Age of Reason” with what they called the “Dark Ages” of Christian Europe, and they promoted the story of the warfare between science and religion to make a case for social revolution.** Among these Enlightenment rationalists were the French patriot Voltaire (1694–1778) and the American patriot Thomas Paine (1737–1809), both scientific thinkers who were opposed to Christianity and who viewed the institutional churches of France and England as the oppressive tentacles of the established



monarchies. In his enormously popular book *The Age of Reason* (1794), Paine railed against “the continual persecution carried on by the Church, for several hundred years, against the sciences and against the professors of science.”

Paine contended that Christianity placed shackles on the mind and that no scientifically progressive person could ever embrace the central doctrines of the Christian faith. What Paine sought through his literary efforts, however, was not to end religion but to replace the Christian religion with a secularized “rational” religion based on science.<sup>6</sup>

**In the 1800s, the rhetorical torch of the anti-religious Enlightenment thinkers was taken up by the “freethinkers” of the Victorian Age who sought to stage a social revolution in the scientific establishment, which at that time was dominated by religiously devout practitioners.<sup>7</sup> Foremost among the freethinkers were “Darwin’s Bulldog,” British naturalist Thomas Henry**

Huxley (1825–1895), along with the American promoters of science and secular education, John W. Draper (1811–1882) and Andrew Dickson White (1832–1918). Huxley, who resented the influence of the Anglican establishment within the scientific culture of his day, embellished a vision of Western history where “extinguished theologians lie about the cradle of every science as the strangled snakes beside the cradle of Hercules.”<sup>8</sup> Coining the term “agnostic” to describe his own position on religion, Huxley enlisted Darwin’s scientific theory to champion the cause of religious skepticism. He had no patience with scientific colleagues, such as Roman Catholic biologist St. George Mivart, who accepted evolution and insisted that Darwinism was perfectly compatible with historic Christian teaching. Huxley, infuriated by Mivart’s position, insisted that Mivart choose whether he wanted to be “a true son of the Church” or “a loyal soldier of science.”<sup>9</sup> If Huxley was to create a proper war between





science and religion, he could not afford to have soldiers fighting loyally for both sides.

To further the cause of secularizing the scientific establishment and help spread the message of the war between science and religion, Huxley also founded the X-Club—a group of like-minded, agnostically oriented, and scientifically influential friends, whose key aim was to reform the foremost British scientific organization, known as the Royal Society. (Draper and White were distinguished members.) The explicit mission of Huxley and his colleagues in the X-Club was to rid—with an evangelical fervor—the discipline of the natural sciences of women, amateurs, and Christian clergy, and to place secular science into the center of cultural

life in Victorian England.<sup>10</sup> Between the time of its inception in 1864 and the end of the nineteenth century, the X-Club and its members gained much prominence within the scientific community, exerting considerable influence over scientific thought. “The enduring legacy of this group,” explains historian of science Peter Harrison, “has been the perpetuation of the myth of a perennial warfare between science and religion.”<sup>11</sup>

**Draper (a prominent chemist, founder and first president of the American Chemical Society) and White (the first president of**

**Cornell University) prosecuted the war of rhetoric against religion in the United States.**

From these authors come two books that have been in print for more than a century and are still among the most widely read books in the history of science and Christianity.

Draper’s book, *The History of the Conflict between Religion and Science* (1874), tells of “ferocious theologians” hounding the pioneers of science with a Bible in one hand and a flaming torch in the other.

His book is primarily a tirade against the Roman Catholic Church, which he blames for almost everything he views as wrong in Western history (including encouraging the “evolutionarily unfit” to breed). Draper was reacting to the new wave of Catholic immigrants in America, to the first Vatican Council, and, in particular, to the doctrine of

papal infallibility. On top of this, he was angry that his own sister had become a nun.

White’s book, *A History of the Warfare of Science with Theology in Christendom* (1896), similarly speaks of the struggle between religion and science as “a war waged longer, with battles fiercer, with sieges more persistent, with strategy more shrewd than in any of the comparatively transient warfares of Caesar or Napoleon.” Indeed, he tells the reader, “The coming of Christianity arrested the normal development of the physical sciences for over fifteen hundred years...

“Recent scholarship has shown the warfare metaphor to be neither useful nor tenable in describing the relationship between science and religion.”<sup>13</sup>



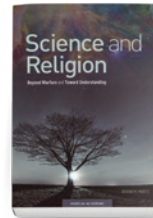
imposing a tyranny of ignorance and superstition that perverted and crushed true science.”<sup>12</sup>

White, too, was annoyed with the Christian church, but for different reasons. He was provoked to write because of criticism he received for establishing Cornell University without a religious affiliation. Beyond this, White’s Cornell was competing with religiously affiliated colleges to get money from Congress; thus he had to make a historical case to show why religion and the natural sciences shouldn’t mix.

What do historians of science make of the conflict thesis that science and religion have been in a perpetual state of warfare? **University of Wisconsin historians of science David Lindberg and Ronald Numbers explain that “recent scholarship has shown the warfare metaphor to be neither useful nor tenable in describing the relationship between science and religion.”**<sup>13</sup>

Johns Hopkins University historian of science Lawrence Principe likewise says that the historical formulation of Draper and White “rests on very shaky (and sometimes fabricated) foundations and was contrived largely for quite specific political, professional, and racist purposes... **Serious modern historians of science have unanimously dismissed the warfare model as an adequate historical description.**”<sup>14</sup> ■

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*This article will continue in a future issue of Aspire.*

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1. Oxford historian John Hedley Brooke makes a case for what he labels the “complexity thesis” to describe the historical relationship between science and religion. See *Science and Religion: Some Historical Perspectives* (Cambridge: Cambridge University Press, 1991). Historian James Hannam describes the relationship as one of “creative tension.” See James Hannam, *The Genesis of Science: How the Christian Middle Ages Launched the Scientific Revolution* (Washington, DC: Regnery Publishing, 2011).
2. Dan Brown, *Angels and Demons* (New York: Simon and Schuster, 2000), 31.
3. For a reference to popes banning vaccination and dissection, see the college textbook by Emily Jackson, *Medical Law: Text, Cases, and Materials* (Oxford: Oxford University Press, 2013), 7. For a reference to Bruno being burnt at the stake for his science, see the popular college textbook by Louis P. Pojman, *Philosophy of Religion* (New York: McGraw-Hill, 2001), 147. For a discussion on why these are all myths, see Ronald L. Numbers, ed., *Galileo Goes to Jail, and Other Myths about Science and Religion* (Cambridge, MA: Harvard University Press, 2009).
4. For an in-depth discussion of why such stories are unfounded see Hannam, *Genesis of Science*; and Numbers, ed., *Galileo Goes to Jail*.
5. Thomas Dixon, *Science and Religion: A Very Short Introduction* (Oxford: Oxford University Press, 2008), 9.
6. See *ibid.*, 11–12.
7. See Peter Harrison, “Religion, the Royal Society, and the Rise of Science,” *Theology and Science* 6, no. 3 (2008): 255–71.
8. Quoted in Richard G. Olson, *Science and Religion, 1450–1900: From Copernicus to Darwin* (Baltimore: Johns Hopkins University Press, 2006), 204.
9. Timothy Larsen, “War Is Over, If You Want It’: Beyond the Conflict between Faith and Science,” *Perspectives on Science and Christian Faith* 60, no. 3 (September 2008): 149–50. As Larsen says, “Huxley and others who aspired to turn scientific pursuits into a profession . . . ‘needed’ a war between science and religion.”
10. See Ruth Barton, “An Influential Set of Chaps’: The X-Club and Royal Society Politics 1864–85,” *British Journal for the History of Science* 23, no. 1 (March 1990): 53–81.
11. Peter Harrison, “‘Science’ and ‘Religion’: Constructing the Boundaries,” in *Science and Religion: New Historical Perspectives*, ed. Thomas Dixon, Geoffrey Cantor, and Stephen Pumfrey (Cambridge: Cambridge University Press, 2010), 27.
12. Quoted in David Lindberg and Ronald Numbers, eds., *God and Nature: Historical Essays on the Encounter between Christianity and Science* (Berkeley: University of California Press, 1986), 3.
13. David C. Lindberg and Ronald L. Numbers, “Beyond War and Peace: A Reappraisal of the Encounter between Christianity and Science,” *Perspectives on Science and Christian Faith* 39, no. 3 (September 1987): 140–49, at 141.
14. Lawrence Principe, “The Warfare Thesis,” *Science and Religion*, recorded lecture (Chantilly, VA: The Teaching Company, 2006).

# Navigate Science & the Bible

**We seldom get a second chance to make a first impression. The accounts of creation in Genesis give us our “first impression” of the Bible.**

In these accounts, God creates the earth in six days. Science, however, has revealed that it took billions of years for the earth and planets to form.

Our “first impression” may be that biblical truth and scientific truth are incompatible, given all our scientific knowledge about the universe. We might be left asking: “Can the truth of the Bible be reconciled with scientific truth? Can this first impression be given a second look?”



It is our job to dispel key divisions between science and the Bible and help students find a healthy balance in their perspective.

By exploring Church teaching and introducing faith-filled scientists, young people will recognize that both science and the Bible can have a place in the Catholic worldview.

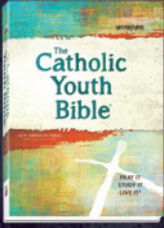
## Introduce the Experts

Countless past and contemporary scientists believe that the truth of the Bible can be reconciled with scientific truth. In fact, greater knowledge of the universe often results in a greater appreciation of the grandeur and creativity of God.

Among those scientists who believe this to be true is Br. Guy Consolmagno, SJ, of

the Vatican Observatory. In his frequent talks around the world, Brother Guy often challenges the notion of the incompatibility of the Bible and science, explaining that “we must believe in a God that is supernatural. We then recognize God as the one responsible for the existence of the universe, and our science tells how he did it.” In fact, Brother Guy





## **The Catholic Youth Bible™ Connections**

The question of scientific truth and biblical truth can be explored using

many elements in the newest version of *The Catholic Youth Bible*®, including:

“Six Days? Really?” near Genesis 1:1–2:4

“Apocalyptic Literature,” near Daniel, chapters 7–10

“What Miracles Reveal,” near Matthew 8:1–9:34

“Core Catholic Understandings about Biblical Inspiration and Interpretation,” in the Being Catholic section (p. 1720 CYB NABRE or p. 1502 CYB NRSV)

often mentions that it was a Catholic priest, Fr. George Lemaître, who first proposed what we now call the big bang theory.

*Introduce the teens to scientists, both past and present, who have made a difference to scientific study and were also believers in God and in biblical teaching. As experts in their fields (and some who were vowed religious), they serve as great examples of the ability to be both a person of faith and a scientist.*

## Explore It!

Helping the young people encounter people who have reconciled science and biblical truth can go a long way toward showing them that the two can indeed exist together. Here are some ideas for encouraging this conversation:

**1. Ask students to learn about an accomplished Catholic scientist (especially a modern one). Some possibilities are listed below.**

**2. Encourage the teens to share what they have discovered and how that information impacts their questions about the Bible and science.**

**3. Invite a local scientist to speak about the Bible and faith, and engage the young people in a conversation.**

## *Catholic Scientists*

### **Roger Bacon**

(c. 1214–1294)  
Franciscan friar and early advocate of the scientific method

### **William of Ockham**

(c. 1288–1348)  
Franciscan friar known for Ockham's Razor

### **René Descartes**

(1596–1650)  
Father of modern philosophy and analytic geometry

### **Blaise Pascal** (1623–1662)

French mathematician, physicist, inventor, writer, and philosopher

### **Laura Bassi** (1711–1778)

Physicist at University of Bologna and first woman to be offered a professorship at a European university

### **Amedeo Avogadro**

(1776–1856)  
Noted for his contributions to molecular theory and Avogadro's Law

### **Léon Foucault**

(1819–1868)  
Inventor of the Foucault Pendulum, measuring the effects of the Earth's rotation

### **Gregor Mendel**

(1822–1884)  
Augustinian priest and monk, father of genetics

### **Pierre Teilhard de Chardin** (1881–1955)

Jesuit priest, theologian, and renowned paleontologist

### **Gerty Cori** (1896–1957)

Biochemist who was the first American woman to win a Nobel Prize in Science (1947)

### **Mary Celine Fasenmyer**

(1906–1996)  
Sister of Mercy and mathematician, founder of Sister Celine's polynomials

### **Mary Kenneth Keller**

(c. 1914–1985)  
Sister of Charity, BVM, first American woman to earn a PhD in computer science, helped develop BASIC

# Let the Church Speak

Pope Saint John Paul II, in his “Address to the Pontifical Academy of Sciences” (October 22, 1996) concerning the theory of evolution, gave a landmark affirmation to the complementarity of biblical truth and science when he said, “We know, in fact, that truth cannot contradict truth.”

In that same talk, Pope Saint John Paul II briefly reminded the scientists of the “Galileo question,” in which the Church condemned Galileo for his discovery that the Earth revolved around the sun, and not the other way around. (In 1992, Pope Saint John Paul II officially apologized for the Church’s condemnation of Galileo.)

This unnecessary clash between scientific truth and the Bible resulted from an incorrect interpretation of God’s word. As Pope Saint John Paul II reminded the scientists: “It is necessary to determine the proper sense of Scripture, while avoiding any unwarranted interpretations that make it say what it does

not intend to say. In order to delineate the field of their own study, the exegete and the theologian must keep informed about the results achieved by the natural sciences.”

In other words, the biblical expert and theologian must communicate with the scientist in order to come to a proper understanding of God’s work in the universe. In this kind of communication, the role of the Catholic scientist, or any scientist who believes in God, is particularly important. Because most people seem to assume (as the high school student quoted previously did) that all scientists are atheists, it is up to scientists who believe in God and who believe in biblical teaching to make their profession as scientists known to their church-going friends and neighbors. Scientists are not always isolated in labs; some of them are likely sitting next to us in church!

## Explore It!

Exploring the question of science and the Bible can be done within your own faith community and can connect the youth with local people who accept both science and faith.

- 1. Ask the teens to identify professions that they would identify as “scientific” in nature:** medical professions, math teachers, biologists, and so on. Facilitate a reflection on the ways faith can also shape these professions.
- 2. Challenge the young people to identify members of their parish who work in the above named scientific fields** and see how many people they can identify.
- 3. Organize a panel discussion on the topic of the Bible and science.** Invite your pastor, a local scientist, a Catholic school science teacher, a member of a local religious community, and a thoughtful parishioner to sit on the panel.
- 4. Invite the teens to choose one of the named professions and explore the daily activities of that field.** Facilitate a discussion to identify what activities would be difficult for a person of faith.

### *The Catholic Youth Bible™ Connections*

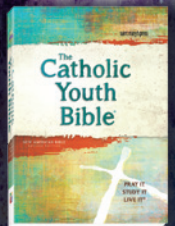
Use *The Catholic Youth Bible* in

your consideration of science and the Bible in the local community. The following elements from it are just some of many that are helpful:

“Heart and Head,” near Mark 16:20

“Core Catholic Understandings about Biblical Inspiration and Interpretation,” in the Being Catholic section (p. 1720 CYB NABRE or p. 1502 CYB NRSV)

“How Do Catholics View the World?” in the Being Catholic section (p. 1722 CYB NABRE or p. 1504 CYB NRSV)





# Consider the Purpose

So, what is the take-away? We cannot look at the Bible as a science textbook. It was never intended to be one. Our job is to facilitate the movement from understanding the Bible as a text that contradicts science to the recognition that the Bible serves a different purpose.

The Bible has much to teach us about our humanity, our origins in God, our relationships with God and with one another, and the revelation of Jesus Christ, the Son of God, as God-with-us. The Bible unfolds God's plan for our lives and for our world, a world that science helps us explain. The biblical writers, under the inspiration of the Holy Spirit, conveyed God's message of salvation, answering the questions we all ask: "Who am I?" "Why am I here?" "Where am I going?" "How am I to live?" These are the questions the Bible can answer. These are the questions to explore with youth when engaging Scripture.

The entire created universe is evidence of God's love. It is ours to care for and to explore. As in any other human endeavor, the study of science presents us with moral dilemmas that we must confront with honesty, love, and the guidance of the Holy Spirit. But we can look to the universe for evidence of God's marvelous work that informs and sustains our precious human lives:

*The heavens declare the glory of God  
the firmament proclaims the works of his hands.*  
(Psalm 19:2, NABRE)

## Additional Resources

### Consult the following resources for further exploration of science and the Bible:

*Genesis, Evolution, and the Search for a Reasoned Faith*, by Mary Katherine Birge, SSJ, et al. (Winona, MN: Saint Mary's Press, 2011)

*God's Mechanics: How Scientists and Engineers Make Sense of Religion*, by Br. Guy Consolmagno, SJ (San Francisco: Jossey-Bass, 2008)

*The Heavens Proclaim: Astronomy and the Vatican*, edited by Guy Consolmagno, SJ (Huntington, IN: Vatican Observatory Publications, 2009)

"Pope Francis's Address to the Vatican Academy of Sciences," 27, October 2014, at [https://w2.vatican.va/content/francesco/en/speeches/2014/october/documents/papa-francesco\\_20141027\\_plenaria-accademia-scienze.html](https://w2.vatican.va/content/francesco/en/speeches/2014/october/documents/papa-francesco_20141027_plenaria-accademia-scienze.html)

*A Window to the Divine*, by Zachary Hayes, OFM (Winona, MN: Saint Mary's Press, 2009)

