Publisher's Note

Defining Documents in World History series, produced by Salem Press, consists of a collection of essays on important historical documents by a diverse range of writers on a broad range of subjects in American history. This established series includes *Ancient World (2700 BCE–c. 500 CE)*, *Middle Ages (476–1500)*, and *Renaissance & Early Modern Era (1308–1600)* in addition to the latest title: *The 17th Century (1601–1700)*.

The 17th Century offers in-depth analysis of a broad range of historical documents and historic events that make up the story of a century marked by scientific discovery, codification of laws, the development of religious doctrine, civil war, colonization, and the expansion of trade on a global level. The set begins with the Galileo's writings about man's place in the universe and a denial of heliocentrism in *Starry Messenger* and concludes with a letter from Father António Vieira, a man who felt keenly the injustices of slavery but who called on the slaves themselves, not to revolt, but to await their heavenly reward for their sufferings on earth. The religious tracts, articles, essays, petitions, laws, and letters span the century to examine the way that the scholars, clerics, philosophers, kings, and revolutionaries of the time viewed the world and their place in it. The forty-nine articles in this volume are organized into seven sections:

- Europe: Science, Religion and Law
- England: Civil War and Revolution
- Christianity and Society in the East
- The Muslim World: Trade and Toleration
- European Colonies in the Americas: The English Mid-Atlantic
- European Colonies in the Americas: New England
- European Colonies in the Americas: Other Colonies

Historical documents provide a compelling view of the seventeenth century, an important aspect of world history. Designed for high school and college students, the aim of the series is to advance historical document studies as an important activity in learning about history.

Essay Format

The 17th Century contains forty-nine primary source documents—many in their entirety. Each document is supported by a critical essay, written by historians and teachers, that includes a Summary Overview, Defining Moment, Author Biography, Document Analysis, and Essential Themes. Readers will appreciate the diversity of the collected texts, including speeches, letters, political and religious sermons, laws, edicts, and charters among other genres. An important feature of each essay is a close reading of the primary source that develops evidence of broader themes, such as the author's rhetorical purpose, social or class position, point of view, and other relevant issues. In addition, essays are organized by section themes, listed above, highlighting major issues of the period, many of which extend across eras and continue to shape life as we know it around the world. Each section begins with a brief introduction that defines questions and problems underlying the subjects in the historical documents. Each essay also includes a Bibliography and Further Reading section for further research.

Appendixes

- **Chronological List** arranges all documents by year.
- **Web Resources** is an annotated list of websites that offer valuable supplemental resources.
- **Bibliography** lists helpful articles and books for further study.

Contributors

Salem Press would like to extend its appreciation to all involved in the development and production of this work. The essays have been written and signed by scholars of history, humanities, and other disciplines related to the essays' topics. Without these expert contributions, a project of this nature would not be possible. A full list of contributor's names appears in the front matter of this volume.

Editor's Introduction

In the western tradition, the seventeenth century is a turning point in the history of the world, marking a transition between the medieval and the modern age. In fact, the seventeenth century is often referred to as the "early modern age." The medieval era was a time when the world's great religions spread across continents, and empires perpetuated or established themselves at the expense of small nations. Medieval economies were simple and internal, inventions were few and far between, and science was still mostly rooted in the ancient era. In our modern era, some parts of the word are seeing religion lose its influence in government, the arts, and education, while in other areas, it remains a strong force that in some cases is extending its reach across continents and hemispheres. The idea of an empire is a mostly a relic of the past, replaced by today's nation-state, based on the idea that people's differences should determine who governs them. Democracy and capitalism have swept the globe, creating an intense international market where problems that arise in one place can have a destabilizing impact on the global economy. And inventions, innovations, science and technology are advancing by leaps and bounds, to the point where many people are uncomfortable with how quickly this is happening.

The early modern period in world history, then, was an era of transition between the medieval world and the one in which we find ourselves living. During that transition, some aspects of the old world gave way to newer, more modern ides, while others became more firmly entrenched, in seeming defiance of progress. In the seventeenth century, religions were carried across the oceans and trade routes to new sections of the world, and people began the process of learning to tolerate differing views regarding the forces they believed governed the universe. At the same time that a scientific revolution was opening up human minds to new ideas, efforts arose to wipe out heresies and stifle "alternative" religious concepts. Men who went to war found themselves fighting not only to defend their homes and property but also their right to hold ideas and beliefs that did not always square with the old, established order. While empires were still the preferred form of state management, colonization and rebellion were disrupting the old order. Meanwhile, the concept of monarchy was solidified and connected to religion—kings sat on thrones because God wanted them there. Worldwide trade connections made new and exotic products available to an emerging middle class; this growing trade meant that economies became increasing complex. At the same time that the world appeared to be opening up, those who saw these economic changes as a threat fought against them. While science made new revelations about the universe and how it worked, religious leaders worked diligently to prevent any challenges to a religious understanding of the universe.

Seventeenth-century Europe was the catalyst for much of this change. There were numerous reasons that Europeans were poised and motivated to reach out to a wider world. The Crusades had given them good reasons to build bigger and better ships that could carry armies to the Levant and bring imported goods home. One of these goods was gunpowder, invented in China and used in cannon; Europeans were the first people (along with the Japanese) to create a gun, essentially a handheld cannon. Europe's appetite for luxury goods from east and south Asia was whetted by the Crusades and fed by means of the comparatively open access to trade routes brought about by the success of the Mongol empires. Ever since the Renaissance opened up the Europeans' knowledge of geography, mapmakers were able to produce the maps that allowed explorers, conquerors, and merchants to travel the world. The Protestant Reformation unleashed competition between Catholics and Protestants and meant that priests and clerics also roamed the globe, looking for more and more souls to convert to their faith. Bigger ships and better maps meant that people could far more easily travel the oceans and seas that covered 80 percent of the planet to get to lands that were previously out of reach. Gunpowder and cannons meant that the new arrivals could not only defend themselves but also gain the wealth and power they sought, whether they were motivated by economic or religious purposes. The seventeenth century would prove to be an era when European adventurism reached its height.

It was also an era when crises throughout continental Europe reached a high point, due largely to disputes over religion. The Thirty Years' War exhausted all of the states involved, both Catholic and Protestant; an estimated one third of the people of Germany died either as casualties of war or from the famine, disease, and other hardships that came along with the war. Oddly, though, the state experiencing the most turmoil was

England, even though it remained largely removed from the war on the continent. The English had their own problems, including a brutal debate over the structure of the Church of England and the power of the reigning Stuart monarchs. Life in England was, as Thomas Hobbes famously formulated it, "nasty, brutish and short." When the Stuart king James I ascended to the throne, he brought with him a strong conviction about the divine right of kings, a concept which met strong resistance from his people, who believed they deserved to be consulted on matters of government and power, as they had when the Tudors were in power. Puritans in Parliament were especially aggravated over the king's insistence on maintaining a hierarchical structure in the Church of England that they found far too reminiscent of Catholicism for their liking. The situation deteriorated under Charles I, until finally he took up arms against Parliament in what became the English Civil War (1642-1649). Charles lost the war as well as his own head, leaving England's Puritans to rule simultaneously over all four nations of the British Isles— England, Wales, Scotland and Ireland—a rule which they managed very badly. By 1660, life had become so anarchic in Britain that the army invited Charles II to return to the throne to restore order. Yet Charles himself was repeatedly in conflict with his parliament. The situation only worsened under Charles's brother, James II, who was a converted Catholic. Parliament was offended both by James's religion and the fact that his wife gave birth to a Catholic son and heir. Members of Parliament found this intolerable enough to run James out of the country in favor of his Protestant daughter, Mary, and her Protestant husband, William. All of this turmoil ultimately resulted in a peaceable, representative, and religiously diverse state in the eighteenth century. The process of getting there, though, was as turbulent and momentous as any in European history.

There was an outlet for those who wanted to escape the turmoil in England, and indeed in all of Western Europe—the Americas. After the Spanish and Portuguese settled colonists in Central America, South America, and the Caribbean in the sixteenth century, the seventeenth century saw a regular stream of people gambling on a move across the Atlantic to expand their economic and religious opportunities in North America. The English were the most numerous—they had the most reason to leave. The colony of Virginia was established on the east coast of North America, centered around a town named for their monarch, Jamestown. For years, the colonists struggled until they discovered a product that could be exported home at a profit—tobacco. The colonists still struggled against disease and hostile Indians throughout the century, but in general, Virginia prospered, especially once the colonists turned to a hardier labor force, in the form of African slaves. The inhumanity of slavery and its aftereffects would become a blight on the new nation's history for centuries to come.

Meantime, to the north, other colonists settled near Cape Cod in a colony they named after their home in England—Plymouth. The Plymouth "Pilgrims" had a different agenda from Jamestown's colonists. They intended to create a model Protestant religious community, a "city on a hill" as an example to the rest of the world of how to establish a proper Christian world. While profit was a necessity, it was distinctly secondary to living an upright and righteous life. Economic gains were understood to be the result of whether or not God smiled on the community. The colony proved successful enough to attract many Puritans who chose to leave England rather than stay and do battle against Charles I, and they started a second colony in Massachusetts Bay around the town they named Boston. Yet, as much as the colonists wished for their own religious freedom, they were also quite willing to suppress religious ideas they did not find suitable themselves. Colonists who wanted true religious tolerance moved to Maryland where they lived under the government of the Catholic Lord Baltimore. Later, Quakers settled in the colony of William Penn, called Pennsylvania.

The French and Dutch also set up colonies in North America—the French along the St. Lawrence River in the region they called New France (later Quebec) and the Dutch along the Hudson River in New Netherlands (modern day New York). Both sets of colonists maintained much better relations with the native Americans living in these areas than did the English, largely because the French and the Dutch relied on the native Americans for their help in securing the pelts that went into the lucrative fur trade. The Portuguese, meanwhile, supported their colonies, not by engaging with the indigenous peoples, but by bringing slaves from Africa to work their sugar plantations in Brazil.

In the climate of religious mayhem in Europe, it was vital to both Catholics and Protestants to acquire more souls to worship God in the appropriate manner. The Catholics were more ambitious. Jesuits traveled all over the world to teach the word of God, with their major

goal being East Asia— Japan and China. The peoples there had different reactions to the coming of Christianity. In Japan, Christian missionaries arrived just after a vast civil war had come to an end. In this atmosphere of distrust and potential rebellion, the Tokugawa shoguns chose to ban Christianity altogether and cut Japan off from all but the most circumscribed European trade traffic. In China, Jesuits arrived during a period of economic prosperity so great that there was a dynastic turnover from the Ming to the Qing with few long-term economic consequences whatsoever. In this economically secure civilization, Jesuit missionaries were allowed to spread Christianity amongst elites in China, including the emperor Kangxi, who may have considered converting sometime during the 1690s.

The seventeenth-century Muslim world was divided into three empires of power and prosperity—the Safavids in Persia; the Ottomans in southern Europe, the Near East and North Africa; and the Mughals in south Asia. The Ottomans and Mughals in particular lived in multi-religious empires, celebrating their diversity and striving to treat all their subjects with Muslim compassion and responsibility. Internally, each empire was a paragon of stability, as we know from the contemporaneous reports from travelers to the region; externally, these empires sowed the seeds of their own decline by opening themselves up to European traders, whose economies often depended on their ability to distribute Turkish or Indian goods around the world.

The world of the seventeenth century may seem far removed from our own in terms of the level of its scientific understanding, material wealth, and its strict adherence to religious practices. Yet in many ways, the seventeenth century is much like the twenty-first. We can point to a growing decline in the numbers of those who count themselves as practicing members of a particular religion in more "Westernized" nations, at the same time that religious fundamentalists of all stripes plant their values like flags dotting the globe as a declaration of their rejection of the culture and mores of the decadent societies of the Western world. People who travel the planet today may well find themselves facing hostile populations when they arrive at a new destination. Democracy appears to be the most sought-after political system around the world, and yet even in democratic societies, many complain that economic elites have used lobbying and influence-peddling to subvert the system and bend it to their own ends. These elites work tirelessly for their interests, which are sometimes at odds with the interests of the majority. Science and technology are changing at an amazing pace, but while computers, microchips, and the internet are spurring advances on many fronts, they also carry the seeds that can grow into new harms to societies as they invade the private lives of those who embrace the brave new world. Yet those who lack the means or the education to be part of the technological revolution are being left behind. It can be argued that the twenty-first century, just like the seventeenth century, marks a period of transition between a modern and postmodern world. Viewed through that lens, the fundamental differences between the seventeenth century and ours do not appear so great.

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Letter of Cardinal Bellarmine to Paolo Antonio Foscarini concerning Galileo's Theories

Date: 1615
Author: Robert Cardinal Bellarmine
Genre: Correspondence

Summary Overview

In April 1615, Robert Cardinal Bellarmine wrote a letter to Paolo Antonio Foscarini, a priest and scientist, about the theories of another scientist, Galileo Galilei, on heliocentrism. The letter is an important document in the first phases of the conflict over Galileo's research. Eighteen years later, in 1633, the Roman Catholic Church put Galileo on trial, and he was convicted for teaching a Copernican view of the universe. The debate between supporters of the new heliocentric Copernican model, where the Earth and humankind lose their central place in the universe, and those who continued to defend the traditional Ptolemaic and Aristotelian system reveals the obstacles for science and scientists in gaining independence from religion and theologians. Aristotelian cosmology had become an integral part of Christian theology during the Middle Ages. Therefore, new physical and astronomical theories could be accepted only if they did not contradict Aristotelian cosmology and sacred scripture. Although Galileo himself had tried to prove that scientific discoveries and scripture were compatible in his famous letter to the Benedictine abbot and mathematician Benedetto Castelli (December 21, 1613), such contradiction was apparent in the case of the Copernican model. The Bible itself, in the Old Testament, contains explicit references to the Earth's immobility and the sun's movement around it.

Robert Bellarmine's letter to the Carmelite theologian Foscarini defended the authority of the Church to interpret sacred scripture and offered a possible compromise on Copernicus's theories. They could be accepted if they were treated as mere mathematical hypotheses to explain natural and physical phenomena, but they were to be condemned as heresy when treated as if they were absolutely true.

Defining Moment

The trial of Galileo Galilei, held in 1633, was one of the pivotal events in Western history. It marked a point where the Renaissance came to an end and the Scientific Revolution began to build momentum, when challenges to the authority of the Roman Catholic Church as an institution advanced beyond only politics or religion. Galileo would later be recognized as the founder of modern physics and astronomy.

Robert Cardinal Bellarmine, one of the central figures of the controversy surrounding Galileo, tried to steer through the rapids of Catholic ideology and scientific inquiry, and managed to clear neither.

In 1543, just before his own death, the Polish physicist Nicolaus Copernicus published *On the Revolutions of the Heavenly Spheres*, a work in which he posited that the Earth rotated around the sun once a year, as opposed to the sun orbiting the Earth. Copernicus also believed the Earth rotated on its own axis over the course of a day, explaining day and night as the sun appeared on different sides of the Earth at different times.

This theory was in direct contrast to the accepted notion of how the universe worked, as laid out by the Roman geographer Ptolemy in the year 150. Ptolemy believed the Earth was the center of the universe, and the moon, sun, planets, and stars orbited around it in concentric circles. Thomas Aquinas had translated Ptolemy into Catholic theology; the idea of the Earth at the center of the universe placed man at the center of the universe, too, which corresponded with Old Testament teachings.

Most scientists and intellectuals did not believe Copernicus; it seemed self-evident, and easily observable, that the Earth did not move at all, while the sun rotated through the sky every day. Yet over the course of the sixteenth century, more and more astronomers tested Copernicus's theories and came to the same conclusion. One was Galileo Galilei, mathematician and philosopher. Galileo kept his theories to himself, for fear of ridicule; he was a pious Catholic whose daughter had become a nun. Yet once he invented the telescope in 1609, he believed he had the tool available to prove the theory of heliocentrism—that the sun is the center of the universe—to a skeptical world, and to transform Catholic teachings and belief on the subject. He published *Letters on the Solar Spots* in 1613, defending Copernicus.

The *Index Librorum Prohibitorum*, a list of books banned by the Catholic Church. Following the Inquisition's 1616 judgment, the works of Copernicus, Galileo, Foscarini, Kepler and others advocating heliocentrism were banned. [Public domain], via Wikimedia Commons

The problem with heliocentrism was that it directly contradicted statements in the Bible's Old Testament. The Book of Joshua, 10:13, states that "the sun stood still in the midst of heaven." The Roman Catholic Church was likewise inclined to follow the Aristotelian conception of the universe, and Aristotle believed the sun revolved around the Earth. Galileo countered by arguing that new knowledge might allow the Bible to be interpreted more symbolically than literally; however, instead of calming the controversy, Galileo ended up having to answer to the Roman Inquisition.

Looking for character witnesses in his defense, Galileo turned to a cardinal he had met before, Robert Cardinal Bellarmine. Bellarmine had hosted Galileo in 1611, heard his ideas, and looked through a telescope. Yet while he was impressed, Bellarmine did not agree with Galileo's theories on the arrangement of the universe. Like most of the rest of the Catholic hierarchy, Bellarmine was largely concerned with the maintenance of the Church's predominant role in European education and society; if such a position either upheld scientific discovery or contradicted it, so be it.

To respond to Galileo, Bellarmine wrote a letter to a contemporary of Galileo's in the Church, Paolo Antonio Foscarini. Foscarini was an adherent of Copernicus's theory of heliocentrism, too; it is possible that he and Galileo were working together to publicize Copernican ideas. Foscarini had tried unsuccessfully to get the Church to recognize heliocentrism; for his trouble, Foscarini's works ended up on the Vatican's Index of Forbidden Books. He died soon afterward in 1616.

Author Biography

Robert Cardinal Bellarmine was one of the most influential Jesuit theologians of the seventeenth century and a major figure in the Inquisition. He joined the Society of Jesus in 1560 and was ordained in 1570 while he taught at Louvain in modern-day Belgium, a predominantly Protestant area. He became a reliable and thoughtful counter to the arguments of Protestants against Catholicism, writing a work called *De Controversiis* to address Protestant criticisms of Catholicism. In 1597 Bellarmine became the official theologian of Pope Clement VIII; he was made a cardinal in 1599 and spent his time in Rome after 1605. Bellarmine made his name in a long-term intellectual exchange with King James I of England over the power of the pope being superior to the divine right of kings. Pope Clement VIII made Bellarmine the point man in the arguments against the Copernican theory of heliocentrism and Paolo Antonio Foscarini. Bellarmine died in 1621.

HISTORICAL DOCUMENT

Letter from Cardinal Bellarmine to Paolo Antonio Foscarini Concerning Galileo's Theories

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

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

Second. I say that, as you know, the Council prohibits expounding the Scriptures contrary to the common agreement of the holy Fathers. And if Your Reverence would read not only the Fathers but also the commentaries of modern writers on Genesis, Psalms, Ecclesiastes and Josue, you would find that

all agree in explaining literally (*ad litteram*) that the sun is in the heavens and moves swiftly around the earth, and that the earth is far from the heavens and stands immobile in the center of the universe. Now consider whether in all prudence the Church could encourage giving to Scripture a sense contrary to the holy Fathers and all the Latin and Greek commentators. Nor may it be answered that this is not a matter of faith, for if it is not a matter of faith from the point of view of the subject matter, it is on the part of the ones who have spoken. It would be just as heretical to deny that Abraham had two sons and Jacob twelve, as it would be to deny the virgin birth of Christ, for both are declared by the Holy Ghost through the mouths of the prophets and apostles.

Third. I say that if there were a true demonstration that the sun was in the center of the universe and the earth in the third sphere, and that the sun did not travel around the earth but the earth circled the sun, then it would be necessary to proceed with great caution in explaining the passages of Scripture which seemed contrary, and we would rather have to say that we did not understand them than to say that something was false which has been demonstrated. But I do not believe that there is any such demonstration; none has been shown to me. It is not the same thing to show that the appearances are saved by assuming that the sun really is in the center and the earth in the heavens. I believe that the first demonstration might exist, but I have grave doubts about the second, and in a case of doubt, one may not depart from the Scriptures as explained by the holy Fathers. I add that the words "the sun also riseth and the sun goeth down, and hasteneth to the place where he ariseth, etc." were those of Solomon, who not only spoke by divine inspiration but was a man wise above all others and most learned in human sciences and in the knowledge of all created things, and his wisdom was from God. Thus it is not too likely that he would affirm something which was contrary to a truth either already demonstrated, or likely to be demonstrated. And if you tell me that Solomon spoke only according to the appearances, and that it seems to us that the sun goes around when actually it is the earth which moves, as it seems to one on a ship that the beach moves away from the ship, I shall answer that one who departs from the beach, though it looks to him as though the beach moves away, he knows that he is in error and corrects it, seeing clearly that the ship moves and not the beach. But with regard to the sun and the earth, no wise man is needed to correct the error, since he clearly experiences that the earth stands still and that his eye is not deceived when it judges that the moon and stars move. And that is enough for the present. I salute Your Reverence and ask God to grant you every happiness.

Document Analysis

Cardinal Bellarmine wrote this letter as a reply to a treatise by Foscarini, who, in a fashion similar to Galileo in his letter to Castelli, had argued for the compatibility of Copernican discoveries with scripture. However, Bellarmine makes it clear immediately that his remarks apply to Galileo, too. After the conventional greetings, in what has sometimes been interpreted as an ironic passage, Bellarmine praises Foscarini and Galileo in that they treated the Copernican system as a mathematical hypothesis, not as absolute truth. This, the Jesuit argues, is the spirit in which Copernicus himself made his heliocentric observations, which were not meant to describe the real condition of things but merely to find a better explanation for some phenomena ("all the appearances are saved better"). It is debatable whether Bellarmine really believed that Copernicus spoke hypothetically and did not regard his system as representing the real structure of the universe. Rhetorically, Bellarmine's opening remarks on the difference between a mathematical hypothesis and an absolute, true demonstration also serve as a warning to the two addressees to conform to the official Ptolemaic and Aristotelian view of the universe. In fact, speaking of Copernicus's ideas as if they were absolute truth would both irritate theologians and harm religious faith by making "the Holy Scriptures false."

In the second point of his argument, Bellarmine addresses Galileo and Foscarini's argument that scripture could be interpreted in ways that would not conflict with Copernican theories. The Jesuit recalls the Canons and Decrees of the Council of Trent, which, to counter the Reformation, prohibited new readings of

the scriptures that went against those of the Holy Fathers. This proscription effectively limited the possibility of personal interpretations of the texts that could not benefit from the authority of the tradition. Bellarmine explicitly states that traditional exegeses clearly place the Earth at the center of the universe and conceives of the sun as moving around it. Therefore, to propose a heliocentric view of the universe would be just as heretical as challenging the dogma of "the virgin birth of Christ."

In his third and final point of the letter, Bellarmine makes recourse to the traditional Aristotelian hierarchy of knowledge, where astronomical laws proved through mathematical methods merely represent a possibility, while the principles of natural philosophy are absolute, and their truth does not need to be demonstrated. Bellarmine's concept of science, therefore, is radically different from the scientific practice embodied by Galileo. Galileo was a man of the Scientific Revolution and the scientific method as defined by Francis Bacon at the time. He observed phenomena, posited a hypothesis to explain what he observed, and then tested the hypothesis to find a general principle of explanation. On the contrary, Bellarmine's starting point must be an absolute principle that then leads to certain consequences. While the Aristotelian view of science started from the causes to explain the effects, the new Galilean and Copernican science would follow the opposite direction. On the specific matter of heliocentrism, Bellarmine added that common sense, too, goes against it, as we experience every day the fact that the Earth stands still. However, some historians have interpreted this third point as treating the heliocentric view as a possibility and thus as blurring the boundaries between absolute and possible truth. This is read as an attempt by Bellarmine and the Jesuits to keep the debate with Galileo open, despite the charges of heresy that were beginning to circulate.

Essential Themes

After Cardinal Bellarmine's warning, Galileo asked for a hearing from the Vatican on his ideas. Eleven theologians were asked to comment on two propositions: 1) that the sun is at the center of the universe and does not move, and 2) the Earth moves to orbit the sun. On February 23, 1616, the theologians unanimously ruled that both propositions were statements of heresy, and Copernicus's work was prohibited for Catholics to read. Bellarmine brought Galileo before Pope Paul V two days later and told Galileo to drop his heretical ideas and abandon teaching them. Galileo apparently acquiesced, according to Church records. Cardinal Bellarmine did leave open the possibility that Galileo might be correct, but he would have to find better proof that the Earth revolved around the sun. This kept Galileo busy enough to be quiet, and he dropped his advocacy of Copernican science.

Then in 1623, a new pope, Urban VIII, came to the Vatican. Galileo and Urban had known each other before—they were both from Florence. Before his appointment as pope, Urban VIII had been Maffeo Cardinal Barberini, and he had advocated for Galileo with the Inquisition back in 1616. Urban was a man of science, and called for six audiences with Galileo to discuss the latter's ideas. Galileo was urged to publish his findings on the universe, and he completed his masterwork, *Dialogue Concerning the Two Chief World Systems* (1632). The book was a narrative of an argument among three characters over the nature of the universe. The most persuasive character argued that Copernicus was right and that the Earth revolved around the sun. The pope agreed with these ideas, so long as Galileo put forward a hypothesis on the universe without positing it as the absolute scientific truth.

Wherein lay the problem: So far as Galileo was concerned, his theory had already been tested scientifically and found to be true; thus, there was nothing hypothetical about it. On the other hand, though, Galileo was a dedicated Catholic Christian. He considered himself loyal to the Church, and he believed his scientific findings would save the Church the embarrassment of error. He was certain the Church would not want to defend a false doctrine if there was proof it was false. In fact, in the *Dialogue*, he gave the old arguments for the Ptolemaic vision of the universe to a character called Simplicio, a simpleton. Unfortunately, these were also the beliefs of Urban VIII, and the depiction made the pope very angry.

When the *Dialogue* was in the manuscript stages, Church officials demanded that Galileo reword portions of it. It languished for a few years until finally being released to an avid intellectual public in 1632. The *Dialogue* sold out right away. The Vatican also demanded that publication cease immediately afterward. Pope Urban VIII turned from an enthusiastic supporter of Galileo to an angry and dangerous enemy, apparently believing that he had been deceived. In September 1632, the pope handed indictments over to the Roman

Inquisition, which accused Galileo of violating his conviction from 1616 by teaching the public about Copernican theory, about which he was supposed to remain silent.

In 1633, Galileo reported to the Vatican, where the Inquisition convicted him, and forced him to sign a deposition and admit that his defense of Copernican theory was incorrect: The sun revolved around the Earth. On June 22, 1633, under threat of torture and the possibility of being burned at the stake, Galileo Galilei was compelled to kneel before the pope and admit that his life's work was wrong. The *Dialogue* was prohibited for Catholics to read, and Galileo himself was imprisoned. He only served a few months before being sent home. He died in 1642, old and broken. Even then, Urban would not allow the grand duke of Tuscany, one of Galileo's patrons, to give Galileo a proper burial. The *Dialogue* would not be allowed off the Catholic list of prohibited books until 1822. And Galileo was not acquitted by the Church until Pope John Paul II looked over the evidence and reversed his conviction in 1992.

—Luca Prono, PhD

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