



*Galileo facing the Inquisition, Christiano Banti, 1857*

## Galileo's Finger

*I do not feel obliged to believe that the same God who endowed us with sense, reason, and intellect has intended us to forgo their use.*

Galileo Galilei, 1615

† THE POPULAR BELIEF IS THAT ALL of Galileo's problems with the Inquisition stemmed from his refusal to recant his discoveries about the nature of the universe. In reality, however, it wasn't Galileo's cosmology which got him into trouble.

It was his attitude.

Galileo's *Sidereus Nuncius*, or *Starry Messenger* (1610), described his telescopic observations of Venus and the moons of Jupiter, discoveries which lent support to Nicolaus Copernicus's heliocentric theory.

By the time of Galileo's first appearance before the Inquisition in 1616, however, many of his discoveries had been verified by the Church's own Jesuit astronomers.

But the Vatican was still wrestling with the issue—the implications of which could have far-reaching consequences for the Church—and it was deemed prudent to impede progress until the Church fathers found a way to accommodate the new discoveries. (One wonders if Galileo contemplated an irony in his situation: At times the planets go 'retrograde'—or appear to travel backwards in their orbits—a tendency no less true in the affairs of men.)

Following his interrogation, Galileo's works advocating Copernicanism were banned, but he was released with only a stern personal warning from Pope Paul V to henceforth "abstain completely from defending this doctrine or opinion."

The election of Maffeo Barberini as Pope Urban VIII in 1623 may have inspired confidence in Galileo that the Church was finally prepared to accept his theories.

While still a cardinal, Barberini had encouraged Galileo in his work, and—considering himself something of a poet—had even written an ode in praise of the scientist after becoming pope.

Deeming himself free of Paul's injunction, Galileo published his *Dialogue Concerning the Two Chief World Systems* in 1632.

But if Galileo presumed it permissible to present evidence supporting the heliocentric theory provided the setting was only hypothetical, he badly misjudged Urban.

The *Dialogue* presents a an imaginary debate about heliocentrism between a Copernican scientist named Salviati and an impartial, witty scholar named Sagredo. Unfortunately, a third character, presenting the argument in favor of Ptolemy's geocentric model, was depicted as intellectually inept. Worse still, Galileo named this character 'Simplicio.' (Galileo insisted that the name was chosen in honor of a famous Aristotelian philosopher, but the inescapable connotation was that of a simpleton.)

Although Galileo had obediently followed Urban's instructions to include the pope's arguments in favor of geocentrism in his book, the pope did not take kindly to seeing them placed in the mouth of an idiot.

In 1633, Galileo, by now an ailing 69-year old, was once again hauled before the Inquisition, and this time he was treated with considerably less deference.

Galileo was not one to suffer fools gladly, but by then his obstinate personality and condescending manner had alienated even the few remaining allies who might have come to his defense. Worse— despite being a lifelong devout Roman Catholic—Galileo had created many sworn enemies among the Jesuits, the intellectual vanguard of the Church and those closest to the pope's ear.

By challenging the pope and alienating the Jesuits, it was Galileo himself who moved the debate out of the realm of science and into the domain of theology. (Replacing the Earth with the Sun at the center of the universe was ill-advised, but displacing the pope at the center was intolerable!)

Galileo would no doubt have been well aware of the fate of another obstinate heliocentric astronomer-philosopher, Giordano Bruno, who was burned at the stake just three decades earlier for— among numerous other impertinences— failing to submit to the authority of the Inquisition, the Church's appointed chief arbiters.

Threatened with torture (it's not known if it was actually administered), Galileo once again agreed to 'abjure, curse, and detest' his heretical teachings, but this time was nonetheless sentenced to imprisonment.

Due to his declining health, his sentence was commuted to house arrest, under which he remained until his death in 1642 at age 77. (It would take the Church a mere three and a half centuries to exonerate the man Einstein would call the 'father of modern science.')

As a final indignity, Urban refused Galileo's wish to be buried with his ancestors in the Basilica of San Croce in Florence, and for nearly half a century his remains were stored in a closet-sized room next to the adjacent chapel. When they were moved in 1737 to an elaborate tomb in the Basilica— to join other illustrious Italians like Michelangelo and Machiavelli—a tooth and three fingers of the right hand were removed.

Today, the Museo Galileo in Florence displays Galileo's skeletal fingers, encased in an ornate glass bell jar. The middle one is tilted noticeably toward Rome, as if to impart a silent rebuke from Galileo and his fellow scientists to his intolerant persecutors. ■