

*Source: Mike Sutton, Historical Profile: Doubts and Paradoxes*

Using an improved air pump built for him by Hooke, Boyle began to study the physics of gases. The results appeared in 1660 as *New experiments physico-mechanical touching the spring of the air and its effects*, and provoked a lively controversy. Soon afterwards, he stated for the first time the inverse relationship between gas pressure and volume we now call 'Boyle's law'. (Robert Boyle, *The Sceptical Chymist*, 1661, Member of the Royal Society in London, which met to witness experiments and discuss what we would now call scientific topics.)

*Source: Sir Isaac Newton, Principia Mathematic (loose translation) 1687*

The first law says that an object at rest tends to stay at rest, and an object in motion tends to stay in motion, with the same direction and speed. Motion (or lack of motion) cannot change without an unbalanced force acting. The second law says that the acceleration of an object produced by a net (total) applied force is directly related to the magnitude of the force, the same direction as the force, and inversely related to the mass of the object (inverse is a value that is one over another number... the inverse of 2 is 1/2). The third law says that for every action (force) there is an equal and opposite reaction (force).

*Source: Marquise Emilie du Chatelet, French aristocrat and scientist, letter to the Marquis Jean Francois do Saint-Lambert, 1749*

Do not reproach me for my work on translating Newton's "Principia," Never have I made a greater sacrifice to Reason. I get up at nine, sometimes at eight. I work till three; then I take coffee; I resume work at four; at ten I stop to eat a morsel alone; I talk till midnight with Voltaire, who comes to have supper with me, and at midnight I go to work again, and keep on till five in the morning. I must do this or lose the fruit of my labors if I should die in childbirth.

*Source: Dorothea Erxleben, first woman to be granted a German M.D. (University of Halle), "Inquiry into the Causes Preventing the Female Sex from Studying," 1742*

Some will feel as if I declare war on men (by practicing medicine) or at least attempt to deprive them of their privilege. Many of my own sex will think I place myself above them.

*Catholic Church's Trial of Galileo Galilei 1633*

In 1613, just as Galileo published his Letters on the Solar Spots, an openly Copernican writing, the first attack came from a Dominican friar and professor of ecclesiastical history in Florence, Father Lorini. Preaching on All Soul's Day, Lorini said that Copernican doctrine violated Scripture, which clearly places Earth, and not the Sun at the center of the universe. What, if Copernicus were right, would be the sense of Joshua 10:13 which says "So the sun stood still in the midst of heaven" or Isaiah 40:22 that speaks of "the heavens stretched out as a curtain" above "the circle of the earth"? Pressured later to apologize for his attack, Lorini later said that he "said a couple of words to the effect that the doctrine of Ipernicus [sic], or whatever his name is, was against Holy Scripture."

Galileo responded to criticism of his Copernican views in a December 1613 Letter to Castelli. In his letter, Galileo argued that the Scripture--although truth itself--must be understood sometimes in a figurative sense. A reference, for example, to "the hand of God" is not meant to be interpreted as referring to a five-fingered appendage, but rather to His presence in human lives. Given that the Bible should not be interpreted literally in every case, Galileo contended, it is senseless to see it as supporting one view of the physical universe over another. "Who," Galileo asked, "would dare assert that we know all there is to be known?"