

# Scientific revolution and secularism

[History](#), [Revolution](#)



In the 17th century, Europe had undergone a drastic change in science, philosophy and politics. With new innovations in science, the world began to demystify and doubts began to disappear as new discoveries were being accomplished and questions about the anatomy, evolution and mankind were being answered. The Scientific Revolution was an indirect cause of the growth of secularism in Western Europe during the 17th century. Scientists attempted to address issues of humanity and the universe, furthermore through new discoveries they challenged preconceived notions. Galileo Galilei, William Harvey and Sir Isaac Newton were among the many scientists who, through experimentation and analysis, arrived at some of the most important scientific developments in history.

Galileo Galilei was an astronomer and a physicist, born in Pisa, Italy and studied at the University of Pisa. He accumulated mathematical and scientific evidence to support the theories Copernicus held of a heliocentric universe, a theory which defied the Church and went against Aristotle's theory of destiny and a divine plan. Galileo started performing controlled experiments such as rolling balls down slopes and measuring their speeds, he showed that motion could be described mathematically (Newman, 2002, p. 72). Galileo's physical experimentation had liberated people from confinement of religion and had initiated questioning of the Church's views. His findings had influenced such philosophers as Locke, Machiavelli and Hobbes who had composed modernistic theories of humans and governments which had little to no room for religion and opinions of the Church. Galileo had challenged three major aspects of the Church's beliefs, one being that there is unification between celestial and terrestrial

mechanics and that the universe is subject to change. The second being his mathematical approach to reasoning which was in sharp contrast to divine revelation as the source of truth and the Church as authority of judgment. Galileo's last aspect that challenged the beliefs of the Church was his support of the heliocentric cosmology, essentially diminishing the geocentric worldview of importance of humans and the idea of scattered stars with no pattern (Arden, 2004). By remodeling the telescope, Galileo had since allowed people to visualize and experience these scientific discoveries. He disproved many long-held assumptions made by the Catholic Church during his time, and through his experimentations encouraged a new train of thought which in turn resulted in the beginning of secularism.

Similar to Galileo, William Harvey had made significant discoveries which contrasted the views of the Church. Harvey was an English physician who was not satisfied with divine power as an explanation for the workings of the human body (Newman, 2002, p. 73). His discoveries in human anatomy were one of the most significant achievements in physiology and medicine in the 17th century, but his work had opposed the Creation Story, which led to skepticism of the Bible. Harvey had made the discovery that humans and animals only had a limited amount of blood by cutting open the vein of an animal and allowing it to pour out (Bhatia, 2010). This was considerably different from the previous thought of blood being a "natural spirit" where it flowed out to "vital spirits" in the heart and "animal spirits" in the brain (Bhatia, 2010). Harvey did not burden himself with these theories but took it upon himself to solve the mysteries of the human body, separating fact from fiction and eluding the beliefs of the Catholic Church. Distinguishing that the

heart was a pump and not a filtration plant where blood simply just passes through (Newman, 2002, p. 74) had created a whole new way of thinking, people now knew how the heart worked and were beginning to doubt the thought of a divine plan and God creating humans, which brought about thoughts of evolution.

In 1642, Sir Isaac Newton combined the knowledge of Galileo and Harvey, along with his own, to create yet another breakthrough in science which resulted in the growth of secularism. Newton accurately described the movements of objects in the solar system and how they move under the influence of universal gravitation (Bhatia, 2010). Newton had further influenced secularism by his discoveries in science, his Three Laws of Motion stated:

if no force acts on an object, it will remain at rest or maintain its constant motion in a straight line

every change of motion or acceleration is proportional to the force that caused the change and inversely proportional to the object's mass

for every action force, there is no equal reaction force in the opposite direction.

(Newman, 2002, p. 73). These Three Laws of Motion had allowed people to make sense of their actions and the actions of the objects they use on a daily basis. Newton had explained things with concrete evidence, along with certain things that had only been explained in biblical texts which allowed more of a separation between government and religion. “ Science and

technology having liberated men from the superstitions of religion, now guaranteed continuous process.” (Genovese, 1997). He showed that God does not make everything happen, which caused people to stray from the belief of divine power and use science as a way of explaining the world.

Newton’s scientific enhancement, along with the works of Harvey on human anatomy and Galileo in astronomy and the universe, had truly boosted the growth of secularism in the 17th century. Through scientific analysis, these three scientists created new thoughts and theories that challenged the assumptions of mankind made by the Catholic Church. It was the beginning of a new era of thinking, an era where evolution of mankind and the universe were proved with scientific evidence and not holy texts. The Scientific Revolution had significantly affected the growth of secularism in the 17th century and has continued to affect secularism in the 21st century, as people still question and doubt God’s existence, faith and religion.