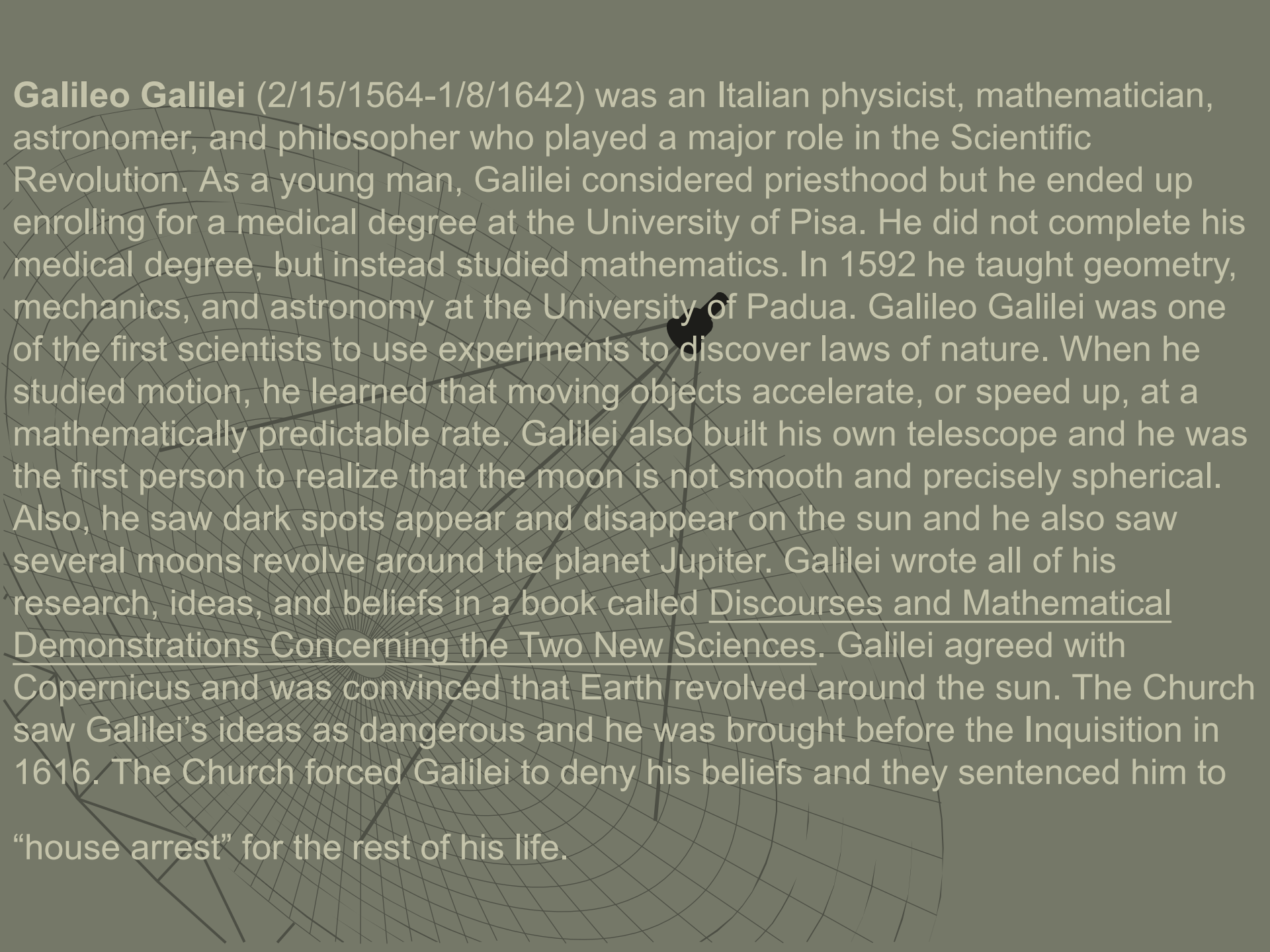


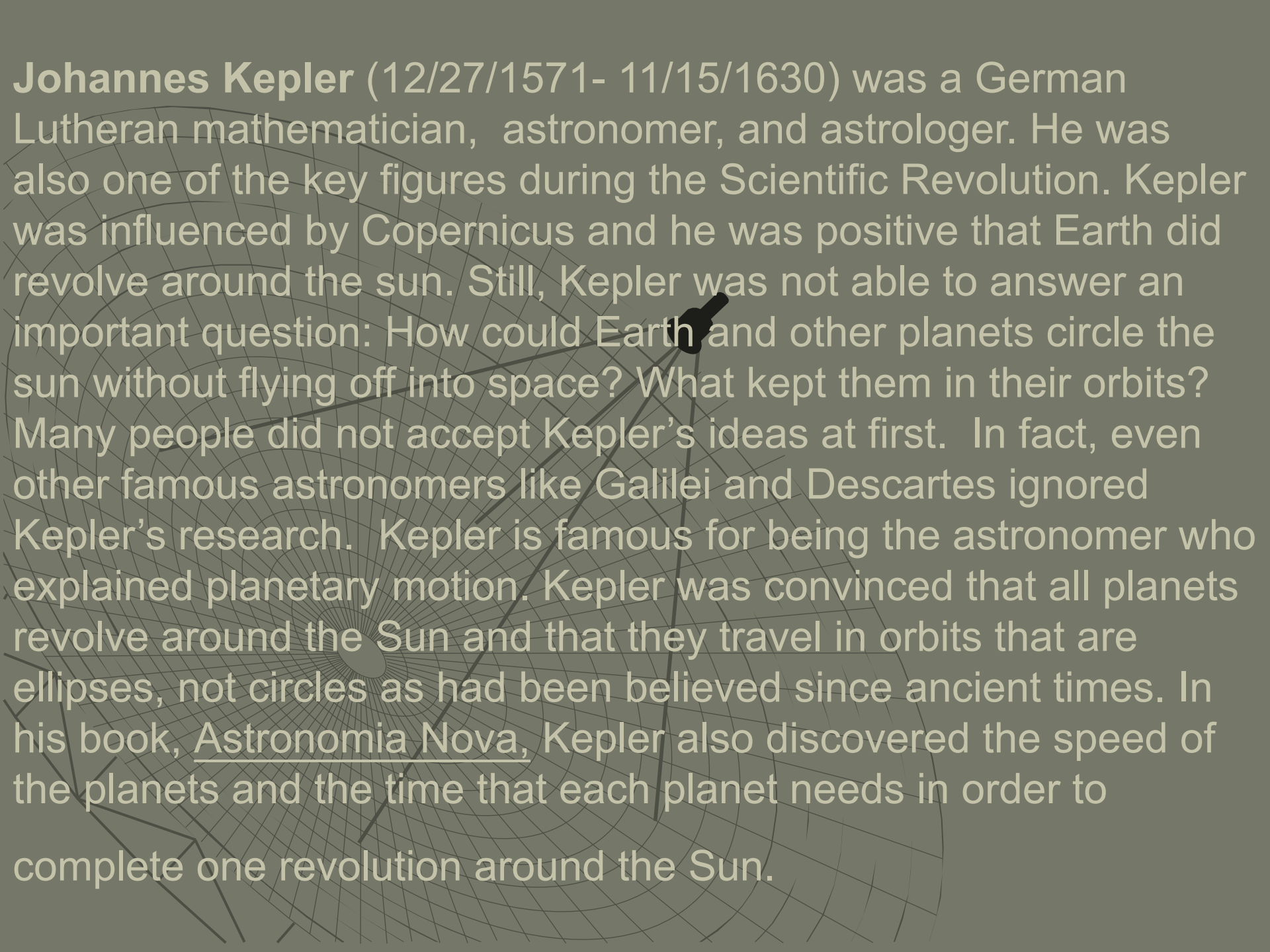
Nicolaus Copernicus (2/19/1473-5/24/1543) was a Polish mathematician, astronomer, jurist, physician, classical scholar, governor, administrator, military leader, diplomat, and economist. He is considered to be the first scientist to argue that the sun, not Earth, was the center of the universe. Copernicus wrote his ideas in a book called On the Revolutions of the Celestial Spheres. Copernicus spent 25 years tracking the movements of the sun, moon, and planets. By using mathematics, Copernicus was convinced that the Earth revolved around the sun. Copernicus feared that his ideas would not be taken seriously because during this time (early 1500's) many people, and the Catholic Church, believed that the sun revolved around Earth. Fearing for his safety, Copernicus did not publish his work until 1543, the same year that he died. As expected, most people ridiculed his conclusion and did not believe Copernicus. However, Copernicus inspired and influenced other astronomers, like Galileo Galilei.



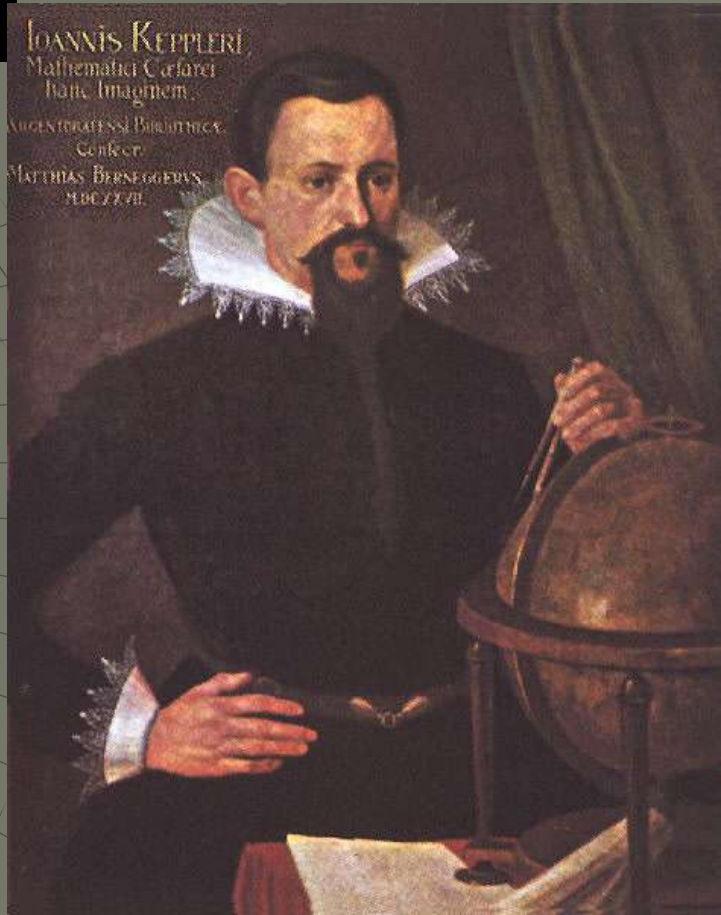
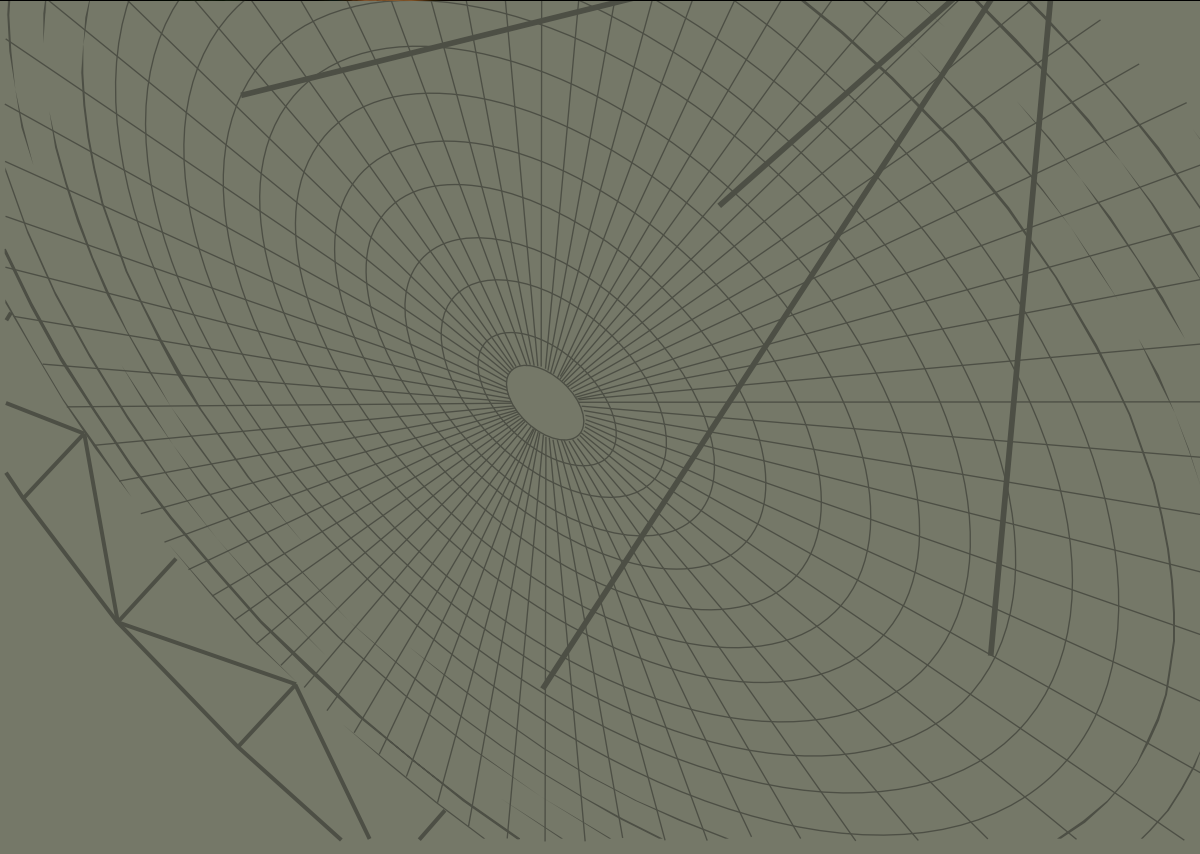


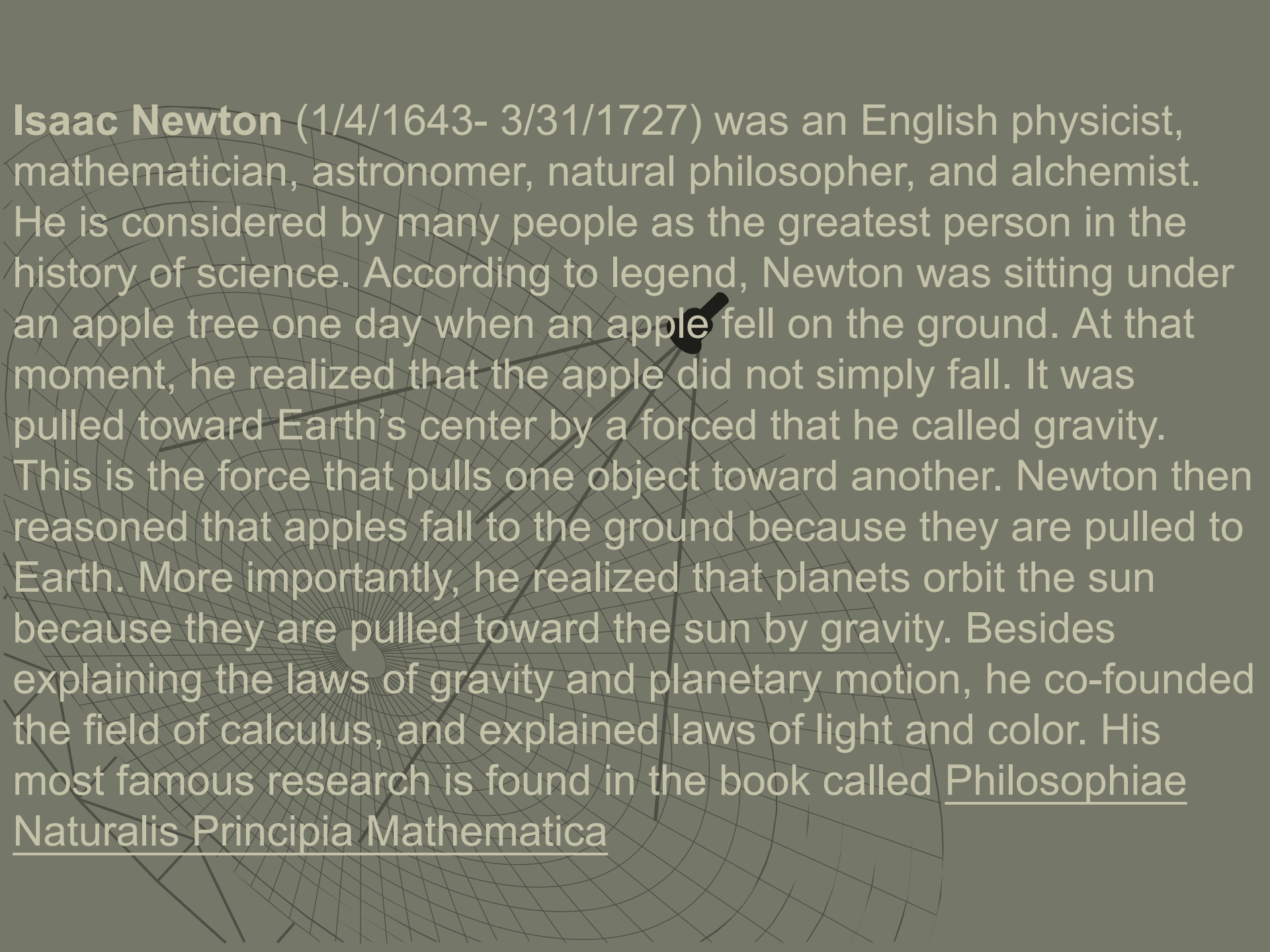
Galileo Galilei (2/15/1564-1/8/1642) was an Italian physicist, mathematician, astronomer, and philosopher who played a major role in the Scientific Revolution. As a young man, Galilei considered priesthood but he ended up enrolling for a medical degree at the University of Pisa. He did not complete his medical degree, but instead studied mathematics. In 1592 he taught geometry, mechanics, and astronomy at the University of Padua. Galileo Galilei was one of the first scientists to use experiments to discover laws of nature. When he studied motion, he learned that moving objects accelerate, or speed up, at a mathematically predictable rate. Galilei also built his own telescope and he was the first person to realize that the moon is not smooth and precisely spherical. Also, he saw dark spots appear and disappear on the sun and he also saw several moons revolve around the planet Jupiter. Galilei wrote all of his research, ideas, and beliefs in a book called Discourses and Mathematical Demonstrations Concerning the Two New Sciences. Galilei agreed with Copernicus and was convinced that Earth revolved around the sun. The Church saw Galilei's ideas as dangerous and he was brought before the Inquisition in 1616. The Church forced Galilei to deny his beliefs and they sentenced him to "house arrest" for the rest of his life.





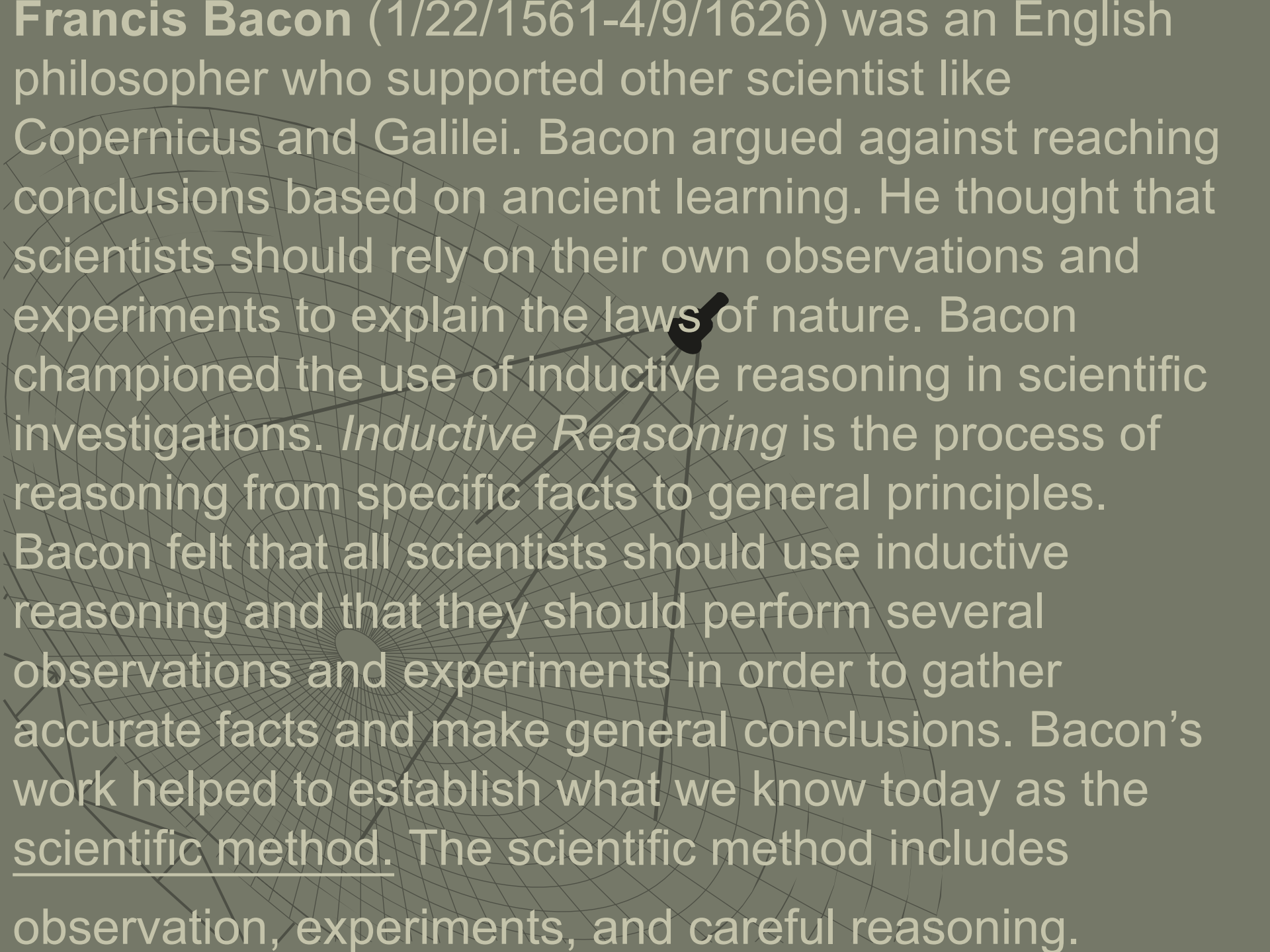
Johannes Kepler (12/27/1571- 11/15/1630) was a German Lutheran mathematician, astronomer, and astrologer. He was also one of the key figures during the Scientific Revolution. Kepler was influenced by Copernicus and he was positive that Earth did revolve around the sun. Still, Kepler was not able to answer an important question: How could Earth and other planets circle the sun without flying off into space? What kept them in their orbits? Many people did not accept Kepler's ideas at first. In fact, even other famous astronomers like Galilei and Descartes ignored Kepler's research. Kepler is famous for being the astronomer who explained planetary motion. Kepler was convinced that all planets revolve around the Sun and that they travel in orbits that are ellipses, not circles as had been believed since ancient times. In his book, Astronomia Nova, Kepler also discovered the speed of the planets and the time that each planet needs in order to complete one revolution around the Sun.





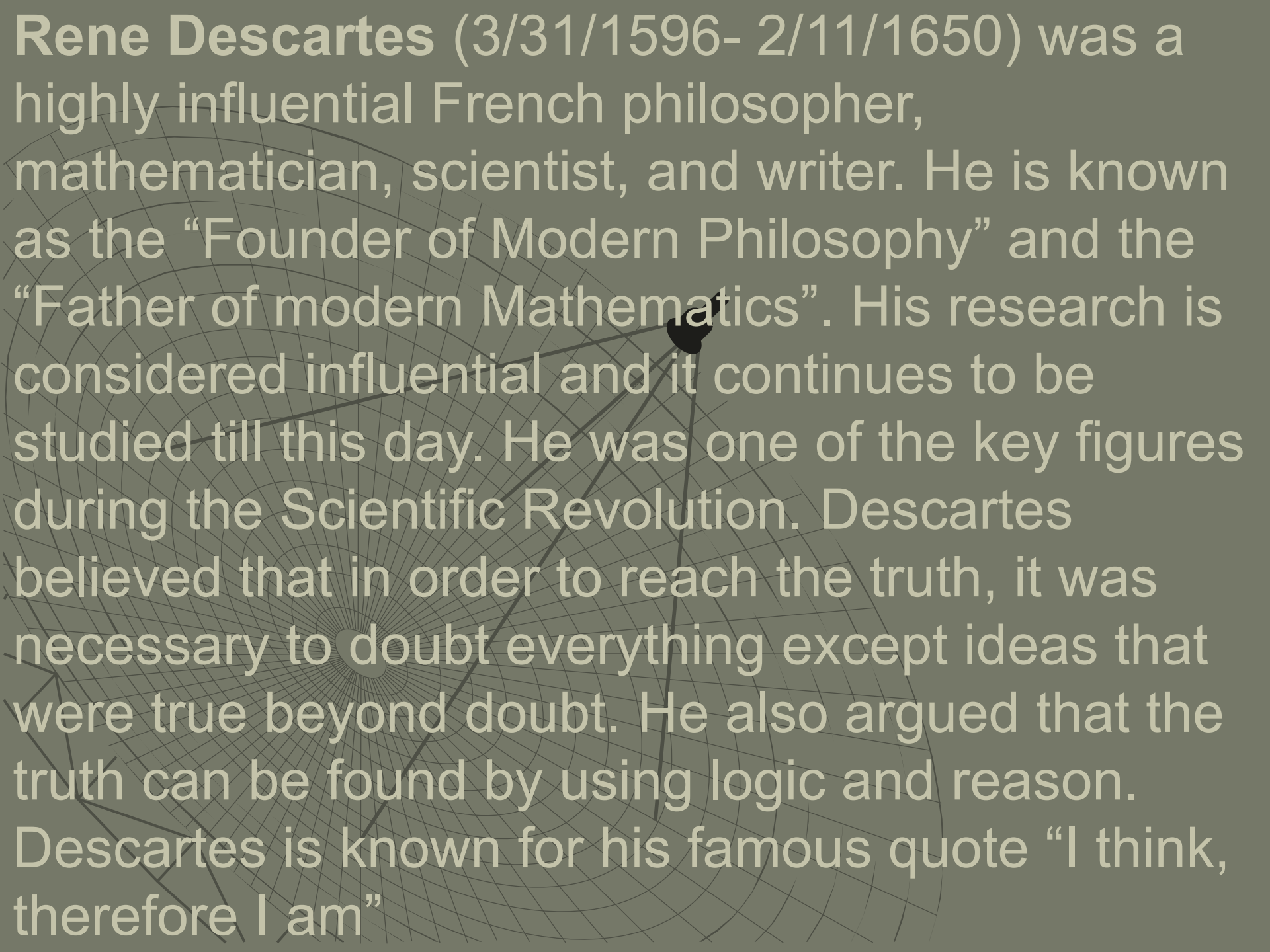
Isaac Newton (1/4/1643- 3/31/1727) was an English physicist, mathematician, astronomer, natural philosopher, and alchemist. He is considered by many people as the greatest person in the history of science. According to legend, Newton was sitting under an apple tree one day when an apple fell on the ground. At that moment, he realized that the apple did not simply fall. It was pulled toward Earth's center by a force that he called gravity. This is the force that pulls one object toward another. Newton then reasoned that apples fall to the ground because they are pulled to Earth. More importantly, he realized that planets orbit the sun because they are pulled toward the sun by gravity. Besides explaining the laws of gravity and planetary motion, he co-founded the field of calculus, and explained laws of light and color. His most famous research is found in the book called Philosophiæ Naturalis Principia Mathematica



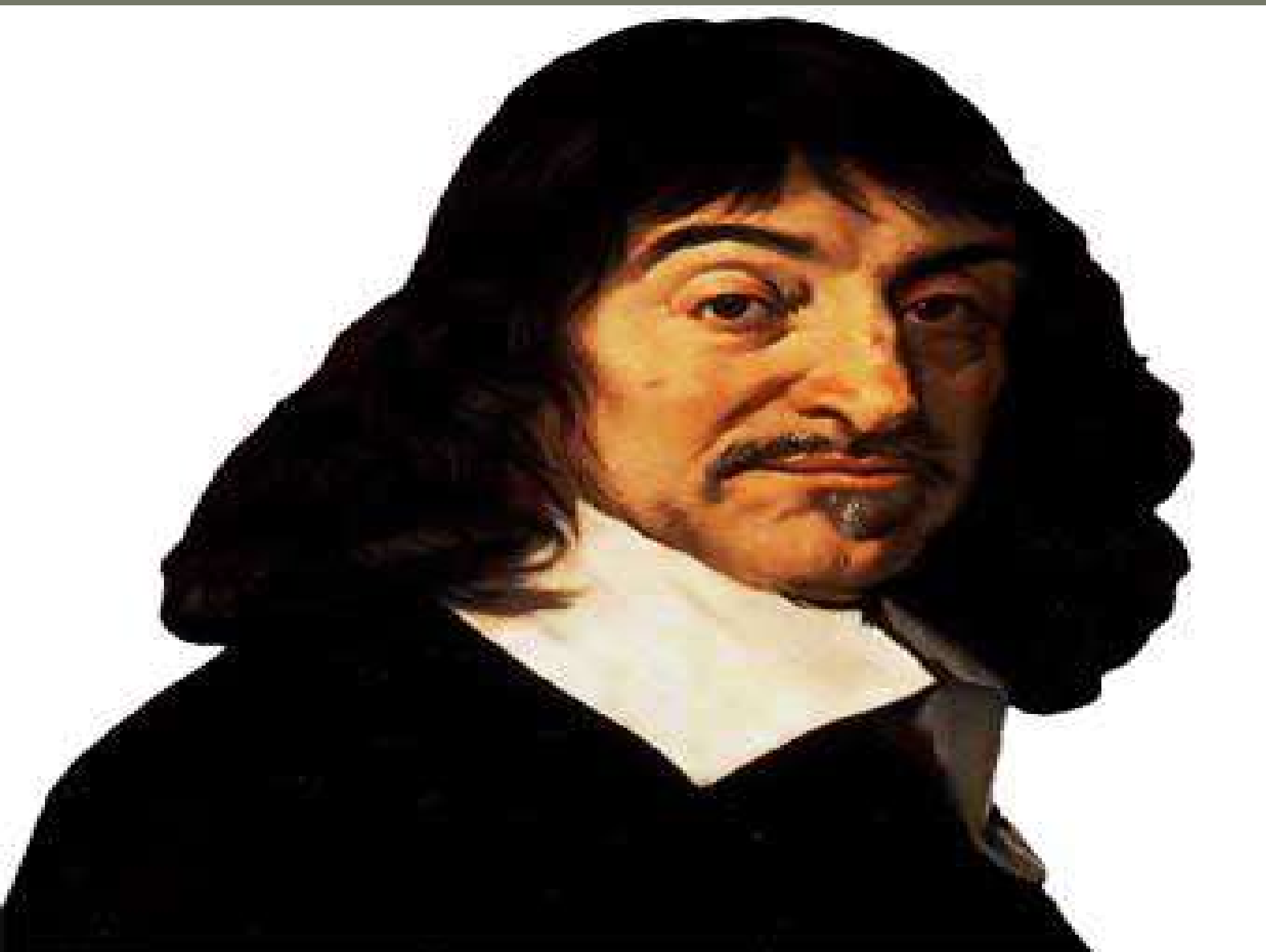
The background features a dark grey globe with a white spiderweb pattern overlaid on it. A black pushpin is pinned to the globe, with its point resting on the text. The text is in a light grey, sans-serif font.

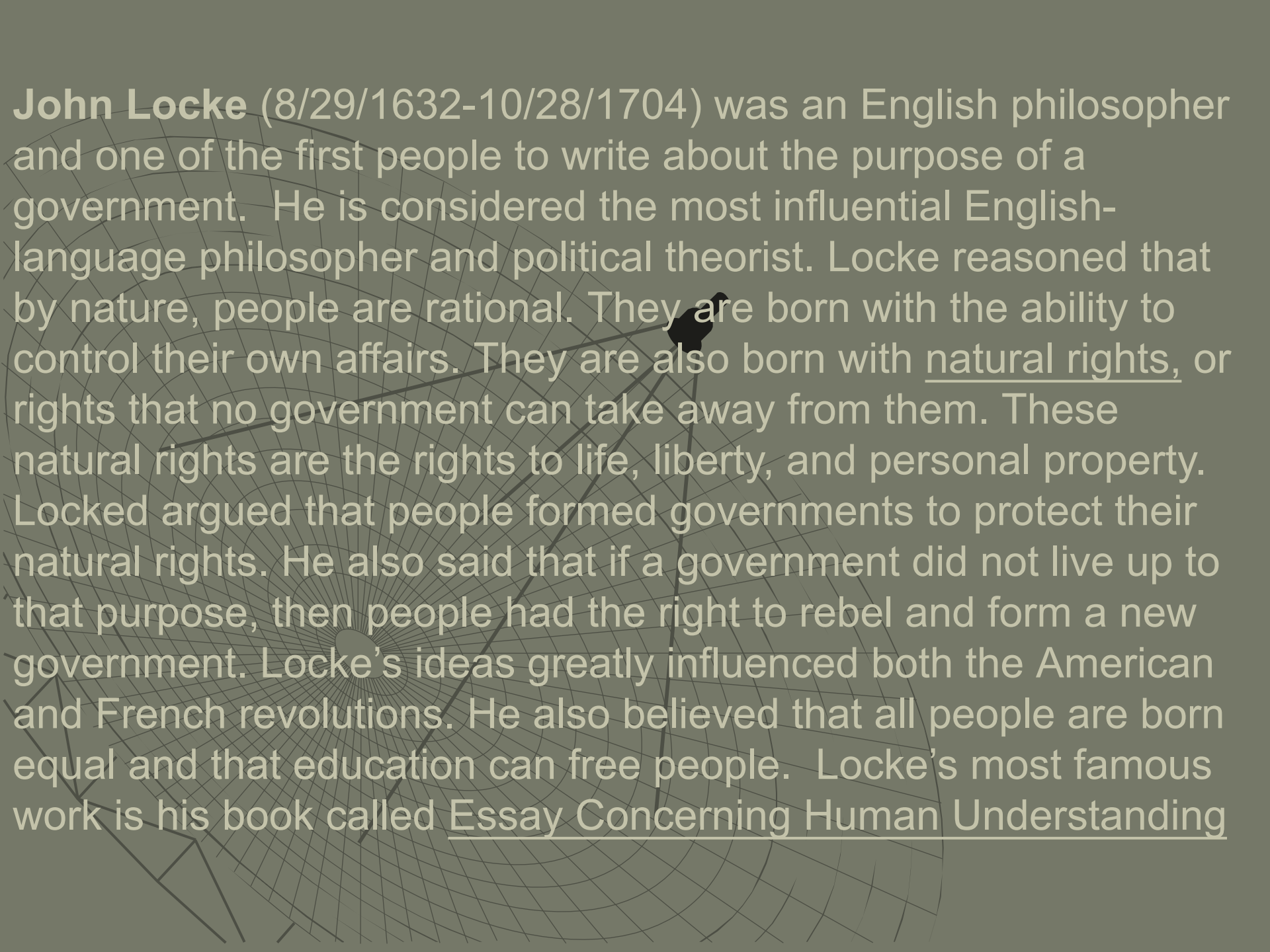
Francis Bacon (1/22/1561-4/9/1626) was an English philosopher who supported other scientist like Copernicus and Galilei. Bacon argued against reaching conclusions based on ancient learning. He thought that scientists should rely on their own observations and experiments to explain the laws of nature. Bacon championed the use of inductive reasoning in scientific investigations. *Inductive Reasoning* is the process of reasoning from specific facts to general principles. Bacon felt that all scientists should use inductive reasoning and that they should perform several observations and experiments in order to gather accurate facts and make general conclusions. Bacon's work helped to establish what we know today as the scientific method. The scientific method includes observation, experiments, and careful reasoning.



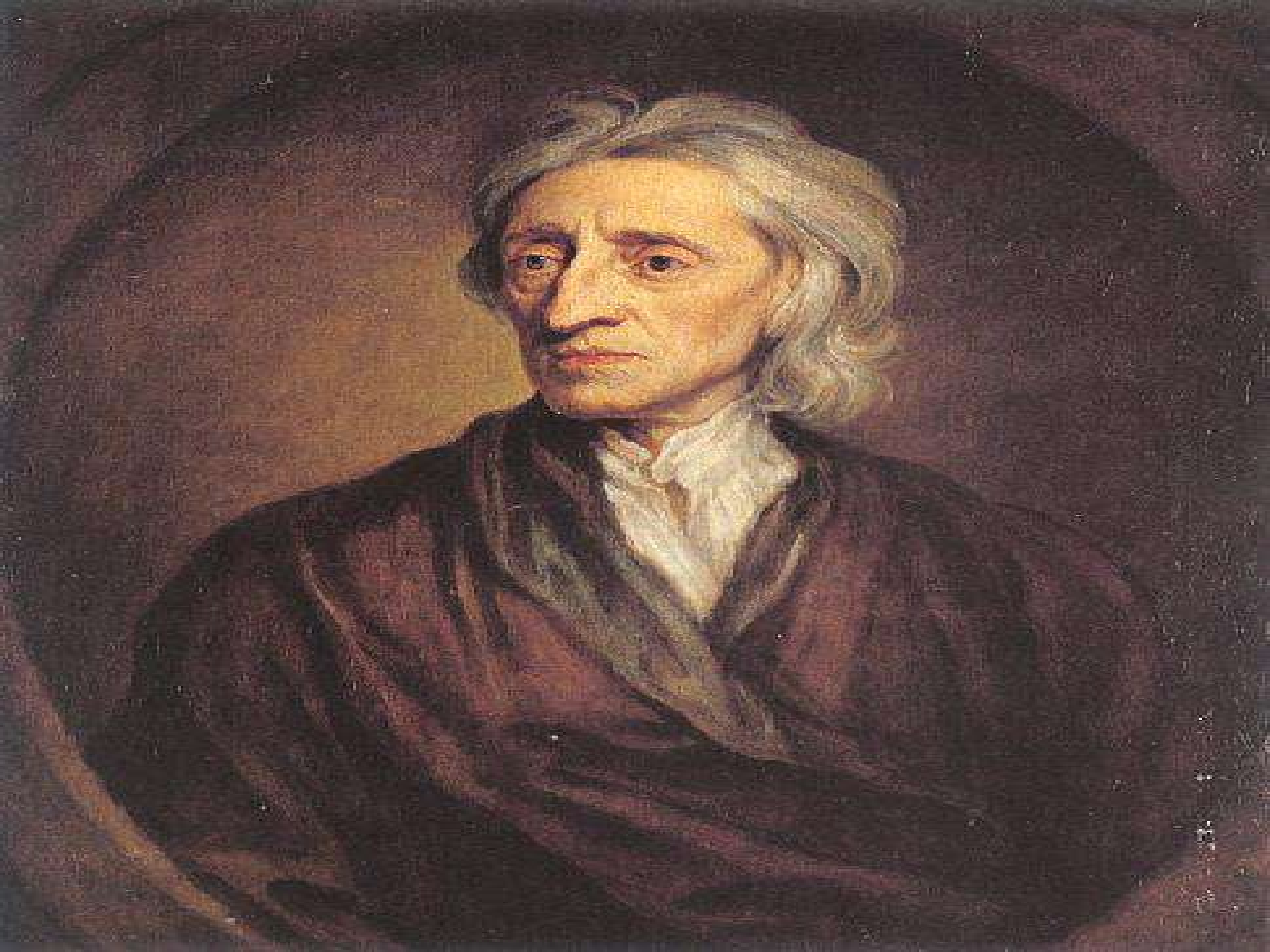


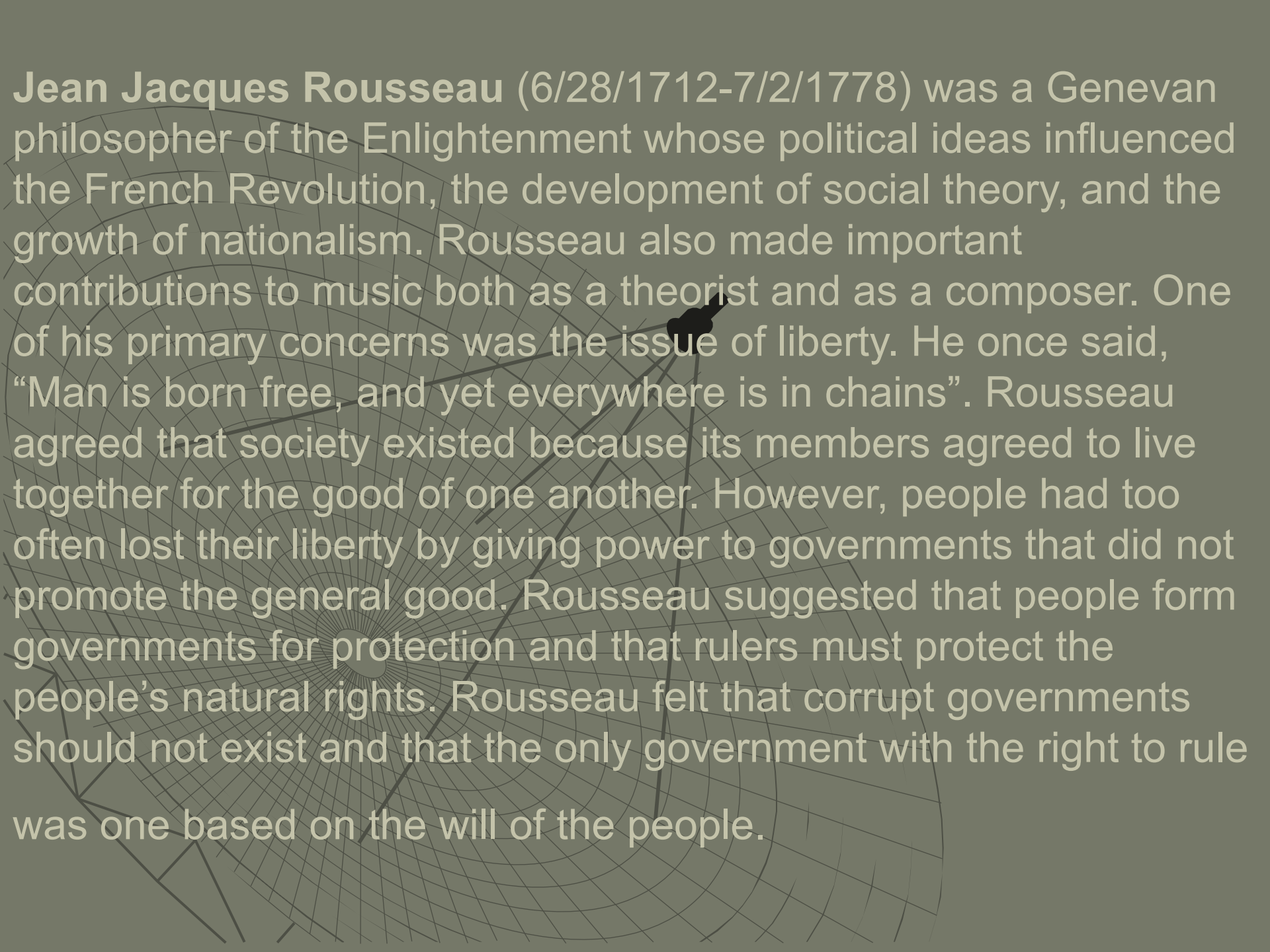
Rene Descartes (3/31/1596- 2/11/1650) was a highly influential French philosopher, mathematician, scientist, and writer. He is known as the “Founder of Modern Philosophy” and the “Father of modern Mathematics”. His research is considered influential and it continues to be studied till this day. He was one of the key figures during the Scientific Revolution. Descartes believed that in order to reach the truth, it was necessary to doubt everything except ideas that were true beyond doubt. He also argued that the truth can be found by using logic and reason. Descartes is known for his famous quote “I think, therefore I am”



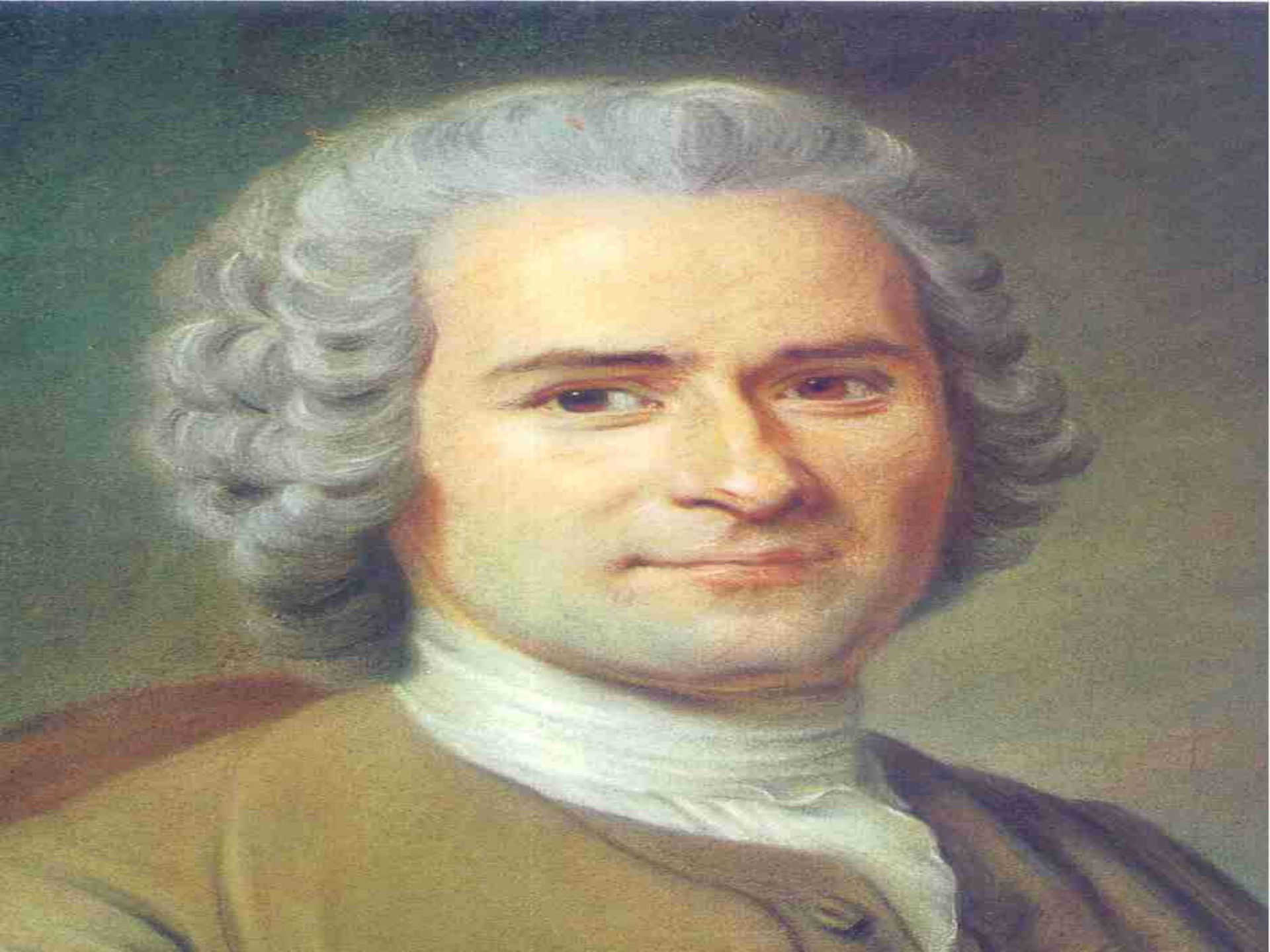


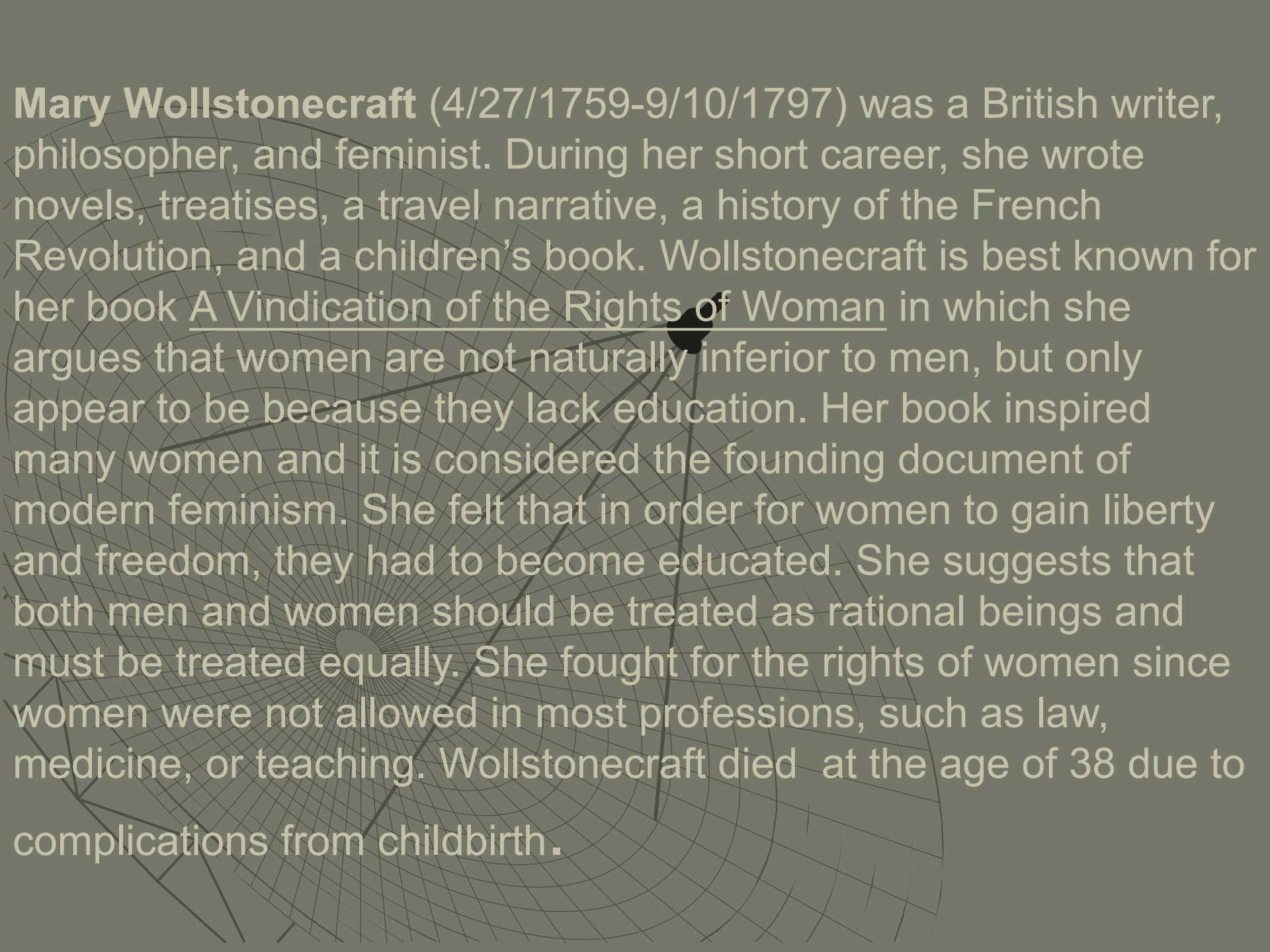
John Locke (8/29/1632-10/28/1704) was an English philosopher and one of the first people to write about the purpose of a government. He is considered the most influential English-language philosopher and political theorist. Locke reasoned that by nature, people are rational. They are born with the ability to control their own affairs. They are also born with natural rights, or rights that no government can take away from them. These natural rights are the rights to life, liberty, and personal property. Locke argued that people formed governments to protect their natural rights. He also said that if a government did not live up to that purpose, then people had the right to rebel and form a new government. Locke's ideas greatly influenced both the American and French revolutions. He also believed that all people are born equal and that education can free people. Locke's most famous work is his book called Essay Concerning Human Understanding





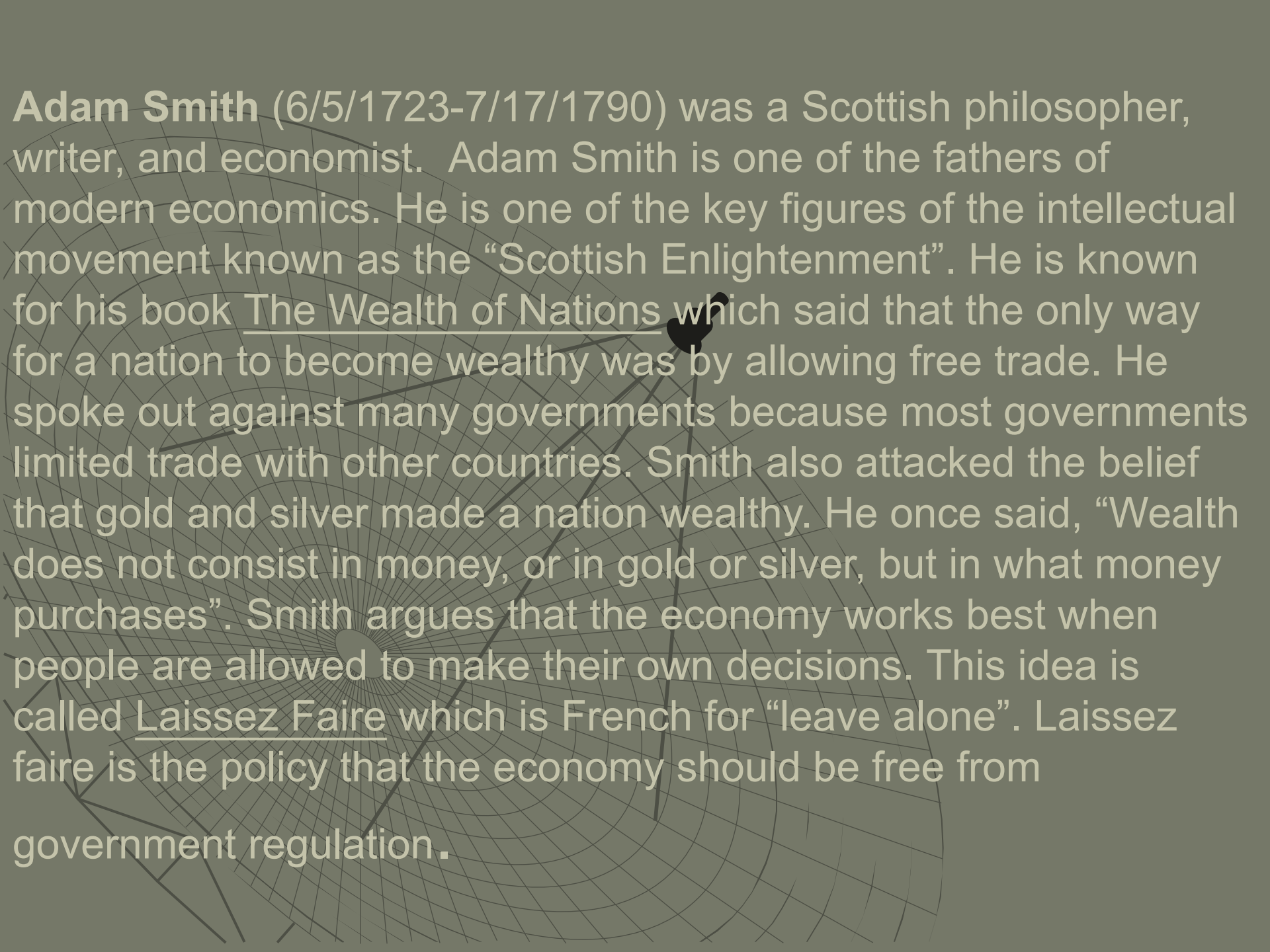
Jean Jacques Rousseau (6/28/1712-7/2/1778) was a Genevan philosopher of the Enlightenment whose political ideas influenced the French Revolution, the development of social theory, and the growth of nationalism. Rousseau also made important contributions to music both as a theorist and as a composer. One of his primary concerns was the issue of liberty. He once said, “Man is born free, and yet everywhere is in chains”. Rousseau agreed that society existed because its members agreed to live together for the good of one another. However, people had too often lost their liberty by giving power to governments that did not promote the general good. Rousseau suggested that people form governments for protection and that rulers must protect the people’s natural rights. Rousseau felt that corrupt governments should not exist and that the only government with the right to rule was one based on the will of the people.





Mary Wollstonecraft (4/27/1759-9/10/1797) was a British writer, philosopher, and feminist. During her short career, she wrote novels, treatises, a travel narrative, a history of the French Revolution, and a children's book. Wollstonecraft is best known for her book *A Vindication of the Rights of Woman* in which she argues that women are not naturally inferior to men, but only appear to be because they lack education. Her book inspired many women and it is considered the founding document of modern feminism. She felt that in order for women to gain liberty and freedom, they had to become educated. She suggests that both men and women should be treated as rational beings and must be treated equally. She fought for the rights of women since women were not allowed in most professions, such as law, medicine, or teaching. Wollstonecraft died at the age of 38 due to complications from childbirth.





Adam Smith (6/5/1723-7/17/1790) was a Scottish philosopher, writer, and economist. Adam Smith is one of the fathers of modern economics. He is one of the key figures of the intellectual movement known as the “Scottish Enlightenment”. He is known for his book The Wealth of Nations which said that the only way for a nation to become wealthy was by allowing free trade. He spoke out against many governments because most governments limited trade with other countries. Smith also attacked the belief that gold and silver made a nation wealthy. He once said, “Wealth does not consist in money, or in gold or silver, but in what money purchases”. Smith argues that the economy works best when people are allowed to make their own decisions. This idea is called Laissez Faire which is French for “leave alone”. Laissez faire is the policy that the economy should be free from government regulation.

