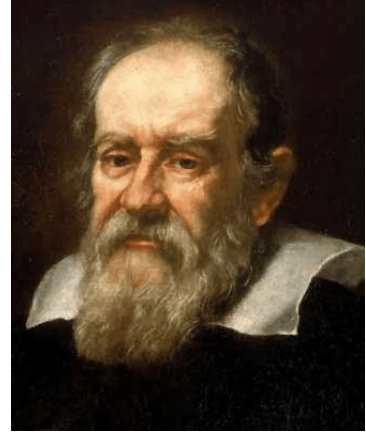


## Proven Facts

Two great men were born in the year 1564. They were William Shakespeare in England and Galileo Galilei in Italy. Each would have quite differing but very significant influences.

In 1609, Galileo perfected an instrument for making distant objects appear larger, as if close at hand. His telescope allowed him to observe what human eyes had never before seen, e.g., sun spots and Jupiter's moons. He also improved upon the compound microscope, making minute objects appear larger. The natural world was not only being seen, but being seen in new ways.

Galileo further refined the model of the Copernican heliocentric universe and fully articulated an entirely new way of knowing the world. Based upon his observations and his theories, Galileo maintained that the universe was a physical universe and that the Copernican universe was "proven fact," the truth and the only true theory of the physical universe.



It was these assertions that got Galileo into trouble with the Cardinals of the Roman Catholic Church. He was confined to his villa and found it difficult to publish his research. The Church did not so much object to his theory of a heliocentric cosmos. They in fact encouraged all theories. What the Church objected to was a theory that maintained that all other theories were wrong and that there was no place for a divine center in the cosmos nor of a divine presence of any kind.

Prior to Galileo, all theory was understood as hypothesis, as assumptions about the appearances of the cosmos. Most critically, theory sought to account for the essences, the inner forms behind those appearances. It did not necessarily attempt to describe the overt and material expressions of the world. Theory was an analogy, and not a literal representation of the cosmos; and it was a proposition that could accommodate differing propositions. The theory of Ptolemy was such a theory, a theory that "saved the appearances." It was a theory that emanated out of a Platonic world view.

Galileo, however, offered a new theory on the nature of theory, a new epistemology. A Platonic view of the world was no longer possible. In 1632, his research was finally published (in Switzerland), *Dialogues Concerning the Two Chief World Systems*, followed in 1638 (in Holland) by *The New Science*.