

ATRIUM TOUR

SCIENTIFIC METHOD

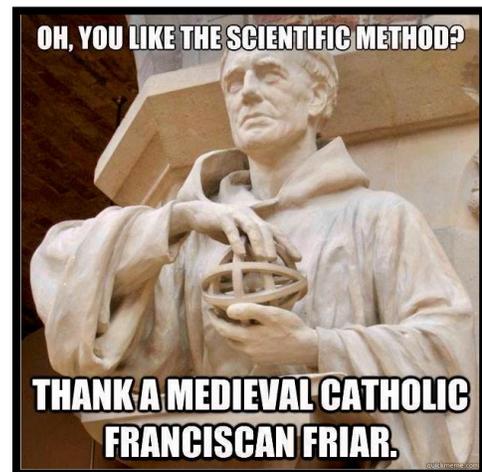
Roger Bacon was one of the earliest European advocates of the modern scientific method - a significant departure from the prevailing scholastic approach of his time. While some in the thirteenth century were content with superstition, habit and acceptance of authority, Bacon saw the value of glorifying God through study of the world. He believed science would draw people to faith in God. He was one of the Christian thinkers in the universities and in the monasteries who connected the dots between the Bible and science. Bacon made errors and had some superstitions of his own about alchemy and astrology (as did most people in his day), but he saw how experimental science could lead people away from the errors of superstition and magic by demonstrating how the world really works.

He advocated for a system of acquiring knowledge through observation and experimentation, rather than solely relying on established authorities or texts. His approach emphasized the importance of empirical evidence and the testing of hypotheses, laying the groundwork for the modern scientific method.

Bacon's scientific methodology can be summarized as follows:

- 1. Observation:** Stressed the importance of making careful and unbiased observations of the natural world.
- 2. Hypothesis:** Based on these observations, scientists should formulate testable hypotheses.
- 3. Experimentation:** Hypotheses should be tested through carefully designed experiments.
- 4. Verification:** Emphasized the need for independent verification of experimental results. He believed that multiple people should be able to replicate the same experiment and obtain the same results to ensure accuracy and minimize personal bias.

His assertions in the *Opus Majus* that "*theories supplied by reason should be verified by sensory data, aided by instruments, and corroborated by trustworthy witnesses*" were and still are considered "*one of the first important formulations of the scientific method on record.*"



“The strongest arguments prove nothing so long as the conclusions are not verified by experience. Experimental science is the queen of sciences and the goal of all speculation.”