

SCIENCE IN MEDIEVAL CIVILIZATIONS

Topic 11

Roger Bacon

Medieval European philosophy often relied on appeals to the authority of Church Fathers such as St Augustine, and on works by Plato and Aristotle only known at second hand or through (sometimes highly inaccurate) Latin translations. By the 13th century, new works and better versions – in Arabic or in new Latin translations from the Arabic – began to trickle north from Muslim Spain. In Roger Bacon's writings, he upholds Aristotle's calls for the collection of facts before deducing scientific truths, against the practices of his contemporaries, arguing that "thence cometh quiet to the mind".

Bacon also called for reform with regard to theology. He argued that, rather than training to debate minor philosophical distinctions, theologians should focus their attention primarily on the Bible itself, learning the languages of its original sources thoroughly. He was fluent in several of these languages and was able to note and bemoan several corruptions of scripture, and of the works of the Greek philosophers that had been mistranslated or misinterpreted by scholars working in Latin. He also argued for the education of theologians in science ("natural philosophy") and its addition to the medieval curriculum. Bacon's 1267 Greater Work, the *Opus Majus*,^[n 5] contains treatments of mathematics, optics, alchemy, and astronomy, including theories on the positions and sizes of the celestial bodies. It is divided into seven sections: "The Four General Causes of Human Ignorance" (*Causae Erroris*),^[39] "The Affinity of Philosophy with Theology" (*Philosophiae cum Theologia Affinitas*),^[40] "On the Usefulness of Grammar" (*De Utilitate Grammaticae*),^[41] "The Usefulness of Mathematics in Physics" (*Mathematicae in Physicis Utilitas*),^[42] "On the Science of Perspective" (*De Scientia Perspectivae*),^[43] "On Experimental Knowledge" (*De Scientia Experimentalis*),^[44] and "A Philosophy of Morality" (*Moralis Philosophia*).^[45]

It was not intended as a complete work but as a "persuasive preamble" (*persuasio praeambula*), an enormous proposal for a reform of the medieval university curriculum and the establishment of a kind of library or encyclopedia, bringing in experts to compose a collection of definitive texts on these subjects.^[46] The new subjects were to be "perspective" (i.e., optics), "astronomy" (inclusive of astronomy proper, astrology, and the geography necessary in order to use them), "weights" (likely some treatment of mechanics but this section of the *Opus Majus* has been lost), alchemy, agriculture (inclusive of botany and zoology), medicine, and "experimental science", a philosophy of science that would guide the others.^[46] The section on geography was allegedly originally ornamented with a map based on ancient and Arabic

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computations of longitude and latitude, but has since been lost.[47] His (mistaken) arguments supporting the idea that dry land formed the larger proportion of the globe were apparently similar to those which later guided Columbus.[47]

In this work Bacon criticises his contemporaries Alexander of Hales and Albertus Magnus, who were held in high repute despite having only acquired their knowledge of Aristotle at second hand during their preaching careers.[48][49] Albert was received at Paris as an authority equal to Aristotle, Avicenna and Averroes,[50] a situation Bacon decried: "never in the world [had] such monstrosity occurred before."[51]

In Part I of the *Opus Majus* Bacon recognises some philosophers as the *Sapientes*, or gifted few, and saw their knowledge in philosophy and theology as superior to the *vulgus philosophantium*, or common herd of philosophers. He held Islamic thinkers between 1210 and 1265 in especially high regard calling them "both philosophers and sacred writers" and defended the integration of Islamic philosophy into Christian learning.[52]

Kaynak: https://en.wikipedia.org/wiki/Roger_Bacon