

PICTURES AND EXPLANATIONS IN EARLY MODERN NATURAL PHILOSOPHY

Fall 2005

History 201 and Philosophy 209

Professors Copenhaver (BC Philosophy) and Jacob (MJ History)

Week 1 Introductions: Issues concerning the Representation of Nature

Advance assignments: (unless otherwise stated for purchase, all material is on the web and can be assessed from the web site of the History Department, Fall Courses, History 201o)

S. Sargent, ed., On the *Threshold of Exact Science: [Selected Writings of Anneliese Meier on Late Medieval Natural Philosophy](#)* (Philadelphia: University of Pennsylvania Press, 1982), introduction and chapters 1, 2, 6 and 7.

Samuel Edgerton, Jr., *[The Heritage of Giotto's Geometry. Art and Science on the Eve of the Scientific Revolution](#)* (Ithaca, 1991), introduction, chapters 4, 5 and 7.

Copenhaver and Charles Schmitt, *[Renaissance Philosophy](#)* (Oxford: Oxford University Press, 1982), chapters 1, 2 and 5.

Week 2 Pre-modern natural philosophy

Dennis Des Chene, *[Physiologia: Natural Philosophy in Late Aristotelian and Cartesian Thought](#)* (Ithaca: Cornell University Press, 1996), introduction and chapters 1-5.

Week 3 Bacon's rejection of traditional natural philosophy

Francis Bacon, *[The Advancement of Learning, and Novum Organum](#)*, London 1605; pp. 99-109, 291-293.

Julian Martin, *[Francis Bacon, the State, and the Reform of Natural Philosophy](#)*, Cambridge 1992; selections

Antonio Pérez-Ramos, "[Bacon's forms and the maker's knowledge tradition](#)," in Markku Peltonen, ed. *The Cambridge Companion to Bacon*, 1996, pp. 99-120

Graham Rees, "[Bacon's speculative philosophy](#)," *ibid.*, pp. 121-45

Francis Bacon and Tomasso Campanella, *The New Atlantis and The City of the Sun*, (Dover Publications, 2003). to be purchased

Week 4 Galileo's rejection of traditional natural philosophy

Stillman Drake, ed., *[Discoveries and Opinions of Galileo](#)* (New York: Doubleday, 1957), Parts I and IV.

Week 5 Descartes according to Descartes

Descartes, *Discourse on the Method*, in *Discourse on Method, Optics, Geometry and Meteorology*, trans. P. Olscamp (Indianapolis: Hackett, 2001) to be purchased

Stephen Gaukroger, [*Descartes: An Intellectual Biography*](#) (Oxford: Clarendon Press, 1995), pp. 1-336.

Week 6 Picturing Cartesian natural philosophy (mainly BC)

Descartes, *Optics and Meteorology* in *Discourse on Method, Optics, Geometry and Meteorology*, trans. P. Olscamp (Indianapolis: Hackett, 2001)

Week 7 Spinoza: Natural Philosopher, Cartesian, Radical

[*Tractatus*](#) (very short selections)

[*Ethics*](#) (very short selections)

[*Letters*](#) (2 or 3 letters on scientific topics)

Jonathan Israel, [*Radical Enlightenment: Philosophy and the Making of Modernity*](#) (Oxford: Oxford University Press, 2002); selections

Jacob, [*The Radical Enlightenment: Pantheists, Freemasons and Republicans*](#) (2003), selections

Week 8 [Boyle and the English Revolution](#)

Robert Boyle, [*New Experiments physio-Mechanical, touching the Spring of the Air and Its Effects, 1660*](#) (on the web)

James R. Jacob and Margaret C. Jacob, "The Anglican Origins of Modern Science: The Metaphysical Foundations of the Whig Constitution," *Isis*, no. 71, 1980, pp. 251-67.

<http://www.jstor.org/view/00211753/ap010207/01a00040/0?currentResult=00211753%2bap010207%2b01a00040%2b0%2cFFFF03&searchUrl=http%3A%2F%2Fwww.jstor.org%2Fsearch%2FBasicResults%3Fhp%3D25%26si%3D1%26Query%3DThe%2BAnglican%2BOrigins%2Bof%2BModern%2BScience>

Week 9 Newton and Newtonianism [Selection](#) of texts by Isaac Newton

[*Rohault's system of natural philosophy / illustrated with Samuel Clarke's notes taken mostly out of Isaac Newton's philosophy*](#); with additions; done into English by John Clarke.

Published/distributed: London: Printed for J. Knapton, 1723. Title page, all of A pages, then Bi-

31; vol. 11, pp. 37; Samuel Clarke, [*A Discourse concerning the Being and Attributes of God...1716*](#), all opening matter to p. 63.

Leibnitz and Clarke, [*Principles of Natural Philosophy and Religion*](#).

Week 10 Continental Opposition: Leibniz vs Newton [*A Collection of Papers ...between Leibnitz and Dr. Clarke in the years 1715-16*](#), all opening matter to p. 71