

Philosophy 32: Philosophy and the Rise of Modern Science
Winter Quarter 2014
Instructor: Kyle Sereda
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Overview: This course will cover, broadly speaking, the philosophical reaction to the scientific revolution. The sixteenth and seventeenth centuries saw sweeping changes in both the description of the world provided by science and in the nature of the scientific enterprise itself. Philosophers had much to say about the new science, and often participated in its development themselves; the boundary between philosophy and science did not exist as we know it today. Philosophers were often also scientists, and vice versa. In this course, we will examine three key episodes in philosophers' efforts to "process" the scientific revolution: (1) the inquiry into the fundamental nature of space and time prompted by developments in physics; (2) the inquiry into the foundations of human knowledge prompted by a radically changed picture of the world; and (3) the inquiry into the scope of science - particularly physics -- and its prospects for providing a complete description of reality, prompted by the new science's great improvements in predictive and explanatory power over the old.

Requirements and Grading Breakdown:

- 1) One in-class exam, 25%.
- 2) One 5-page paper, 35%.
- 3) One 7-page paper, 40%.

Schedule of Topics and Readings (ALL READINGS WILL BE AVAILABLE ON TED SITE):

Week 1: Introduction; The Old and New Sciences: Aristotle, Copernicus, Galileo, Bacon. Reading: selections from *The Scientific Background to Modern Philosophy*.

Week 2: Space, Motion, and Time in Descartes, Newton, and Leibniz. Reading: selections from Descartes' *Principles of Philosophy*; Newton's *De Gravitatione* and *Principia*; and the Leibniz-Clarke correspondence.

Week 3: MLK holiday on 1/20; In-class exam covering Weeks 1&2 on Wednesday, 1/22; Human Knowledge, Part 1: Descartes and Rationalism. Reading: *Meditations on First Philosophy*: Dedication, Synopsis, and Meditation 1.

Week 4: Human Knowledge, Part 1, continued: Descartes and Rationalism. Reading: *Meditations on First Philosophy*: Meditations 2 through 6.

Week 5: Human Knowledge, Part 2: Hobbes and Empiricism. Reading: selections from Hobbes' *Leviathan* and *Objections and Replies* to Descartes' *Meditations*.

Week 6: Human Knowledge, Part 2, continued: Locke and Empiricism. Reading: selections from Locke's *Essay Concerning Human Understanding*. **Paper #1 assigned on Wednesday, 2/12**

Week 7: Presidents' Day holiday on 2/17; Physics and Reality, Part 1: Descartes and Dualism. Reading: selections from Descartes' *Principles of Philosophy*. **Paper #1 due on Wednesday, 2/19**

Week 8: Physics and Reality, Part 2: Hobbes and Materialism. Reading: selections from Hobbes' *Leviathan, On Body, and Human Nature*.

Week 9: Physics and Reality, Part 3: Leibniz and Phenomenalism. Reading: Leibniz's *Whether the Essence of Body Consists in Extension*; Letters to Bernoulli and de Volder; and *New System of Nature*.

Week 10: Physics and Reality, Part 4: Berkeley and Immaterialism. Reading: selections from Berkeley's *Three Dialogues between Hylas and Philonous*. **Paper #2 assigned on Wednesday, 3/12; due by email to instructor by the conclusion of the scheduled time for the final exam: 2:30PM, Friday, 3/21.**