THE PHILOSOPHY OF SPACE AND TIME

Philosophy 462A – Term 1, 2009/10
Instructor: Steven Savitt

Office: Buchanan E360
Telephone: 604-822-2511
e-mail: savitt@interchange.ubc.ca
Web site: http://www.philosophy.ubc.ca/faculty/savitt/

Course Requirements: Classes will be conducted as a mixture of lecture and discussion. There will be periodic small specific written assignments (which count for 30% of the final mark), a mid-term (30%), and a final term paper or project, which may be done in conjunction with a class presentation (40%). Each student will have the option of replacing the term paper/project with a final examination, but this arrangement must be made with the instructor before the mid-term examination.

We will use the following texts, in addition to a packet of readings (CP) that will be distributed:

The End of Time by Julain Barbour (Oxford University Press, 2000) [EoT],
General Relativity from A to B by Robert Geroch (University of Chicago Press, 1978) [GRAB]

In addition to the assignments listed in the following syllabus, there are a number of articles and books listed as “Further reading.” These are not assigned readings. They are pointers to further literature, should you find a topic particularly interesting, and they are usually good first sources to check for ideas for your term paper, if you write one. I shall also add a short list of reference sources that that may prove useful:

The Stanford Encyclopedia of Philosophy, edited by Edward Zalta (http://plato.stanford.edu),
The Encyclopedia of Philosophy, ed. by Paul Edwards,
One Hundred Years of Philosophy by John Passmore,
The Cambridge Dictionary of Philosophy, ed. by Robert Audi
Philosophy Pages (http://www.philosophypages.com/index.htm)

The Natural Philosophy of Time (2e) by G. J. Whitrow (Oxford University Press, 1980),
Concepts of Space by Max Jammer, (2e) (Harvard University Press, 1969),
Space, Time, and Spacetime by Lawrence Sklar,
Problems of Space and Time, edited by J. J. C. Smart (Macmillan, 1964) (out of print),
ASSIGNMENTS

10 September  Introductory Lecture

15 Sept.  Aristotle on Time and Fate


17 Sept.  A Modern Defense of Fatalism

**Required Reading:** “Fatalism” by Richard Taylor in *Philosophical Review* **71** (1964). [This article is available from JSTOR and was reprinted in Smart’s *Problems of Space and Time.*]

22 Sept. Che Sarà Sarà? (1)

**Required Reading:** “Logical Fatalisms”, Chapter 1 of *Puzzles for the Will* by Jordan Howard Sobel (University of Toronto Press, 1998), pp. 3-28.

24 Sept. Che Sarà Sarà? (2)

**Required Reading:** Further discussion of Sobel

29 Sept. The Growing Block Universe (1)

**Required Reading.** C, D. Broad’s *Scientific Thought*, (1923): pp. 53-70. Available at: http://www.archive.org/stream/scientificthrough00broauoft#page/52/mode/2up.


1 October The Growing Block Universe (2)

**Required Reading.** C, D. Broad’s *Scientific Thought*, (1923): pp. 70.-84 Available at: http://www.archive.org/stream/scientificthrough00broauoft#page/52/mode/2up.

6 October Time and Change Cannot Exist.


**Further reading:** This argument first appeared as “The Unreality of Time” by J. M. E. McTaggart in *Mind*, New Series, No. 68 (October, 1908). There is a comprehensive but dated bibliography on static versus dynamic time at the end of Gale's collection, *The Philosophy of Time*, edited and with introductions by L. Nathan Oaklander and Quentin Smith (Yale University Press, 1994).


8 Oct. A Defense of Becoming (I)

**Required Reading:** “Ostensible Temporality” by C. D. Broad from *An Examination of McTaggart's Philosophy*, Volume II, part 1, (1938): 264-288.


13 Oct. A Defense of Becoming (II)

**Required Reading:** “Ostensible Temporality”, pp. 288-308.

15 Oct. A Defense of Becoming (III)

**Required Reading:** “Ostensible Temporality”, pp. 309-23.

20 Oct. The “Block Universe” Defended


*Further Reading:* *Temporal Relations and Temporal Becoming* by L. Nathan Oaklander (University Press of America, 1984) [a defense of Russell's view].


22 Oct. Mid-Term Examination

27 Oct. Absolute Space and Time

**Required Reading:** Newton’s “Scholium on Time, Space, Place and Motion” from *Philosophiae Naturalis Principia Mathematica* (http://plato.stanford.edu/entries/newton-stm/scholium.html#V)

29 Oct. Relational Space and Time (1)

**Required Reading:** *The Leibniz-Clarke Papers*, pp. 1-15. This document may be found at http://www.earlymoderntexts.com/E_leibniz.html.

3 November Relational Space and Time (2)

**Required Reading:** *The Leibniz-Clarke Papers*, pp. 15-27

5 Nov. Relational Space and Time (3)

**Required Reading:** *The Leibniz-Clarke Papers*, pp. 27-end.


10 Nov. Spacetime Theories: The General Framework

**Required Reading:** Chapter 1 in *General Relativity from A to B (GRAB)*.

12 Nov. The “Aristotelian” View: Absolute Space and Time

**Required Reading:** Chapter 2 in *General Relativity from A to B (GRAB)*.
17 Nov. The “Galilean” View: Absolute Time without Absolute Position

**Required Reading:** Chapters 3 and 4 in *General Relativity from A to B (GRAB).*

19 Nov. “Time is in the instant.”

**Required Reading:** *The End of Time,* chapters 1 and 2.

24 Nov. Configuration Space

**Required Reading:** *The End of Time,* chapter 3.

**What is a vector (or linear) space?** See §2 “Linear Spaces” of Chapter XVI, Linear Algebra, in *Mathematics: its Content, Methods, and Meaning,* Volume 3, ed. by A. D. Aleksandrov et al. (MIT Press, 1969), an invaluable set of books, or §§1.9-1.13 of Rig Hughes’ *The Structure and Interpretation of Quantum Mechanics,* or pages 375-377 in “Conceptual Foundations of Quantum Mechanics” by Abner Shimony in *The New Physics,* edited by Paul Davies (Cambridge University Press, 1989), which will likely be part of an assigned reading in Phil. 462B. The first sections of the Wikipedia article “vector space” should serve.

26 Nov. Newton Revisited

**Required Reading.** *The End of Time,* chapters 4 and 5.

1 December Leibniz’s Vindicated?

**Required Reading.** *The End of Time,* chapters 6 and 7.

3 Dec. Review