The Hebrew University of Jerusalem

Syllabus

LOGICAL OMNISCIENCE - 15804

Last update 13-02-2017

HU Credits: 2

Degree/Cycle: 2nd degree (Master)

Responsible Department: philosophy

Academic year: 0

Semester: 2nd Semester

Teaching Languages: English

Campus: Mt. Scopus

Course/Module Coordinator: Stewart Shapiro

Coordinator Email: Shapiro.4@osu.edu

Coordinator Office Hours: By Appointment

Teaching Staff:

Prof Stewart Shapiro

Course/Module description:

The problem of logical omniscience arises in a number of philosophical contexts. One source is in epistemic and doxastic logic. In a now classic article, Robert Stalnaker writes:

From their beginning, epistemic and doxastic logics—the logics of knowledge and belief have been modeled on modal logic—the logic of necessity and possibility. Knowledge and belief, in such logics, are analogous to necessity. There is a wide variety of modal logics, but all of the normal ones contain certain distribution or deductive closure principles . . . Developers of such logics invariably remark that the principles of deductive closure are unrealistic, since it is obviously false that knowers in general know all of the deductive consequences of anything that they know.

Stalnaker does not propose a solution to the problem; he shows how deep and far-reaching it is. It is not limited to the goal of providing a logic for knowledge or belief. Many accounts knowledge and belief are formulated in terms of possible worlds. An agent knows p just in case p is true in all of the agent's epistemic alternatives—all worlds consistent with what the agent knows. And an agent believes p just in case p is true in all of the agent's doxastic alternatives. Worlds are usually taken to be closed under logical consequence, so it follows that an agent knows (believes) all of the logical consequences of what she knows (believes). It also follows that if an agent knows (or believes) p and if q is logically equivalent to p, then the agent knows (or believes) q.

A related area of concern is in the semantics of terms for just about all propositional attitudes. The standard accounts of these are also formulated in terms of possible worlds and, so far as I know, there are not many well-worked out alternatives. All such accounts fail to distinguish logically equivalent propositions. And the truth conditions for epistemic modals are also formulated in terms of consistency, and thus encounter the problems with logical omniscience. Here it will not do to note that we are dealing with ideal agents. The truth conditions for natural languages are geared toward the speakers of those languages.

Finally, accounts of ideal rationality, in formalized epistemology and elsewhere, typically assume logical omniscience, usually explicitly. The problems arise when we try to draw conclusions about rationality for agents, like normal humans, who are limited in their resources.

In this seminar, we will cover most of the basic literature on logical omniscience, looking to see how viable various solutions are for the various issues.

Course/Module aims:

To grasp the depth of the problems and the viability of various solutions.

Learning outcomes - On successful completion of this module, students should be able to:

Do original research on the topic.

Attendance requirements(%):

Students should attend all classes, unless they have a valid reason for missing.

Teaching arrangement and method of instruction: Lecture, discussion, seminar papers.

Course/Module Content:

The various problems of logical omniscience,as it applies to semantics, the propositional attitudes, and various doxastic and espistemic logics.

Required Reading:

A series of articles and book chapters.

Additional Reading Material:

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Course/Module evaluation:

End of year written/oral examination 0 %
Presentation 20 %
Participation in Tutorials 30 %
Project work 50 %
Assignments 0 %
Reports 0 %
Research project 0 %
Quizzes 0 %
Other 0 %

Additional information:

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