

# Paradoxes

PHIL2511 Paradoxes

Dan Marshall

Seminar 1

25 January 2012

# Admin

See course guide

Required text: *Paradoxes* by R. M. Sainsbury

Required reading for this seminar: Olin, 'Believing in surprises' (Ch 3 of Olin's book *Paradox*. See course website)

Optional reading: Kripke 'On two paradoxes of knowledge' pp. 27-39. See course website)

Required reading for next seminar: Sainsbury, Sec 5.4

# The situation

The background situation in the surprise examination paradox:

i) S is an ideally rational student

ii) The teacher makes the following announcement to S: “An exam will be held on exactly one of the days Monday to Friday, and if the exam is held on day D, then you will not be justified in believing this before that day”

# The situation (cont)

iii) Since S is ideally rational, he satisfies the following:

A1) If S is justified in believing  $p_1, \dots, p_n$  which jointly strongly confirm  $q$ , then he sees that  $p_1, \dots, p_n$  jointly strongly confirm  $q$

A2) On Sunday evening, and throughout the next week, S remembers what the teacher said, and also remembers that she is generally reliable and trustworthy

## The situation (cont)

(A3) On Sunday evening, and on any evening of the week, S knows what evening it is and, on any evening of the week, he remembers whether the examination has been held on that or any previous day of the week.

(A4) Throughout the week, the student has no source of evidence relevant to the teacher's announcement other than that given by (A2) and (A3).

# The situation (cont)

(A5) IF a) S is justified in believing  $p_1, \dots, p_n$ , b)  $p_1, \dots, p_n$  jointly imply  $q$ , and c) S sees this, THEN S is justified in believing  $q$

(A6) IF a) S is justified in believing  $p_1, \dots, p_n$ , b)  $p_1, \dots, p_n$  strongly confirm  $q$ , c) S sees this and has no other evidence relevant to  $q$ , THEN S is justified in believing  $q$

# The paradoxical argument

Each of (1-5) are claimed to follow from (A1-6):

- (1) If the only exam of the week is held on Friday, then on Thursday evening the student will justifiably believe that it will be held on Friday
- (2) If the only exam of the week is held on Thursday, then on Wednesday evening the student will be justified in believing (1), and therefore also justified in believing that the exam will be on Thursday.

# The paradoxical argument (cont)

(3) If the only exam of the week is held on Wednesday, then on Tuesday evening the student will be justified in believing (2), and therefore also justified in believing that the exam will be on Wednesday.

(4) If the only exam of the week is held on Tuesday, then on Monday evening the student will be justified in believing (3), and therefore also justified in believing that the exam will be on Tuesday.

(5) If the only exam of the week is held on Monday, then on Sunday evening the student will be justified in believing (4), and therefore also justified in believing that the exam will be on Monday.



# The paradoxical argument (cont)

It follows from (1-5), however, that no surprise exam will be given.

Hence, in this situation, no surprise exam can be given.

However, this is clearly false!

# Quine's approach

Quine: The paradoxical argument is unsound since S is not justified in believing the teacher's announcement (TA).

Quine's Arg: Suppose the exam is held on Friday. Then S will know on Thursday night that the exam has not occurred previously. However, since he is not justified in believing the TA, S is unable to justifiably infer that the exam will occur on Friday. Hence, (1) is false.

# Response to Quine

The student can justifiably know that the TA is true since the teacher is highly reliable.

This is particularly plausible if we change the example so the number of days is 30, or we look at the card version of the paradox.

Kripke: “If a teacher were to announce a surprise exam to be given within a month, a student who did badly could not excuse herself by saying that she did not *know* that there was going to be an exam”  
p. 33

# The anti-JJ approach

As well as (A1-6), we need further assumption about the abilities  $S$  for the argument to be valid.

In particular, we need to assume that the student is able to justifiably believe propositions about what he justifiably believes.

# Self-awareness and (1)

We don't need to assume this self-awareness ability to derive (1) from (A1-6).

A sketch of why: (1) follows from sentences like (a-c), which follow from (A1-6).

- a) S justifiably believes on Sunday evening that there will be exactly one exam during the week
- b) S retains this justified belief during the week
- c) S justifiably believes, on every evening, what day of the week it is and whether an exam has been given

# Self-awareness and (2)

In order to derive (2), we need to be able to derive (2').

(2') On Wednesday evening, S will justifiably believe (1)

But (2') does not follow from sentences like (a-c). Instead it follows from sentences like (a\*-c\*), which don't follow from (A1-6).

a\*) S justifiably believes [put in (a) here]

b\*) S justifiably believes [put in (b) here]

c\*) S justifiably believes [put in (c) here]

# Adding (JJ)

In order to derive (a\*-c\*) from (A1-6), we need to assume something like (JJ).

(JJ) If S is justified in believing p then S is justified in believing that he is justified in believing p

The anti-JJ approach: JJ is false

# Response 1

Maybe (JJ) is false in all its generality.

But it is plausible that some simple instances of (JJ) can be true for an ideal rational student like S. And this is all we need to derive (2), (3),(4) and (5).

Arg for response 1: We are able to justifiably believe some propositions about what others justifiably believe, otherwise we wouldn't be able to do epistemology. So S should be able to justifiably believe relatively simple propositions about what she justifiably believes.



# Response 2

There are variants of the surprise examination paradox that require even simpler instances of (JJ)

Examples (see Olin pp. 50-51):

- a) The designated student paradox
- b) The sacrificial virgin paradox

# The paradoxical argument fixed up

If we don't want to add an unrestricted version of (JJ) to the assumptions, we can add assumptions that ascribe a much more limited self-awareness ability to S, and yet still get the paradoxical conclusion.

To do this, we add (A7-A10) to assumptions (A1-A6).

# The paradoxical argument fixed up (cont)

(A7) Throughout the week, S is justified in believing A1-A6

(A8) Throughout the week, S is justified in believing A7

(A9) Throughout the week, S is justified in believing A8

(A10) Throughout the week, S is justified in believing A9