

LSA 220

Class 5: Modality and Tense

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1 Two times

Two ways to locate a modal claim in time

- Time of Modality vs. Time of Prejacent
 - Condoravdi's (2002) terminology:
 - temporal orientation
 - temporal perspective
- but which is which?

2 Time of modality

Notional semantics vs. natural language semantics

"People do many things with language, one of which is to express propositions for one reason or another, propositions being abstract objects representing truth conditions. Semantics has studied that aspect of language use in isolation from others. Hence I shall consider semantics to be the study of propositions. [...] According to this characterization of semantics, then, the subject has no essential connection with languages at all, either natural or artificial."

(Stalnaker, 1970)

Time of modality

epistemic the evidence available at time t

deontic the laws in effect at time t

Clearly, these modal bases should in principle be sensitive to a time parameter. Can we in fact express what we should in principle be able to express?

Paraphrases

- (1) a. At that point, it was evident that the butler had done it.
b. By then, it will be evident that one of two suspects committed the murder.
- (2) a. In those days, it was required that you kneel in front of the king.
b. Soon enough, it will be required that one justify each purchase of fossil fuels.

Shifting modals to the future

Only semi-modals can take the future:

- (3) a. ?At that point, the treasure will have to be in one of two places.
b. We will soon have to justify each purchase of fossil fuels.
c. We will at some point be able to travel at close to light speed.

Shifting modals to the past

Again, semi-modals:

- (4) a. ?At that point, the butler had to be the murderer.
b. In those days, you had to kneel in front of the king.
c. In his prime, Roger was able to run a mile in under 4 minutes.

3 Are epistemic modals special?

A problem with epistemic modals?

Stowell (2004): distinction between epistemic modals and root modals:

- (5) a. Carl couldn't move his arm. (ability at a past time)
b. Max couldn't go out after dark. (permission at a past time)
c. Jack's wife couldn't be very rich.
'It is not possible that Jack's wife is very rich.'

*‘It was not possible that Jack’s wife was very rich.’

- (6) a. John had to stay home last night because he was sick.
- b. There had to be at least a hundred people there.
- ‘There must have been at least a hundred people there.’

Stowell: “past tense may scope above a root modal occurring in the same clause but not above an epistemic modal in the same clause.”

A principled exception

- (7) a. Caesar knew that his wife might be in Rome. (epistemic)
- b. Susan told me that she ought to stay home. (root)
- c. Max said that he should leave. (root)
- d. Fred thought that there could be at least a hundred people at the reception. (epistemic)

Boogaart

- (8) Het moest wel een licht en lief geheim zijn, want het nam geruisloos zijn plaats in tussen kamelenvoeten en een glaasje jenever. (internet)

‘The secret had to be a light and sweet one, since it silently took its place in between camel feet and a glass of jenever.’ (Boogaart, 2005)

NB: *moest* = must + PAST

Iatridou 1990

- (9) a. It was/will be evident/obvious that John stole the tapes.
- b. #It was/will be possible/probable that John stole the tapes.

Distinction between modality that is sensitive to a particular “knower” and modality that isn’t.

Another exception?

- (10) He might have won the game.
- (11) a. He might have (already) won the game (#but he didn’t).

- b. At that point, he might (still) have won the game but he didn't in the end.
- epistemic *might* from a present perspective about what the past was like
- counterfactual future possibility in the past

Condoravdi: "Certainly, (11b) is not just about epistemic uncertainty at that past point (though of course since the outcome had not materialized one couldn't know it either)."

Abusch

(12) The Ranch

John is an expert petroleum geologist and investor. In 2003, he finds a ranch property in Ecuador and analyzes its geology very carefully. He applies best-practice methodology for petroleum prospecting. He decides the ranch has a good probability of containing a large oil reserve, and on December 1, 2003 buys the property together with a partner. Unfortunately, expensive drilling establishes that there is only worthless salty water under the ranch. The partner's opinion on June 1, 2006:

"We bought a ranch which might well have contained a significant oil reserve. But unfortunately there is no oil on this ranch. Let's sell it and move on to the next project." (Abusch, 2008)

von Fintel & Gillies

- (13) Sophie is looking for some ice cream, and checks the freezer. There is none in there. Asked why she opened the freezer, she replies:

There might have been ice cream in the freezer. (von Fintel & Gillies, 2008)

Abusch against epistemic analysis

"The two trees are in a part of our forest reserve which we never visited before. The tree fell away from a plantation of endangered orchids. We find it several months after it fell. The point about our never having visited that

part of the reserve before is that at the time of the storm, there is no agent around who has information about the trees. Nobody had ever seen those trees. So it is difficult to argue that the modality in (14) is epistemic in the sense of referring to the information of an agent.

- (14) The tree could have fallen on the orchids. Let's cut down the other tree. It might fall on the orchids in another storm." (Abusch, 2008)

4 Modal-perfect scope reversal

A closer look

- (15) At that point, he could/might still have won the game.
'At that point, it was still possible that he would win the game'

Somehow, the perfect morphology underneath the modal correlates with the possibility of shifting the time of the modality into the past.

Other reversals?

- (16) a. You should have bought that book when you had the chance.
b. Max ought to have kept his mouth shut at the meeting.

"It strikes me as more plausible to suppose that in (16) the relevant deontic obligation held at the past times in question, rather than obtaining at the utterance time (obligating the subject at the utterance time to have arranged things in the past in a particular way)." (Stowell, 2004)

When can reverse happen?

"Finally, past perspective with a future orientation, associated with the counterfactual reading of modals for the past, comes about when the perfect takes scope over the modal. This is possible only for modals that are in the so-called subjunctive form in English, such as *might*, *would*, *should*, *ought to*." (Condoravdi, 2002)

Counterfactuality?

- (17) a. At that point, he might (still) have won the game.
b. You should have bought that book.

Implicature?

- (18) a. ?At that point, he might have won the game, and in fact he did.
(Portner)
b. You should have bought that book, so it's a good thing you did.

5 Time of the prejacent

Notional Semantics, again

- At any time t , we can have evidence about what was/is/will be the case at some other time t'
- At any time t , principles can be in effect about what should be the case at some other time t' ... well maybe not

Deontics about the past

- If a deontic modal claim is meant to make something happen, to bring about a change so as to make the prejacent true, then a prejacent in the past of the time of modality might not be possible.
- On the other hand, principles at time t can very well judge that the way things were at some previous time t' were not good, even though there is at t no way to change how things were at time t' .

Temporal relations in non-finite complementation

- In constructions with modals that take non-finite complements, the prejacent will not be able to use the full toolset of tense/aspect morphology to locate itself in time.
- So, we need to see how temporal relations work in non-finite complementation.

Some non-finite embeddings

- (19) a. John believes Bill to be in New York by now/?tomorrow.
b. John believes Bill to have left this morning.
- (20) a. John expects Bill to be in New York by now/tomorrow.
b. John expects Bill to leave #earlier today/tomorrow.

- c. John expects Bill to have left this morning.

Epistemic modals and their prejacent

- (21) John must/might/may/should/ought to be in New York by now.
(22) John must/might/may/should/ought to have left this morning.
(23) The Red Sox #must/might/may/should/ought to win the world series later this year.

Three ways to go from the time of modality

- i. simultaneity: time of prejacent = time of modality
- ii. with perfect morphology: time of prejacent before time of modality
- iii. future orientation: time of prejacent after time of modality

Future Orientation and Aspectual Class

- stative complement: optional future orientation
- eventive complement: obligatory future orientation

Options

- covert future
- future-orientation part of meaning of modal

The special status of *must*

Why can't *must* take a future-shifted reading of the prejacent?

- (24) a. The Red Sox must win next year.
b. His plane must leave at 6.

Past shifting with perfect morphology

- Condoravdi: really a perfect

- Jespersen (1931, 88): “The perfect infinitive ... corresponds ... notionally to the preterite and pluperfect as well as the perfect. Thus *He may have seen her* is equal to *Perhaps he saw her* or *Perhaps he has seen her* ...”.

Past tense in disguise?

- (25)
- a. John may have solved the problem on Tuesday.
 - b. *John has solved the problem on Tuesday.
 - c. John solved the problem on Tuesday.

Conclusion

As Portner (2009) says:

“There has been some very interesting research into various aspects of the problem of temporal interpretation of modals, but — even limiting our attention to English — no one has presented a theory which aims to cover all of the cases.”

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