

CG41 2nd Semantics Homework

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Question 1: The semantics of determiners

The theory presented in the textbook claims that there is a close relationship between the truth conditions associated with a quantifier, the kinds of entailments it enters into, and whether it licenses negative polarity items. This question and the next asks you to check this for several determiners and adverbs.

For each of the following determiners:

1. some
2. few (as in *few students*)
3. a few
4. two

please:

- (a) state its truth conditions in terms of the denotations of the NP and VP that follow it (if you use math formulae, explain them in words also),
- (b) on the basis of this, state whether it forms a decreasing DP or not (i.e., is the determiner decreasing in its second argument),
- (c) construct a pair of sentences that contain the D in question, such that the first sentence will entail the second sentence if the DP is decreasing, and check if such an entailment actually exists, and
- (d) construct a sentence containing a negative polarity item that will be licensed if the DP is decreasing, and check if the negative polarity item is licensed or not.

Example answer for *many*

- (a) [*many* NP VP] means that $|\llbracket \text{NP} \rrbracket \cap \llbracket \text{VP} \rrbracket| > c|\llbracket \text{NP} \rrbracket|$, i.e., a certain fraction c of the things in $\llbracket \text{NP} \rrbracket$ are also in $\llbracket \text{VP} \rrbracket$, where c is contextually determined (say, around 0.1?).
- (b) On the basis of these truth conditions, I would not expect *many* to form decreasing DPs, since making $\llbracket \text{VP} \rrbracket$ smaller may change a true sentence to a false one, according to these truth conditions, but not change a false sentence into a true one.
- (c) If *many* formed decreasing DPs, the sentence *Many students like pizza* should entail *Many students like pepperoni pizza*, since the set of pepperoni pizza likers is a subset of the pizza likers. But *Many students like pizza* does not entail that *Many students like pepperoni pizza*. This is what the truth conditions given above predict, and is consistent with *many* not forming a decreasing DP.
- (d) If *many* formed decreasing DPs, then we would expect it to license an NPI, as in *Many students eat any pizza* or *Many students ever eat a pizza*. These sentences seem ungrammatical, presumably because the NPIs are not licensed. This is consistent with *many* not forming a decreasing DP.

Question 2: The semantics of adverbs

This question builds on the material in section 9.2. For each of the following adverbs:

1. sometimes
2. never
3. always

please:

- (a) state its truth conditions in compound sentences of the form [*if/when* S1 S2] where S2 is modified by the adverb in question (e.g., an example of this context containing the adverb *usually* would be *When you study linguistics, you usually learn surprising things*),
- (b) on the basis of this, state whether the adverb is decreasing (on its S2 argument) or not,
- (c) construct a pair of compound sentences [*if/when* S1 S2] and [*if/when* S1 S2'] where the first will entail the second if the adverb is decreasing, and check to see if the entailment actually exists, and
- (d) construct an example [*if/when* S1 S2''] containing the adverb and a negative polarity item in S2'' that is c-commanded by the adverb, and check to see if the negative polarity item is in fact licensed or not.

Example answer for *usually*

- (a) When *usually* modifies S2, then [*if/when* S1 S2] is true just in case $|\llbracket S1 \rrbracket \cap \llbracket S2 \rrbracket| \geq 1/2|\llbracket S1 \rrbracket|$, i.e., S1 and S2 are both true in at least half of the situations that S1 is true in.
- (b) On the basis of these truth conditions I would not expect *usually* to be decreasing on S2, as making $\llbracket S2 \rrbracket$ smaller may make a true sentence false according to these truth conditions.
- (c) If *usually* were decreasing, we would expect *When you study linguistics, you usually learn surprising things* to entail *When you study linguistics, you usually learn very surprising things*, as the set of situations where you learn very surprising things is a subset of the situations where you learn surprising things. As predicted by the truth conditions above, the first sentence does not entail the second, which is consistent with the hypothesis that *usually* is not decreasing on S2.
- (d) If ‘usually’ were decreasing, we would expect it to license negative polarity items in S2, i.e., examples such as *When you study linguistics, you usually learn surprising things at all* should be grammatical. But this example is ungrammatical, which is consistent with the hypothesis that *usually* is not decreasing on S2.

Question 3: Telicity

Please answer exercise 9.2 from the textbook.

Question 4: Adverbs and presupposition

Please answer exercise 9.7 from the textbook.

Question 5: Mass/count distinctions

Please answer exercise 9.15 from the textbook.