

Questions on Conditionals

(1) Boring, Mechanical Comprehension Question

Please show how the analysis of conditionals developed in Section 3 of ‘Part 2’ derives for sentence (a) the truth-conditions in (b).

- a. If Dave is on Route 87, then Dave must be in Lockhardt.
- b. $\forall w'' \in \{ w' : \text{everything known in } w \text{ is true in } w' \ \& \ \text{Dave is on Rte 87 in } w' \} :$
Dave is in Lockhardt in w''

In all worlds w' that are consistent with what is known and where Dave is on Route 87, Dave is in Lockhardt in w' .

(2) Making Things More Complicated, Part 1

In the theory of conditionals developed in Section 3 of ‘Part 2’, we diverged somewhat from the theory of *modals* that we developed earlier this term.

That is, in the handout titled *The Semantics of Modals, Part 2: The Modal Base*, we developed an analysis of modals with the following property:

- a. The null pronoun ‘BASE’ is of type $\langle s, \langle st, t \rangle \rangle$

However, in the handout titled *The Semantics of Conditionals, Part 2: Intensional Treatments of Conditionals*, we employed a theory of modals that made the following assumption:

- b. The null pronoun ‘BASE’ is of type $\langle st \rangle$

Please show that this change wasn’t, strictly speaking, necessary.

That is, please sketch how we might – in a system that makes the assumption in (a) – nevertheless adopt an analysis of conditionals along the lines of what’s proposed in Section 3 of *The Semantics of Conditionals, Part 2*.

In other words, please sketch how we might do the following:

- Analyze if-clauses as adjuncts to the pronoun ‘BASE’
- Analyze the pronoun ‘BASE’ as a function of type $\langle s, \langle st, t \rangle \rangle$

For this assignment, you don’t have to provide laborious derivations of truth-conditions. Rather, please just sketch the general idea in a couple paragraphs, with a perhaps a couple illustrative tree-structures.

[HINT: Read, but do not answer, Exercise 4.4 in von Stechow (2007; p. 51)]

(3) **Making Things More Complicated, Part 2: The Ordering Source Again**

Another way in which we simplified our treatment of modals in Section 3 of ‘Part 2’ is that we ignored *the ordering source*.

Please show that this, too, was not actually necessary. That is, please sketch how we could analyze sentence (1a) in a system where ‘must’ has the following lexical entry.

a. $[[\text{must}]]^w = \lambda B_{\langle s, \langle st, t \rangle \rangle} . \lambda O_{\langle s, \langle st, t \rangle \rangle} . \lambda p_{\langle st \rangle} . \forall w' \in \text{MAX}_{\langle O(w) \rangle} (\cap B(w)): p(w') = 1$

Once you’ve done so, please briefly remark upon the following question:
Can an ‘if-clause’ ever be an adjunct to ‘ORD-SRC’?

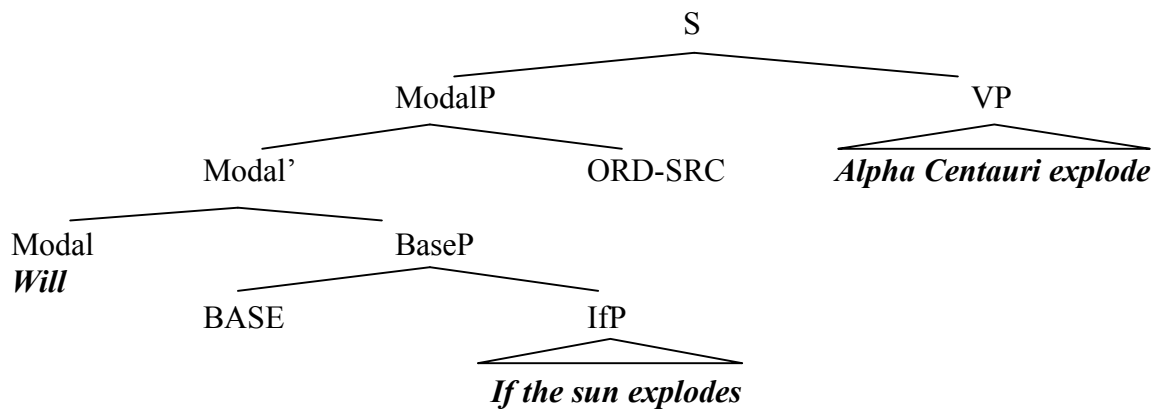
(4) **Making Things More Complicated, Part 3: Conditionals Containing ‘Will’**

Recall sentences like that in (a), where the consequent of the conditional contains the auxiliary ‘will’.

a. If the sun explodes, then Alpha Centauri will explode.

Please show how the theory developed in Section 3 of ‘Part 2’ can provide an analysis of these sentences. Your analysis must adopt the following assumptions:

b. Structural Assumption
The structure of sentence (4a) is as follows:



c. Semantic Assumption
The *truth conditions* of sentence (4a) are (equivalent to) the following:

$$\forall w' \in \text{MAX}_{\langle \{ p : p \text{ is a 'reasonable expectation' in } w \} \rangle} (\{ w' : \text{everything true in } w \text{ (up to present) is true in } w' \text{ \& the sun explodes in } w' \} : \text{Alpha Centauri explodes in } w')$$

For the purposes of this assignment put aside any notions that ‘will’ in English means ‘future tense’. Provide a lexical entry for ‘will’ that can – given the structure in (4b) – derive the truth-conditions in (4c).

However, please do also address the following question:

*What truth-conditions does your semantics for ‘will’ predict for sentences like (4d)?
Do you think these are the right truth-conditions?*

d. Alpha Centauri will explode.