

Zimmermann and Sternefeld (2013) *IntoSem*
Chapter 8: Intensions

Exercises

Exercise 1: Upward and Downward Entailing Attitudes

In Section 5, Zimmermann and Sternefeld discuss the semantics of attitude verbs like *think* or *know*. Now the two predicates *aware* and *surprised* also express propositional attitudes.

- (1) John is aware that Mary won a medal.
- (2) John is surprised that Mary won a medal.

Is there an entailment relation between (1) and (3), so that we can infer one from the other?

- (3) John is aware that Mary won a gold medal.

Does the same or another relation obtain between (2) and (4)?

- (4) John is surprised that Mary won a gold medal.

How could we explicate the difference?

Exercise 2: Modal Verbs

In Section 4, Zimmermann and Sternefeld note that modal verbs like *must* are interesting and that compositional semantics may provide the tools for their analysis.

Indeed, on a standard theory, the extension of *must* is a set of propositions, those that follow from the ‘conversational background’ H_w :

$$\llbracket \textit{must} \rrbracket_w = \{ p : \cap H_w \subseteq p \}$$

H_w is a set of propositions, and $\cap H_w$ is the intersection between them all, a proposition (set of worlds). H will vary from context to context; it might be

- our norms,
- your ideals,
- what I require of you,
- what is mostly the case,

together with relevant facts. What H instantiations are relevant for (5)–(8)?

- (5) You must have put on weight.
- (6) You must share my interest in metal.
- (7) You must take the wallet to the police station.
- (8) One thing is for sure, you must see a doctor about this.

Now *must* and *may* are said to be **duals**. How could the meaning of *may* be defined?

Exercise 3: Closeness between Worlds

The extension of the adverb *almost* (or *nearly*) can be defined as the set of propositions that contain at least one world very similar to the world w :

$$\llbracket \textit{almost} \rrbracket_w = \{ p : w \notin p \text{ but } w' \in p \text{ for a } w' \approx w \}$$

Then what about *barely*? Cf.

- (9) Asteroid barely misses Earth



Exercise 4: Counterfactuals and Semifactuals

(10) is a **counterfactual conditional**; (11) is a so-called ‘**semifactual**’.

- (10) If she had worn her seatbelt, she would still be alive.
- (11) If she had worn her seatbelt, she would still be dead.

What justifies that label? Does *still* mean the same in the two cases?