

Tense

Readings: Portner, Ch. 8.1

I. What are tenses?

- *Tenses* are grammatical expressions whose meaning tells us when something happens:
 - a. Gabor **petted** Fido. *Past tense*
 - b. Hannah **will** pet Fido. *Future tense*
- All languages have ways of talking about the past, the present, and the future, but not all languages have tenses.
- Examples of tense systems:
 - past vs. non-past
 - past vs. present vs. future
- We'll focus only on English. Which tense system does English have? It's complicated.

In-class Exercise 1

- A simple theory of the English Present tense would be: it describes an event that is going on right now (=at the time of speaking).
- Say for each of the following sentences whether the use of Present tense fits this characterization, and if it doesn't, say why.
 - a. Hannah knows Russian.
 - b. Hannah pets Fido.
 - c. If that guy wins the election next year, we'll have to move to another state.
 - d. In 1963 Oswald shoots Kennedy.

- Another complication: does English really have a Future tense? *Will* indicates future, but it is a modal verb in the present tense. And *would* is the past tense of *will*.
 - This will/might/must be the mailman.
 - a. A child was born who will be king.
 - b. A child was born who would be king.
- Here we'll only try to model some uses of some English tenses.

2. The meaning of tenses: a simplified view

2.1. Tenses as relations between events

In-class Exercise 2

- Translate the sentences below into predicate logic formulas that use events.

(5) Gabor petted Fido.

(6) Hannah will pet Fido.

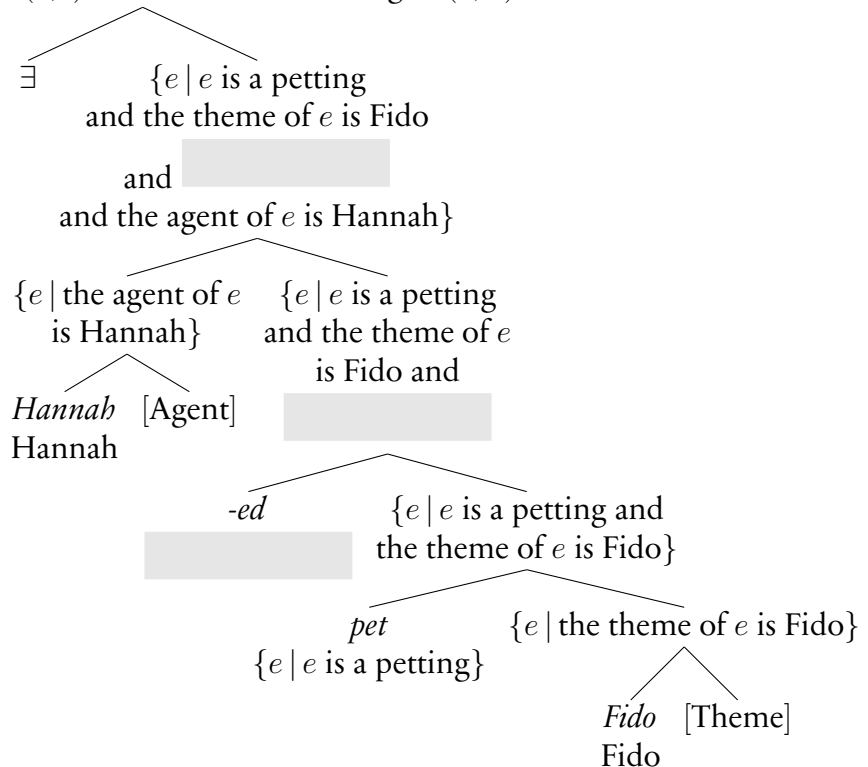
- Also include the contribution of tense in your translations. Use the following two tools:
 e_S : the speech event in which the sentence is uttered (pronounced or written down);
 $<$: temporal precedence, e.g., $e_1 < e_2$ says that the event e_1 is earlier than the event e_2 .
- Based on this, what are the denotations of Past tense and Future tense in event semantics?

$\llbracket[-ed]\rrbracket =$

$\llbracket[will]\rrbracket =$

- Fill in the gaps in the tree below.

(7) $\exists e. \text{Pet}(e) \wedge \text{Theme}(e, f) \wedge \text{Agent}(e, h)$



2.2. Tenses as relations between times

- We could also model tenses without events by using *times*.
- E.g., assuming that S is the speech time and keeping the $<$ precedence relation, we could give the following truth conditions to (1a) and (1b), respectively:

- (8) a. $\exists t. t < S \wedge \text{Pet}(h, f, t)$
There is a time t such that t precedes the speech time S and Hannah pets Fido at t .
- b. $\exists t. S < t \wedge \text{Pet}(h, f, t)$
There is a time t such that the speech time S precedes t and Hannah pets Fido at t .

In-class Exercise 3

- Write the truth conditions for *Hannah won't pet Fido* in predicate logic in the style of (8).

3. The “three times” approach (Reichenbach/Klein)

- So far we've pretended that all that is required for a sentence in Past tense to be true is that there exists a past time at which it was true. But things are more complicated:

In-class Exercise 4

- Try to give a translation of (9) in the style of Exercise 3. Explain why this translation doesn't capture the meaning of (9).

- (9) *Context: we get up early to go on a road trip. We made eggs for breakfast, then rushed off. Half-way down the turnpike I tell you:*
I didn't turn off the stove.

- Solution: Following Hans Reichenbach and Wolfgang Klein, we use a third time for the interpretation of tense, the *topic time* (a.k.a *reference time*), the time that the speaker is talking about.
- So, we have three times: speech time S , event time E , and topic time T .
- We also need temporal containment: $t_1 \subseteq t_2$ says that the time t_1 is contained within t_2 .

- (10) Yesterday Hannah petted Fido.
 $T = \text{Yesterday} \wedge T < S \wedge \exists E. E \subseteq T \wedge \text{Pet}(h, f, E)$

In-class Exercise 5

- Write the truth conditions for (11) in predicate logic in the style of (10).

(11) Tomorrow Hannah will pet Fido.

- It's not the case that whenever a sentence is in Past tense, $E \subseteq T$ will hold, though. The exact relationship between E and T will depend on aspect, which we will talk about next.

4. Bonus: Tenses and pronouns (Partee)

- Barbara Partee pointed out several parallels between tenses and pronouns.
- E.g., (12) is similar to using personal pronouns to refer to contextually salient antecedents:

(12) *Context: Professor Binns is giving a lecture. Ron turns to Hermione and says:*
He is boring.

- Furthermore, it looks like tenses, just like pronouns, can be bound by their antecedents:

(13) a. [Every witch]₁ likes her₁ cat.
b. [Whenever I was late for work]₁, I didn't₁ turn off the stove.

- Based on such observations, Partee proposed to analyze tenses in the same way as pronouns (we'll discuss pronouns soon, when we'll talk about referential expressions).

What you need to know

Key notions: tenses, speech event, temporal precedence, times, speech time, event time, topic time, temporal containment

Answers to the following questions:

- What are some examples of mismatches between tenses and temporal positioning of events?
- Why is the simplified approach to tenses that only relies on the temporal position of the event time with respect to the speech time not sufficient?
- What is the gist of the “three times” approach to tenses?

Skills:

- Give truth conditions of sentences in Past and Future tense with and without events.