Chapter 7: The A-Theory Semantics

7.1 The Appeal of the A-Theory Semantics

An A-theory semantics can preserve the indexical character of temporal statements via tensed meta-language:

- \( \text{Val}(\text{True, “Fred is hungry”}) \) iff Fred is hungry
- \( \text{Val}(\text{True, “Fred was hungry”}) \) iff Fred was hungry
- \( \text{Val}(\text{True, “Fred will be hungry”}) \) iff Fred will be hungry

Other types of temporal indexical also make it directly into the truth conditions:

- \( \text{Val}(\text{True, “My fifth anniversary is today”}) \) iff my fifth anniversary is today

**Evaluating Past and Future Sentences**  A-theory axioms like these are very modest—they don’t give us any information about how an agent determines whether some past or future statement is true. Since we don’t want to refer directly do past or future events (we want to maintain an “epistemological advantage” over the B-theory), we maintain that all non-present statements are evaluated based on the present situation. For example, the truth value of “Dinosaurs roamed the earth” is determined by reference to currently existing fossil records, and the truth value of “The economy will recover in the third quarter” is determined by reference to current economic data.

7.2 The Basic A-Theory Semantics

Our semantics will assume that tense is a predicate that takes ILFs as its arguments:

- \( \text{Val}(x, \text{PAST}) \) iff \( x \) was true
- \( \text{Val}(x, \text{PRES}) \) iff \( x \) is true
- \( \text{Val}(x, \text{FUT}) \) iff \( x \) will be true

- \( \text{Val}(\text{True, [S TNS S1]}), \) iff, for some \( x, \text{Val}(x, \text{TNS}) \) and \( x=|[S1]| \)
- \( \text{Val}(\text{True, [S S1 when S2]}), \) iff \( \text{Val}(\text{True, S1}) \) when \( \text{Val}(\text{True, S2}) \)
- \( \text{Val}(\text{True, [S S1 before S2]}), \) iff \( \text{Val}(\text{True, S1}) \) before \( \text{Val}(\text{True, S2}) \)
- \( \text{Val}(\text{True, [S S1 after S2]}), \) iff \( \text{Val}(\text{True, S1}) \) after \( \text{Val}(\text{True, S2}) \)

- \( \text{Val}(x, \text{“yesterday”}), \) iff \( x \) was true yesterday

7.3 Some Objections to the A-Theory Semantics

**Embedded Tenses and Nested Temporal Modifiers**  If tenses are taken to be quantifiers (Montague 1974), then a sentence like “Smith left yesterday” will be interpreted as meaning either (1) yesterday it was true that Smith had left or (2) at some point in the past it was true that Smith left the day before, depending on whether the past tense or the temporal adverbial has wider scope. On this theory, however, tenses and temporal adverbials are not quantifiers and do not need to take scope over each other—rather, they are “sister nodes” (p. 103).
The Unconstrained Nature of the A-Theory  If tenses are quantifiers and can be nested arbitrarily deeply, then our semantics appears to overgenerate the set of possible tenses. Again, tenses and other temporal modifiers are not nested in this theory.

The Apparent Need for Temporal Reference  The theory in its current state will generate T-theorems like the following:

\[
\text{Val(True, “Smith did not turn off the stove”) iff it is not the case that } [\text{Smith turns off the stove}] \text{ was true (i.e., Smith never turned off the stove)}
\]

or

\[
\text{Val(True, “Smith did not turn off the stove”) iff } [\text{Smith does not turn off the stove}] \text{ was true (i.e., there was a moment at which Smith was not turning off the stove)}
\]

But to get at the intuitive meaning of sentences like this, it seems that the semantics needs some way of restricting the time interval relevant to evaluation. Likewise, it will be difficult for the A-theory semantics to generate truth conditions for sentences which seem to explicitly mention the relevant time interval or event (“I had left when Smith arrived”) without invoking B-theory resources.

7.4 The McTaggart Paradox: Is the A-Theory Contradictory?

If every event E will at some point be past, at some point present, and at some point future, then we seem to have the following conjunction:

\[
\text{future}(E) \& \text{past}(E) \& \text{present}(E)
\]

But future, past, and present are inconsistent properties; thus we have a contradiction. In order to remove the contradiction, we might try to explain that E does not possess all three properties at the same time, but rather that E, e.g., was future, will be past, and is present—and now, according to McTaggart, we’ve embarked upon “an infinite (and vicious) regress” (p. 106).

The A-Theory and the Myth of Passage  Williams (1951): according to the A-theory, events change in their temporal status from future to present to past. But change happens in time—so what exactly can change in temporal status happen “in”? Broad (1938): temporal change is “absolute,” not “qualitative” change. But “[w]hatever the merits of Broad’s suggestion, it is clear that the proposal as it stands does not go far enough” (p. 107).

Prior’s Defense of the A-Theory  Prior (1968): “some propositions are past, some are present, and some are future, and that is that. When we say that an object or an event underwent a temporal change, we are simply saying that a proposition describing the object was future but is now past. That is, we are saying that the proposition has the properties was future, and is past, and that further analysis is impossible” (p. 107).

Presentism  Once we’ve “abandoned the notion of time as change from future to present to past,” it makes sense to adopt a presentist view, according to which “we are ‘immersed in time’ ” (Dummett 1969) (p. 109).