

Anaphoricity vs. *de se* interpretation

The case of backward shifted past

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Abstract: We use the English backwards shifted reading of the past tense in a mistaken time scenario to show that both anaphoricity and egocentric *de se* binding play a crucial role in the interpretation of tense in discourse. We provide a suitable representational framework for this observation in the form of an extension of DRT in which updates of the common ground are accompanied by updates of each relevant agent’s attitudinal state.

Tense and anaphoricity

On the basis of examples like (1), Partee (1973) argues that tenses behave like pronouns:

- (1) Sheila had a party on Friday. Sam got drunk

The time of Sam’s being drunk is not some arbitrary time before (1)’s utterance time, but is *bound* to the Friday introduced by the first clause. This idea of tense as anaphora is quite naturally captured in e.g. the framework of DRT+Presupposition-as-Anaphora (van der Sandt 1992) (notation: ∂ = presupposition; n = actual now):

$$(2) \left[\begin{array}{l} x \ t \ y \ \left| \begin{array}{l} \text{sheila}(x), \text{friday}(t), \text{party}(t) \\ t < n, \text{sam}(y), \text{drunk}(y, t') \\ \partial[t' | t' < n] \end{array} \right. \end{array} \right] \\ \rightsquigarrow \left[\begin{array}{l} x \ t \ y \ \left| \begin{array}{l} \text{sheila}(x), \text{friday}(t), \text{party}(t) \\ t < n, \text{sam}(y), \text{drunk}(y, t) \end{array} \right. \end{array} \right]$$

Tense and *de se* interpretation

In indirect discourse however, an anaphoric theory of tense makes the wrong predictions:

- (3) Sam thought the party was great

This sentence has two readings: (i) Sam thought *this party is great!* (simultaneous reading), and (ii) *that was a great party* (backward shifted reading). To get the simultaneous reading we’d have to bind the embedded past tense to the time of the thought:

$$(4) \left[\begin{array}{l} x \ t \ \left| \begin{array}{l} \text{sam}(x), t < n \\ \text{think}(x, t) : [\text{party_great}(t)] \end{array} \right. \end{array} \right]$$

Now, the party is indeed simultaneous with the thought, apparently capturing the simultaneous reading. However, von Stechow (1995) has pointed out that when Sam is confused about the time, thinking it’s 6 o’clock while it’s really 5 o’clock, such a representation gets the truth conditions wrong. The reason is that (4) amounts to the as-

cription of a *singular* belief to Sam, i.e. a belief *de re* about the actual utterance time, 5 o’clock. The problem is that then that particular time need not play any role in her subjective experience. More precisely, the *de re* belief about t (=5 o’clock) expressed in (4) in the mistaken-time scenario is predicted to be false if the original thought was *This party is great!* (*de se*), since combined with the (mistaken, but by no means absurd) *de se* thought *It is now 6 o’clock* that would intuitively yield a belief in which Sam’s positive party assessment takes place at six. Examples like this provide strong evidence against an anaphoric analysis of tense. At least in the context of indirect discourse we are forced to give up the simple, unified, presuppositional (or otherwise anaphoric) analysis of tense. Von Stechow and others instead propose a system where reporting verbs themselves can bind embedded tenses, which in turn involves a system of morphological feature deletion (“sequence of tense”).

A puzzle: backward shifted past and mistaken time

We argue that the backward shifted reading of the English past in indirect discourse exhibits characteristics of both anaphoricity (“wide”) and *de se* interpretation (“narrow”), that cannot be represented in either the simple anaphoric account, nor in Von Stechow’s deletion/binding analysis. Consider the past tense report (5) in the following scenario:

Sonya was invited to Sheila’s party, but she didn’t show up. She mistakenly thought the party was on Saturday, when she happened to be ill, but it was actually on Friday. Sheila asked her on Sunday why she wasn’t at the party.

- (5) Sonya answered that she was ill.

Sonya meant to give her being ill *on Saturday* as the reason for her not being at the party *on Saturday*.

Hence, the embedded past in (5) has a backward shifted interpretation. Moreover, the report is not about just any time in the past, but about the (mistaken) time of the party specifically. Note that we don't get this by binding to the time of the party in the main context (=Friday). Rather, it is the time Sonya *thought* the party took place, the time of the party *as represented in her belief worlds*.

Analysis: updating complex attitudes

We propose to account for this observation using an extension of DRT where interpretation consists of updates of the common ground while also keeping track of the changing, complex attitudinal states of the various agents (cf. Kamp 1990, 2006). The idea is that the content of Sonya's answer is to be evaluated with respect to her contextually given background belief, which contain her (mistaken) idea of a party on Saturday. On such a view, interpretation is modeled as an update that combines the main DRS's conditions, but that also merges each of an agent's individual attitude representations. To achieve this we need representations of an agent's total attitudinal state: a 'layered' DRS (cf. Geurts and Maier 2003) consisting of a set of ('narrow') discourse referents common to all attitudes, and conditions making up the various attitudes (belief, hope, want, assert, ...) about these attitude-internal objects.

To illustrate the proposed representational framework we sketch the interpretation of our problematic example (5). First we must represent a context containing the relevant background information from the story. Note that at this point we don't (have to) know about the illness, as that is what (5) will contribute, but we (i.e. the reporter and her audience—not necessarily including either Sheila or Sonya) do know about her mistaken assumption about the day of the party. (notation: $ATT(x, t) = x$'s complex attitudinal state at t , divided into beliefs, hopes, assertions etc.; n = actual now; n' = experiencer's local now):

$$\left[\begin{array}{l} \text{sonya}(x), \text{party}(t), \text{friday}(t), \\ \text{sunday}(t''), t'' < n \\ \text{ATT}(x, t'') : \left[\begin{array}{l} t' \\ \text{bel} : \text{saturday}(t') \\ \text{bel} : \text{party}(t') \\ \text{bel} : t' < n' \end{array} \right] \end{array} \right]$$

We are interested in the backwards shifted reading, i.e. the reading where the past is not (merely) past

with respect to the actual now, but with respect to the experiencer's local now. The compositionally derived preliminary DRS therefore (after some initial, non-problematic) resolutions contains a condition of the form:

$$(6) \quad ATT(x, t'') : \left[\begin{array}{l} \text{ass} : \text{ill}(s) \\ \partial[s | s < n'] \end{array} \right]$$

If we were to now use the standard DRT+PA common ground update, i.e. merge context and preliminary DRS and resolve presuppositions along their accessibility paths, we'd be unable to bind s and we'd end up with a DRS that ascribes two distinct attitudes to Sonya, missing the observed intuition that s , the time of the asserted illness, must coincide with Sonya's idea of when the party was, i.e. Saturday. It is for this reason that we proposed to update each agent's attitudinal state along with the common ground.¹ This makes us merge not only the top-level of the DRS, but also Sonya's two complex attitude representations, before entering stage 2 of the interpretation process: presupposition resolution. Proceeding in this way allows us to locally bind s to t' , Sonya's internal representation of the time of the party, which gives the following output:

$$\left[\begin{array}{l} \text{sonya}(x), \text{party}(t), \text{friday}(t), \\ \text{sunday}(t''), t'' < n \\ \text{ATT}(x, t'') : \left[\begin{array}{l} t' \\ \text{bel} : \text{saturday}(t') \\ \text{bel} : \text{party}(t') \\ \text{bel} : t' < n' \\ \text{ass} : \text{ill}(t') \end{array} \right] \end{array} \right]$$

The illness given as reason for the absence indeed falls on the day she thinks there is a party (t'), not the actual day of the party (t).

References

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¹It is also for this reason that we want a complex attitudinal state representation, rather than a number of different, unconnected attitudes of a single person.