Decomposing Attitude Verbs

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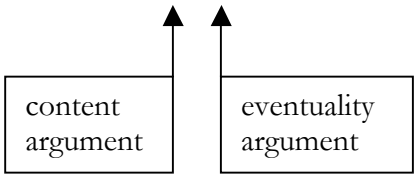
1. The hypothesis

The talk will explore the hypothesis that the roots of attitude verbs and verba dicendi (or verbs of communication) have two arguments, an eventuality argument[1] and an individual argument referring to the content of the attitude or report.

(1) λxλs. believe (x) (s).



I will assume (without explicitly argue for it here) that the verb's external argument is not an argument of the verb root itself, but is introduced by a separate head in a neo-Davidsonian way. The content argument can be saturated by DPs denoting the kinds of things that can be believed or reported:

(2) a. I believe this story.
b. He told me those lies.
c. I am not assuming anything.
d. I suspected this all along.

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[1]. If cognate objects are related to a Davidsonian event position, then cognate objects in Hebrew show "that *i*-level predicates also have this position". Mittwoch (1998), 314. Verbs like *believe*, then, should have a Davidsonian argument.

2. Here are some points which I won't have time to discuss, but which are still controversial:

- Does neo-Davidsonian argument association happen at logical-conceptual structure or in the syntax? If it happens in the syntax, then 'valency' is at least in part syntactically constructed.

- If the external argument is always neo-Davidsonian, why not the internal argument? Why this asymmetry?[2]

3. Here is the main obstacle to overcome:

- The proposal in (1) implies that the roots of verbs like *believe* do no longer introduce what has always seemed to be the crucial piece for the semantics of belief ascriptions: a set of doxastic alternatives, or rather, a set of doxastic alternatives for the believer. In other words, the job of introducing doxastic alternatives must now come from the embedded sentence or from the complementizer *that*.

- Plan: Present a semantics for attitude verbs without decomposition first. Then decompose.

4. A standard semantics for attitude verbs

doxastic
alternatives for x

(3) $[[\textit{believe}]] = \lambda p \lambda x \lambda w.\ \forall w' [DOX_x(w)(w') \rightarrow p(w')]$

[2] . I don't want to say that *all* direct objects are arguments of their verb. At least some kinds of objects should still be syntactically constructed.

5. Decomposing *believe*

(4) The verb *believe* has an internal argument referring to the kinds of things that can be believed, but no external argument
[[*believe*]] = λxλsλw. *believe*(x)(s)(w)

(5) A possessive ν
[[[*poss*]]] = λxλsλw. possessor(x)(s)(w)

- What is the semantics of *that*-clauses now? How can we account for the fact that the doxastic alternatives depend on the believer?

6. Logophoric complementizers: one in a family of complementizers

(6) Logophoric complementizer
[[$that_L$]] =
λpλx. ∀w' [compatible(x)(w') → p(w')]

- Logophoric complementizers have content arguments.

(7) Lucy believes that there are ghosts.

(8) Combining *believe* & CP via Restrict (Chung & Ladusaw (2004))

λxλsλw. *believe*(x)(s)(w) ⊕
λx. ∀w' [compatible(x)(w') → ∃y ghosts(y)(w')] =
λxλsλw. [*believe*(x)(s)(w) & ∀w' [compatible(x)(w') → ∃y ghosts(y)(w')]]

(9) λw. ∃x∃s[*believe*(x)(s)(w) & possessor(Lucy)(s)(w) & ∀w' [compatible(x)(w') → ∃y ghosts(y)(w')]]

7. Unifying three constructions

(10) Lucy believes that there are ghosts.

- Verb and CP combine via Restrict. The direct object argument of the verb is restricted, but not saturated.

(11) Lucy's belief was that there are ghosts.

- The mode of composition is Predication. The property expressed by the CP is applied to the denotation of the subject, which could be ιx ∃s [*belief*(x)(s)(w_0) & possessor(Lucy)(s)(w_0)].

(12) Lucy's belief that there are ghosts is not completely unjustified.

- Same mode of composition as in the verbal case. Existential Closure of the eventuality argument produces a standard NP denotation.

(13) Same behavior (from list 3 of Higgins (1973), 242 f.):
announce(ment), answer, assert(ion), assume/assumption, claim, comment, complain(t), conclude/conclusion, expect(ation), guess, hope, infer(ence), indicate/indication, infer/inference, judge/judgment, know/knowledge, object(ion), predict(ion), presume/presumption, pretend/pretence, promise, prophesy/prophecy, propose/proposal, reason(ing), report, rule/ruling, sense, speculate/speculation, state(ment), stipulate/stipulation, suppose/supposition, suspect/suspicion, think/thought, threat(en), understand(ing), worry.

9. More action for complementizers

(14) Factive complementizer
[[$that_F$]] = λpλe. exemplifies (p)(e) or λp. ιe exemplifies (p)(e)

(15) Trivial complementizer

[[$that_T$]] = λp. p

10. Trying to explain the Higgins facts (Higgins 1973)

(16) a. John's anger that he was not chosen…

b. * John's anger was that he was not chosen.

c. John's anger (about the fact) that he was not chosen….

- Anger is not a state that has content. Nor can it be identified with the fact or the proposition that he was not chosen. Nor is it a state that exemplifies the proposition that he was chosen.

(17) a. The result was that he suddenly disappeared.

b. * The result that he suddenly disappeared …

- The fact that he suddenly disappeared can be a result. But a result can't have information content. However, a result could be an event that exemplifies the proposition that he suddenly disappeared.

(18) a. The fact that he suddenly disappeared

b. * The cause that he suddenly disappeared

c. * The mystery that he suddenly disappeared

d. * The event that he suddenly disappeared

e. * The folly that he suddenly disappeared.

- Maybe factive *that* is really *the fact that.*

(19) a. The probability that she will return is low.

b. * The probability is that she will return.

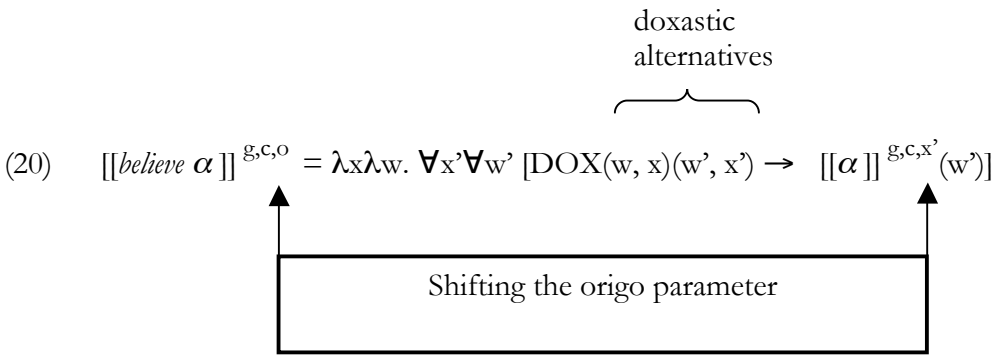
c. The probability (of the proposition) that she will return is low.

- A probability isn't a proposition nor an event.

To sum up**:** There is more action in complementizers than their appearance might suggest.

Appendix: *de se* interpretations

- What a standard (eventless) account of logophoric and attitude verbs might look like:



- Doxastic alternatives are centered worlds, pairs consisting of an individual and a possible world.

- Special logophoric parameter o specifying an individual; Büring (2005), p. 64.

- Via the origo parameter, a believer's individual doxastic alternatives can be 'plugged in' directly as values for *de se* pronouns. No property analysis is necessary for *de se* interpretations ("We are used to interpret all tensed, (or CP) clauses equally as propositions", Reinhart (1990)).

(21) [[[*self*]]]^{g,c,o} = o

(23) Decomposing *believe*

$[[\textit{believe}]]^{g,c,o} = \lambda x \lambda e \lambda w.\ \textit{believe}(x)(e)(w)$

(24) Logophoric complementizer
Where $[[\alpha]]^{g,c,o}$ is of type <st>: $[[\textit{that}_L\ \alpha]]^{g,c,o} =$
$\lambda y \lambda e \lambda w.\ \exists x\ [x = \iota z\ \text{origo}(z)(e)(w)\ \&\ \forall x' \forall w'\ [\text{Acc}_y\ (x, w)(x', w') \rightarrow [[\alpha]]^{g,c,x'}(w')]\ ]$

(25) $\lambda y \lambda e \lambda w.\ \exists x\ [x = \iota z\ \text{origo}(z)(e)(w)\ \&\ \forall x' \forall w'\ [\text{Acc}_y\ (x, w)(x', w') \rightarrow [[\alpha]]^{g,c,x'}(w')]\ ]$

Like logophoric verbs, logophoric CPs have an individual argument that refers to contents. It determines the accessibility relation: As far as y is concerned, the origo x in world w might be x' in world w'.

Partial list of references

Mittwoch, Anita (1977). How to refer to one's own words. Journal of Linguistics 13, 177-189.

Mittwoch, Anita (1998). Cognate objects as reflections of Davidsonian Event Arguments. In Susan Rothstein (ed.) Events and Grammar. Dordrecht (Kluwer), 309-332.