Argument saturation and intransitive modification: The double life of embedded clauses
Tom Roberts, UC Santa Cruz • rotom@ucsc.edu
NELS 51 @ UQAM, November 6-8, 2020

Background. While embedded clauses are traditionally assumed to be syntactic and semantic arguments of attitude verbs (Hintikka 1969), much recent work has argued that at least some clauses embedded by verbs must act as modifiers, though whether clauses are arguments or modifiers may vary from verb to verb (Kratzer 2006, Hacquard 2006, Moulton 2015, Elliott 2017, Özyıldız 2020).

In this talk, I argue that for some predicates, such as English believe and trust, embedded clauses can be arguments or modifiers, depending on whether the content argument slot of the verb has been filled. These verbs allow an embedded DP to saturate their internal argument, but can also additionally allow a CP modifier to restrict their eventuality argument. I suggest that this demonstrates that whether embedded CPs behave as modifiers is determined by obligatory transitivity: CPs can serve as arguments to transitive predicates, or they can modify intransitive predicates or transitive predicates whose content argument has been saturated by a nominal expression.

Data. Some English declarative-embedding verbs, such as believe, trust, and deny, may take direct object DPs with propositional content like the rumor (Vendler 1972, Ginzburg 1995, Uegaki 2016):

(1) Stan believes/trusts/denies/accepts the claim (that Fran is here).

However, it is a little-discussed fact that a subset of these verbs (e.g. believe and trust) may also take non-content DPs as objects. Generally, these DPs denote an entity capable of communicating propositional content, i.e., a sentient agent or a media artifact like the book. Such a DP \( x \) can be paraphrased as a content DP like \( x \)'s claim, with semantic nuances outside the scope of this talk.

(2) Stan believes/trusts Fran/the book. \( \approx \) Stan believes/trusts \{Fran's/the book's\} claim.

Notably, the content of this claim can be explicitly stated with a CP following the direct object:

(3) Stan believes/trusts the dentist/the book that Fran is here.

Believe is transitive. There is good reason to believe that the objects DP in examples like (2) is a true argument of the verb. First, believe is obligatorily transitive unlike similar attitudes like think (4a). Second, VP-adjuncts cannot intervene between believe and this obligatory DP (4b).

(4) a. Stan thinks/*believes.
   b. Stan believed \{*last week/*in the garden\} Fran.

The CP does not modify the the nominal. While content nominals are defined by their ability to compose with a propositional CP (the rumor that Fran is in town), other nominals cannot. This is reflected by standard tests of syntactic constituency, including fragment answers, clefts, and pseudo-clefts, which demonstrate that content DP objects, but not other DPs like the book, can form a constituent with a following CP; rather, believe the book forms a constituent without the CP.

(5) a. A: What/who does Stan believe?
   B: \{*Fran/*the book/the rumor\} that it’s raining.
   b. It is \{*Fran/*the book/the rumor\} that it’s raining that Stan believes.
   c. \{*Fran/*the book/the rumor\} that it’s raining is what Stan believes.
**CP as a verbal modifier.** While it is debated whether embedded clauses under verbs are arguments or modifiers, they are standardly assumed to modify nominals like belief. While objectless believe patterns unlike belief with respect to non-clausal modifiers, believe DP tracks belief. Believe DP can occur with an about-PP, which are always modifiers (Rawlins 2013), and cannot occur with a clausal proform like so, which are always arguments (Moulton 2015). In short, believe DP behaves like belief with respect to the distribution of modifiers. Thus, if a that-clause with belief is modificational, we would expect the same to be true of a that-clause with believe DP.

(6) a. Stan believes *(Fran) about the rain.
   b. Stan’s belief about the rain is troubling.

(7) a. Stan believes (*Fran) so/it/that.
   b. *Stan’s belief so/it/that is troubling.

**Analysis.** I assume that believe has a Kratzerian denotation: it takes a contentful entity \( x_c \) and an eventuality \( s \) as arguments, and returns the proposition that there is a believing eventuality \( s \) with content \( x_c \). This requires its DP object to be content-bearing. I propose, inspired by Uegaki (2016), that a non-content DP object like those in (2) is type-shifted by an operator CLAIM (8), which takes an entity \( y \) and returns an entity whose content is equivalent to what \( y \) has claimed, where \( \mathcal{F}_{\text{cont}} \) is a metalinguistic function which maps entities to their propositional content:

\[
\text{CLAIM}^w = \lambda y.e : \mathcal{F}_{\text{cont}}(x_c) = \mathcal{F}_{\text{cont}}(\text{claim}(y)(w))
\]

Any DP complement of believe saturates the verb’s content argument. Assuming that a that-clause may denote a predicate of eventualities (Rawlins 2013), the following CP may then modify the eventuality argument of believe: it will specify that the content of the believing eventuality is equivalent to the content of the clause. Because the content of the believing eventuality must have content equivalent to the DP’s claims as well as the content of the CP, we can conclude that the DP-entity made the claim expressed by the CP. A believe-VP with LF (9a) has the denotation (9b):

(9) a. believe [CLAIM Fran] (that it’s raining).
   b. \([9a]^w = \text{believe}(\mathcal{F}_{\text{cont}}(\text{claim}(f)(w))(s) \land \mathcal{F}_{\text{cont}}(s) = \{w' : \text{rain}(w')\})\]

Given that a contentful DP can saturate believe’s content argument, I propose that a declarative CP can do the same, contra Moulton (2015)’s argument that all that-clauses are modifiers. In addition to providing a parsimonious explanation for believe’s transitivity, this allows us to explain syntactic contrasts between believe CP and believe DP CP, such as that only in the latter is the CP an island:

(10) What, does Stan believe (??Fran) that she ate \( t_i \)?

**Upshots.** This proposal adds to a growing body of evidence that embedded CPs may be modifiers or arguments of attitude verbs, and suggests arbitration between the two depends on whether the embedding predicate has an unfilled content argument. The talk will underscore this claim with intra- and cross-linguistic evidence that shows that obligatorily transitive counterparts of believe in other languages behave similarly with respect to DP objects as English, whereas think and its intransitive cohorts systematically disallow DP objects, suggesting that the two routes to composition with embedded CPs are governed by the same constraints across languages.