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What syntax doesn't feed semantics

Fake indexicals as indexicals

Abstract: I argue that the first person pronoun is always directly referential, against recent findings of Heim (1991; 2008), Kratzer (1998; 2008) and others. I show how purported evidence of syntactically bound or 'fake' indexical *I*, involving sloppy ellipsis and *only* can be reconciled with a strict Kaplanian semantics. I propose an alternative treatment that bypasses the syntactic LF level, going straight from surface to semantics/pragmatics.

Kaplan (1989) proposes an elegant way to reconcile the meaningfulness of *I* with its immunity to embedding and lack of propositional content. In his two-dimensional semantics indexicals are context-dependent and intensionally rigid, while descriptions carry intensional content (but are contextually inert): $[\![\text{I}]\!]^c_w$ = the speaker of c; $[\![\text{the speaker}]\!]^c_w$ = the speaker of w. The semantics emerging from this distinction has proved very successful in analyzing the key notions of context-dependence, proposition, meaning and attitudes. I defend Kaplan's analysis of *I* against the recently popular view of *I* as a syntactically bindable variable, like *he*.

That *I* resists binding seems obvious, e.g.:

(1) Every speaker$_i$ has difficulty stopping when I_{*i} should [(Partee 1989)]

Nonetheless, the linguistics literature reveals *prima facie* plausible candidates involving sloppily bound *my* under *only* and in ellipsis. I investigate the argumentation behind these examples, and argue that they provide insufficient basis for discarding Kaplan by proposing syntax-free alternative analyses that do not violate direct reference.

Sloppy *I* under *only* and ellipsis

> Kaplan's analysis implies that when there are several occurrences of *I* (or its case forms *me*, *my*) in a sentence, each of them refers to the speaker. This is not true, 1st person pronouns are in fact just like 3rd person pronouns in that they can be interpreted as bound variables rather than referring terms

Thus, Heim (1991) initiates the attack on Kaplan. The crucial examples purported to bring out this bound variable behavior of the first person are:

(2) a. Only I did my homework [(Heim 1991)]
b. I did my homework, but my classmates didn't [(Heim 1991)]

Both have two readings, a strict one, where nobody else did my homework, and a sloppy one, where nobody else did their own homework. Heim argues as follows: Logically, *my* in the sloppy reading of (2a) plays the role of a variable ranging over everybody in the domain. And in the sloppy reading of (2b), the elided VP (*did their homework* can only be reconstructed from the source clause (=first clause), if that source already contained a bound variable *my*. As I will show, this argumentation depends on some non-trivial and unnecessarily limiting assumptions about the syntax/semantics of the constructions involved.

Only as non-conservative quantifier

One such assumption in Heim's analysis of (2a) is that *only* is a quantifier:

(3) $(\texttt{only}(\texttt{i}))(\lambda\texttt{x}[\texttt{did\_homework\_of}(\texttt{x},\texttt{x})])$

This logical form captures the sloppy reading, but to derive it from the surface requires non-trivial syntactic machinery: the possessive *my* can be bound by $\lambda\texttt{x}$ because of *feature agreement*, since the abstracted $\texttt{x}$ gets its features from the quantifier *Only I*, which in turn inherits its from *I*. Note that the first person feature has thus become purely morphosyntactic, not semantic, as can be brought out by adding $\texttt{x}$'s alleged first person feature as a semantic condition ($\texttt{x} = \texttt{i}$) to the sloppy lf in (3):

(4) $(\texttt{only}(\texttt{i}))(\lambda\texttt{x}[\texttt{x} = \texttt{i} \wedge \texttt{did\_homework\_of}(\texttt{x},\texttt{x})])$ $[\not\equiv (3)]$

In words: 'I am the only one who is a homework-maker that coincides with me', which is a much weaker, nonsensical statement. We can attribute this problem to the fact that Heim's quantifier *only* is *non-conservative*, i.e. *only(X,Y)* $\neq$ *only(X,X∩Y)*, while conservativity is generally considered a global constraint on natural language quantifiers. I conclude that Heim's analysis of (2) relies on the dubious assumptions that *only* is a non-conservative quantifier and that the first person feature of *I* is a purely morphosyntactic affair.

Sloppy ellipsis through higher-order unification

The argument from ellipsis, (2b), does not involve such a questionable quantifier, but similarly depends on a very syntactic conception (of ellipsis),

in which the strict/sloppy ambiguity corresponds to an ambiguity in the source clause. I apply Dalrymple et al.'s (1991) semantic/pragmatic alternative based on Higher-Order Unification (HOU) to restore the transparent Kaplanian semantics of strict and sloppy *my* in (2b).

In the HOU account of ellipsis, the first conjunct gets a classic, compositional interpretation: $\texttt{did\_homework\_of}(\texttt{i},\texttt{i})$. In the second conjunct *didn't* introduces a free, 2nd order variable $\texttt{P}$, to be resolved by HOU at the next stage of interpretation. The compositionally derived 'preliminary logical form' of the entire sentence thus looks like:

(5) $\texttt{did\_homework\_of}(\texttt{i},\texttt{i}) \wedge$
$\forall \texttt{x}[\texttt{classmate}(\texttt{x},\texttt{i}) \rightarrow \neg \texttt{P}(\texttt{x})]$ [pre-lf of (2b)]

The next step is to determine what it is that the classmates didn't do, i.e. to resolve *P*. This is done by first finding the parallel, contrasting elements in the two conjuncts. In this case, there's a clear contrast: *my classmates* didn't do P but *I* did. Moreover, it is stated that I did my homework, so we equate *I did* P with *I did my homework* to get a second-order matching equation:

(6) $\texttt{P}(\texttt{i}) \doteq \texttt{did\_homework\_of}(\texttt{i},\texttt{i})$

Among the unifying substitutions that solve this equation we find:

(7) a. $\texttt{P} \mapsto \lambda \texttt{y}[\texttt{did\_homework\_of}(\texttt{y},\texttt{y})]$
b. $\texttt{P} \mapsto \lambda \texttt{y}[\texttt{did\_homework\_of}(\texttt{y},\texttt{i})]$

The last step is to apply these substitutions to the pre-lf, deriving both the strict and the sloppy readings, without having to resort to ambiguity in the source clause or non-referential *my*:

(8) $\texttt{did\_homework\_of}(\texttt{i},\texttt{i}) \wedge \forall \texttt{x}[\texttt{classmate}(\texttt{x},\texttt{i})$
a. $\rightarrow \neg \texttt{did\_homework\_of}(\texttt{x},\texttt{x})]$ [sloppy]
b. $\rightarrow \neg \texttt{did\_homework\_of}(\texttt{x},\texttt{i})]$ [strict]

Only as focus particle, with HOU

Pulman (1997) extends the HOU analysis of ellipsis resolution to the interpretation of focus and focus particles like *only*. I apply a simplified version to Heim's *only* example. The simplest account would be a full reduction, analyzing (2a) literally as (2b). However, (2b) asserts rather than presupposes, derives, or implicates that I did my homework. As the exact status of this information in (2a) is the subject of an ongoing debate that does not concern us here, it would be better to leave it unspecified (as Heim does too). This leads to the following analysis: We assume that the focus is given (say, by intonation), in this case as *I* (lf: $\texttt{i}$). Where there's focus there's also a background, and we are going to use HOU precisely to determine that background ($\texttt{B}$), because the asserted contribution of the *only* sentence depends on it: everybody distinct from the focus does not have the background property:

(9) $\forall \texttt{x}[\texttt{x} \neq \texttt{i} \rightarrow \neg \texttt{B}(\texttt{x})]$ [pre-lf of (2a)]

The next step is to construct a suitable matching equation to solve $\texttt{B}$. We assume the sentence minus *only* ($\texttt{did\_homework\_of}(\texttt{i},\texttt{i})$) consists of the background applied to the focus, which gives rise to the following matching equation, unifying substitutions and outputs:

(10) $\texttt{B}(\texttt{i}) \doteq \texttt{did\_homework\_of}(\texttt{i},\texttt{i})$ [cf. (6)]
a. $\texttt{B} \mapsto \lambda \texttt{y}[\texttt{did\_homework\_of}(\texttt{y},\texttt{y})]$ [cf. (7a)]
$\rightsquigarrow \forall \texttt{x}[\texttt{x} \neq \texttt{i} \rightarrow \neg \texttt{did\_homework\_of}(\texttt{x},\texttt{x})]$
[cf. (8a), sloppy]
b. $\texttt{B} \mapsto \lambda \texttt{y}[\texttt{did\_homework\_of}(\texttt{y},\texttt{i})]$ [cf. (7b)]
$\rightsquigarrow \forall \texttt{x}[\texttt{x} \neq \texttt{i} \rightarrow \neg \texttt{did\_homework\_of}(\texttt{x},\texttt{i})]$
[cf. (8a), strict]

Again, the semantic HOU approach allows *my* to be interpreted as a regular Kaplanian indexical (in the matching condition (10)), even in the derivation of the sloppy reading. Note also that the strict/sloppy ambiguity is no longer a matter of syntactic ambiguity, but rather of semantic underspecification inherent in HOU.

Conclusion

To account for sloppy *I* under *only* and ellipsis Heim and Kratzer introduce a syntactic LF level, a non-conservative quantifier, and a purely morphosyntactic first person. I claim we can bypass the LF level and go straight from the surface to the semantics. I've shown how Heim's data are captured by nothing more than a straightforward Kaplanian semantics of *I* as a rigid designator, plus the independently motivated mechanism of HOU to derive strict and sloppy interpretations for both ellipsis and *only*, the latter analyzed as a focus particle rather than a quantifier.

References

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