

Beyond Transitive Verbs

LING 553

September 22, 2008

1. A FEW LAST WORDS ABOUT TVS

1.1. *The Separation of Syntax and Semantics*

The model we're using so far involves creating the syntactic trees, and then interpreting them. (This is the Government-Binding "Inverted Y" model, as well as the model in Minimalism.) But nothing we've done so far requires that this be the case. We could, for instance, simultaneously build the syntax and the semantics...

<u>Syntax</u>	<u>Semantics</u>
Charles is an NP...	...that means Charles
sees is a V...	...that means $[\lambda y_e . [\lambda x_e . x \text{ sees } y]]$
sees Charles is a VP made of the V and NP...	...whose meaning is made of the V and NP's meanings, $[\lambda y_e . [\lambda x_e . x \text{ sees } y]](\text{Charles})$
etc.	etc.

...and things would look pretty much the same. For now; but that won't always be the case.

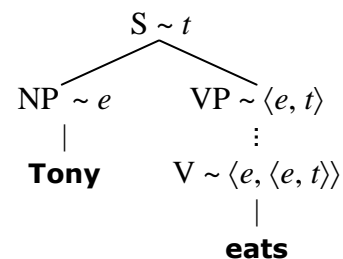
1.2. *The Transitive/Intransitive Distinction*

What semantic meaning do we get from the sentence **Tony eats** (as opposed to **Tony eats pizza**)?

[[S]]	= [[VP]]([[NP]])	FA
	= [[eats]]([[Tony]])	NBN ×2
	= $[\lambda y_e . [\lambda x_e . x \text{ eats } y]](\text{Tony})$	LM ×2
	= $[\lambda x_e . x \text{ eats Tony}]$	λ -conversion

i.e. a function from individuals to truth values that returns TRUE if the individual eats Tony; or, in terms of sets, the set of things that eat Tony—Bengal tigers, cannibals, aliens, etc. That's wrong, to say the least.

Here's the problem. Since the sentence should denote something of type t and the NP denotes something of type e , the VP needs to denote something of type $\langle e, t \rangle$. But the V denotes an $\langle e, \langle e, t \rangle \rangle$ object. What happens in the ellipsis in the tree to the right?

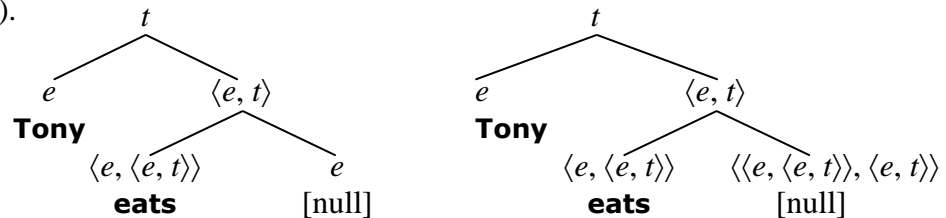


Given our type-driven semantics, there are only a few options:

- I. There are two words **eats**: $[[\mathbf{eats}_{TV}]] \in D_{\langle e, \langle e, t \rangle \rangle}$ and $[[\mathbf{eats}_{IV}]] \in D_{\langle e, t \rangle}$:
 $[[\mathbf{eats}_{TV}]] = \lambda x \in D_e . \lambda y \in D_e . y \text{ eats } x$
 $[[\mathbf{eats}_{IV}]] = \lambda y \in D_e . y \text{ eats}$
 (or: $\lambda y \in D_e . y \text{ eats something}$)

This option means (a) introducing huge amounts of ambiguity into the lexicon—we’ll have two entries for **eats**, and for **writes**, and **cooks**, and so on; and (b) it’s an odd coincidence that these two entries have something in common.

- IIa. There’s something of type e that combines with **eats**.
 IIb. There’s something of type $\langle \langle e, \langle e, t \rangle \rangle, \langle e, t \rangle \rangle$ that combines with **eats** (that is, something that takes the $\langle e, \langle e, t \rangle \rangle$ meaning as an argument, and returns an $\langle e, t \rangle$ meaning).



The “[null]” element (i.e., something unpronounced) would have to contribute a particular meaning—roughly, putting the “something” meaning into the object position. But it’s at least conceivable.

As Yanyan observes, Option I can be refined to something more reasonable:

- III. While **eats** is listed with a transitive verb meaning, there’s something in the lexicon [what Dimka called a “type-shifter”, perhaps] that turns it into an intransitive verb; either one is then available from the lexicon.

So: is there something invisible in the tree—unpronounced, but contributing meaning? Or is this a fact about the lexicon? How do we decide? In part, via intuitions, e.g. Caitlin’s feeling that **eats_{IV}** is related to both **snores_{IV}** and **eats_{TV}**, and that Option II better captures its relation to the latter, while Option I better captures its relation to the former. And in part via empirical facts—there are verbs like **beat** and **devour** that either don’t allow the shifting or don’t allow the null object, and one theory or the other may account for this fact more naturally.

We’ll have to leave things undecided, at least for now.

2. NOUNS, ADJECTIVES, PREPOSITIONS

What we've done:

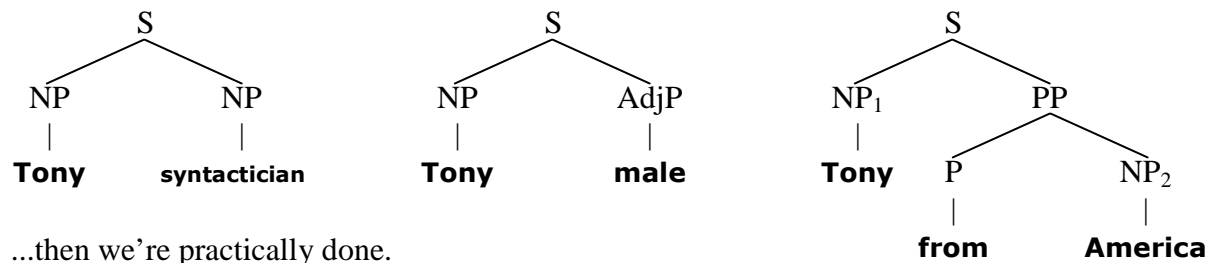
- **Julie snores.**
- **Julie sees Charles.**

Some logical next steps:

- **Tony is a syntactician.**
- **Tony is male.**
- **Tony is from America.**

2.1. Why this is easy

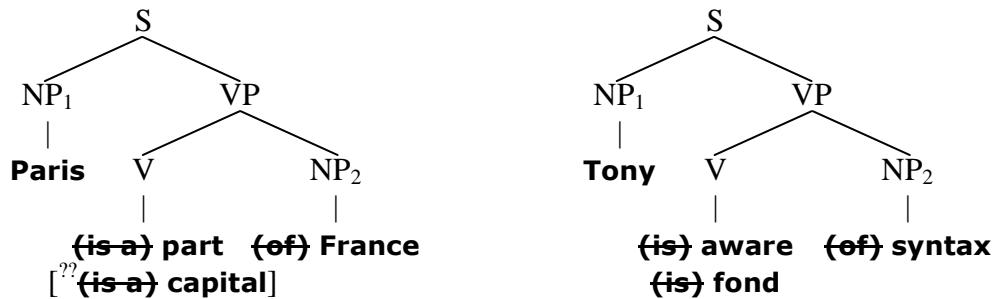
If we just pretend that **is** and **is a** aren't there:¹



...then we're practically done.

- **[[syntactician]]** = $\lambda x : x \in D_e . x$ is a syntactician
- **[[male]]** = $\lambda x : x \in D_e . x$ is male
- **[[from]]** = $\lambda x : x \in D_e . [\lambda y : y \in D_e . y$ is from $x]$

Nouns and adjectives are just like intransitive verbs; prepositions are just like transitive verbs. In fact, some nouns and adjectives are “transitive”, i.e. have type $\langle e, \langle e, t \rangle \rangle$, if we ignore **of**:



So far, so good. [And yet....]

¹ Note that this pretense is fairly sensible, given the plethora of languages—e.g., Hebrew—that leave out both copulas and indefinite articles in at least some contexts.