Syntactic Effects of Conjunctivist Interpretation: On the Argument/Adjunct Distinction

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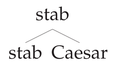
1 Overview

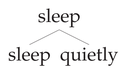
I propose a novel account of adjunction, independently motivated by the Conjunctivist theory of the composition of neo-Davidsonian logical forms, that provides a natural explanation for some of the basic syntactic differences between arguments and adjuncts.

The pattern to explain is that some non-head constituents, such as 'Caesar' in (1a), contribute crucially to making a projection maximal and therefore accessible to syntactic operations; whereas others, such as 'quietly' in (2a), leave the "maximality" of a projection unchanged.

(1) a. Brutus [$_{VP}$ stabbed Caesar].
b. Stab Caesar, (is what) Brutus did.
c. * Stab, (is what) Brutus did Caesar.



(2) a. Brutus [$_{VP}$ slept quietly].
b. Sleep quietly, (is what) Brutus did.
c. Sleep, (is what) Brutus did quietly.



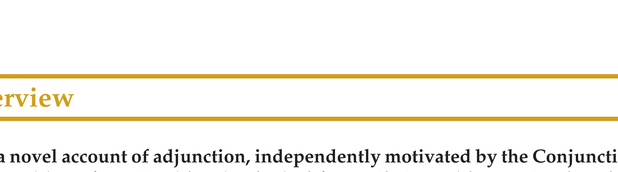
Crucial ingredients of the proposal are two pre-existing intuitions:
- The phenomenon of "movement" can be thought of as merely re-merging (Epstein et al. 1998).
- The mode of semantic composition used by adjuncts is simpler than that used by arguments; this permits a degree of syntactic freedom for adjuncts that is unavailable for arguments (Pietroski 2005, Hornstein and Nunes 2008).

I take as a starting point the formalism from Stabler (2006); this embodies the "re-merge" conception of movement in a way that leaves room for an appealing account of adjunction:
- Every XP is a phase
- External Merge = Select/Insert + (roughly) Internal Merge
- Adjunction = Select/Insert

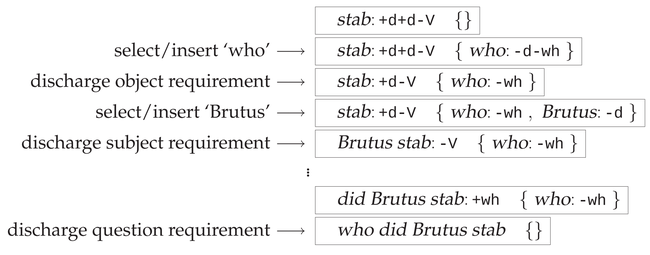
2 Syntactic Background: Move as Re-merge

Central ideas from Stabler (2006):
- The insert operation adds an element to the derivation without checking any features
- An element is integrated more fully into the structure only when its **last** feature is checked
- As a result "merge steps" and "move steps" look the same

A straightforward derivation without "movement":



A derivation with "movement":



Reminiscent of "Survive Minimalism" (Stroik 1999) and "Cooper Storage" (Cooper 1983).

References:

Cooper, R. (1983). *Quantification and Syntactic Theory*. Reidel, Dordrecht.

Epstein, S. D., Groat, E., Kawashima, R., and Kitahara, H. (1998). *A Derivational Approach to Syntactic Relations*. Oxford University Press, Oxford.

Hornstein, N. and Nunes, J. (2008). Adjunction, labeling, and bare phrase structure. *Biolinguistics*, 2(1):57–86.

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Pietroski, P. M. (2005). *Events and Semantic Architecture*. Oxford University Press, Oxford.

Stabler, E. P. (2006). Sidewards without copying. In Monachesi, P., Penn, G., Satta, G., and Wintner, S., editors, *Proceedings of the 11th Conference on Formal Grammar*.

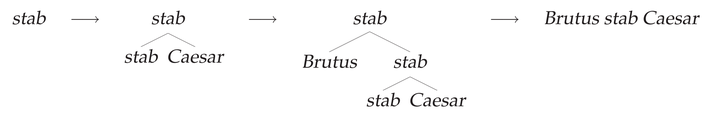
Stroik, T. (1999). The Survive Principle. *Linguistic Analysis*, 29:278–303.

3 Adjunction as Mere Insertion

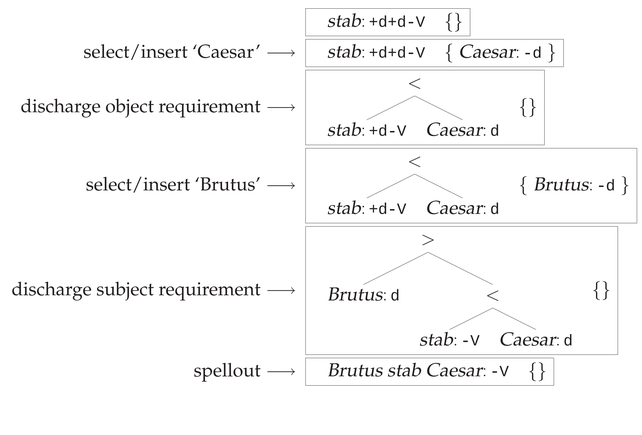
Let us suppose that (PF and LF) interpretation occurs **not** "directly compositionally",

stab ⟶ *stab Caesar* ⟶ *Brutus stab Caesar*

but only at the end of each maximal projection:

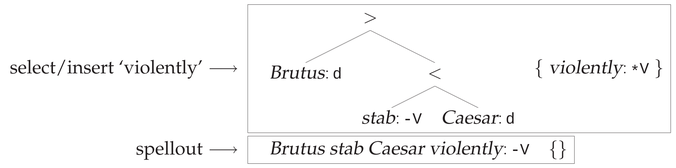


Incorporating this idea into the framework in §2, we construct head-argument relations and then spellout shortly thereafter:



This construct-then-spellout picture leaves room for certain elements to be:
- **only inserted** into the derivation, and yet
- still **contribute to interpretation** when spellout applies.

I propose that this is exactly what adjunction is. From the point where 'Brutus' is merged in the derivation above:

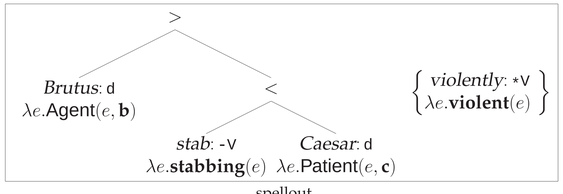


4 Semantic Motivation

This picture of the argument/adjunct distinction receives independent motivation from the Conjunctivist view of neo-Davidsonian logical forms (Pietroski 2005):
- every constituent contributes a **monadic predicate**, and
- the only mode of composition is **conjunction** of monadic predicates.

On this view, 'Brutus' and 'Caesar' — but crucially not 'violently' — must undergo a kind of "type-shifting" (dependent on particular syntactic positions):

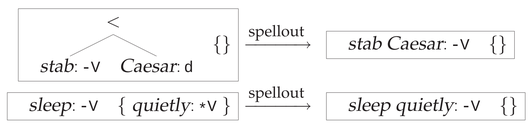
$\mathbf{c} \xrightarrow{\text{object position}} \lambda e.\mathsf{Patient}(e, \mathbf{c})$ $\qquad$ $\mathbf{b} \xrightarrow{\text{subject position}} \lambda e.\mathsf{Agent}(e, \mathbf{b})$



spellout ⟶ $\lambda e.\mathbf{stabbing}(e) \wedge \mathsf{Agent}(e, \mathbf{b}) \wedge \mathsf{Patient}(e, \mathbf{c}) \wedge \mathbf{violent}(e)$

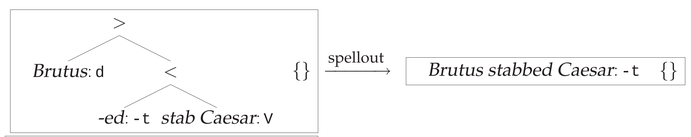
5 Explanation for the Flexibility of Adjuncts

So the two VPs considered in (1a) and (2a) differ in the following way:

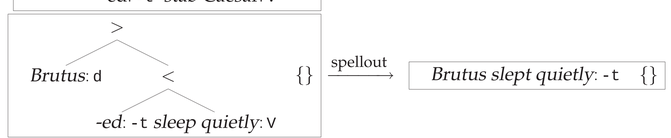


To see how this derivational difference leads to the empirical contrast between (1) and (2), consider how these VPs fit into the next phase up. The "obvious" way is as follows:

(3)

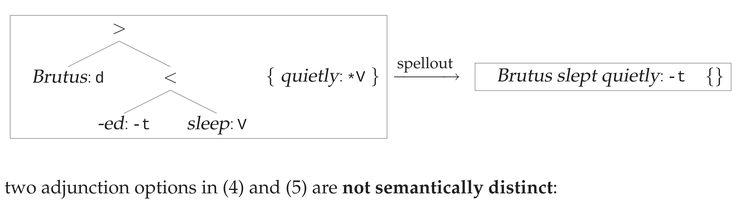


(4)



But in the adjunct case there is an additional option, because semantic composition of 'quietly' (unlike that of 'Caesar') is **not dependent on details of internal structure of the VP**:

(5)



The two adjunction options in (4) and (5) are **not semantically distinct**:

In (3): $[\![\text{Phase}_{VP}]\!] = \mathbf{stabbing}(e) \,\&\, \mathsf{Patient}(e, \mathbf{c})$
$[\![\text{Phase}_{TP}]\!] = \text{compose } [\![\text{-ed}]\!] \text{ with } [\![\text{Phase}_{VP}]\!]$
$= \ldots \mathbf{stabbing}(e) \,\&\, \mathsf{Patient}(e, \mathbf{c}) \ldots$

In (4): $[\![\text{Phase}_{VP}]\!] = \mathbf{sleeping}(e) \,\&\, \mathbf{quiet}(e)$
$[\![\text{Phase}_{TP}]\!] = \text{compose } [\![\text{-ed}]\!] \text{ with } [\![\text{Phase}_{VP}]\!]$
$= \ldots \mathbf{sleeping}(e) \,\&\, \mathbf{quiet}(e) \ldots$

In (5): $[\![\text{Phase}_{VP}]\!] = \mathbf{sleeping}(e)$
$[\![\text{Phase}_{TP}]\!] = \text{compose } [\![\text{-ed}]\!] \text{ with } \left([\![\text{Phase}_{VP}]\!] \,\&\, \mathbf{quiet}(e)\right)$
$= \ldots \mathbf{sleeping}(e) \,\&\, \mathbf{quiet}(e) \ldots$

Crucially, the TP-phase insertion option is **not available for arguments**, whose interpretation depends on **specific VP-internal positions**:

✘ $[\![\text{Phase}_{VP}]\!] = \mathbf{stabbing}(e)$
$[\![\text{Phase}_{TP}]\!] = \text{compose } [\![\text{-ed}]\!] \text{ with } [\![\text{Phase}_{VP}]\!]$

This pattern can derive original facts as follows:

(1)	a.	Brutus stabbed Caesar.	(unambiguous: (3))
	b.	Stab Caesar, (is what) Brutus did.	('Caesar' inserted early, as in (3))
	c.	* Stab, (is what) Brutus did Caesar.	
(2)	a.	Brutus slept quietly.	(ambiguous: (4) or (5))
	b.	Sleep quietly, (is what) Brutus did.	('quietly' inserted early, as in (4))
	c.	Sleep, (is what) Brutus did quietly.	('quietly' inserted late, as in (5))

General Result: If an adjunct is to modify a certain XP, it can do so by being inserted in:
- the phase in which XP is being constructed, or
- another phase in which XP is present

Arguments of XP **only** have the first option.