

Variations in tense-hopping cross-linguistically

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Under non-lexicalist theories of word formation, such as Distributed Morphology (Halle and Marantz 1993), complex verb forms must be created via either syntactic or post-syntactic means. That is, in the case of verbs that display overt tense morphology, the absence of a pre-syntactic generative lexicon requires that the tense and verb morphemes merge into the syntax as separate constituents and only later will they combine to produce an inflected verb form. The phenomenon of tense-hopping creates a unique problem for this view of morphology. For example, the data in (1) show that the tense morpheme, which is commonly assumed to be generated above *vP*, has moved downward to the verb in both English main clauses and Swedish embedded clauses, appearing in a position lower than the *vP*-adjuncts *completely/helt*.

- (1) a. John **completely** forgets the address.
b. Du vet att jag **helt** glömmet adressen.
you know.PRES that I completely forget.PRES address.DEF
'You know that I completely forget the address.'

These types of downward movements are generally assumed to be impossible in the narrow syntactic computation, given the Extension Condition (Chomsky 1993, Matushansky 2006), and have thus been relegated to the PF branch, as in Embick and Noyer (2001). Embick and Noyer propose two possibilities to account for downward movements in general: 1) head-to-head Lowering, which is a structural, morpho-syntactic transformation similar to narrow syntactic head movement, although it occurs in the inverse direction; and 2) Local Dislocation, which is a morpho-phonological operation in which two string-adjacent elements undergo morphological merger.

Taking into account the tense-hopping facts of both English and Swedish in (1), the default assumption is that these two languages derive their tense-hopping patterns in identical ways. However, the data in (2-3) suggest that this is not the case.

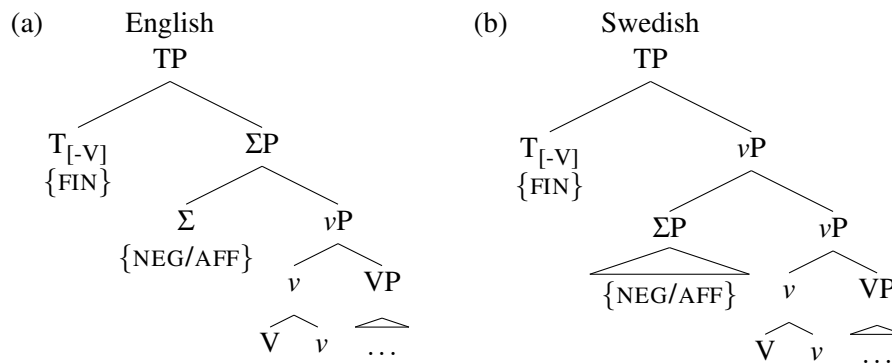
- (2) a. He said he would play the piano, and [_{vP} play the piano]₁ he did *t*₁.
b. *He said he would play the piano, and [_{vP} played the piano]₁ he (did) *t*₁.
- (3) a. [_{DP} Boken] läser han nu.
book.DEF read.PRES he now
'He is reading the book now.'
b. [_{vP} Läser boken] gör han nu.
read.PRES book.DEF do.PRES he now
'Reading the book he is now.' (Källgren and Prince 1989)

In English *vP*-fronting (2), the fronted *vP* contains an uninflected verb, indicating that tense-hopping has not occurred before *vP*-movement. Interestingly, in the Swedish V2 example (3a), in which the *vP* has moved to SpecCP, the *vP* contains an inflected verb, unlike in English *vP*-fronting. That is, the data indicate that tense-hopping occurs in Swedish before movement of *vP*. If tense-hopping were identical in both English and Swedish, we would not be able to account for this asymmetry. Additionally, the fact that tense-hopping is reflected in a narrow syntactic transformation (*vP*-fronting) in Swedish suggests that it is not merely a PF operation, as post-Spell-out operations should not affect narrow syntactic structure, by hypothesis.

To account for this distinction, I propose that tense-hopping is derived via Lowering in Swedish and Local Dislocation in English (see Ochi 1999 for a related analysis of English). In particular, I argue that T-to-*v* Lowering is not evaluated on the PF branch *per se*, but rather occurs in the narrow syntactic representation (contra the Extension Condition) as a result of the effect of cyclic Spell-out on

feature-checking operations (Chomsky 2001 and many others). To be precise, I propose a *Phase Head Impenetrability Condition* under which features embedded in a complex phase head become unavailable for feature-checking subsequent to Spell-out of the phase. A head undergoes Lowering only when the following conditions hold: 1) it takes a phase (e.g. ν P) as its complement, and 2) it carries an uninterpretable feature that must be checked against an interpretable feature embedded in the head of its phase complement. Furthermore, extending the claim of Laka (1990), I argue that Σ P –the projection housing negation and affirmation– is present in all constructions. Making the standard assumption that this projection is an adjunct in Swedish, but is generated on the spine in English, the structures in (4) show that Swedish satisfies the requirements for a T-to- ν Lowering operation, whereas English does not.

(4) Σ P in English and Swedish



Similar to Svenonius (2004), I argue that a phase is spelled out only when the next highest head is merged into the derivation (i.e. Spell-out is ‘triggered’). Therefore, I propose that T lowers to ν during Spell-out of ν P in Swedish (i.e. before ν P-fronting), but that, since T does not take ν P as its complement in English, tense-hopping occurs at a later stage as Local Dislocation. In the talk, I will present cross-linguistic data that supports this model, in addition to discussing further its implications for the architecture of the syntax-phonology interface.

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