Challenges for Theories of Post-Syntactic Head Movement: Tense and Modality in Hungarian

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Introduction

Research Questions

- Which morphological, syntactic, and semantic principles govern the order of Hungarian verbal suffixes?
- Can current theories of head movement account for the observed patterns?

Data Collection

- Adaption of sentences / contexts from the literature and introspection
- Judgements based on the intuition of one native speaker

Basics 1: Hungarian Verbal/Clausal Structure

- Topic–predicate sentence structure (É. Kiss 2002, p. 3)

(1) [Top János-ø] [Pred fel-hév-t-a-ø Mari-t].
John-NOM up-call-PST-DEF-3SG Mary-ACC
'John called up Mary.'

- No dominant word order: typically SVO with definite objects and SOV with indefinite objects (Kenesei, Vago & Fenyvesi 1998, p. 73)
- Fixed order of inflectional suffixes (É. Kiss 2002, p. 44, based on Bartos 1999):

(2) a. V - modality - tense - mood - object agreement - subject agreement
b. [AgrSP AgrS [AgrOP AgrO [MoodP Mood [TP T [ModP Mod [VP V]]]]]]

- Low position of inflected verbs (Kenesei, Vago & Fenyvesi 1998, pp. 74, 112)

(3) a. Anna-ø **gyors-an** olvas-sa a könyv-et.
Anna-NOM **quick-ly** read-DEF.3SG DEF book-ACC
'Anna reads the book quickly.'
b. Anna-ø **nem** olvas-sa a könyv-et.
Anna-NOM **not** read-DEF.3SG DEF book-ACC
'Anna does not read the book.'

Basics 2: Mirror Principle

Mirror Principle (Baker 1985)

- Order of affixes mirrors order of syntactic derivations (and vice versa)
- Indirect evidence: semantic interpretation mirrors syntactic structure

Morphology	Syntax	Semantics
beat-CAUS-RECP	[[beat CAUS] RECP]	'They_i cause e.o._i to beat him.'
beat-RECP-CAUS	[[beat RECP] CAUS]	'He causes them_i to beat e.o._i.'

Violations of the Mirror Principle (Hyman 2003)

- Fixed affix order, but variable scope (e.g., derivational suffixes in Bantu)
- Evidence for syntax-morphology mismatch (visible through passivization)

Morphology	Syntax	Semantics
cry-CAUS-APPL	[[cry CAUS] APPL]	'He makes her cry with monsters.'
stir-CAUS-APPL	[[stir APPL] CAUS]	'He makes her stir with a spoon.'

- Distinction between syntactic factors (argument structure) and semantic factors (semantic scope) often difficult (Rice 2011, pp. 171–172)

Observations

Derivational Suffixes

(4) a. Vers-ek-et ír-ogat-tat-ø-ø vel-e.
poem-PL-ACC write-**FREQ-CAUS**-INDEF-3SG INS-3SG
'She makes her write (again and again) poems.' **CAUS>FREQ**
b. Vers-ek-et ír-at-gat-ø-ø vel-e.
poem-PL-ACC write-**CAUS-FREQ**-INDEF-3SG INS-3SG
'She makes her (again and again) write poems.' **FREQ>CAUS**

(5) Ölel-kez-tet-n-ek mink-et.
hug-**RECP-CAUS**-INDEF-3PL 1PL-ACC
'They make us_i hug each other_i.' **CAUS>RECP**

(6) Ölel-tet-ve vagy-unk (a rendező-ø által).
hug-**CAUS-PASS** be-1PL DEF director-NOM by
'We are made (by the director) to get hugged.' **PASS>CAUS**

Inflectional Suffixes

(7) From Alberti, Dóla & Kleiber (2014, p. 172)
a. Anna-ø haza-me-het-ett-ø.
Anna-NOM home-go-**MOD-PST**-3SG
Deontic: 'Anna was allowed to go home.' **PST>MOD**
b. Epistemic: 'Anna may (perhaps) have gone home.' **MOD>PST**

Observations

- Order of derivational affixes reflects syntactic hierarchy and semantic scope
→ [PassP Pass [FreqP (Freq) [CausP Caus [FreqP (Freq) [VP V DP]]]]]
- Order of inflectional affixes reflects syntactic hierarchy, but not semantic scope
→ apparent violation of the Mirror Principle (one form, two readings)
- Scope of modality affix correlates with its interpretation: deontic / root interpretation for PST>MOD and epistemic interpretation for MOD>PST
- Epistemic modals often grouped together with mood (Bybee 1985) and proposed to appear structurally higher than root modals (Cinque 1999)

Syntax-Morphology Mismatch?

Bartos (1999): Merger + Syntactic Head Movement

- Derivation of suffix order: movement of V to the lowest functional head (checking [+finite] feature) + cliticization of remaining morphemes via merger
- Resolution of scope ambiguity: movement of [V + Mod] complex into empty MoodP in syntax → Syntax-morphology mismatch

Proposal: Syntactic Head Movement + Quantifier Raising at LF

- Derivation of suffix order: cyclic "roll up" head movement in syntax
- Resolution of scope ambiguity: head movement (adjunction) of Mod head to Mood head at LF → Syntax-semantics mismatch
→ Various implementations of syntactic head movement as a word formation process (e.g., Julien 2002; Arregi & Pietraszko 2018, To appear)
→ Quantifier raising resolves scope ambiguities at the sentence level (May 1977)
→ Affix movement at LF proposed to resolve bracketing paradoxes (Pesetsky 1985)
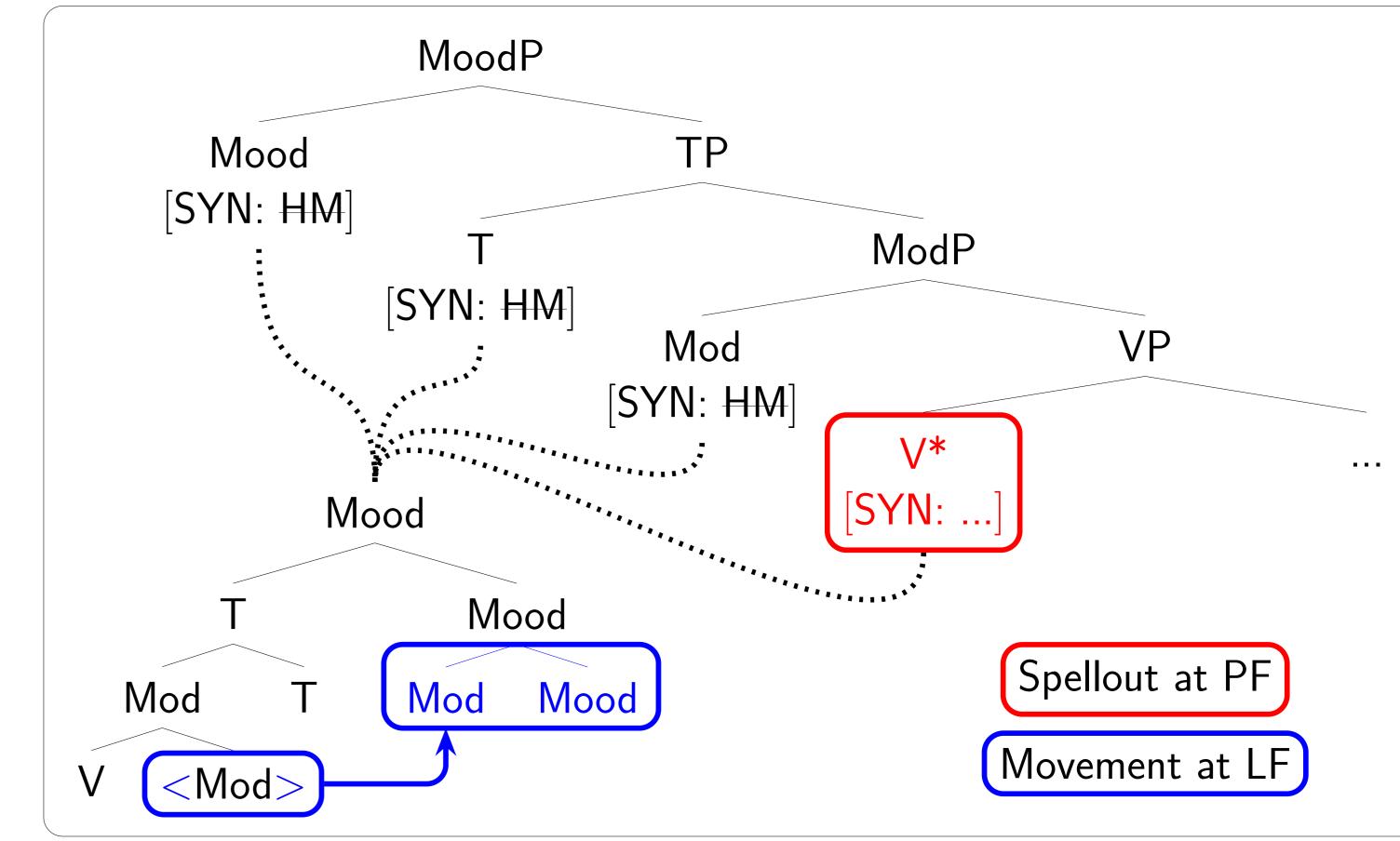→ Syntax-morphology mismatch with deponencies re-analyzed as syntax-semantics mismatch (Stump 2007)

Syntactic Head Movement + Quantifier Raising at LF

Syntactic Head Movement (Arregi & Pietraszko 2018, To appear)

- Successive Generalized Head Movement (triggered by [HM] feature) results in copies of the complex [V + Mod + T + Mood] head in all head positions
- Spell-out of the complex head in V (strong diacritic feature *)

Quantifier Raising at LF

- head movement (adjunction) of Mod head to Mood head at LF

Advantages

- Movement at LF must not obey syntactic constraints (e.g., the Head Movement Constraint, Travis 1984; the ban on excorporation, Baker 1988)
- Post-syntactic head movement (e.g., amalgamation in Harizanov & Gribanova 2019) cannot account for the observed syntax-semantics mismatch

Conclusion

- Affix order in Hungarian consistent with the Mirror Principle
→ strict distinction between syntax-morphology and syntax-semantics mirror
- Critique on Bartos (1999): combining morpho-syntactic merger and syntactic head movement questionable and only stipulated
- Head movement as a word formation process should allow for the resolution of scope ambiguities among morphemes
- Post-syntactic head movement (e.g., Harizanov & Gribanova 2019) cannot account for scope ambiguities (no morphology-semantics interface)

Selected References

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