The ups and downs of head displacement

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1. Introduction

Two types of head displacements:

1. **Head Movement**: V moves up to T in French → V + T Adv

   Jean {*souvent embrasse / embrasse souvent} Marie.
   *Jean often kisses Marie.*
   Pollock 1989:367

   \[ \begin{array}{c}
   \text{TP} \\
   \text{T} \quad \text{VP} \\
   \text{Adv} \quad \text{VP} \\
   \text{V} \quad \text{Adv} \quad \text{VP} \\
   \end{array} \]

2. **Lowering**: T moves down to lexical V in English → Adv V + T

   Sue {often eats / *eats often} fish.
   *Sue often eats fish.*

   \[ \begin{array}{c}
   \text{TP} \\
   \text{T} \quad \text{VP} \\
   \text{Adv} \quad \text{VP} \\
   \text{V} \quad \text{Adv} \quad \text{VP} \\
   \end{array} \]


Proposal: upward and downward head displacement are the same operation

- **Generalized Head Movement** creates complex head copies in the two positions.
- **Copy pronunciation** determines whether the effect is upward or downward.

Similar to: Mirror Theory (Brody 2000, Adger, Harbour & Watkins 2009, Svenonius 2016), Minimalist Grammars (Stabler 2001), Harizanov & Gribanova, to appear..

(3) **Generalized Head Movement in French and English**

\[ \begin{array}{c}
\text{TP} \\
\text{T} \quad \text{VP} \\
\text{Adv} \quad \text{VP} \\
\text{V} \quad \text{T} \\
\end{array} \]

French: pronounce higher copy

\[ \begin{array}{c}
\text{TP} \\
\text{T} \quad \text{VP} \\
\text{Adv} \quad \text{VP} \\
\text{V} \quad \text{T} \\
\end{array} \]

English: pronounce lower copy

Overarching argument

Upward and downward head displacement have the same properties.

**Argument 1**: Cyclic downward head displacement in Ndebele relative clauses
- Lnk, C & T form a complex head pronounced in T, the lowest position.
- Internal structure obeys **Mirror Principle**: [Lnk [C T]].

⇒ Cyclic upward and downward head displacement generate the same structures.

**Argument 2**: Negation blocks downward displacement in Vallader imperatives
- **Upward** T-to-C in Romance imperatives, blocked by negation.
- **Vallader** imperatives: downward C-to-T blocked by negation.

⇒ **Upward and downward head displacement blocked in the same configurations.**

**Argument 3**: Upward head displacement correlates with *do*-support in Monnese
- **Downward** T-to-V alternates with *do*-support in English.
- **Monnese**: **upward** V-to-T alternates with *do*-support.

⇒ *Do*-support correlates with both upward and downward head displacement.

**Outline**

§2. Generalized Head Movement
§3. Cyclic downward head displacement obeys the Mirror Principle
§4. Downward displacement blocked in the same configurations as upward displacement
§5. Upward head displacement alternates with *do*-support
§6. Conclusions
§7. Current work
2. Generalized Head Movement (GenHM)

2.1. Syntactic vs. morphological features

- **Syntactic features** trigger Merge, Move, etc.
- **Morphological features** are responsible for exponence.
  
  (Similar to p-signature in Hale & Keyser 2002, Harley 2004.)

**Syntactic vs. morphological features:** $X$ vs. $X_m$

Morphological features are bundled as value of $M$-feature:

\[
\begin{align*}
\text{TP} & \quad \text{same as} \quad \text{TP} \\
\begin{cases}
 T \\
 \text{EPP} \\
 M : [\text{Pst, 1sg}]
\end{cases}
& \quad \begin{cases}
 T_EPP \\
 M : [T_m]
\end{cases}
\end{align*}
\]

2.2. The syntax of GenHM

GenHM manipulates morphological features

**Generalized Head Movement**

\[
\begin{align*}
\text{YP} & \rightarrow \text{YP} \\
\begin{cases}
 Y_{hm} \\
 X \\
 M : [Y_m]
\end{cases} & \quad \begin{cases}
 Y_{hm} \\
 X \\
 M : [X_m]
\end{cases}
\end{align*}
\]

(This abstracts away from linear order: left/rightmost heads; left/right head adjunction.)

- **GenHM creates a complex head as a new $M$-value.**
  
  It doesn’t alter hierarchical relations among syntactic terminals.

- **Neutral between upward/downward displacement:** new $M$-value shared by both heads.

- **Triggered by feature [hm] on higher head.**

  Like standard head movement, GenHM is local

  It incorporates the Head Movement Constraint and the on excorporation.
  (Travis 1984, Baker 1988)

2.3. Spellout and linearization

**Upward vs. downward effect is due to postsyntactic rules of pronunciation**

A head chain position can be lexically **strong** ($X^*$) or **weak** (cf. Svenonius 2016).

(8) a. Delink $M$-value from all but highest strong position, if any;
  
  b. otherwise, delink $M$-value from all but highest position.

V & T in French and English:

(9) **Upward: weak T & weak V/Aux**

French

Jean embrasse souvent Marie.

Jean kisses often Marie.

‘Jean often kisses Marie.’

(10) a. **French**

English auxiliaries

Sue is not eating fish.

(12) **English lexical verbs**

Sue often eats fish.
3. Cyclic downward head displacement obeys the Mirror Principle

Relative clauses in Ndebele (Bantu, S44): special subject AGR prefix on the RC-internal verb:

(13) **Regular subject prefix (SBJ-AGR)**
Isi-lwane sik-z-a-gijima.
7-lion 7SBJ-FUT-run
'The lion will run'

(14) **Relative subject prefix (REL-AGR)**
isi-lwane [rc esi-z-a-gijima.]
7-lion [rc 7REL-FUT-run]
'the lion that will run'

**REL-AGR prefix is trimorphemic** (Pietraszko, to appear)

(15) **Relative agreement:** Lnkh, C & T
- The associative linker 'a'
  (Taraldsen 2010, Cheng 2006)
- The relative C hosts an augment vowel covarying with the RC-internal subject
  (Cheng 2006, Diercks 2010)
- Regular SBJ-AGR prefix in T

REL-AGR derived by regular phonology; additional evidence in Pietraszko, to appear.

The components of class 7 REL-AGR (14)

(16) 

REL-AGR is formed by applying GenHM cyclically to T, C and Lnkh

(17) **Weak Lnkh, weak C, and strong T**

**Evidence for cyclicity**

REL-AGR is formed by bottom-up application of regular coalescence rules (Sibanda 2004):

(18) Vowel coalescence rules:

<table>
<thead>
<tr>
<th>Class</th>
<th>[Lnk [C_{\phi} T_{\phi}]]</th>
<th>→ REL</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. V{\alpha} + V{\alpha} → V{\alpha}</td>
<td>a u u → a [u] → o</td>
<td></td>
</tr>
<tr>
<td>b. a + i → e</td>
<td>9</td>
<td>a i i → a [i] → e</td>
</tr>
<tr>
<td>c. a + u → o</td>
<td>7</td>
<td>a i si → a isi → esi</td>
</tr>
<tr>
<td>d. e + V{\alpha} → V{\alpha}</td>
<td>11</td>
<td>a u lu → a [ulu] → olu</td>
</tr>
</tbody>
</table>

This phonological derivation reveals a mirror-principle obeying structure of REL-AGR:

(19) Non-cyclic derivation of class 9

(20) Cyclic derivation of class 9

Evidence for low spellout position

All components of REL-AGR follow RC-internal subject:

(22) i-nyama [rc isi-lwane esi- yi- dilleyo] 9-meat [rc 7-lion 9REL-9OBJ- ate:DSJ] 'the meat that the lion ate'

Henderson (2007) on similar facts in Zulu:
Subjects precede REL-AGR because they're left dislocated topics.

Unlike matrix subjects, RC-internal subjects are not topical:

(23) **Matrix subject:** *focus
*Abafana kuphela ba-da-la isuphu.
2boys only 2S-eat 7soup
'Only boys eat soup.'

(24) **RC-internal subject:** /focus
isuphu [abafana kuphela aba-si-dlayo] 7soup 2boys only 2REL-7o-eat
'the soup that only boys eat'

Upward & downward head displacement create identical MP-obeying structures
4. Downward displacement blocked in the same configurations as upward displacement

Polarity-form-position correlation in Romance imperatives

Affirmative imperatives: imperative-specific exponence & enclisis.

(25) Llamad nos!
call.IMP.2PL us
‘Call us!’

Iberian Spanish

Negative imperatives: syncretic exponence & proclisis.

(26) *No llamad nos!
not call.IMP.2PL us
‘Don’t call us!'

Iberian Spanish

Based on Rivero 1994, Rivero & Terzi 1995, Zanuttini 1997:

GenHM to C in affirmative imperatives

(28) CP

[ M: ]
Cl
TP

• Verb surfaces in C, preceding clitics.

• Imperative-specific exponence in V_m-T_m triggered by C_m.

GenHM to C blocked by high Σ in negative imperatives

(29) CP

[ M: ]
Σ
TP

• High Σ doesn’t trigger GenHM.

• Σ itself moves to C.

• Verb surfaces in T, following clitics.

• C_m not local to V_m-T_m → syncretic exponence.

Vallader Romansh: polarity correlates with form, not position

(30) Affirmatives: imperative exponence, proclisis
ans klama'rai
us call.IMP.2PL
‘Call us!’

Scuol (Manzini and Savoia 2005:424)

(31) Negatives: syncretic exponence, proclisis

not us call.IMP/INF.2PL
‘Don’t call us!’

Scuol (Manzini and Savoia 2005:424)

GenHM analysis

Vallader imperatives have downward GenHM to C

Affirmatives: GenHM is downward, due to strong T

(32) CP

[ M: ]
Cl
TP

• Same syntax as other Romance varieties.

• But verb surfaces in T, following clitics.

• Imperative-specific exponence in V_m-T_m still triggered by C_m.

Negatives: downward GenHM blocked by high Σ, as in other Romance varieties

(33) CP

[ M: ]
Σ
TP

• Verb surfaces in T, following clitics, but

• for a different reason than affirmatives.

• C_m not local to V_m-T_m →

syncretic exponence.

Downward displacement blocked in the same configurations as upward displacement
5. Upward head displacement alternates with do-support

Downward head displacement alternates with do-support in English

Triggered when elements in a head chain with strong V are not adjacent:

(34) Intervening negation
Sue [does not eat *eats not] fish.

(35) Intervening subject (under inversion)
{Does Sue eat *Eats Sue} fish?

Weak Aux undergoes upward displacement and doesn’t alternate with do-support:

(36) Sue [is not / does not be] eating fish.

(37) {Is Sue / *Does Sue be} eating fish?

Proposal: It’s about strength, not directionality of head displacement

- Head chains containing V have special adjacency requirements.
- Do is the defective pronunciation of Vm when adjacency requirement isn’t met.

Upward displacement isn’t blocked by interveners, so downward displacement isn’t either:

(38) GenHM applies across negation

(39) GenHM applies across subjects

The proposal is that GenHM does apply, but the resulting chain is split postsyntactically:

Chain Splitting and Defective Chain Repair

(40) Chain Splitting
In a head terminating in V such that a specifier intervenes between the top of the chain and V, split the chain at V. The resulting chains are defective.

(41) Defective Chain Repair
A morphological terminal Xm in a head chain that does not contain the syntactic terminal X is an orphan. Orphan morphological terminals are assigned [O].

Because of Chain Splitting, Vm is an orphan, defectively pronounced as do.

The prediction is borne out by Monnese (Lombard) (Benincà & Poletto 2004).

1. Both finite Aux and lexical V surface in T:

   (44) 1 tjákola semper
   he speak.PRS.IND.3SG always
   ‘He always speaks.’
   Monnese (Benincà & Poletto 2004:59)

   (45) 1 à semper tjákolá
   he have.PRS.IND.3SG always spoken
   ‘He has always spoken.’
   Monnese (Benincà & Poletto 2004:59)

2. Aux surfaces in C in inversion contexts:

   (46) kwal è -t tjërkà fora?
   which have.PRS.IND.2SG -you searched out
   ‘Which have you chosen?’
   Monnese (Benincà & Poletto 2004:63)

3. But lexical V triggers do-support in inversion contexts:

   (47) ke fe -t majà?
   what do.PRS.IND.2SG -you eat.INF
   ‘What do you eat?’
   Monnese (Benincà & Poletto 2004:68)
Lexical V undergoes upward head displacement to T:

(48) **Both V and T are strong**

Complex head surfaces in \( T_m \), the highest strong position.

(49) **Under inversion, subject triggers Chain Splitting and Defective Chain Repair**

7. **Current work**

Extension to other cases of do-support confirms the predictions of GenHM framework:

- Do-support in VP ellipsis/fronting: deletion of XP containing lower part of head chain with V results in defective pronunciation of \( V_m \). Parallel to V-stranding constructions.
- Two sources for do-support: Chain Splitting and Deletion. They can’t be unified, and shouldn’t: Mainland Scandinavian has the latter, not the former.
- Mainland Scandinavian confirms that do-support is about strength, not directionality of head displacement: VP ellipsis triggers do-support even with upward displacement (V2).

These and other arguments in Arregi & Pietraszko 2018a, 2018b:

- http://dx.doi.org/10.3765/plsa.v3i1.4285
- http://ling.auf.net/lingbuzz/004096

**References**


6. **Conclusion**

3 arguments for unification of upward and downward head displacement under GenHM:

1. Like upward displacement, downward displacement obeys the Mirror Principle.
   (Ndebele)
2. Like upward displacement, downward displacement can be blocked by negation.
   (Vallader)
3. Like downward displacement, upward displacement can alternate with do-support.
   (Monnese)
Harizanov, B., & V. Gribanova (To appear) “Whither head movement?” *NLLT*.