**PHONOLOGY HAS MOVEMENT TOO:**

**MOVEMENT OF PHONOLOGICAL CONSTITUENTS IN LATIN**

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**INTRODUCTION**

Syntax and Prosody both have hierarchical structure, but it differs in many particulars.

1. **Syntactic constituency**

```
VP
  \V
  \PP
    contribute P NP
      to AP NP
        common good
```

2. **Prosodic constituency**

```
\Phi
  \omega
  \omega
  \omega
```

- **Contribution to common good**

**PROPOSAL:** Syntax and Prosody both have movement, too, but it also differs in many particulars.


- *ad communem afferre fructum*
- *to contribute to the common good* (Cicero, *Pro Archia* 12)

4. **Can’t be derived from (1) in syntax because *ad communem* isn’t a syntactic constituent**

5. **Can be derived from (2) in phonology because *ad communem* is a prosodic constituent**

6. **A prominent *w* (**or **Φ**)** moves leftwards; this is *not* structure-preserving (Teliga 2011)

```
\Phi
  \omega
  \omega
  \omega
```

7. **A sketch of the model (Agbayani & Golston 2010a)**

   Syntax
   
   Interface
   
   Phonology

- **Assumptions:**
  - Phonology is Syntax-Free
  - Syntax is Phonology-Free

8. **The right edge of every lexical X° marks the right edge of a *w*** (Selkirk 1986, 1995)

   `[afferre \ad \communem\fructum, \omega]`
(9) the right edge of every lexical XP marks the right edge of a \( \Phi \). ([Selkirk 1986, 1995])

\[
\text{afferre} \ [\text{ad} \ [\text{communem}_{\text{wp}} \ fructum]_{\text{vp}}]_{\Phi}
\]

\( \downarrow \)

(..................)_{\Phi} \ (........)_{\Phi}

(10) \( \omega \) and \( \Phi \) move in Latin; syllables and feet do not

(11) \( P, \text{Conj, C} \) never move by themselves

We propose that they are just feet, smaller than \( \omega \), and don’t move for that reason

(12) Evidence that \( P, \text{Conj, C} \) are smaller than prosodic words

**Ancient testimony**

unaccented according to Quintilian (1\(^{st}\) ce), Audax (4\(^{th}\) ce):

‘praepositiones vero omnes sine fastigio sunt’

assimilate place/voi according to Cicero (1\(^{st}\) bc), Quintilian, Velius Longus (2\(^{nd}\)ce)

\( \cup n \) \( n \) \( \cup n \) \( \cup n \) \( \text{‘with us’} \)

\( \text{‘so now’} \)

**Epigraphy**

written sans word-break in inscriptions (Wingo 1972, Pauslen 2011)

\( \text{DESAMNITIBUS} < \text{de Samnitiibus} \) ‘from the Samnites’

\( \text{ETAQUAM} < \text{et aquam} \) ‘and water’

written with place/voicing assimilation in inscriptions

\( \text{ATTEGULAS} < \text{ad tegulas} \) ‘to the roof-tiles’

\( \text{SETQUI} < \text{sed qui} \) ‘but who’

**Meter**

(........)_{\Omega} = a foot in native Saturnian meter (Parsons 1999)

(13) We hypothesize that \( P, \text{Conj, C} \) are just feet, not themselves prosodic words

**Local movement of \( \omega \) and \( \Phi \)**

(14) Local movement of \( \omega \) past a noun \( Q \rightarrow \omega \)

\( \text{nonnullum} \) \( \text{particeps} \) \( \text{commodorum} \)

\( \text{non} \) \( \text{nullorum} \) \( \text{particeps} \) \( \text{commodorum} \)

\( \text{‘sharing not any of his advantages’} \) (Cicero, *Pro Balb.* 63; DS 567)

\( \text{omnis} \) \( \text{expers} \) \( \text{cura} \)

\( \text{every}_{\text{sp}} \) \( \text{devoid} \) \( \text{care}_{\text{sp}} \)

‘devoid of every care’ (Livy, I Praef4)

(17) Local movement of \( \omega \) past a preposition \( D \rightarrow \omega \)

\( \text{quas ob res} \)

which_{\text{sp}} \( \text{from things}_{\text{sp}} \)

‘from which things’ (Cicero, *Philippic* 9.7.1)

(18) Local movement of \( \Phi \) past a noun \( AP \rightarrow \Phi \)

\( \text{celeris spe subsidii} \)

\( \text{quick}_{\text{sp}} \) \( \text{hope}_{\text{sp}} \) \( \text{assistance}_{\text{sp}} \)

‘hope of quick assistance’ (Caesar *BC* 3.69; D&S 564)

(19) Local movement of \( \Phi \) past a verb \( AP \rightarrow \Phi \)

\( \text{in cedem occiderint castello} \)

in same_{\text{sp}} \( \text{died}_{\text{sp}} \) \( \text{castle}_{\text{sp}} \)

‘died in the same castle’ (Caesar, *BG* 37)

(20) Local movement of \( \Phi \) past an adjective \( AP \rightarrow \Phi \)

\( \text{hoc tum gravi dignus nomine} \)

\( \text{this}_{\text{sp}} \) \( \text{so heavy}_{\text{sp}} \) \( \text{worthy name}_{\text{sp}} \)

‘worthy of this so heavy a name’ (Cicero, *De Oratore* 1.64)

(21) Local movement of \( \Phi \) past a preposition \( AP \rightarrow \Phi \)

\( \text{nullam aliam ob culpam} \)

\( \text{no}_{\text{sp}} \) \( \text{other}_{\text{sp}} \) \( \text{from fault}_{\text{sp}} \)

‘from no other fault’ (Cicero, *de Oratore* 1.233)

\( \text{compluribus aliis de causis} \)

\( \text{several}_{\text{sp}} \) \( \text{other}_{\text{sp}} \) \( \text{for reason}_{\text{sp}} \)

‘for several other reasons’ (Caesar, *Bello Gallico* 5.54.5)
Our claim: Hyperbaton is a phonological mechanism for marking Prominence at the left edge of

Question of how discourse Prominence (topicalization, focus, foregrounding and the like)

‘exiled from Peleponnesus, he ruled those areas more by authority than power’ (Livy 1.8)

In memoriam Jean-Roger Vergnaud

(22) Distal movement of ω  

D [→ ω]  

ea profugus ex Peleponneso auctoritate magis quam imperio regebat __ loca  
those arex exiled from Peleponnese authority more than power ruled areas

‘exiled from Peleponnesus, he ruled those areas more by authority than power’ (Livy 1.8)

(23) Distal movement of Φ  

NP [→ Φ]  

opus rusticum omne curet uti sciat facere ______  
work rusticus all cares that knows do

‘he should take care that he knows how to do all the farm work’ (Cato 5)

vinea veterem si in alium locum transferre ______ voles  
vine old if in other place want

‘If you want to transfer an old vine to some other place’ (Cato 49)

et puero et puellae si ulcus erit huissue modi ______  
both boy and girl if sore is this kind

‘if there should be a sore of this kind for both boy and girl’ (Cato 157)

alvum si voles deceere ____ superiorem  
stomach if you wish to clean-out upper

‘if you wish to clean out the upper stomach’ (Cato 156)

oleum si in metretam novam inditurus ____ eris  
oil if into jar new wants

‘if you want to oil to be put into a new jar’ (Cato 100)

What motivates hyperbaton?

Question of how discourse Prominence (topicalization, focus, foregrounding and the like) is
realized in Latin (D&S 2006, Spevak 2008)

Our claim: Hyperbaton is a phonological mechanism for marking Prominence at the left edge of
a phonological domain (Φ, 1)

Insensitive of prosodic movement to syntactic constraints

(24) Coordinate Structure Constraint (Ross 1967)

aka ‘Conjunct hyperbaton’

sapientiae laudem et eloquentiae  
wisdom reputation and wisdom

‘a reputation for wisdom and eloquence’ (Cicero, de Oratione 2.363)

quas inter et castra  
which between and camp

‘between which and the camp’ (Caesar, BG 6.36)

“If the prosody is a major trigger of conjunct hyperbaton, it follows that Latin word order is in
principle sensitive to prosodic phrasing, which in turn strengthens the case for prosodically
driven movement in other structures.” (D&S 2006, 586).

(25) Left Branch Condition (Ross 1967)

multas adferunt causas  
many reasons

‘they bring up many reasons’ (Caesar, BG 6.22)

ceterum plena Caesarum  
other full of other Caesars’ (Tacitus, Annales 4.3)


suo stare loco  
their stayed in

‘they stayed in their position’ (Livy, 9.37.3; D&S 11)

pedes latas quaternos  
feet wide four

‘four feet wide’ (Cato 151.3; Devine & Stephens 2006:566)

(27) Subject Island (Ross 1967)

aqua restebat et terra  
water remained and earth

‘water and earth remained’ (Cicero, De natura deorum 2.66; D&S 2006, 589)

(28) Freezing Island (Wexler & Culicover 1980)

nullam video graven subesse causam  
no serious be there reason

‘I see there to be no serious reason.’ (Cicero, Ep. ad Atticum 1.10.2; D&S 2006, 561)

magna videbatur mortis effecta contemptio  
great it seemed death achieved contempt

‘It seemed that a great contempt for death had been achieved.’
(Cicero, Tusculanae disputationes 2.2; D&S 2006, 561)
in memoriam Jean-Roger Vergnaud


illorum expertem temporum et sermonum
those_{esp} involved_{esp} times_{esp} and discussions_{esp}
‘involved in those times and discussions’ (Cicero, pro Sulla 11; D&S 566)

tua dignum amicitia
your_{div} worthy_{ass} friendship_{dis}
‘worthy of your friendship’ (Cicero, Bruto 13.13.1)

sua stare loco
their_{esp} stayed place_{esp}
‘they stayed in their position’ (Livy, 9.37.3; D&S 11)

omnis expers curae
every_{fps} devoid care_{rep}
‘devoid of every care’ (Livy, 1Praef4)

[plus many of the examples above]

(30) Proper names split; compounds split in poetry

(ad Castra). exploranda Cornelia (D&S 2006, 275)
to Camp_{esp} exploring_{esp} Cornelia_{esp}
‘exploring Camp Cornelia’ (Caesar, Bello Civili 2.24; D&S 2006, 275)

(septem). subiecta -trioni
seven under oxen_{rep}
‘under the Seven Oxen (constellation)’ (Vergil, Georgiacs 3.381)

-Finite subordinate clauses are islands for hyperbaton (Devine & Stephens 2006: 559f). A finite clause corresponds to a phase, and this also corresponds to a chunk of structure that is delivered to PF in the course of the derivation (Chomsky 2001).

-Fronting is vacuous w.r.t. LF
(no effect on binding; LF ‘undoing’ effect [Saito 1989; Sauerland & Elbourne 2002]):

(31) Binding of Anaphors

sc. Milo. continuit
self Milo_{ass} restrained_{in}
‘Milo restrained himself’ (Cicero, Pro Milone 15.40)

Sensitivity of Prosodic Movement to a Prosodic Constraint

(32) *cum cum: Homophonous words can’t appear within a prosodic word.


(33) PPs commonly show up immediately following a complementizer

cum in Sardinia triumphasset
when in Sardinia_{prep} triumphed_{ass}
‘when he had triumphed in Sardinia’ (Cicero, in Pisonem 38)

ut cum sicario disputabo
so with murderer_{mas} argue_{ins}
‘so that I will argue with a murderer’ (Cicero, in Pisonem 16)

(34) But never if the complementizer and the preposition are homophonous

* cum cum sicario disputabo
when with murderer_{mas} argue_{ins}
‘when I will argue with a murderer’ (construct)

(35) Despite the fact that cum (P) is very common after other complementizers...
(36) ... and despite the fact that cum (C) is very common with other prepositions

(37) *cum cum is never found anywhere, suggesting that PP fronting is always prosodic in Latin

**OTHER APPROACHES**

Sensitivity to phonological concerns and insensitivity to syntactic and semantic concerns is what one would expect if hyperbaton were prosodic movement. But it is clearly problematic if hyperbaton is taken as movement within the syntax.

-Devine & Stephens (2006) argue in general for a syntactic analysis of hyperbaton. But their analysis fails to address why island- and binding-considerations are categorically ignored in hyperbaton and fails to account for the movement of phonological words and phrases that do not constitute syntactic constituents.

-Immunity to locality in particular is problematic for any syntactic analysis of hyperbaton, including scattered deletion approaches (Cavar & Fanselow 2000, Nunes 2004).

-Base generation scrambling analyses (Bošković & Takahashi 1998) must ensure that a prosodic constituent (most problematically a prosodic word like P + Adj) must be base generated in a higher position in syntax. This would involve base generation of a prosodic constituent in syntax.

-Analyses of PP-splitting in Slavic languages can cover some of our PP data, but fail to extend to the Latin data generally. (Franks & Progovač 1994, Bašić 2004)

-Bošković (2005) proposes adjectives may move syntactically to a position c-commanding P, which then cliticizes onto the adjective prior to further leftward movement of the adjective; but this won’t generalize to (N, V, A) heads that aren’t clitics yet evince the same patterns as Ps in Latin. Crucially for the cliticization analysis, adjectives may not extract alone, nor may P+N front stranding the (otherwise) intervening adjective, nor may determiners pied-pipe. All three cases are attested in Latin, as long as what has locally fronted forms (at least) a prosodic word; this argues again for prosodic movement.

**CONCLUSION**

(38) The movement we’ve seen here happens after syntax
when syntactic constituency is no longer available
and syntactic islands and anaphor binding are no longer an issue.

(39) The movement takes place within phonology proper,
when prosodic constituency is the only constituency available
and the detailed phonological content of words is manifest (*cum cum).

(40) Unlike analyses that allow for co-present syntax and phonology, our model allows
no reference to anything phonological
during any part of the syntax
(Zwicky & Pullum 1986a,b; cf. Zec & Inkelas 1990, Richards 2010), and
no reference to anything syntactic
during any part of the phonology.

(41) Parallels between syntactic and prosodic movement if we’re right:
Each moves words and phrases (X, XP; ω, Φ);
neither moves smaller units (roots, stems; syllables, feet).
Each is sensitive to conditions in its own domain;
neither is sensitive to conditions in the other’s domain.

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APPENDIX

IS LATIN HEAD-INITIAL OR HEAD-FINAL?

evidence is mixed: function heads clearly initial

NP, VP, AP mixed (within, across authors, periods)

PP clearly initial (never occurs as a postposition)

Devine & Stephens (2006) treat hyperbaton as leftwards movement, which we follow here

DO OTHER LANGUAGES HAVE PROSODIC MOVEMENT?

Ancient Greek (Agbayani & Golston 2010a)

Japanese (Agbayani, Golston, Ishii 2009)

Russian (Henderer 2009)

Ukrainian (Teliga 2011)

IS PROSODIC MOVEMENT ALWAYS DRIVEN BY PROMINENCE?

No. It’s also driven by second-position requirements (Agbayani & Golston 2010b). Such movement is also insensitive to syntactic conditions.


