**Beyond Strength and Weakness:**  
**wh-prosody and wh-syntax**  
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**Intro: Beyond Strength and Weakness**

*Classic problem*

(1)  
\[
\begin{array}{l}
\text{a. What did John buy __?} \\
\text{b. John-wa nani-o katta?}
\end{array}
\]

*Classic answer*

“The wh-feature in English is strong; the wh-feature in Japanese is weak”

*today’s goal*

To make you unsatisfied with the classic answer.

*proposal:*

The choice between overt and covert wh-movement is always predictable from independently observable properties of the language: namely, the position of the complementizer, and the way syntactic structures are mapped onto prosody.
inspiration for the proposal:

(Ishihara 2003: 53-54)

a. Naoya-ga nanika-o nomiya-de nonda
   Naoya NOM something ACC bar LOC drank
   ‘Naoya drank something at the bar’

b. Naoya-ga nani-o nomiya-de nonda no?
   Naoya NOM what ACC bar LOC drank Q
   ‘What did Naoya drink at the bar?’

→ in Japanese, wh-questions involve the creation of a prosodic domain (the "wh-domain") that begins at the wh-phrase and ends at the complementizer; characterized by pitch compression (shaded).

→ proposal: all languages are trying to be like Japanese. Some are better at this than others.
Condition on Wh-Prosody, version 1 of 2:

Given a wh-phrase $\alpha$ and a complementizer C that Agrees with $\alpha$, $\alpha$ must be adjacent to a prosodic boundary, and $\alpha$ and C must be separated by as few prosodic boundaries as possible\(^1\).

schematically:

(3)  given an example in which a complementizer C and a wh-phrase are separated by a bunch of prosodic domains $\phi$:

a.  

$$[C \phi \phi \phi \phi \text{wh}]$$

a language has two ways of satisfying the CWP above. One is to create a prosodic domain with no boundaries between C and wh:

b.  

$$[C \text{wh}]$$

For reasons we’ll discuss later, some languages can do this and others can’t. The second possible strategy is to leave the prosody alone, but move the wh so that it’s closer to C:

c.  

$$[\text{wh} C \phi \phi \phi \phi \text{wh}]$$

two warning flags:

\(\text{\#} \) very unorthodox assumptions about the syntax/phonology interface ahead; basically, I’m assuming that the syntax decides whether to do wh-movement or not by considering the prosody. Feel free to ask me about this later.

\(\text{\#} \) the “prosodic flattening” in (3b) is logically separable from its realization as pitch compression in Tokyo Japanese (2). compare Fukuoka Japanese:

\(^1\) Hopefully not specific to wh-phrases, though I'll concentrate on them; cf. Blaszc\'{z}ak and Gärtner (2005) for a related proposal about the scope of negative quantifiers.
(4) Fukuoka Japanese wh-intonation (Smith 2005):

a. Omae kyonen Kyooto itta to ya?
you last.year Kyoto went ‘Did you go to Kyoto last year?’

b. Dare-ga Kyooto iku ka wakaran.
who NOM Kyoto go ‘I don’t know who’s going to Kyoto’

→ tonal properties of wh-domain differ from language to language (flat in Tokyo, high in Fukuoka). moral: what’s relevant is just that a prosodic domain be created.
Prosody, and wh-prosody

Following much work on the syntax-phonology interface:

- prosodic representations are constructed by mapping certain syntactic boundaries onto prosodic boundaries:\(^2\):
  (e.g., “insert a phonological phrase boundary at the Left edge of every DP”)

\[
\begin{align*}
\text{(5)} & \quad \begin{array}{l}
\text{a. } [\text{TP} \left( \text{DP D NP } \right) \left( \text{VP D NP } \right) \text{ V }] \\
\text{b. } \left( \text{DP D NP } \right) \left( \text{VP D NP } \text{ V } \right)
\end{array} \\
\text{syntactic phrasing} & \quad \text{phonological phrasing}
\end{align*}
\]

- (5b) shows the lowest level of phonological phrasing, which is the one we’ll be concerned with (the **Minor Phrase**). Prosodic structures are (maybe) hierarchically organized:

\[
\begin{array}{ccc}
\text{Major Phrase} & \text{Major Phrase} & \text{Major Phrase} \\
\text{Minor Phrase} & \text{Minor Phrase} & \text{Minor Phrase} \\
\text{w} & \text{w} & \text{w} & \text{w} & \text{w} & \text{w} & \text{w}
\end{array}
\]

- following Kubozono (2006), we’ll handle effects like the Japanese wh-intonation facts in (2) by making Minor Phrases recursive:

\[
\begin{array}{c}
\text{Minor Phrase} \\
\text{Minor Phrase} \\
\text{Minor Phrase} \\
\text{w} & \text{w} & \text{w} & \text{w} & \text{w}
\end{array}
\]

- **recipe for constructing a larger Minor Phrase** ("wh-domain"); take the Minor Phrase boundary introduced by the wh-phrase as one of the boundaries of the bigger Minor Phrase, and take any existing Minor Phrase boundary as the other boundary:

\[
\begin{align*}
\text{(8)} & \quad \begin{array}{l}
\text{a. } [\text{TP} \left( \text{DP whP } \right) \left( \text{VP D NP } \right) \text{ V }] \\
\text{b. } \left( \text{whP D NP } \right) \left( \text{VP D NP } \text{ V } \right) \\
\text{c. } \left( \text{whP D NP } \text{ V } \right)
\end{array} \\
\text{syntactic phrasing} & \quad \text{Minor Phrases} & \quad \text{bigger Minor Phrase}
\end{align*}
\]

(evidence for structure creation rather than structure destruction: Sugahara 2003, Ishihara t.a. ...)

---

\(^2\) I won’t try here to develop a theory of what kinds of algorithms for mapping syntax onto prosody can exist; see Selkirk (1980, 1984), Nespor and Vogel (1986), Truckenbrodt (1995), Wagner (2005), and much other work).
Condition on Wh-Prosody, version 2 of 2:
Given a wh-phrase $\alpha$ and a complementizer $C$ where $\alpha$ takes scope, $\alpha$ and $C$ must be separated by as few Minor Phrase boundaries as possible, for some level of Minor phrasing.

**relevant points of cross-linguistic variation**
- $C$ initial or final
- Minor Phrase boundaries placed at Right or Left edges of (certain) XPs.

**four logical possibilities:**

(9)  
  
  a. $C$ **final**, Minor Phrase boundaries at **Left** edges of XPs.

  \[
  (XP \ (whP \ (XP \ (XP \ V \ C))) \ \text{Minor Phrases}
  \]

  \[
  (XP \ (whP \ XP \ XP \ V \ C)) \ \text{bigger Minor Phrase}
  \]

  $\rightarrow$ **wh-in-situ** (Japanese)

  b. $C$ **final**, Minor Phrase boundaries at **Right** edges of XPs.

  \[
  (XP \ (whP \ (XP \ C)) \ \text{Minor Phrases}
  \]

  \[
  (XP \ whP \ C) \ \text{bigger Minor Phrase}
  \]

  $\rightarrow$ **wh maximally close to $C$** (Basque)

  c. $C$ **initial**, Minor Phrase boundaries at **Left** edges of XPs.

  \[
  (C \ (XP \ (whP \ (XP \ (XP))) \ \text{Minor Phrases}
  \]

  \[
  (C \ (XP \ whP \ XP \ XP) \ \text{bigger Minor Phrase}
  \]

  \[
  (C \ (XP \ (whP \ (XP \ (XP))) \ \text{Minor Phrases}
  \]

  \[
  (whP \ C \ (XP \ (XP \ (XP) \ (XP))) \ \text{bigger Minor Phrase}
  \]

  $\rightarrow$ **wh-movement to the left** (Tagalog)

  d. $C$ **initial**, Minor Phrase boundaries at **Right** edges of XPs

  \[
  (C \ XP \ (whP \ (XP \ (XP))) \ \text{Minor Phrases}
  \]

  \[
  (C \ XP \ whP \ (XP \ (XP))) \ \text{bigger Minor Phrase}
  \]

  $\rightarrow$ **wh-in-situ** (Chichewa)  (or wh-movement: (9b) backwards?)
predictions

• in C-final languages (9a, 9b), we won’t get leftward wh-movement.

(10) a. Taroo-wa nani-o katta no? [Japanese]
    ‘What did Taroo buy?’

    b. Bkrashis-lags-gi gare gzigs-gnang-pa -red pas? [Tibetan]
    ‘What did Tashi buy?’

    c. C’am-wit mir cak-w-yrenim? [Chaha]
    ‘What did C’am-wit cook?’

    d. Qiaofong mai -le sheme (ne) [Chinese]
    ‘What did Qiaofong buy?’

• in C-initial languages (9c, 9d), leftward wh-movement will always be
  either obligatory (9c) or optional (9d).

(11) a. qel ʕaali štara ?eeh? [Egyptian Arabic]
    ‘What did Ali’s uncle buy?’

    b. ?eeh štara qel ʕaali?

(12) a. Tu as vu qui? [French]
    ‘Who did you see?’

    b. Qui as-tu vu?

[crucially, "wh-movement" will have to include any type of dislocation to the left, including clefting, etc.]
Japanese: final C, Minor Phrase boundaries to Left of certain XPs

- signalled by an L on the first mora (Initial Lowering)
- begin at the Left edges of certain XPs (e.g., DPs):

\[
\begin{align*}
\text{(13) a. } & \quad \text{DP} \quad \text{DP} \quad \text{yuujin } ] \\
& \quad \text{DP} \quad \text{Inayama-no} \quad \text{‘friend’} \\
& \quad [\text{MinP} \quad \text{Oomiya-no} ] \\
\text{b. } & \quad \text{DP} \quad \text{DP} \quad \text{yuujin } ] \\
& \quad \text{DP} \quad \text{Inayama-no} \quad \text{‘friend’} \\
& \quad [\text{MinP} \quad \text{Oomiya-no} ] [\text{MinP} \quad \text{Inayama-no} ] \\
\end{align*}
\]

‘the friend of [Mr. Inayama from Oomiya]’ ‘the [friend of Mr. Inayama] from Oomiya’

- a Minor Phrase may not contain more than one lexically accented word; if it would, a Minor Phrase boundary is inserted (anywhere between the lexically accented words will do).

- Long Minor Phrases are broken up; this depends on speaker and speech rate, but for some speakers, at least, Minor Phrases should not be more than three words long.

\[
\begin{align*}
\text{C final, Minor Phrase boundaries at Left edges of XPs.} \\
\quad & \quad \text{XP} \quad \text{whP} \quad \text{XP} \quad \text{XP} \quad \text{V} \quad \text{C} \quad \text{Minor Phrases} \\
\quad & \quad \text{XP} \quad \text{whP} \quad \text{XP} \quad \text{XP} \quad \text{V} \quad \text{C} \quad \text{bigger Minor Phrase} \\
& \rightarrow \text{wh-in-situ (Japanese)}
\end{align*}
\]
**Basque: final C, Minor Phrase boundaries to Right of certain XPs**

Overview of Basque Minor Phrases: (Elordieta 1997)
- signalled by an L on the first syllable (Initial Lowering)
- boundaries placed at the **Right** edges of lexically accented words
- boundary at the **Right** edge of the preverbal phrase

**difference #1** between Basque and Japanese: treatment of accented words

**Basque:**
“A prosodic word on which a pitch accent…is realized marks the *right edge boundary* on an accentual [=Minor] phrase” (Elordieta 1997:30; emphasis mine)

(14)  
\[
\begin{array}{ll}
\text{a. } & [\text{MinP}] \\
\text{a’. } & \text{lagunen dirua} \\
\text{b. } & \text{lagunen dirua} \\
\text{b’. } & \text{friend-Gen.Sg. money} \\
\end{array}
\]

‘the friend’s money’

vs. **Japanese:**

(15)  
\[
\begin{array}{ll}
\text{a’. } & [[\text{MinP}][\text{MinP}]] \\
\text{a”. } & \text{[\text{MinP}][\text{MinP}]} \\
\text{a’’. } & \text{[[[Yamámori-no] yamagoya-no] uraniwa-no] umagoya-ni]]] \\
\end{array}
\]

‘In the barn in the backyard of a hut in Yamámori…’

➔ Japanese can put a MinP boundary wherever (as long as it doesn’t end up with two accented words in the same MinP)

**difference #2:** treatment of all-unaccented sequences.

**Basque must put a MinP boundary on the **Right** edge of the word before the verb (Arregi 2002)**

(16)  
\[
\begin{array}{ll}
\text{a. } & [\text{MinP}] \\
\text{a’. } & \text{[Gixona] etorri re} \\
\text{man come AUX} \\
\end{array}
\]

on the other hand, DPs need not have boundaries between them:

(17)  
\[
\begin{array}{ll}
\text{a. } & [\text{MinP}] \\
\text{a’. } & \text{[umiari] [normalian] [urà] [emoten dotzágu]} \\
\text{child-DAT normally water give AUX} \\
\end{array}
\]

‘Normally, we give water to the child’

(18)  
\[
\begin{array}{ll}
\text{a. } & [\text{MinP}] \\
\text{a’. } & \text{[Sure [erriko [alkatia]]] [Iruñara] [allaga da]} \\
\text{(Gussenhoven 2004)} \\
\text{our town’s mayor Iruña-at arrived AUX} \\
\text{‘The mayor of our town has arrived in Iruña’}
\end{array}
\]
vs. Japanese (Selkirk and Tateishi 1988); MinP boundaries at the left edge of every DP, but no boundary necessary before the verb.

(19) a.  [MinP ] [MinP ] [Japanese]
     a’.  [subject] [object] verb [all unaccented]

(20) a.  [MinP ] [Basque]
     a’.  [subject] [object] verb [all unaccented]

upshot
• Japanese projects phonological phrase boundaries at certain left XP boundaries (e.g., DPs)
• Basque projects phonological phrase boundaries at certain right XP boundaries (e.g., right edge of an accented phrase, right edge of pre-verbal phrase)

C final, Minor Phrase boundaries at Right edges of XPs.

\[
\begin{align*}
\text{(XP)} & \text{(whP)} (\text{XP}) (\text{XP}) \text{ V C) Minor Phrases} \\
* \text{(XP)} & \text{whP)} (\text{XP}) (\text{XP}) \text{ V C) bigger Minor Phrase} \\
\text{(XP)} & \text{(whP) V C) Minor Phrases} \\
\text{(XP) & \text{whP) V C) bigger Minor Phrase} \\
\end{align*}
\]

\[\rightarrow \text{wh maximally close to C (Basque)}\]

independent constraints:
• nothing may break up V, T, C
• post-C movement is characterized by downstep

    Miren-ERG who-ABS see-PRF AUX.PR
    ‘Who has Miren seen?’

b. *Séin Mirenek ikusi rau?
    who-ABS Miren-ERG see-PRF AUX.PR

c. Jon señek ikusi rau?
    Jon-ABS who-ERG see-PRF AUX.PR
    ‘Who saw Jon?’

d. *Señek Jon ikusi rau?
    who-ERG Jon-ABS see-PRF AUX.PR
Tagalog: initial C, Minor Phrase boundaries to Left of certain XPs

Tagalog preliminaries:

• V-initial language: A may either precede or follow its noun, with a morpheme between (the “linker”)

(22) a. Sumayaw ang lolang mayaman
   NOM-danced ANG grandmother-LI rich
   ‘The rich grandmother danced’

b. Sumayaw ang mayamang lola
   NOM-danced ANG rich-LI grandmother

• C is also initial:

(23) Hindi ko alam [kung sumayaw si Maria]
    not NG-I know whether NOM-danced ANG Maria
    ‘I don’t know whether Maria danced’

• verb bears morphology cross-indexing one of the DPs, which Austronesianists argue about the proper analysis of; won’t be important in what follows (glossed ‘NOM’, ‘DAT’ (= “agreement with nominative argument”, “agreement with dative argument”))

• DPs typically start with a “case” particle:
   ANG=controls verbal agreement morphology
   SA=Dative
   NG=default

• not much previous work on the prosody
   (Schachter and Otanes (1972), Kaufman (2005))
Tests for phonological phrasing: final L%, downstep reset

Intonation peak on each content word. Where are these peaks placed? Look at alila 'servant':

→ peak on second syllable in (24), third in (25).
Consider *lōla* 'grandmother':

(26)

<table>
<thead>
<tr>
<th>Pitch (Hz)</th>
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<tbody>
<tr>
<td>300</td>
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<th>Time (s)</th>
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<tbody>
<tr>
<td>?i</td>
<td>ni</td>
<td>nóm</td>
<td>naN</td>
<td>ma</td>
<td>yá maN</td>
</tr>
</tbody>
</table>

*ininóm* 'drank' also has a final rise, and *tūbig* 'water' also has a final fall.

(27)

<table>
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<th>Pitch (Hz)</th>
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<td>?i</td>
<td>ni</td>
<td>nóm</td>
<td>naN</td>
<td>ló</td>
<td>laN ma</td>
</tr>
</tbody>
</table>

*ininóm* 'drank' also has a final rise, and *tūbig* 'water' also has a final fall.

→ again, fall in (26), rise in (27).
→ *ininóm* 'drank' also has a final rise, and *tūbig* 'water' also has a final fall.
hypothesis:
• words typically have a final H (and often an earlier L; more about that later, maybe)
• phonological phrases have a final L% boundary tone…
• …which means that phrase-final words end in an HL sequence.
• successive peaks within a phrase exhibit downstep, with a (partial) reset at the next phrase
• the examples we’ve seen so far consist of two phrases:

\[ \text{V DP} \quad \text{DP} \]

\[
\begin{array}{c}
\text{ni} \\
\text{nóm} \\
\text{naN} \\
\text{a} \\
\text{lí} \\
\text{laN} \\
\text{ma} \\
\text{hi} \\
\text{na} \\
\text{aN} \\
\text{tú} \\
\text{big}
\end{array}
\]

\[
\begin{array}{c}
\text{ininóm} \\
\text{ng} \\
\text{alilang} \\
\text{mahína} \\
\text{ang} \\
\text{túbig}
\end{array}
\]

\[
\begin{array}{c}
\text{ACC–drank} \\
\text{NG} \\
\text{servant–LI} \\
\text{weak} \\
\text{ANG} \\
\text{water}
\end{array}
\]

so, now two tests for phrasing: phrase-final low, and downstep reset

lots of questions:
• what determines this phrasing?
• how come peaks are sometimes invisible (cf. 26-27)?
• where do the initial L’s come from? (appendix)
• where is the H on each word placed? (appendix)
• why is a syntactician trying to do this?

\[ \text{Time (s)} \]

\[ \begin{array}{cc}
0 & 2.43365
\end{array} \]

3 and maybe 3: in this example, there’s a big pause between the two phrases. This isn’t reliably present.
aside: we’ve been looking at examples with comparatively well-defined peaks, but these peaks can get squashed into each other:

Here the final rise of *hinangáan* ‘admired’ and the fall of *lángaw* ‘fly’=1 peak. contrast:
What determines the positioning of phonological phrase boundaries?

so far:
• phrase-finally, words have a final fall
• non phrase-finally, they have a final rise
• peaks within a phrase get successive downstep, with a reset at the next phrase
• in a VSO sentence, the phrasing is [VS] [O].

how do we get the [VS][O] phrasing?

→ “place a phrase boundary at the right edge of every DP”

→ “place a phrase boundary at the left edge of every DP, except for the one immediately after the verb”

argument #1 for the second algorithm:

(32) [Ininom ng lolang mayaman][ni Maria][ang tubig]
    ACC-drank NG grandma-LI rich NG Maria ANG water
    ‘Maria’s rich grandmother drank the water’

(postnominal) possessors are not phrased with their possesees.
compare:

(33)

with:

(34)

‘Maria’s rich grandmother drank the water’

‘The rich grandmother drank the water’

Maria’s rich grandmother drank the water’
• *mayaman* ‘rich’ has phrase-final prosody in both (circled)
  → phrase boundary before *ni Maria* in (34).

• also, *ni Maria* in (34) exhibits reset; peak is higher than preceding one.
with shorter possessees, evidence is trickier to interpret:

Argument #2: we might expect, the verb’s need to phrase with following material can be satisfied by other things:
these examples contain the word `uláng` ‘crayfish, lobster’, which the speaker was unfamiliar with; he pronounced it `úlang`, with initial stress. In general, I’ll indicate stress where it was actually pronounced.
project phrase boundaries to the **Left** of every DP…

(…but get rid of the one that separates the V from the first DP)

<table>
<thead>
<tr>
<th>C</th>
<th>initial</th>
<th>Minor Phrase boundaries at <strong>Left</strong> edges of XPs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>( C ) ( XP ) ( whP ) ( XP ) ( XP )</td>
<td>Minor Phrases</td>
<td></td>
</tr>
<tr>
<td>*( C ) ( XP ) ( whP ) XP XP</td>
<td>bigger Minor Phrase</td>
<td></td>
</tr>
<tr>
<td>( whP ) C ( XP ) ( XP ) ( XP )</td>
<td>Minor Phrases</td>
<td></td>
</tr>
</tbody>
</table>

➔ **wh-movement to the left** (Tagalog)

no wh-in-situ…

(39) *Bumili si Juan ng ano?

NOM-bought ANG Juan NG what

‘John bought what?’

…with one interesting exception:

(40) a. Ninakaw nino ang kotse mo?

ACC-stole NG.who ANG car your

‘Who stole your car?’

b. * Ninakaw ang kotse mo nino?

c. *Sinabi ng mga pulis [na ninakaw nino ang kotse mo]?

ACC-said NG PL police LI ACC-stole NG.who ANG car your

‘Who did the police say stole your car?’

➔ **nino** ‘NG.who’ can be in situ, just in case it’s immediately after the verb of the clause where it takes scope…

(in other words, just in case no phonological phrase boundaries intervene between it and C)\(^5\)

[still, wh-in-situ isn't as free as we'd expect...**ano** 'what' can't seem to do this, for example]

\(^5\) Questions with **nino** seem to sound best in Sprouting contexts; I won’t try to account for this.
Chichewa: initial C, Minor Phrase boundaries to Right of certain XPs

Head-initial language with prosodic boundaries at right edges of XPs:

(41) a. ["jingá yá mwáána] bicycle of child [(DP [PP [DP ]])]
b. ["jingá yábwiino] bicycle good [(DP [AP ])]
c. ["páká máawa] until tomorrow [(PP [DP ])]

(42) a. [fiisi] [anadyá mkääagō] hyena ate lion [(DP [VP [DP ]])]
b. [miléeme] ["di jiūuchi] bats and bees [(&P[DP [DP ]])]

Truckenbrodt (1999): Wrap-XP > Align (XP, R) (VP has no boundaries within it) (but cf. Seidl 2000, McGinnis 2001)

(43) (anaményá nyumbá ndí mwáála) he.hit house with rock ‘He hit the house with the rock’


(44) Focus (Chichewa): A focused constituent is followed by a φ-boundary.

(45) (anaményá nyuúmba) (ndí mwáála) he.hit house with rock ‘He hit the house with the rock’ (answer to ‘what did he hit with the rock?’)

(46) (anáménya chiyáani) (ndi mwáálá) (Downing 2005) he.hit what with rock ‘What did he hit with the rock?’

C initial. Minor Phrase boundaries at Right edges of XPs

( C XP ) ( whP ) ( XP ) ( XP ) Minor Phrases
( C XP whP ) ( XP ) ( XP ) bigger Minor Phrase

→ wh-in-situ (Chichewa) (or wh-movement: Basque, backwards?)
**Possible further directions: Spanish, Bengali, German, echo-questions**

**Spanish**

(47) Juan compró qué?
    Juan bought what

…but only if the wh-in-situ is followed by an utterance boundary or pause:

(48) a. tú le diste la guitarra a quién?
    you CL gave the guitar to who

b. *tú le diste a quién la guitarra?

c. tú le diste a quién # la guitarra?

→ head-initial language, wh-in-situ possible just when followed by a prosodic boundary.

**Hindi, Bengali**

*Hindi* (Srivastav 1991, Simpson 2000, 82-83)

(49) us-NE **kya**a kiyaa?
    he ERG what did

‘What did he do?’

(50) *Raam-ne kahaa [ki **kOn** aayaa hE]?
    Ram ERG said that who come has

‘Who did Ram say has come?’

(51) **kOn** Raam-ne kahaa ki [___ aayaa hE]?
    who Ram ERG said that come has

**Bengali** (Bayer 1996, 272-3)

(52) ora **[ke** aS –be] Sune-che 
    they who come FUT3 hear PTS3

‘They have heard who will come’ \(\text{embedded}\)  

‘Who have they heard will come?’ \(\text{matrix}\)

(53) ora Sune -che [**ke** aS -be] 
    they hear PTS3 who come FUT3

‘They have heard who will come’ \(\text{embedded only}\)

[wh…C] → √

[C…wh] → *

23

(54) a. ram-er Taka
Ram’s money
b. chobi-r jonno
pictures-GEN for
‘for pictures’
c. Tok gur-er jonno durgOndho
sour molasses for bad.smell
‘the bad smell of sour molasses’

(55) (Omor) (cador) (tara-ke) (dieche)
Amor scarf Tara-DAT gave
‘Amor gave the scarf to Tara’

No boundaries at Right edges of DPs...

boundaries at Left edges of DPs (plus one before verb; cf. Basque)

--> Bengali puts boundaries at Left edges of XPs.

This makes it like Japanese, as far as our theory is concerned; the wh-phrase should have to precede its C, but won’t have to immediately precede it (Simpson and Bhattacharya 2003, 137):

(56) jOn kon boi-Ta borders-e kal kinlo
John which book-CLASSIFIER Borders LOC yesterday bought
‘Which book did John buy yesterday at Borders?’

German

German default stress (Kratzer and Selkirk to appear)

(57) a. María studiert/studíert die Gesétze
Maria studies the laws
'Maria is studying the laws'
b. Ich glaube, dass María die Gesétze studiert/#studíert
I think that Maria the laws studies

--> S, O always get stress; V optionally gets stress when medial, never when final

24
Kratzer and Selkirk propose:

- subjects and objects are always Major Phrases
- the verb can sometimes be made into a Minor Phrase (thereby getting secondary stress), and adjoined to the Major Phrase of the object:

(58) a.  
\[
\text{MajP} \quad \text{MajP} \\
\quad \text{MinP} \quad \text{MajP} \\
\quad \quad \text{MinP} \\
\quad \quad \quad (\text{Maria}) \quad \quad \quad \quad (\text{studiert} \quad \quad \text{die Gesetze}))
\]

b.  
\[
\text{MajP} \quad \text{MajP} \\
\text{MinP} \quad \text{MinP} \\
\quad (\text{Maria}) \quad \quad \quad (\text{die Gesetze} \quad \text{studiert})
\]

Unphrased items (like \textit{studiert} in (58b)) are obligatorily stressless.

Why can't \textit{studiert} 'studies' be a Minor Phrase in (58b)? What rules out the prosody in (59)?

(59)  
\[
\text{MajP} \quad \text{MajP} \\
\text{MinP} \quad \text{MinP} \\
\quad (\text{Maria}) \quad (\text{die Gesetze} \quad \text{studiert})
\]

Kratzer and Selkirk: German Major Phrases must have main stress on the rightmost element; the circled MajP in (59) violates that requirement.
Equivalently (?): "adjoined Minor Phrases" may be created by introducing a new Left boundary, but not by introducing a new Right boundary:

(60) \[ \begin{array}{c}
\text{MajP} \\
\text{MajP} \\
\text{MinP} \\
\text{MinP} \\
\text{(Maria)} \\
\text{Studiert} \\
\text{(die Gesetze)}
\end{array} \]

(61) * \[ \begin{array}{c}
\text{MajP} \\
\text{MajP} \\
\text{MinP} \\
\text{MinP} \\
\text{(Maria)} \\
\text{((die Gesetze) studiert)}
\end{array} \]

that is, if your goal is to phrase a verb together with its direct object, you may do so by introducing a Left boundary (as in (60)), but not by introducing a Right boundary (as in (61)).

--> German marks Left edges, not Right edges.
And the German complementizer is on the Left...
so German is Tagalog, and should have wh-movement.

**Echo-questions**

(62)  
   a. John bought a motorcycle.
   b. John bought a **WHAT**?

Why can you have this conversation in so many languages?

(...though perhaps not in all. Bošković 2002 claims that multiple wh-fronting languages cannot do this, though there appears to be speaker variation. Kriszta Szendrői, p.c.: impossible in Hungarian)

(63)  
   a. (*)Ivan kupil **čto**?? [Russian]

   Ivan bought what

   b. (*)Ivan e kupil **kakvo**?? [Bulgarian]
Conclusions

**proposed universal:**
Given a wh-phrase $\alpha$ and a complementizer C that Agrees with $\alpha$, $\alpha$ and C must be separated by as few Minor Phrase boundaries as possible, for some level of Minor phrasing.

**points of variation:**
- C to the \{right, left\} of TP
- (Minor) Phrase boundaries associated with \{right, left\} edges of certain XPs

$\rightarrow$ if these two parameters have different settings (one right, one left), then create a Minor Phrase containing both the wh and the C (Japanese\(^6\), Chichewa\(^7\))

\[
\begin{array}{cc}
\text{wh} & \text{C} \\
\text{C} & \text{wh}
\end{array}
\]  

\[\text{Japanese} \]
\[\text{Chichewa}\]

$\rightarrow$ if these two parameters have the same setting (both right, both left), then move the wh-phrase as close as possible to C (Basque, Tagalog\(^8\))

\[
\begin{array}{cc}
\text{wh} & \rightarrow & \text{C}  \\
\text{C} & \leftarrow & \text{wh}
\end{array}
\]  

\[\text{Basque} \]
\[\text{Tagalog}\]

\(^6\) and hopefully Bengali  
\(^7\) and possibly Spanish  
\(^8\) and conceivably German
**Appendix: more on Tagalog prosody**

Where does initial L come from? Consider phrase-final 3-syllable words (here *alila* ‘servant’):

- first-syllable peak:

(53)

(54)

‘*Maria’s servant’s grandmother drank the water*’

‘*The servant apparently drank the water*’
(55) 'The weak servant drank the water'

(56) 'The noisy servant drank the water'
and maybe also:

<table>
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<tr>
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<td>300</td>
</tr>
<tr>
<td>200</td>
</tr>
<tr>
<td>100</td>
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<tr>
<td>40</td>
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<table>
<thead>
<tr>
<th>Time (s)</th>
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<tbody>
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<td>0</td>
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<tr>
<td>1.94939</td>
</tr>
</tbody>
</table>

<table>
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<tr>
<th>?i</th>
<th>ni</th>
<th>nóm</th>
<th>naN</th>
<th>?a</th>
<th>lí</th>
<th>la</th>
<th>aN</th>
<th>tú</th>
<th>big</th>
</tr>
</thead>
<tbody>
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<td>nang</td>
<td>allia</td>
<td>ang</td>
<td>túbig</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACC–drank</td>
<td>NG</td>
<td>servant</td>
<td>ANG</td>
<td>water</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**generalization:**

you get an initial L (2\textsuperscript{nd}-syllable peak) when the phrase-final word is preceded by other material in the same phrase.

initial L comes from preceding word→
(content) words end in an L,
which docks at the beginning of the following word when possible
(blocked by a phrase boundary)
(58)

`The noisy servant drank the water`

`The servant apparently drank the water`

(possibly phrase-final L% is this “docking” L, failing to dock because of the phrase boundary?)
What determines the position of H?

Consider these four-syllable verbs:

<table>
<thead>
<tr>
<th>(60)</th>
<th>Pitch (Hz)</th>
</tr>
</thead>
<tbody>
<tr>
<td>lu</td>
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</tr>
<tr>
<td>lu</td>
<td>lu</td>
</tr>
<tr>
<td>lu</td>
<td>nín</td>
</tr>
<tr>
<td>naN</td>
<td>ba</td>
</tr>
<tr>
<td>Nós</td>
<td>?aN</td>
</tr>
<tr>
<td>?ü</td>
<td>lang</td>
</tr>
</tbody>
</table>

`ACC–will–swallow`  `NG`  `milkfish`  `ANG`  `lobster`

0: ‘The milkfish will swallow the lobster’

1.97213

<table>
<thead>
<tr>
<th>(61)</th>
<th>Pitch (Hz)</th>
</tr>
</thead>
<tbody>
<tr>
<td>hi</td>
<td>na</td>
</tr>
<tr>
<td>Ná</td>
<td>?an</td>
</tr>
<tr>
<td>naN</td>
<td>lá</td>
</tr>
<tr>
<td>Naw</td>
<td>aN</td>
</tr>
<tr>
<td>?á</td>
<td>ni</td>
</tr>
</tbody>
</table>

`DAT–admired`  `NG`  `fly`  `ANG`  `harvest`

0: ‘The fly admired the harvest’

2.07154
lululunin ‘will swallow’ is .76 seconds long, rise starts at .51 (67% of word’s length).

hinangáan ‘admired’ is .63 seconds long, rise starts at .28 (44% of word’s length).

→ H is not systematically placed in the same position in a word.

H appears on the stressed syllable, realized in these verbs as a rise on that syllable. H*

accents so far:

H*

L_doc after H* that docks onto following content word
L% at end of phrase (=L_doc, blocked from docking?)
(L_utt at beginning of utterance/clause?)

rules of interpolation:

at the beginning of a phrase, start at the first pitch (H or L)
if you’re at L and you hit an H, begin rising;
if you’re at H and you hit an L, begin falling⁹.
(and function words don’t have instructions of their own…)

phrasing:

project a boundary at every Left edge of a DP;
get rid of any boundary immediately after the verb.

---

⁹ or possibly before that; consider the contour of alila ‘servant’ in (23). We may need L% to spread leftward until it hits the stressed syllable.
Bibliography


Downing, Laura. 2005. The prosody of focus-related enclitics in some Southern Bantu languages. Handout from talk given at SOAS.


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