The prosodic nature of the wh-typology
Differentiating languages in terms of their behavior in wh-question formation—and in terms of their prosodic characteristics?

So, languages differ with respect with how they form wh-questions.¹

(1) What did John buy?
(2) Taroo-ga nani-o kaimasita ka? (Japanese)
   Taro-NOM what-ACC bought.POL Q
   ‘What did Taro buy?’

1 A rough typology of wh-movement

<table>
<thead>
<tr>
<th>Parm. Q</th>
<th>Every question needs a wh-word in front?</th>
<th>English</th>
<th>Bulgarian</th>
<th>Japanese</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>??</td>
<td>No</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Parm. W</th>
<th>Every wh-word needs to be in front?</th>
<th>No</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>

This is a little bit unsatisfying, in that we don’t really know why languages might differ this way. Richards (2006) makes an attempt to connect the properties of wh-movement with the phonology.

2 Japanese

Recall that the last time we talked about prosody, there is a kind of prosodic compression that appears between the wh-word and the question particle (and a kind of pitch boost at the wh-word itself).

¹This entire discussion basically follows Richards (2006)
As compared to a declarative sentence:

Why is there this prosodic compression? This is Richards’ proposal: languages try to minimize the number of prosodic boundaries that separate the \( wh \)-phrase and the corresponding complementizer/question particle.

\[
(3) \quad [\ C [\phi ] [\phi \ldots wh\ldots ]]\]

Options to solve the problem:

\[
(4) \quad [\ C \ldots wh\ldots ]
\]

\[
(5) \quad [\ wh\ C [\phi ] [\phi \ldots t\ldots ]]\]

Syntax vs. pronunciation

\[
(6) \quad \text{This is the cat that caught the rat that stole the cheese.}
\]

\[
(7) \quad \text{This is the cat that caught a cold.}
\]

\[
(8) \quad \text{This is the cat}
\]

\[
(9) \quad \text{This is [the cat [that caught [the rat [that stole the cheese]]]].}
\]

\[
(10) \quad (\text{This is the cat}) (\text{that caught the rat}) (\text{that stole the cheese}).
\]

\[
(11) \quad \text{Utterance}
\]

\[
\text{Major Phrase} \quad \text{Major Phrase}
\]

\[
\text{Minor Phrase} \quad \text{Minor Phrase}
\]

\[
\text{w} \quad \text{w} \quad \text{w}
\]

\[
\text{Minor Phrase} \quad \text{Minor Phrase}
\]

\[
\text{w} \quad \text{w} \quad \text{w}
\]
(12) a. For one end of the larger Minor Phrase, use a Minor Phrase boundary which was introduced by a *wh*-phrase.

b. For the other end of the larger Minor Phrase, use any existing Minor Phrase boundary.

(13) 
\[ TP \left[ DP \left[ whP \right] \left[ VP \left[ DP \left[ D, NP \right] V \right] \right] \right] \]

\[
\begin{align*}
( & whP) & ( & D, NP & V ) \\
( & whP & D, NP & V )
\end{align*}
\]

Syntax to Minor phrases

(14) 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.

The idea is that languages would break up something like this:

<table>
<thead>
<tr>
<th></th>
<th>C to the RIGHT of TP</th>
<th>C to the LEFT of TP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prosodic boundaries on RIGHT of XPs</td>
<td>Basque</td>
<td>Chichewa</td>
</tr>
<tr>
<td>Prosodic boundaries on LEFT of XPs</td>
<td>Japanese</td>
<td>Tagalog</td>
</tr>
</tbody>
</table>

3 How we expect this to work

Suppose that boundaries go on the RIGHT and the C is on the RIGHT.

(15) \( \ldots \text{wh}\ldots \text{C} \) \( \text{XP RIGHT, C RIGHT} \) \( \text{Basque} \)

(16) \( \text{C} \ldots \text{wh}\ldots \) \( \text{XP RIGHT, C LEFT} \) \( \text{Chichewa} \)

(17) \( \ldots (\text{wh} \ldots \text{C} \) \( \text{XP LEFT, C RIGHT} \) \( \text{Japanese} \)

(18) \( \text{C} \ldots (\text{wh} \ldots \) \( \text{XP LEFT, C LEFT} \) \( \text{Tagalog} \)

4 Japanese: FINAL C, MPs LEFT

In support of the idea the Minor Phrases boundaries are inserted to the left:

(19) Oomiya-no Inayama-no yuujin
    Oomiya-GEN Inayama-GEN friend
    a. ‘the friend of [Mr. Inayama from Oomiya]’
    b. ‘Mr. Inayama’s [friend from Oomiya]’
Everything else works kind of as above. Japanese flattens everything between the *wh*-word and the C so that there are no extra boundaries.

5 Basque: FINAL C, MPs RIGHT

In general, Minor Phrase boundaries don’t appear on either the left or right edge of DPs. But for lexically accented words, there is a Minor Phrase boundary on the right.

Also, there is a requirement that there be a Minor Phrase boundary just before the verb—the first syllable of the verb must have the Low tone that signals the beginning of a new Minor Phrase.

Basque arranges for *wh*-phrases to be immediately preverbal.

In principle Basque could have moved the *wh*-phrase rightward, but this seems not to be an option (independently, is the hope). So, this is where we have to say that we reduce Minor Phrase boundaries, but not necessarily down to zero.

What Basque seems to do is essentially eject everything between the verb and the *wh*-phrase, “altruistic scrambling.”
Tagalog complementizers are initial

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

Two sentences that differ only in the order of *mahina* ‘weak’ and *alila* ‘servant’. The intonation differs. Idea: phrases are marked in Tagalog by a phrase-final Low boundary tone, which causes phrase-final words to end in a fall. So, there is a phrase boundary just before *ang tubig* ‘the water’. This also matches the downstep.
The general rule: Place a phrase boundary at the left edge of every DP, except for the one immediately after the verb.

Tagalog should have obligatory leftward *wh*-movement, since left edges are important, and this movement can get the *wh*-word and the C into the same prosodic domain.

(23) Kailan umuwi si Juan?
    when NOM-went.home ANG Juan
    ‘When did Juan go home?’

(24) * Umuwi si Juan kailan?

One place where we can get *wh*-in-situ: after the verb. So long at least as that verb is the one where the *wh*-word is to take scope.

(25) Ninakaw nino ang kotse mo?
    ACC-stole NG.who ANG car your
    ‘Who stole your car?’

(26) * Ninakaw ang kotse mo nino?

(27) * Sinabbi 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?’)

This is neat. Turns out it doesn’t completely work—*wh*-in-situ is best when the *wh*-word is at the end. And, moreover, it seems only to work with *nino* ‘what’. 
7 Chicheŵa: INITIAL C, Minor Phrases to the RIGHT

Complementizers are initial:

(28) Zikugániziridwá [ kútí átsíbwéni ángá ndi afîti ]
   it.is.thought that uncle my be witch
   ‘It is thought that my uncle is a practitioner of witchcraft.’

Chicheŵa has the option of wh-in-situ.

(29) anaményá chiyáani ndi mwáálá
   he.hit what with rock
   ‘What did he hit with the rock?’

The VP is generally a single prosodic phrase. There is a kind of tendency to mark right edges, but it is kind of overridable. However, when there is a wh-in-situ, we do get the marking.

(30) ( anaményá nyumbá ndi mwáálá )
   he.hit house with rock
   ‘He hit the house with the rock.’
(31) ( anaményá chiyáani ) ( ndi mwáálá )
   he.hit what with rock
   ‘What did he hit with the rock?’

8 Possible further directions

8.1 Spanish

“For some speakers, wh-in-situ is apparently straightforwardly acceptable in examples like (32)”

(32) a. Juan compró qué?
    Juan bought what
    ‘What did Juan buy?’

   b. Tú le diste la guitarra a quién?
    you CL gave the guitar to who
    ‘Who did you give the guitar to?’

For people who accept these, it is possible to have the wh-phrase in the middle but only with a pause.
(33) Tú le diste a quién *(#)la guitarra?
    you CL gave to who the guitar
    ‘Who did you give the guitar to?’

Speculation: Spanish is like Chichewa (C initial, wh-in-situ is possible, just when a prosodic break appears just after the wh-phrase).

8.2 Echo questions

(34) a. John bought a metercycle.
    b. John bought a WHAT?

Are these cases where there is no interrogative C?

Well, what about the possibility that all of the non-wh stuff is destressed? Maybe this allows there to be a connection with the complementizer?

References