

**The interaction of focus and Japanese “subjacency violations”**

On the question of what’s really happening with *wh*-questions involving islands in Japanese.

Where we’re going with this is to the question of these *intervention effects* that we talked about last time. Since there wasn’t a handout last time, here’s a repeat of some of what we saw there:

Beck (1996), German intervention effects:

- (1) Wen hat Karl wo getroffen?  
whom has Karl where met  
‘Who did Karl meet where?’
- (2) a. ??Wen hat niemand wo gesehen?  
whom has nobody where seen  
‘Who did nobody see where?’  
b. Wen hat wo niemand gesehen?  
whom has where nobody seen  
‘Who did nobody see where?’
- (3) a. ??Wen hat nur Karl wo getroffen?  
whom has only Karl where met  
‘Who did only Karl meet where?’  
b. Wen hat wo nur Karl getroffen?  
whom has where only Karl met  
‘Who did only Karl meet where?’
- (4) a. ??Wen hat fast jeder wo getroffen?  
whom has almost everyone where met  
‘Who did almost everyone meet where?’  
b. Wen hat wo fast jeder wo getroffen?  
whom has where almost everyone met  
‘Who did almost everyone meet where?’

Hoji (1985): Intervention effect in Japanese

- (5) a. ?\*[ John-ka Bill]-ga nani-o nomimasita ka?  
John-or Bill-NOM what-ACC drank Q  
‘What did John or Bill drink?’  
b. nani-o<sub>i</sub> [ John-ka Bill]-ga t<sub>i</sub> nomimasita ka?  
what-ACC John-or Bill-NOM drank Q  
‘What did John or Bill drink?’  
c. dare-ga [ sake-ka biiru(ka)]-o nomimasita ka?  
who-NOM sake-or beer(or)-ACC drank Q  
‘Who drank either sake or beer?’
- (6) a. ??dareka-ga nani-o nomimasita ka?  
someone-NOM what-ACC drank Q  
‘What did someone drink?’  
b. nani-o<sub>i</sub> dareka-ga t<sub>i</sub> nomimasita ka?  
what-ACC someone-NOM drank Q  
‘What did someone drink?’  
c. dare-ga nanika-o nomimasita ka?  
who-NOM something-ACC drank Q  
‘Who drank something?’
- (7) a. ?\*Taroo-sika nani-o yoma-nai no?  
Taroo-only<sub>NPI</sub> what-ACC read-NEG Q  
‘What did only Taro read?’  
b. nani-o<sub>i</sub> Taroo-sika t<sub>i</sub> yoma-nai no?  
what-ACC Taroo-only<sub>NPI</sub> read-NEG Q  
‘What did only Taro read?’  
c. dare-ga LGB-sika yoma-nai no?  
who-NOM LGB-only<sub>NPI</sub> read-NEG Q  
‘Who reads only LGB?’

Beck & Kim (1997): Intervention effects in Korean

- (8) a. Swuna-ka mwues-ul sa-ss-ni?  
Suna-nom what-acc buy-past-Q  
‘What did Suna buy?’

- b. mwues-ul Swuna-ka sa-ss-ni?  
what-acc Suna-nom buy-past-Q  
'What did Suna buy?'
- (9) a. ?\* Minswu-man nwukwu-lul manna-ss-ni?  
Minsu-only who-acc meet-past-Q  
'Who did only Minsu meet?'
- b. nwukwu-lul Minswu-man manna-ss-ni?  
who-acc Minsu-only meet-past-Q  
'Who did only Minsu meet?'
- (10) a. ?\* Minswu-to nwukwu-lul manna-ss-ni?  
Minsu-also who-acc meet-past-Q  
'Who did Minsu, too, meet?'
- b. nwukwu-lul Minswu-to manna-ss-ni?  
who-acc Minsu-also meet-past-Q  
'Who did Minsu, too, meet?'

Pesetsky (2000): intervention effects in English

- (11) a. Which diplomat should I discuss which issue with?  
b. ?? Which diplomat should I not discuss which issue with?  
c. ?? Which book did almost everyone write to which newspaper about?  
d. ?? Which boy did only Mary introduce which girl to?

Interim conclusion:

There seems to be a class of things that "intervene." Things like *only X*, or *anyone*, *someone*, seem to be in this class.

Shin-Sook Kim (2002, 2005): What makes something intervene?

- (12) a. ?\* Mira-man nwukwu-lul chotayha-ess-ni?  
Mira-only who-acc invite-past-Q  
'Who did only Mira invite?'
- b. nwukwu-lul Mira-man chotayha-ess-ni?  
who-acc Mira-only invite-past-Q  
'Who did only Mira invite?'

- (13) a. \*MIRA-ka nwukwu-lul chotayha-ess-ni?  
Mira-nom who-acc invite-past-Q  
'Who did MIRA invite?'
- b. nwukwu-lul MIRA-ka chotayha-ess-ni?  
who-acc Mira-nom invite-past-Q  
'Who did MIRA invite?'
- (14) a. Did John drink COFFee or TEA? [√AltQ]  
b. ?? Did only John drink COFFee or TEA? [\*AltQ]
- (15) a. ?\* Mira-man cha-lul masi-ess-ni animyen khephi-lul masi-ess-ni?  
Mary-only tea-acc drink-ast-Q if.not coffee-acc drink-past-Q  
'Did only Mira drink tea or coffee?'
- b. \*MIRA-ka cha-lul masi-ess-ni animyen khephi-lul masi-ess-ni?  
Mira-nom tea-acc drink-past-Q if.not coffee-acc drink-past-Q  
'Did MIRA drink tea or coffee?'

Beck & Kim (2004)

- (16) a. Which diplomat should I discuss which issue with?  
b. ?? Which diplomat should I not discuss which issue with?  
c. ?? Which book did almost everyone write to which newspaper about?  
d. ?? Which boy did only Mary introduce which girl to?
- (17) a. \*Hat nur Maria den Donas oder die Ida eingeladen?  
has only Mary the Jonas or the Ida invited  
'Did only Maria invite Jonas or Ida?'
- b. Hat den Jonas oder die Ida nur Maria eingeladen?  
has the Jonas or the Ida only Maria invited  
'Did only Maria invite Jonas or Ida?'
- (18) a. \*Wann hat nur Maria wen eingeladen?  
when has only Maria whom invited  
'When did only Maria invite whom?'
- b. Wann hat wen nur Maria eingeladen?  
when has whom only Maria invited  
'When did only Marya invite whom?'

So, it's not crazy at least to conclude that what makes something an *intervenor* of this kind is that it has focus. Focus is getting in the way of the *wh*-question formation somehow.

Now, a digression into question formation in order to see if we can understand what is happening here.

The first thing is that *wh*-question formation in English is constrained in certain ways. Among the ways it is constrained: *wh*-movement cannot proceed out of "islands."

Reminder: The idea is that *wh*-questions (information seeking questions with words like *what, who, when, where, why, HoW*) are created by moving things around:

For example, the basic order of a sentence is like this:

(19) John will buy cheese.

Now, suppose we don't know the thing that *cheese* is taking care of above. We want to ask. First, we put in *what* in the same place where *cheese* was. And then: 1) we move *will* past *John*, and 2) we move *what* to the front of the sentence.

(20) John will buy what?

(21) will John *t* buy what?

(22) What will John *t* buy *t*?

The *t* marks where something moved from (the "trace").

The island constraints on *wh*-questions are constraints on where the *what* can start out if it is going to move to the front of its clause.

Regardless of what it is that makes an island and island, here are a couple of examples of islands:

- "Complex noun phrases" like *the book that John gave to Mary* or, better perhaps, *The rumor that John gave a book to Sue*.
- "Adjuncts" like *After John gave a book to Sue, ...*

And you can't form questions out of sentences like this where the *wh*-word is inside.

(23) \*What did Bill hear [the rumor that John gave *t* to Sue]? (complex noun phrase)

(24) \*What did Bill laugh [after John gave *t* to Sue]? (adjunct)

(25) What did Bill say [John gave *t* to Sue]? (not in an island)

(26) What did John give *t* to Sue? (not in an island)

So: On the basis of this, we'd say that islands impede movement. However, notice:

**The second *wh*-word in English *can* be in an island.**

(27) a. John said that [talking about questions] became difficult.  
b. Who said that [talking about questions] became difficult?  
c. \*What did John say [that talking about *t*] became difficult?  
d. Who said that [talking about what] became difficult?

(28) a. John heard that you found [a book that discusses islands].  
b. Who heard that you found [a book that discusses islands]?  
c. \*What did John hear that you found [a book that discusses *t*]?  
d. Who heard that you found [a book that discusses what]?

(29) a. John heard that you left [without speaking to Mary].  
b. Who heard that you left [without speaking to Mary]?  
c. \*To whom did John hear that you left [without speaking *t*]?  
d. Who heard that you left [without speaking to whom]?

But also noteworthy: It isn't the thing that is moving. It stays where it is. On the basis of this, it was proposed and commonly assumed that islands constrain *overt movement* (that is, "movement") of *wh*-words in *wh*-questions. It doesn't constrain things that don't move.

Languages can be divided into languages in which moving a *wh*-phrase to the front of a *wh*-question is obligatory ("*wh*-movement languages") and those that permit the *wh*-phrase to just stay wherever it would go if it were not a *wh*-phrase ("*wh*-in-situ languages").

These facts from English would lead us to expect that languages of the second type would not show island effects. And, indeed, they seem not to:

*Wh-in-situ* languages like Japanese: *wh*-words inside movement islands are allowed

*Japanese*

- (30) Mary-wa John-ni nani-o ageta-no?  
Mary-top John-dat what-acc gave-Q  
'What did Mary give to John?'
- (31) Mary-wa [John-ga nani-o katta-ka] sitte-iru.  
Mary-top John-nom what-acc bought-Q know  
'I know what John bought.'
- (32) Mary-wa [John-ga nani-o yonda to] itta no?  
Mary-top John-nom what-acc read that said Q  
'What did Mary say that John read?'
- (33) a. \* What<sub>i</sub> did Mary meet [<sub>DP</sub> the man [<sub>CP</sub> who gave *t* to John]]?  
b. ?\* What<sub>i</sub> did Mary leave [<sub>AdvP</sub> before John read *t*<sub>i</sub> ]?
- (34) a. Mary-wa [<sub>DP</sub> [<sub>CP</sub> John-ni nani-o ageta] hito-ni] atta-no?  
Mary-top John-dat what-acc gave man-dat meet Q  
( 'What did Mary meet the man who gave *t* to John? ' )  
b. Mary-wa [<sub>AdvP</sub> John-ga nani-o yomu mae-ni] dekaketa-no?  
Mary-top John-nom what-acc read after left-Q  
( 'What did Mary leave before John read *t* ? ' )

*Chinese*

- (35) a. ta xihuan ni.  
he likes you  
'He likes you.'  
b. ta xihuan **shei** ( ne)?  
he likes **who** Q  
'Who does he like?'
- (36) a. [**shei** lai] zui hao?  
**who** come/most good  
'Who is the *x* such that [*x* come] is the best?'  
\* 'Who is [that *t* comes] the best?'

- b. ni xihuan [**shei** xie de shu]?  
you like **who** write DE book  
'\*Who do you like the book that *t* wrote?'
- c. ta [yinwei ni shuo **shenme** hua] hen shengqi?  
he because you say **what** word very angry  
'\*What was he angry because you said *t*?'

Watanabe, Akira (1992). Subadjacency and S-structure movement of *wh*-in-situ. *Journal of East Asian Linguistics* 1:255–291.

Japanese allows *wh*-words in islands (37); however, one type of island seems to cause problems; *wh*-words in *wh*-islands seem to be about as bad as they are in English (38).

- (37) John-wa [nani-o katta hito]-o sagasiteiru no?  
John-TOP what-ACC bought person-ACC looking.for Q  
'What is John looking for the person who bought?'
- (38) ??John-wa [Mary-ga nani-o katta kadooka] siritagatteiru no?  
John-TOP Mary-NOM what-ACC bought whether know.want Q  
'What does John want to know whether Mary bought?'

Whatever our explanation for (37) is, it somehow doesn't work for (38).

*That could be an intervention effect, though.* Among the things that seem to cause the intervention effect in Japanese are things that have *ka* in them. And *kadooka* might well qualify. So, perhaps it's not a *wh*-island effect, but an intervention effect (or, perhaps *wh*-island effects are intervention effects). And there are other things too that this has been used to argue for.

Some more properties:

Watanabe observed that there is an improvement when an additional *wh*-word appears outside the island, however (the "additional-*wh* effect") (54). It's important that the *wh*-word be outside the *wh*-island, though—it doesn't help inside (55).

- (39) a. John-wa [Mary-ga nani-o katta kadooka] dare-ni tazuneta no?  
John-TOP Mary-NOM what-ACC bought whether who-DAT asked Q  
'Who did John ask whether Mary bought what?'

b. ??John-wa [Mary-ga nani-o katta kadooka] Tom-ni tazuneta no?  
 John-TOP Mary-NOM what-ACC bought whether Tom-DAT asked Q  
 ‘What did John ask Tom whether Mary bought?’

(40) a. ??John-wa [dare-ga nani-o katta kadooka] Tom-ni tazuneta no?  
 John-TOP who-NOM what-ACC bought whether Tom-DAT asked Q  
 ‘What did John ask Tom whether who bought?’

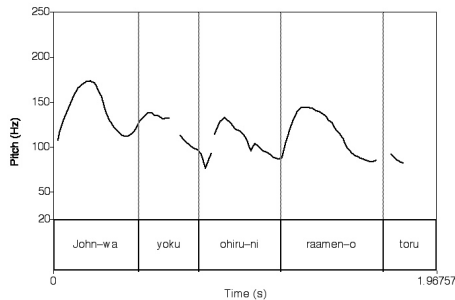
Kitagawa, Yoshihisa (2005). Prosody, syntax, and pragmatics of wh-questions in Japanese. *English Linguistics* 22(2):302–346.

On the other hand, the judgments on (38) are *notoriously* flaky. Why?

It turns out that a lot turns on the prosody one uses—that certain ways of pronouncing (38) makes it sound better than others. (Along with that, we can also observe that the “default” prosody seems not to be the one that makes (38) work—thus, the sentence is usually rated as being not very good.)

Normal Japanese prosody is “bouncy” (rhythmic).

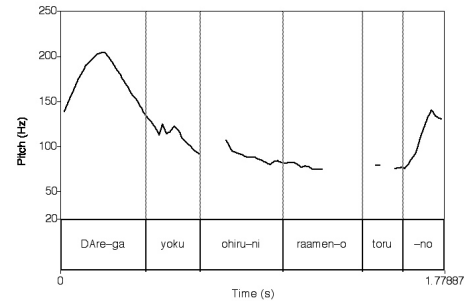
(41) John-wa yoku ohiru-ni ramen-o toru.  
 John-TOP often lunch-for ramen-ACC order  
 ‘John often has ramen noodles delivered for lunch.’ (YK3b)



But in *wh*-questions, there’s a flattening out, after the emphasized *wh*-phrase (Deguchi & Kitagawa 2002, Ishihara 2002).

(42) dare-ga yoku ohiru-ni ramen-o toru no?  
 who-NOM often lunch-for ramen-ACC order Q  
 ‘Who often has ramen noodles delivered for lunch?’ (YK2b)

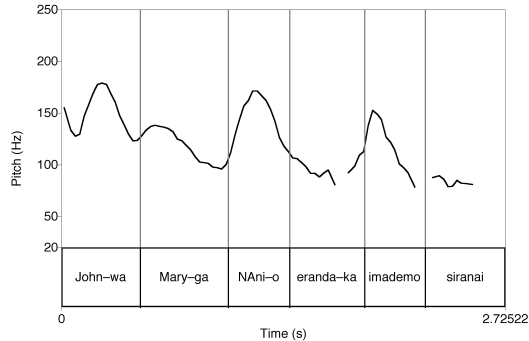
(43) **D**Are-ga yoku ohiru-ni ramen-o toru no ↑



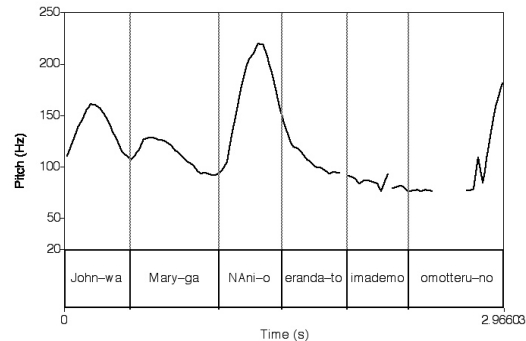
(44) #dare-ga yoku ohiru-ni ramen-o toru no ↑ ?

Kitagawa calls this “flattened” region the “emphatic prosody domain” (EPD). This flattening lasts between the *wh*-word and its scope (*its ka*).

(45) John-wa [ Mary-ga **N**Ani-o eranda-ka ] imademo siranai.  
 John-TOP Mary-NOM what-ACC chose-Q still does.not.know  
 ‘John is yet to learn [what<sub>i</sub> Mary chose *t<sub>i</sub>*].’ (YK4b)



- (46) John-wa [Mary-ga NAni-o eranda-to] imademo omoikonderu no ↑ ?  
 John-TOP Mary-NOM what-ACC chose-C still believe Q  
 ‘What<sub>i</sub> does John still believe [that Mary chose  $t_i$ ].’ (YK5b)



Thus, a question that is ambiguous when written can be disambiguated by prosody:

- (47) a. keisatsu-wa [kanojo-ga ano-ban DARE-to atteita-ka] imademo sirabeteiru no ↑ ?  
 police-TOP she-NOM that-night who-with seeing-Q still searching Q  
 ‘Are the police still investigating [ who, she was with  $t_i$  that night ]?’

- b. keisatsu-wa [kanojo-ga ano-ban DARE-to atteita-ka] imademo sirabeteiru no ↑ ?  
 police-TOP she-NOM that-night who-with seeing-Q still searching Q  
 ‘Who, are the police still investigating [ whether she was with  $t_i$  that night ]?’

(But *wait*—isn’t that a *wh*-island violation? Hmm.)

There’s kind of a similar thing that seems to happen between NPIs like *daremo* (between the NPI and the negation), and concessive clauses (between the indeterminate and *mo*), except that instead of a “low” flattening, it’s a sustained high pitch.

- (48) sonna kantanna koto-o daREMO YAROU-TO SINAkatta.  
 such easy matter-ACC anyone will.do did.not  
 ‘No one was willing to do an easy thing like that.’
- (49) ano-ko-wa [ [naNI-O TABETAI-TO] OMOTTE]-mo kuchi-ni-wa-dasanai  
 that-child-TOP what-ACC want.to.eat.C think -even does.not.mention  
 ‘Whatever that kid may want to eat, he will not mention it.’

Watanabe’s example, with local EPD—of course it’s no good, *kadooka* is for *y/nq.s*.

- (50) ??John-wa [Mary-ga NAni-o katta kadooka] imademo siritagatteiru no ↑ ?  
 John-TOP Mary-NOM what-ACC bought whether still know.want Q  
 ‘Does John still want to know whether Mary bought what?’

With global EPD, it’s acceptable and interpretable for most speakers (even better with *ka*)

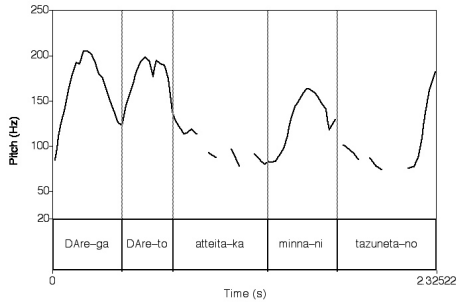
- (51) John-wa [Mary-ga NAni-o katta ka(?dooka)] imademo siritagatteiru no ↑ ?  
 John-TOP Mary-NOM what-ACC bought whether still know.want Q  
 ‘What<sub>i</sub> does John still want to know whether Mary bought  $t_i$ ?’

Conclusion: Watanabe’s example *doesn’t* show a Subjacency effect in Japanese—rather, it just shows that it’s hard to assign the correct prosody.

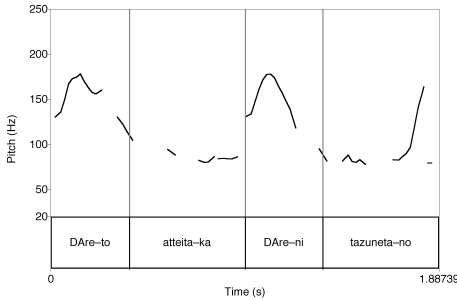
Additional *wh* effects can be explained in a similar way. First, a detour into the prosodic interpretation of multiple *wh*-questions.

Two *wh*-words can be assigned the same scope by giving them overlapping EPDs:

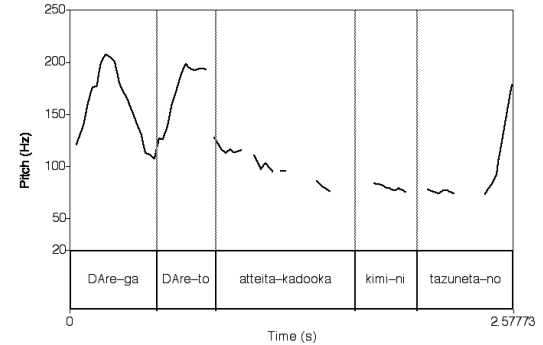
- (52) a. keisatsu-wa [ano-ban DARE-ga DARE-to atteita-ka] minna-ni tazuneta no ↑ ?  
 police-TOP that-night who-NOM who-with seeing-C everyone-DAT asked Q  
 ‘Did the police ask everyone [who was with whom that night]?’ (YK18a)



- b. keisatsu-wa [ano-ban **DAre-ga DAre-to atteita-ka**] **DAre-ni tazuneta no**↑?  
 police-TOP that-night Mary-NOM who-with seeing-C who-DAT asked Q  
 ‘Who, did the police ask whom [whether Mary was with  $him_1$  that night]?’ (YK18b)



- c. keisatsu-wa [ano-ban **DAre-ga DAre-to atteita-ka**] **kimi-ni tazuneta no**↑?  
 police-TOP that-night who-NOM who-with seeing-C you-DAT asked Q  
 ‘Who, did the police ask you [whether  $he_1$  was with whom that night]?’ (YK18c)



- d. keisatsu-wa [ano-ban **DAre-ga dare-to atteita-ka**] **kimi-ni tazuneta no**↑?  
 police-TOP that-night who-NOM who-with seeing-C you-DAT asked Q  
 ‘Who, did the police ask you [who,  $he_1$  was with  $t_2$  that night]?’ (YKf11i)

- (53) [ano-ban **DAre-ga dare-to atteita-ka**] keISATSU-WA **DAre-ni tazuneta no**↑?  
 that-night who-NOM who-with seeing-C police-TOP who-DAT asked Q  
 ‘Whom<sub>1</sub> did the police ask  $t_1$  [whom<sub>2</sub> Mary was with  $t_2$  that night]?’

And now, we can understand the “additional *wh* effect”:

- (54) a. John-wa [Mary-ga **NAni-o katta kadooka**] **DAre-ni tazuneta no**↑?  
 John-TOP Mary-NOM what-ACC bought whether who-DAT asked Q  
 ‘Who did John ask whether Mary bought what?’  
 b. ??John-wa [Mary-ga **NAni-o katta kadooka**] Tom-ni tazuneta no↑?  
 John-TOP Mary-NOM what-ACC bought whether Tom-DAT asked Q  
 ‘Did John ask Tom whether Mary bought what?’  
 b’. John-wa [Mary-ga **NAni-o katta ka(dooka)**] Tom-ni tazuneta no↑?  
 John-TOP Mary-NOM what-ACC bought whether Tom-DAT asked Q  
 ‘What did John ask Tom whether Mary bought?’

- (55) a. ??John-wa [DAre-ga NAni-o katta kadooka] Tom-ni tazuneta no↑?  
 John-TOP who-NOM what-ACC bought whether Tom-DAT asked Q  
 ‘Did John ask Tom whether who bought what?’
- b. John-wa [DAre-ga NAni-o katta ka(dooka)] Tom-ni tazuneta no↑?  
 John-TOP who-NOM what-ACC bought whether Tom-DAT asked Q  
 ‘Who<sub>i</sub> did John ask Tom [ whether *he*<sub>i</sub> bought what ]?’

Given that such sentences are often *not* saved when judged by assigning a global EPD, there must be some kind of bias toward local EPD. (Also, this is evidence that we do assign prosody, even when judging a written sentence silently to ourselves. Things that influence prosodic structure like the length/placement of relative clauses will also bias judgments for readers.) The bias may be due to something like “Avoid monotony.”

That monotony degrades things can also explain the “antisuperiority” effect on the additional *wh*-word.

- (56) John-wa [Mary-ga foAGURA-O shikago-no fuRENCHI-resutoran-de  
 John-TOP Mary-NOM foie.gras-ACC Chicago-GEN French-restaurant-at  
 maWARI-NO-HItō-ni toMERARERU-made oNAKA-IPPai tabeta koto]o  
 surrounding.people-by stopped-until full ate fact-ACC  
 imademo shiranai ].  
 still do.not.know  
 ‘John is yet to know the fact that Mary ate foie gras at the French restaurant in Chicago until she became completely full and was stopped by people on the scene.’
- (57) #John-wa [Mary-ga NAni-o shikago-no furenchi-resutoran-de  
 John-TOP Mary-NOM what-ACC Chicago-GEN French-restaurant-at  
 mawari-no-hito-ni tomerareru-made onaka-ippai tabeta ka]  
 surrounding.people-by stopped-until full ate Q  
 imademo shiritagetteiru ].  
 still wants.to.know  
 ‘John still wants to know what<sub>i</sub> Mary ate *t*<sub>i</sub> at the French restaurant in Chicago until she was stopped by people on the scene.’

- (58) #John-wa [Mary-ga NAni-o shikago-no furenchi-resutoran-de  
 John-TOP Mary-NOM what-ACC Chicago-GEN French-restaurant-at  
 mawari-no-hito-ni tomerareru-made tabeta ka]  
 surrounding.people-by stopped-until ate Q  
 imademo shiritagetteiru ].  
 still wants.to.know  
 ‘John still wants to know what<sub>i</sub> Mary ate *t*<sub>i</sub> at the French restaurant in Chicago until she was stopped by people on the scene.’
- (59) John-wa [Mary-ga NAni-o shikago-no furenchi-resutoran-de tabeta ka]  
 John-TOP Mary-NOM what-ACC Chicago-GEN French-restaurant-at ate Q  
 imademo shiritagetteiru ].  
 still wants.to.know  
 ‘John still wants to know what<sub>i</sub> Mary ate *t*<sub>i</sub> at the French restaurant in Chicago.’
- (60) John-wa [Mary-ga NAni-o tabeta ka] imademo shiritagetteiru ].  
 John-TOP Mary-NOM what-ACC ate Q still wants.to.know  
 ‘John still wants to know what<sub>i</sub> Mary ate *t*<sub>i</sub>.’

If monotony can degrade a sentence, putting the additional *wh*-word at the front seems like it’s not going to help as much as putting it at the end.

- (61) ?John-wa DAre-ni [Mary-ga NAni-o katta kadooka] tazuneta no↑?  
 John-TOP who-DAT Mary-NOM what-ACC bought whether asked Q  
 ‘Who did John ask whether Mary bought what?’

And of course, one has to pay attention to the relative salience of the *situation* being discussed on the prosodically good interpretation.

- (62) ?\*Sato-kun-wa [ Suzuki-kun-ga NAni-o tabeta-kadooka] oboete-imasu ka↑?  
 Mr. Sato-TOP Mr. Suzuki-NOM what-ACC ate-whether remember Q  
 ‘What<sub>i</sub> does Mr. Sato remember [whether Mr. Suzuki ate *t*<sub>i</sub> ]?’

Mr. Suzuki is suffering from food poisoning and the identity of some specific food item as its cause is being sought. Mr. Sato is believed to remember whether or not Mr. Suzuki ate some specific food item, which may be the crucial piece of information. In the quest for the identity of this food item, the question in (62) was asked of the person who is believed to know the answer.



- (63) hokenjo-wa [ sokuchudoku-kanja-zen'in-ga **NAni-o tabeta ka**]  
 health.dept-TOP food.pois-victim-all-NOM what-ACC ate Q  
**kakunin-shiyou-toshiteiru no**↑?  
 trying-to-confirm Q  
 'What<sub>i</sub> is the Dept. of Health trying to confirm [whether all of those who suffered  
 from food poisoning ate *t<sub>1</sub>* ]?'

One wonders...

Tanaka, Hidekazu (200?). Remarks on Beck's effects: Linearity in syntax. *Linguistic Inquiry* 34(2):314–

- (64) a. ?\*dare-mo nani-o kawa-nakatta no?  
 anybody what-ACC buy-NEG.PAST Q  
 ('What did nobody buy?')
- b. nani-o dare-mo kawa-nakatta no?  
 what-ACC anybody buy-NEG.PAST Q  
 'What did nobody buy?'
- (65) a. dare-mo [John-ga nani-o katta ka] sira-nakatta.  
 anybody John-NOM what-ACC bought Q know-NEG.PAST.  
 'Nobody knew what John bought.'
- b. ?\*nani-o<sub>i</sub> dare-mo [John-ga *t<sub>1</sub>* katta ka] sira-nakatta.  
 what-ACC anybody John-NOM bought Q know-NEG.PAST.  
 ('Nobody knew what John bought.')

There is disagreement on the status of (65b). But what would make it bad? *Nani* needs to be associated with the Q, which is in the embedded clause—so it has to be “put back” for interpretation. At that point, it should be like (65a).

It seems that actually there's something that's going wrong with *daremo*. You can't (long-distance) scramble over *daremo*? Tanaka notices that what (64a) and (65b) have in common is that the *linear* dependencies cross:

- (64) a.' NPI ... wh ... Neg ... Q  
 (65) b.' wh ... NPI ... Q ... Neg
- (66) a. John-ga [ Mary-ga dare-ni nani-mo watasa-nai ka] siritagatteiru.  
 John-NOM Mary-NOM who-DAT anything pass-NEG Q want.to.know  
 'John wants to know who Mary doesn't pass anything to.'

- a. ?dare-ni<sub>1</sub> nani-mo<sub>2</sub> John-ga [ Mary-ga *t<sub>1</sub>* *t<sub>2</sub>* watasa-nai ka] siritagatteiru.  
 who-DAT anything John-NOM Mary-NOM pass-NEG Q want.to.know  
 'John wants to know who Mary doesn't pass anything to.'
- b. ?\*nani-mo<sub>2</sub> dare-ni<sub>1</sub> John-ga [ Mary-ga *t<sub>1</sub>* *t<sub>2</sub>* watasa-nai ka] siritagatteiru.  
 anything who-DAT John-NOM Mary-NOM pass-NEG Q want.to.know  
 'John wants to know who Mary doesn't pass anything to.'

Scramble both, both have to go back, order *still* matters.

Tanaka proposes that the Hoji facts (at least some?) come from this too, assuming, e.g., that *dono hito mo* is associated with a QP lower than CP.

But maybe the appearance that linearity matters should suggest *prosody* to us, rather than syntax. Syntax generally doesn't care about linear order, just about hierarchy. Prosody, though, is very much linear.

- (48) sonna kantanna koto-o **daREMO** YAROU-TO SINAKatta.  
 such easy matter-ACC anyone will.do did.not  
 'No one was willing to do an easy thing like that.'
- (49) ano-ko-wa [ [ **naNI-O** TABETAI-TO] OMOTTE] **-mo** kuchi-ni-wa-dasanai  
 that-child-TOP what-ACC want.to.eat.C think -even does.not.mention  
 'Whatever that kid may want to eat, he will not mention it.'
- (44) #**dare-ga yoku ohiru-ni ramen-o toru no** ↑ ?
- (52) d. keisatsu-wa [ano-ban **Dare-ga** dare-to atteita-ka] kimi-ni tazuneta no↑?  
 police-TOP that-night who-NOM who-with seeing-C you-DAT asked Q  
 'Who<sub>i</sub> did the police ask you [who<sub>2</sub> *he<sub>1</sub>* was with *t<sub>2</sub>* that night]?' (YKfnl Ii)
- (67) a. +**daREMO NAni-o** kawa-nakatta no↑?  
 anybody what-ACC buy-NEG.PAST Q  
 ('What did nobody buy?')
- a'. +**daREMO NANI-O** KAWANAKatta no↑?  
 anybody what-ACC buy-NEG.PAST Q  
 ('What did nobody buy?')

- b. + **NA**ni-o dare-mo kawa-nakatta no↑?  
 what-ACC anybody buy-NEG.PAST Q  
 ‘What did nobody buy?’
- b'. + **NA**ni-o **da**REMO KAWA-NAkatta no↑?  
 what-ACC anybody buy-NEG.PAST Q  
 ‘What did nobody buy?’

It would be interesting to know what happens in the other case. Whatever it is, it must be a well-formed prosodic pattern.

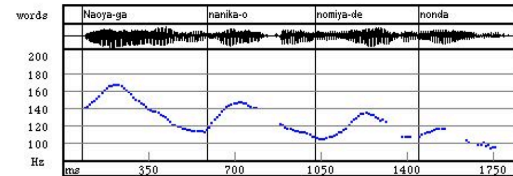
- (68) a. + **da**REMO [JOHN-GA **NA**ni-o katta ka] SIRA-NAkatta.  
 anybody John-NOM what-ACC bought Q know-NEG.PAST.  
 ‘Nobody knew what John bought.’
- a'. + **da**REMO [JOHN-GA NANI-O KATTA KA] SIRA-NAkatta.  
 anybody John-NOM what-ACC bought Q know-NEG.PAST.  
 ‘Nobody knew what John bought.’
- a''. + **da**REMO [JOHN-GA **NA**ni-o katta ka] sira-nakatta.  
 anybody John-NOM what-ACC bought Q know-NEG.PAST.  
 ‘Nobody knew what John bought.’
- a'''. + **da**REMO [John-ga **NA**ni-o katta ka] SIRA-NAkatta.  
 anybody John-NOM what-ACC bought Q know-NEG.PAST.  
 ‘Nobody knew what John bought.’
- b. + **NA**ni-o<sub>i</sub> **da**REMO [JOHN-GA t<sub>i</sub> KATTA KA] SIRA-NAkatta.  
 what-ACC anybody John-NOM bought Q know-NEG.PAST.  
 (‘Nobody knew what John bought.’)
- b'. + **NA**ni-o<sub>i</sub> **da**REMO [JOHN-GA t<sub>i</sub> KATTA KA] SIRA-NAkatta.  
 what-ACC anybody John-NOM bought Q know-NEG.PAST.  
 (‘Nobody knew what John bought.’)

- (69) John-wa [Mary-ga **NA**ni-o shikago-no furenchi-resutoran-de  
 John-TOP Mary-NOM what-ACC Chicago-GEN French-restaurant-at  
maWARI-NO-HIto-ni tomerareru-made onaka-ippai tabeta ka]  
 surrounding-people-by stopped-until full ate Q  
 imademo shiritagetteiru ].  
 still wants.to.know  
 ‘John still wants to know what<sub>i</sub> Mary ate t<sub>i</sub> at the French restaurant in Chicago  
 until she was stopped by people on the scene.’

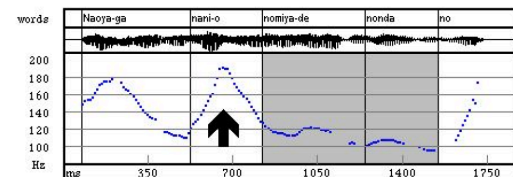
Ishihara, Shinichiro (2004). Prosody by phase: Evidence from focus intonation—wh-scope correspondence in Japanese. In Ishihara, Schmitz, and Schwarz (eds.), *Interdisciplinary studies on information structure* 1: 77–119.

As we saw above, there is a prosodic depression between the *wh*-word and the *ka* with which it takes scope.

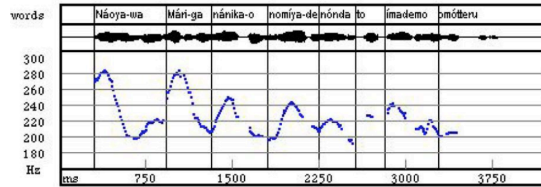
- (70) a. Náoya-ga nánika-o nomíya-de nónda.  
 Naoya-NOM something-ACC bar-LOC drank Q  
 ‘Naoya drank something at the bar.’



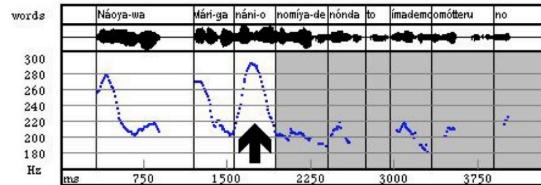
- b. Náoya-ga náni-o nomíya-de nónda no?  
 Naoya-NOM what-ACC bar-LOC drank Q  
 ‘What did Naoya drink at the bar?’



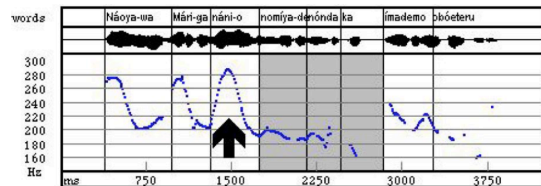
- (71) a. Náoya-wa [ Mária-ga nánika-o nomíya-de nónda to ] ímademo omótteiru.  
Naoya-TOP Mari-NOM something-ACC bar-LOC drank that even.now think  
'Naoya still thinks that Mari drank something at the bar.'



- b. Náoya-wa [ Mária-ga náni-o nomíya-de nónda to ] ímademo omótteiru no?  
Naoya-TOP Mari-NOM what-ACC bar-LOC drank that even.now think Q  
'What did Naoya still think that Mari drank at the bar?'



- c. Náoya-wa [ Mária-ga náni-o nomíya-de nónda ka ] ímademo obóteiru.  
Naoya-TOP Mari-NOM what-ACC bar-LOC drank Q even.now remember  
'Naoya still remembers what Mari drank at the bar.'



So, it seems like it's kind of obvious what's going on. Depress from a *wh*-phrase to its *ka*. Yet, how does this work? One relatively common type of story is based on the idea that the phonological string is divided into prosodic units, creating a hierarchical structure not unlike the syntactic structure (but not directly matching it either).

(72)a. This is the cat that killed the rat that ate the malt that lay in the house that Jack built.

b. [<sub>CP</sub> This is [<sub>DP</sub> the cat [<sub>CP</sub> that killed [<sub>DP</sub> the rat [<sub>CP</sub> that ate [<sub>DP</sub> the malt [<sub>CP</sub> that...]]]]]]]

c. (<sub>IP</sub> This is the **cát**)(<sub>IP</sub> that killed the **rát**)(<sub>IP</sub> that áte the **mált**)(<sub>IP</sub> that láy in the **house**)

(73) Grèen bambóo gròws in the nórth. — But I thought it was the red kind. — No...

(74) **Grèen** bámbóo gròws in the nórth.

(75) (Green bamboo)(grows in the north)

(76) (Green)(bamboo)(grows in the north)

- (77) a. Don't clash (two stresses in a row within a phrase)  
b. Assign stress to each edge of a phrase (left, then right) (ə doesn't count)  
c. A focus terminates the phrase.  
d. Subjects form their own phrase.

(78) Three mathematicians in ten derive a lemma.

(79) Three mathematicians intend to rival Emma.

(80) Big garáges scáre me. — Don't they *all* scare you? — No...

(81) **Big** garáges scáre me.

Back to Japanese: A *wh*-word wipes out all phrase boundaries until the associated Q?

(82) Náoya-wa [ Mária-ga nánika-o nomíya-de nónda to ] ímademo omótteiru.  
( ) ( ) ( ) ( ) ( ) ( )

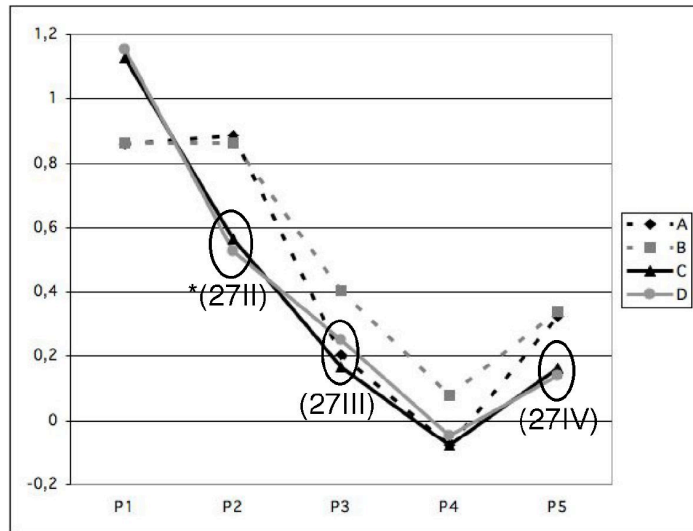
(83) Náoya-wa [ Mária-ga náni-o nomíya-de nónda to ] ímademo omótteiru no?  
( ) ( ) ( ) ( ) ( ) ( )

(Although there probably still needs to be something additional said: the pitch in that long phrase is still reduced.)

Ok, sensible enough.

But Ishihara did a more precise experiment and discovered a couple of things.

- (84) A. [ X [ ... **WH** ... X ... X **Q** ] X ... C ]  
 B. [ X [ ... X ... X ... X **Q** ] X ... C ]  
 C. [ **WH** [ ... **WH** ... X ... X **Q** ] X ... **Q** ]  
 D. [ **WH** [ ... X ... X ... X C ] X ... **Q** ]  
       P1      P2      P3      P4      P5



Notice: P3 is (statistically significantly) lower for C than for D.  
 P5 is the same for C and D, but lower than for A and B.

What's different between C and D with respect to P3?

And the same with respect to P5?

Ah—it's cumulative.

- (85) A. [ X [ ... **WH** ... X ... X **Q** ] X ... C ]  
 B. [ X [ ... X ... X ... X **Q** ] X ... C ]  
 C. [ **WH** [ ... **WH** ... X ... X **Q** ] X ... **Q** ]  
 D. [ **WH** [ ... X ... X ... X C ] X ... **Q** ]  
       P1      P2      P3      P4      P5

- Assuming: a. Pitch peaks decline over time within a constituent (downstep)  
 b. Pitch is reset when leaving an embedded constituent (P5)

There are complications, surely (like why did A land between C and D in P5?), but this does suggest that one depression is *overlaid* on the other in C, which is why P3 is even lower in C than it is in D.

It's as if we compute the innermost prosody first, then *add* to it the outermost prosody.

Simple versions of the “wipe out phrases” story don't work easily, or at least would also need to assume that there are two passes and something is determined in the embedded clause before the main clause is processed.

Well, we have independently an idea of why the computation might proceed in these chunks. They're *phases* (an older word for a similar concept is “cycle”). You compute one, spell it out, move on to the next one up.

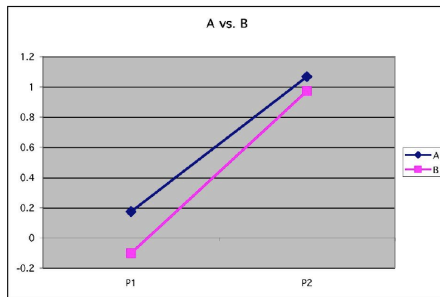
- (86) a. Náoya-wa [ Mári-ga rámu-o nomíya-de nónda to] ímademo omótteiru.  
 Naoya-TOP Mari-NOM rum-ACC bar-LOC drank that even.now think  
 'Naoya still thinks that Mari drank rum at the bar.'
- b. Náoya-wa [ Mári-ga náni-o nomíya-de nónda ka] ímademo obóteiru.  
 Naoya-TOP Mari-NOM what-ACC bar-LOC Q that even.now remember  
 'Naoya still remembers what Mari drank at the bar.'
- c. rámu-o Náoya-wa [ Mári-ga t nomíya-de nónda to] ímademo omótteiru.  
 rum-ACC Naoya-TOP Mari-NOM bar-LOC drank that even.now think  
 'Naoya still thinks that Mari drank rum at the bar.'

- d. náni-o Náoya-wa [ Mári-ga t nomíya-de nónda ka] ímademo obóeteiru.  
 what-ACC Naoya-TOP Mari-NOM bar-LOC Q that even.now remember  
 'Naoya still remembers what Mari drank at the bar.'

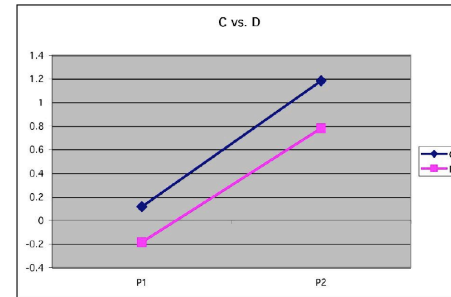
In D, the *wh*-word scrambled beyond its Q, so it will have to “go back” for interpretation.

We'll look at *nonda* and *imademo* to see what pitches they get. What do we expect?

- One reasonable expectation might be:
- a. = =
  - b. Lo =
  - c. = =
  - d. Lo =



So far, as expected. A difference between A and B at P1, none at P2.  
 But C vs. D shows a difference at *both*. In particular, P2 in D is still depressed.



Schematically, what this tells us is this:

- (87) a. Top [ Subj Obj V C ] V C.  
 b. Top [ Subj **WH** V Q ] V C.  
 c. Obj Top [ Subj t V C ] V C.  
 d. **WH** Top [ Subj t V Q ] V C.

Why would the depression continue *beyond* the *ka* associated with the scrambled *wh*?

Suppose we're building this from the bottom up...

- (88) a. WH V  
 b. Subj WH V  
 c. [<sub>TP</sub> Subj **WH** V ] Q  
 d. [<sub>CP</sub> **WH** [<sub>TP</sub> Subj t V ] Q ]  
     ...spellout...  
 e. [<sub>CP</sub> **WH** [<sub>TP</sub> Subj t V ] Q ] V  
 f. [<sub>CP</sub> [<sub>TP</sub> **WH** Top [<sub>CP</sub> t' [<sub>TP</sub> Subj t V ] Q ] V ] C ]  
     .....spellout.....  
 g. [<sub>CP</sub> [<sub>TP</sub> **WH** Top [<sub>CP</sub> t' [<sub>TP</sub> Subj t V ] Q ] V ] C ]

It's subtle, but it's (with a couple of assumptions) what we'd expect if the prosody (not just the syntax) is computed in phases too...It's nice as far as it goes, but it makes a couple of further predictions that it would be nice to test. One of them has to do with the fact that vP is supposed to be a phase too. Another one would be:

(89) Top [ WH Subj | Subj Obj V Q ] V C | V C

It would be nice to know whether it holds up here too—that is, whether the middle verb is depressed, but the outer verb is reset.

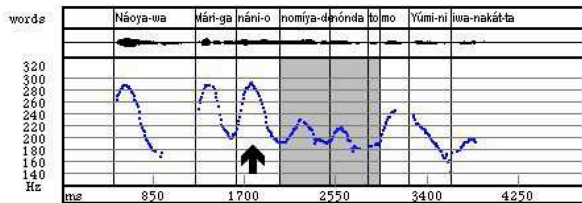
Returning briefly to *mo*, creating NPIs or universal quantifiers from *wh*-words:

(90) *dáre-mo-ga kita.*  
 who-mo-NOM came  
 ‘Everyone came.’

(91) *dare-mo kó-nakat-ta.*  
 who-mo come-NEG-PAST  
 ‘No one came.’

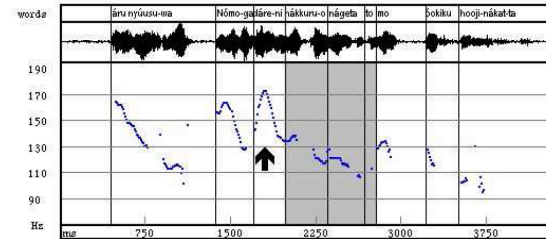
(92) *Náoya-wa dóno-wáin-mo nomá-nakat-ta*  
 Naoya-TOP which-wine-MO drink-NEG-PAST  
 ‘Naoya didn’t drink any kind of wine.’

(93) *Náoya-wa [ Mári-ga náni-o nomíya-de nónda to]-mo iwa-nakat-ta*  
 Naoya-TOP Mari-NOM what-ACC bar-LOC drank that mo say-NEG-PAST  
 ‘Naoya didn’t say Mari drank anything at the bar.’

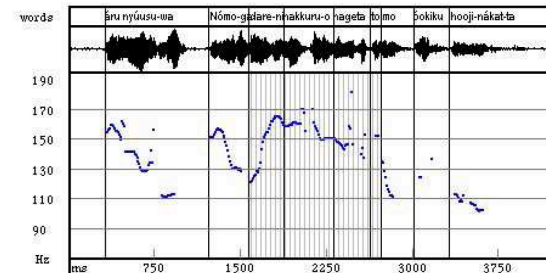


One thing I don’t see here is any evidence of that purported “sustained high tone” between *mo* and *nai*—perhaps this is only for *daremo* and not for [...*dare...*]-*mo*?

(94) *áru nyúusu-wa [ Nómo-ga dáre-ni nákkuru-o nágeta to]-mo óokiku hoozi-nakat-ta*  
 certain news-TOP N.-NOM who-DAT kn’ball-ACC pitched C mo widely broadcasted  
 ‘One news program did not broadcast widely for any person *x* that Nomo pitched a knuckleball to *x*.’



Also, Ishihara (2003) notes that there is another way this can come out, removing the lexical accents between *dare* and *mo*—which he suggests is connected to the contrast between *dáremo-ga* ‘everyone’ and *daremo* ‘anyone’.



What you’re supposed to see here is no accent on *dare* (but seemingly one on *ni*), and a pretty much linear decline until reaching *mo*.

It seems like a way we could describe this is as an impossibility of focusing anything between the *wh*-word and its binder. (Another *wh*-word, maybe, but perhaps that counts as the same kind of thing—if it is focused, after all, it has to share the *same* binder. You want it to have a different binder, you have to leave the *wh*-word unstressed.)

Still, it doesn’t seem like syntax—the downstressed area is c-commanded by the *wh*-word. It’s *not* the area in which you can’t have intervenors, for example. It must be operating on independent principles.