Introduction: We would like to argue in this paper, first, that in order to make syntactic tests for scope interpretation of wh-questions in Japanese repeatable, we must take prosody into consideration. Second, we propose that focused wh-phrases come to be associated with some formal feature showing up in a higher functional projection at LF, which is distinct from any version of wh-movement proposed in the literature. The two claims are related but independent. First, we assume that the observations reported by Selkirk-Tateishi (1988) concerning the downstep of lexical accents in Japanese are basically correct even with the addition of an accented predicate as in (1). The pitch of each lexical accent therefore gradually declines toward the end of the utterance with the pitch level reset at the onset of each 'major phrase.' (Lexical accents are indicated by capitalization, and higher pitch levels by larger fonts.)

(1) [JOhn-wa [MAr-y-ga oKAsi-o nuSUnda-to] oMotteiru ]
    \-TOP -NOM sweets-ACC stole-that think
'John thinks that Mary stole the sweets.'

In addition, we assume the existence of Emphatic Prosody (henceforth EPD) associated with each focused item in Japanese, which consists of: (i) a sharply raised pitch of the first high tone of a focused item, plus (ii) an abrupt drop to low pitch, which is prolonged until the next EPD or the end of the scopal domain of the focused item is encountered. cf. Bolinger (1965), Jackendoff (1972) and Ishihara (2000) Compare (1) above and (2) below. In (2), EPD is indicated by a bold-face large-font capital followed by underlined items enclosed by downward arrows '↓'. (In this and other examples that follow, we will indicate the lexical accents of only relevant items, disregarding those that do not concern us.)

(2) [John-wa [MA↓ry-ga okasi-o nusunda-to ] omotteiru↓ ]
'It is Mary that John thinks stole the sweets.'

Prosody and Wh-scope: Observe now the contrast between (3a) and (3b). They involve an identical Wh-question, but only (3a) is accompanied by EPD and interpretable, while (3b) sounds quite odd and prohibits us from obtaining any plausible interpretation. (On the examples, the rising question intonation is indicated by nO↑ at the end of an utterance. The readers are reminded here that elimination of the lexical accents of the two predicates nusunda and omotteiru in (3a) and their retention in (3b) are crucial to detect the contrast. It should be also kept in mind that no emphatic stress is intended in any of the lexical accents in (3b).)

(3) a. JOhn-wa [MAr-y-ga NA↓ni-o nusunda-to ] omotteiru↓-nO↑?
    what-ACC
b. #JOhn-wa [MAr-y-ga NAni-o nuSUn-da-to ] oMotteiru-nO↑?

This contrast indicates that EPD is obligatory in a wh-question in Japanese. This point can be also confirmed when we observe that the same sentence becomes interpretable again without EPD when we eliminate a wh-phrase from (3b), as can be seen in (1) with a question intonation added at the end of the utterance. If one takes the stance that a well-formed linguistic expression is a paired interface representations {PF, LF}, the observations here suggest that the interpretation of a wh-question based upon its LF cannot be correctly obtained unless we associate this LF with a specific and appropriate PF. In fact, we know of no acceptable prosody other than that in (3a) associated with this sentence. Although finding out how exactly this association is guaranteed goes beyond the scope of this paper, we can at least confidently claim that any linguistic test investigating interpretations of wh-questions cannot be made reliable and repeatable unless we pay proper attention to their prosody as we did in (3). Let us summarize below some of the concrete cases we intend to discuss.

Subjacency: First, consider (4), which has been reported in the literature as an example to demonstrate the subjacency effects of wh-questions in Japanese out of a wh-island. A sentence
like this is often reported also to involve 'variation of acceptability among speakers' and/or 'subtlety of judgment.'

(4) (?

John-wa [ Mary-ga nani-o katta kadooka ] siritagatte-iru-no?

'What does John want to know [ whether Mary bought t']?

Let us now reanalyze (4) as in (4'a-c), paying attention to its prosodic patterns.

(4') a. [CP1 John-wa [CP2 Mary-ga NA nani-o katta kadooka ] siritagat-teiru-nO↑ ]

b. # [CP1 JOhn-wa [CP2 MAry-ga NAni-o katTA kadOOka ] sIRITAGAt-teiru-nO↑ ]

c. % [CP1 John-wa [CP2 Mary-ga NA nani-o katta kadooka ] Y siriTAGAt-teiru-nO↑ N ]

When EPD is extended through the end of the matrix CP as in (4'a), we can interpret the sentence as a matrix wh-question without any problem. No subjacency effects in fact are detected. Let us emphasize here that we are NOT adding any special or unusual prosody to the sentence in (4'a) since, as we saw in (3), even a wh-phrase embedded in a 'non-island' must be accompanied by EPD extended through the matrix CP to take matrix scope. On the contrary, when EPD (which is obligatory in wh-questions in Japanese) is not assigned and the lexical accent of the matrix predicate is retained as in (4'b), the sentence sounds quite odd and provides no sensible interpretation. If one simply asks oneself (or an informant) whether the wh-phrase nani within the alleged wh-island can take the matrix scope with this prosody, the answer obviously must be in the negative. This could be the source of 'clearly degraded' status of (4) detected by some speakers. Finally, when EPD (which is obligatory in wh-questions in Japanese) is not assigned and the lexical accent of the matrix predicate is retained as in (4'c), slight complication arises. For those speakers who interpret -kadooka strictly as whether, (4'c) cannot constitute any well-formed question while for those who can use -kadooka on a par with the [+WH] COMP -ka, the sentence is grammatical as a yes/no question embedding an indirect wh-question. We have every reason to conjecture therefore that the varied and unstable detection of subjacency effects in Japanese wh-questions reported in the literature may actually stem from the language users' unconscious and arbitrary assignment of (or failure to assign) EPD to sentences like (4) rather than subjacency itself.

[4] Superiority: First, we find that two prosodic patterns as in (5a) and (5b) are possible with multiple wh-questions in Japanese. In (5a), both wh-phrases receive an emphatic accent in a single instance of EPD and the sentence is interpreted as a matrix wh-question asking for a 'pair-list' answer. In (5b), on the other hand, only the first wh-phrase receives an emphatic accent and the second wh-phrase is included in the prolonged deaccented portion. This prosodic pattern also yields a 'pair-list' question but of a specific kind --the deaccented wh-phrase secondarily inquires about a choice out of a presupposed list. A wh-phrase like dore 'which' as the deaccented wh-phrase therefore makes the sentence of this kind most natural.

(5) a. [CP1 kimi-wa [CP2 DA re-ga NA nii-o nusunda-to ] omotteiru-nO↑ ]?

you-TOP who-NOM what-ACC stole-that think-Q

b. [CP1 kimi-wa [CP2 DA re-ga dore-o nusunda-to ] omotteiru-nO↑ ]?

c. # [CP1 kimi-wa [CP2 doitu-ga NA nii-o nusunda-to ] omotteiru-nO↑ ]?

What is interesting and crucial here is that a similar sentence with multiple wh-phrases sounds quite awkward when EPD starts with the second rather than the first wh-phrase as in (5c). (The readers are reminded here not to assign an emphatic accent to the first wh-phrase doitu 'which brat,' which would assimilate (5c) to (5a).) We will claim that the contrast between (5b) and (5c) is the superiority effect arising from the obligatory association of the focused wh-phrase and a type of formal feature introduced under one of the higher functional projections, which we will call the feature E. We in fact consider that EPD is a PF-reflex of this formal association
at LF. We will also reexamine Takahashi's (1993) wh-movement analysis of long-distance scrambling of a wh-phrase in Japanese.


