"Wh-scope Puzzles"

[1] Background: Deguchi and Kitagawa (2002) (D&K) and Ishihara (2002) (IH) argued that the Subjacency effects in Japanese disappear when the sentence is accompanied by an appropriate emphatic prosodic pattern, which also indicates the scope domain of the Wh-in-situ, as in (1). <EG (1) here> The same prosodic pattern is required even when a Wh-question involves a declarative "non-island" — (2) sounds quite awkward when the post-focus reduction ends at the end of the subordinate clause <EG (2)>, while it sounds perfect when it is accompanied by a prosodic pattern similar to (1). The prosodic pattern as in (1), in other words, is the normal prosody for the matrix scope interpretations of all subordinate Wh-phrases, rather than being an exotic prosodic pattern that exceptionally overrides the Subjacency constraint. D&K and IH both claim that a type of focus feature associated with COMP induces this emphatic prosody. D&K further argued that multiple-Wh questions require the combination of more than one instance of this emphatic prosodic pattern (= their "complex" emphatic prosody) to yield a pair-wise interpretation, and that such a prosodic pattern also neutralizes the "additional Wh-effect," as can be seen from the acceptability of both (3a) (= an additional Wh outside the island) and (3b) (= both Whs within the island). <EG (3a-b)>

[2] Mysteries: Many other puzzling scope phenomena come to be observed anew when we reanalyze Wh-questions in Japanese with such emphatic prosody applied. This paper takes up some of these phenomena and attempt to account for them. First, as illustrated by (4a), multiple Wh-questions are generally well-formed when they are assigned "complex" emphatic prosody and the Wh-phrases come to be interpreted as paired foci, exhibiting synchronized scope. <EG (4a) and (3a-b)> When one of the Whs appears as a non-focus as in (4b), however, scope of the focus Wh (WH) and a non-focus Wh (wh) cannot be synchronized and the sentence becomes unacceptable. <EG (4b)> This anti-scope-synchronization requirement on WH and wh can be confirmed by the well-formedness of (4c), in which WH and wh are allowed to take distinct scope (WH = matrix, wh = subordinate). <EG (4c)> Second, in both (5a-b), DAre shows up as WH in the subordinate clause and MAr shows up as a non-Wh focus/contrast item (F) in the matrix. <EG (5a-b)> The sentence is interpretable, however, in (5a) (= interrogative CP embedded) but not in (5b) (= declarative CP embedded). This means that WH and F are not interpretable when they are forced to take the same scope. We observe, in other words, another case of anti-scope-synchronization effect, this time between WH and F.

[3] Proposals and Arguments: We propose the following scope-determining (or association) mechanism for Wh-questions and a focus construction in Japanese (and possibly in other languages). First, the scope of each type of NP (WH, wh and F) is determined when they undergo unselective licensing by (or agreement with) a specific formal feature introduced under COMP, as described in (6). (cf. Reinhart (1997) for a possible semantic consequence of this analysis.) <EG (6)> Second, more than one of these features can be introduced under a single COMP, although some of such combinations are prohibited when lexical features would be selected redundantly. COMPs, therefore, may have feature specification as in (7a) but not in (7b).

<EG (7a-b)> The proposed mechanism allows us to capture the two anti-scope-synchronization phenomena observed above. WH and wh cannot share scope (4b)) because [Fwh] and [wh] cannot be simultaneously introduced under a single COMP. Multiple Wh-foci as in (4a), on the other hand, is possible because of the unselective nature of [Fwh]. (4c) is also grammatical because WH and wh are separately licensed by the matrix [Fwh] and the subordinate [wh], respectively. The contrast in (5) arises because WH and F are forced to be licensed by a single COMP with the prohibited feature specification [F, Fwh] in (5b), while they can be licensed separately by a COMP with [Fwh] (subordinate) and a COMP with [F] (matrix), respectively, in (5a). The possibility of the combination of F (John) and wh (nani) in (8) also illustrates that a single COMP may be specified with [F] and [wh] simultaneously, as the proposed mechanism predicts. <EG (8)> [4]

Further Motivation: The proposed mechanism also accounts for the puzzles concerning what Takahashi (1993: 664) reports as the superiority effect induced by the long-distance scrambling of a Wh-phrase as in (9a). (ga '-nom' was changed to -wa '-top' to make the information structure more natural.) <EG (9a)> Along with the judgment indicated in (9a), Takahashi also reports that "heavy stress" on dare-ni makes the sentence acceptable. (p. 665, fn. 6) We can straightforwardly capture both these acceptability judgments — (9a) is a case of anti-scope synchronization involving WH and wh, and (9b) is a case of legitimate unselective licensing of multiple-Wh-foci accompanied by complex emphatic prosody. <EG (9b)> The paper will also discuss a case of obligatory scope-synchronization, certain restrictions imposed on the matrix COMP with [wh], and some intervention effects caused by wh, among other things.
Examples:

(1) (BOLD CAPITALS = emphatic accent, ▲ = post-focus pitch reduction, ↑ = final interrogative rise)

    John-wa [Mary-ga  \[\textsc{NA}ni-o \ katta-kado'oka\]  \[\textsc{DAre-ni \ tazu'neta-no}\] ▲
               -TOP \ -NOM  what-ACC bought-\textsc{COMP}_{\textsc{WH}} who-DAT asked-\textsc{COMP}_{\textsc{WH}}
               'What, did John ask whom [what Mary bought t1]?'

(2) (# = awkward with the indicated prosody, ITALIC CAPITALS followed by ' = unreduced accent)
    #John-wa [Mary-ga  \[\textsc{NA}ni-o \ eranda-to\]  \[\textsc{I'm}ademo om'teiru-no\]'?
               -TOP \ -NOM  what-ACC chose -\textsc{COMP}_{\textsc{THAT}} even.now think-\textsc{COMP}_{\textsc{WH}}
               'What does John still think [that Mary chose t1]?'

(3) a. John-wa [Mary-ga  \[\textsc{NA}ni-o \ katta-\textsc{ka'dooka}\]  \[\textsc{DAre-ni \ tazu'neta-no}\] ▲
                -TOP \ -NOM  what-ACC bought-\textsc{COMP}_{\textsc{WH}} who-DAT asked-\textsc{COMP}_{\textsc{WH}}
               'What, did John ask whom [whether Mary bought t1]?'

     b. John-wa [\[\textsc{DAre-ga \ NA}ni-o \ katta'\textsc{ka'dooka}\] \ to'm-ni tazu'neta-no ▲
                        -wh\textsc{WHO} \ -NOM \ what-ACC -\textsc{COMP}_{\textsc{WH}} Tom-DAT -\textsc{COMP}_{\textsc{WH}}
               'What did John ask Tom [whether who bought t1]?'

(4) a. \[\textsc{DAre-ga \ NA}ni-o \ katta-no\]  'Who bought what?'
     who-nom \ what-ACC \ bought-\textsc{COMP}_{\textsc{WH}}

     b. \[\textsc{DAre-ga \ na'ni-o \ katta-no}\]  'Who did John ask to buy what?'

     c. John-wa [\[\textsc{DAre-ga \ na'ni-o \ katta-kar}\] \ sonnani siritaga'teiru-no? \ 
                       -wh\textsc{WHO} \ -NOM \ what-ACC bought-\textsc{COMP}_{\textsc{WH}} that.much want.to.know-\textsc{COMP}_{\textsc{WH}}
               'With respect to who does John want to know so eagerly [what she bought]?'

(5) a. John-wa [\[\textsc{DAre-ga \ ku'ru-ka}\] \ \[\textsc{MAry-ni \ siraseta-no}\]  ↑
                     -TOP \ -NOM \ come-\textsc{COMP}_{\textsc{WH}} \ -DAT \ informed-Q
               'Was it \textsc{MARY} that John informed who will come?'

     b. #John-wa [\[\textsc{DAre-ga \ ku'ru-to}\] \ \[\textsc{MAry-ni \ siraseta-no}\]  ↑
                        -TOP \ -NOM \ come-\textsc{COMP}_{\textsc{THAT}} \ -DAT \ informed-\textsc{COMP}_{\textsc{WH}}

(6) a. wh-feature: \ Unselectively licenses a \textsc{non-focus} \textsc{Wh}-in-situ (= wh)

     b. F-feature: \ Licenses a \textsc{non-Wh} \textsc{focus} item (= F)

     c. WH (= Fwh)-feature: \ Unselectively licenses a \textsc{focus} \textsc{Wh}-in-situ (= WH)

(7) a. Possible: \ COM\textsc{P} [wh], \ COM\textsc{P} [F], \ COM\textsc{P} [Fwh], \ COM\textsc{P} [F, wh]

     b. Impossible: \ *COM\textsc{P} [F, Fwh], *COM\textsc{P} [Fwh, wh]

(8) Zyaa J\textsc{ohn-wa \ na'ni-o \ eranda-no\}'?  'Then, what did \textsc{JOHN} select?'
    then \ -\textsc{CONTR} \ what-\textsc{ACC} \ selected-\textsc{COMP}_{\textsc{WH}}

(9) a. ??\[\textsc{NA}ni-o \ J\textsc{ohn-wa \ da're-ni \ [\textsc{Mary-ga \ t1 \ tabeta-to \] \ itta-no}?
                              -wh\textsc{ACC} \ -TOP \ who-DAT \ -NOM \ ate-\textsc{COMP}_{\textsc{THAT}} \ said-\textsc{COMP}_{\textsc{WH}}
               'With respect to what did John tell whom that Mary ate it?'

References:
Ishihara, S. 2002. Invisible but Audible \textsc{Wh}-scope Marking: \textsc{Wh}-constructions and Deaccenting in Japanese.
    In \textsc{WCCFL} 21, 180-193.