Q-feature Movement in Single and Multiple *Wh*-questions in Japanese

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1. Introduction

In this paper, I argue that in in-situ *wh*-questions in Japanese, a Q-feature that is base generated within a *wh*-phrase raises overtly to C, via head movement, where it satisfies an uninterpretable Q-feature. This proposal accounts for certain *wh*-question facts in Japanese; notably, why a *wh*-phrase may remain in situ, and why constructions in which a *wh*-phrase is supposedly contained within a *wh*-island are ill-formed. Furthermore, I argue that the well-formedness of certain multiple *wh*-questions can also be accounted for in terms of Q-feature movement.

I claim that a Q-feature is associated with every *wh*-phrase that has scope in a clause, and that this Q-feature raises to C, where it surfaces as a Q-particle when it is pronounced. I also argue that a Q-feature is not always pronounced. I follow work by Hagstrom (1998) and Miyagawa (2001), who argue for movement of a Q-feature in Japanese. Hagstrom (1998:72) claims that a Q particle, which contains a Q-feature, originates "as low in the tree as possible" and his analysis implies that a *wh*-question can only have one Q-feature.[1] In this paper, I differ from Hagstrom in that I argue that there may be more than one Q-feature in a *wh*-question that contains multiple *wh*-phrases.

Although a *wh*-phrase may remain in-situ in Japanese, there appear to be *wh*-island effects, which is generally taken to be an indication that there is some type of covert phrasal movement (e.g., Richards 2001) or operator movement

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1.   In a similar manner, Maki (1995) argues that a *wh*-feature moves from a *wh*-phrasal argument to C and that a *wh*-argument does not move. Maki argues for movement of a *wh*-feature, whereas Hagstrom and Miyagawa argue that a Q-feature moves.

(e.g., Watanabe 1992a, 1992b, 2003). For example, in (1), the *wh*-phrase *nani-o* 'what-ACC' occurs inside a *wh*-island and the result is marginal, at least for some speakers.[2] Interestingly, example (1b) is better because of the addition of the *wh*-phrase *dare-ni* 'who-DAT' outside of the *wh*-island.

(1)   (a) ??John-wa [$_{CP}$ Mary-ga   **nani-o**   katta   kadooka] Tom-ni
            John-TOP Mary-NOM what-ACC bought if/whether Tom-DAT
            tazunetta no?
            asked   Q
            'What did John ask Tom if/whether Mary bought?'

        (b) John-wa [$_{CP}$ Mary-ga   **nani-o**   katta   kadooka] **dare-ni**
            John-TOP Mary-NOM what-ACC bought if/whether who-DAT
            tazunetta no?
            asked   Q
            'Who did John ask if/whether Mary bought what?' (Adapted from
            Watanabe 2003:208)

The following generalization can then be made. A construction in which a *wh*-phrasal argument occurs within a *wh-island*, such as in the configuration in (2a) is ill-formed and this type of construction improves with the addition of a *wh*-phrase outside of the *wh*-island, as in (2b).[3]

(2)   (a) *...[$_{wh\text{-island}}$ ...*wh*-phrase ...]...
        (b) ...[$_{wh\text{-island}}$ ...*wh*-phrase ...] **wh-phrase**...

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2.   Watanabe (1992b:12) writes that "the degree of unacceptability" of constructions such as (1a) "varies among different speakers."
3.   Notably, although Japanese generally allows relatively free ordering of direct and indirect objects, for some speakers   a construction in which an additional *wh*-phrase c-commands a *wh*-island is ill-formed. For example, the configuration in (ia) is fine, but that in (ib) is ill-formed. I do not examine this phenomenon in this paper, but see Watanabe (1992a, 1992b), Saito (1994), Richards (2001), among others, for further discussion.

(i)   (a) ...[$_{wh\text{-island}}$ ...*wh*-phrase ...] **wh-phrase**...
        (b) *... **wh-phrase** [$_{wh\text{-island}}$ ...*wh*-phrase ...] ...

I argue that the ill-formedness of constructions which contain *wh*-islands, such as those with the configuration in (2a), is the result of a *Minimal Link Condition* (MLC) (Chomsky 1995) violation involving Q-feature movement, and furthermore, the improvement of this type of construction with the addition of a *wh*-phrase in the matrix clause, as in the configuration in (2b), can be accounted for in terms of the *Principle of Minimal Compliance* (Richards 2001).

Watanabe (1992a, 1992b, 2003) accounts for the wh-question data in (1) in a different manner by arguing that overt *wh*-movement, but not covert *wh*-movement, shows island effects. Watanabe proposes that in Japanese, movement that looks covert can really be overt. This movement cannot be seen because it is movement of a null *wh*-operator to [Spec, CP]. The operator is located in the specifier of the DP that contains a *wh*-word. Therefore, in (1a), an operator associated with *nani-o* 'what-ACC' moves overtly to [Spec, CP] out of a *wh*-island, thereby resulting in ill-formedness. In the well-formed (1b), an operator associated with *dare-ni* 'who-DAT' moves overtly to [Spec, CP]. This movement is not out of an island, and so it is well-formed. Then the *wh*-phrases *dare-ni* 'who-DAT' and *nani-o* 'what-ACC' adjoin to the operator at LF. Crucially, movement of the *wh*-phrases occurs at LF, so this movement is not subject to *wh*-island effects.

I account for these data in a different fashion. Watanabe's analysis is based on the notion that in Japanese, a *wh*-operator, which is a specifier (an XP), moves to [Spec, CP]. Instead, I argue that there is no specifier movement of a *wh*-phrase or operator in these *wh*-constructions. Rather, a Q-feature (a head) moves for a *wh*-question to obtain its interpretation, and this Q-feature movement can account for the relevant data in (1). The advantage of this analysis is that it does not rely on the presence of a null operator. Furthermore, the relevant data can be accounted for solely in terms of overt movement, as opposed to both overt and covert movement.

The organization of this paper is as follows. In section 2, I explain why *wh*-phrases in Japanese can remain in-situ. In section 3, I account for the ill-formedness of constructions such as (1a) in which a *wh*-phrase is contained within a supposed *wh*-island. In section 4, I account for the well-formedness of multiple *wh*-constructions such as (1b). Section 5 is the conclusion.

2. Why *wh*-phrases can remain in-situ

Miyagawa (2001) argues that movement of Q-features in *wh*-questions in Japanese allows *wh*-phrases to remain in-situ. He proposes that a *wh*-phrase contains a *wh*-feature and that a question particle (*ka* or *no*) contains a Q-feature. Miyagawa follows Hagstrom's (1998) proposal that the Japanese Q-particle can be base generated next to a *wh*-phrase and then raise to C to satisfy a Q-feature on C. According to this proposal, C in English contains both a *wh*-feature and a Q-feature, which are uninterpretable, and a *wh*-phrase contains the interpretable counterparts of both features. Therefore, when a *wh*-phrase moves to [Spec, CP], it checks both of these features on C. In Japanese, on the other hand, a *wh*-word contains a *wh*-feature and a question particle contains a Q-feature, so the two features are contained on separate lexical items. The question particle then raises to C, where it checks an uninterpretable Q-feature. Miyagawa argues that movement to CP in both languages is motivated by the EPP-feature, in accord with Chomsky (2000). [4]

Following Hagstrom's proposal, a Q particle moves from a *wh*-phrase to C, as shown below.

(3)
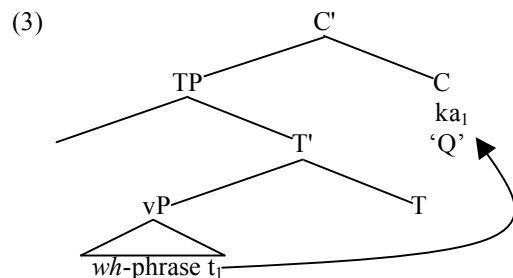
Because movement of a Q-particle satisfies the Q-feature in C, there is no need for overt *wh*-movement in Japanese.[5] For example, In (4) below, the Q-

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4. I note that movement could just as well be motivated by an uninterpretable feature on C, or it could be the case that an uninterpretable feature on C is the EPP. I leave this issue for further analysis.
5. This leaves open the issue of why a *wh*-phrase does not need to move to check a *wh*-feature. One possibility, argued for by Miyagawa (2001), is that in Japanese, a *wh*-feature is checked on T and movement of a *wh*-phrase to [Spec, TP] can check a *wh*-feature, but a *wh*-phrase does not have to move if a non-*wh*-DP satisfies the EPP feature on T. This issue is worthy of further analysis.

feature in C is checked by overt movement of the Q particle *no* and the *wh*-phrase remains in-situ.

(4) $[_{CP}$ $[_C$ $[_{TP}$ John-ga$_1$ $[_{vP}$ t$_1$ [nani-o   **t$_2$**]   katta]] **no$_2$**]]?
             John-NOM   what-ACC   bought Q
    'What did John buy?' (Miyagawa 2001:320)

The following diagram shows the internal structure of (4).

(5)
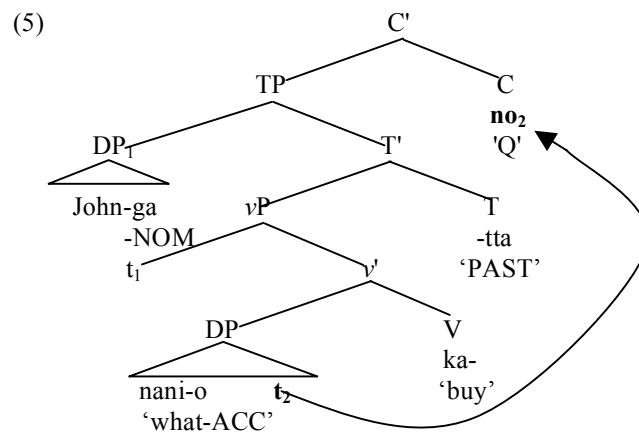
In (5), *no* 'Q' moves to check the uninterpretable Q-feature in C. The *wh*-phrase *nani-o* 'what-ACC' remains in-situ because it does not have to move to check the Q-feature in C.

Notably, there is some diachronic and cross-linguistic evidence to support this analysis. Hagstrom (1998) gives the following example from a classical Japanese text, *Nihon Shoki*, in which a *wh*-phrase occurs in-situ with an adjacent Q-particle *ka*.

(6) Sisi husu-to   **tare-ka** kono koto oomae-ni   maosu?
    beast   lie-QUOT who-Q this thing emperor-DAT say
    'Who reported to the emperor that beasts were lying?' (Adapted from Hagstrom 1998:25, per Moriyama 1971:32, per Ogawa 1977:221)

The subject *tare* 'who' is adjacent to the Q-particle *ka*, and *ka* does not occur clause finally. Hagstrom also shows that in some other *wh*-in-situ languages a Q-particle may occur adjacent to a *wh*-phrase, as in the following example from Sinhala. In (7), the Q-particle *də* occurs in-situ in a position next to the *wh*-phrase *mokak* 'what'.

(7) Siri **mokak də** keruwə?
    Sri   what   Q   did
    'What did Siri do?' (adapted from Gair & Sumangala 1991:93, per Hagstrom
    1998:20)

These examples may then be evidence that the Q-particle is base-generated in a position adjacent to a *wh*-phrase.

    One potential problem for this analysis is that movement of a Q-feature to C is not blocked by certain intervening heads, as this is a violation of the Head Movement Constraint (Travis 1984), which states that "a head cannot be separated from its trace by an intervening head (Lasnik 2003:70)." For example, in (5) above, *v* is filled with *ka-* 'buy' and T is filled with the past tense morpheme *-tta*, yet the Q-feature is able to move over these heads to arrive in C. This is a form of Long Head Movement (Rivero 1991) of a Q-feature over intervening *v* and T heads. Hagstrom (1998:61) hypothesizes why this long head movement is possible, as follows:

> ...feature attraction drives movement of the closest element with the relevant feature. If a feature F is being attracted and a head H carries the feature F, movement of H will only be blocked if there is an intervening head which also carries the feature F. Any head which does not carry this feature is irrelevant.

Following Hagstrom, a Q-feature may move over any intervening head that does not carry the same feature F that is being attracted by the head C. One possibility is that the relevant feature is a quantificational feature (Simin Karimi, p.c.) because movement of a Q-feature can be blocked by an intervening quantificational element. For example, when a negative polarity item or

quantifier, both quantificational elements, c-commands a *wh*-phrase the result is ill-formed.[6]

Another potential problem for this analysis is that the Q-particle can be dropped in Japanese. However, when a Q-particle is dropped, a *wh*-question interpretation is available when there is rising intonation at the end of the question.[7] For example, if the Q-particle is dropped from (4), repeated below, thereby resulting in (8), an expected answer would state what it was that John bought.

(4) $[_{CP} [_C [_{TP}$ John-ga$_1$ $[_{vP}$ t$_1$ [nani-o   **t$_2$**]   katta]] **no$_2$**]]?
        John-NOM   what-ACC   bought Q
    'What did John buy?'

(8) $[_{CP} [_C [_{TP}$ John-ga$_1$ $[_{vP}$ t$_1$ [nani-o   **t$_2$**]   katta]] **Q-F$_2$**]]?
        John-NOM   what-ACC   bought

In (8), a Q-feature moves to C where it is pronounced as rising intonation, rather than as a Q-particle, and a *wh*-question interpretation is still available.

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6.   For example, the *wh*-phrase *nani-o* 'what-ACC' is c-commanded by the negative polarity item (NPI) *sika* 'only' in (ia) and by the quantifier *dare-mo* 'everyone' in (ib). Both constructions are ill-formed. Note that well-formedness results when the *wh*-phrase is scrambled over the NPI or quantifier.

(i)   (a) *?Hanako-**sika nani-o**   yoma-nai no?
                Hanako-only what-ACC   read-NEG Q'
            'What did only Hanako read?
            (Adapted from Tanaka 1999, per Pesetsky 2000, per Karimi & Taleghani, ms.)

            (b) *?**Dare-mo**-ga   **nani-o**   katta   no?
                everyone-NOM   what-ACC bought Q
            'What did everyone buy?' (Watanabe 2003:215)

7.   Miyagawa (2001:312) writes that "the Q-particle contributes quantificational force to the *wh*-question" and that it is required for questions that have exhaustive, pair-list, and functional interpretations (cf. Miyagawa 2001:311-312). Therefore, questions with and without Q-particles may not be entirely identical.

In summary, Miyagawa and Hagstrom provide an explanation for why there does not need to be overt *wh*-movement in Japanese; a Q-particle checks a Q-feature in C and a *wh*-feature does not need to be checked by overt movement. In the next section, I attempt to account for *wh*-question data in terms of Q-feature movement.

3. *Wh*-islands

Example (1a), repeated below can be accounted for if movement of the Q-feature associated with *nani-o* 'what-ACC' results in a violation of the *Minimal Link Condition* (MLC), which requires attraction of the closest element of the relevant type.

(1)   (a) ??John-wa [CP Mary-ga   **nani-o**   katta   kadooka] Tom-ni
              John-TOP Mary-NOM what-ACC bought if/whether Tom-DAT
              tazunetta no?
              asked   Q
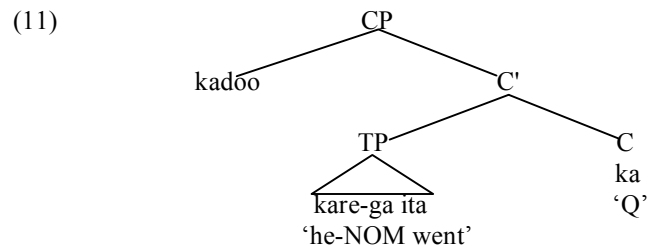   'What did John ask Tom if/whether Mary bought?'

The MLC is stated below.

(9) *Minimal Link Condition* (MLC)
     K attracts α if there is no β, β closer to K than α such that K
     attracts β. (Chomsky 1995:311)

In accord with the MLC, in the following configuration, movement of the Q-feature (Q-F$_1$) to the matrix C is blocked by an intervening Q-feature (Q-F$_2$), which is closer to the matrix C.

(10)
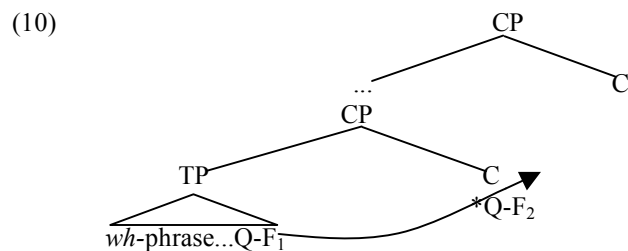
I argue that Q-feature movement from *nani-o* 'what-ACC' is blocked by a Q-feature of the lexical item *kadooka* 'if/whether', and so the illicit configuration in (10) is representative of (1a). However, in order for *kadooka* 'if/whether' to block Q-feature movement, it must contain a Q-feature, or some other similar type of feature.

Evidence that *kadooka* 'if/whether' has a Q-feature is that it contains the syllable *ka*, which has the same pronunciation as the Q-particle *ka*. Therefore, one possibility is that *kadooka* 'if/whether' has a complex structure consisting of a head and a specifier that occur in C and [Spec, CP] respectively. This leads to the difficulty of trying to determine if *ka* 'Q' is the initial or the last syllable of *kadooka*, as *kadooka* begins and ends with *ka*. If *ka* 'Q' is the last syllable, then *kadoo* would be a specifier occurring in [Spec, CP]. But if this were the case, then *kadoo* should appear clause initially rather than clause finally, as shown below.

(11)

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                        CP
                       /  \
                  kadoo    C'
                          /  \
                        TP    C
                       /\     ka
                 kare-ga ita   'Q'
                 'he-NOM went'
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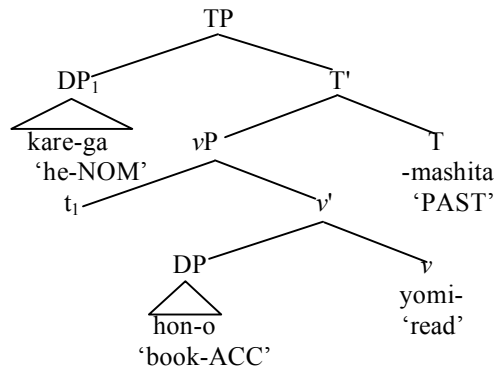This is highly ungrammatical, as *kadoo* cannot appear clause initially.

The only way to obtain the appropriate word order, under this analysis, is if *ka* 'Q' is the initial syllable of *kadooka* 'if/whether'. This is not a novel assumption. For example, Watanabe (1992a) and Tanaka (1999) indicate that *kadooka* consists of *ka* and *dooka*. According to this line of argumentation, *dooka* is a specifier appearing to the right of the head *ka* 'Q'. Watanabe (1992a:264) states that [Spec, CP] occurs to the right of C in Japanese, although he notes that this assumption is "without justification." Also, Tanaka (1999:384), following arguments by Watanabe (1992a), writes "that *kadooka* consists of two parts; *ka* is a [+wh] Comp and *dooka* is in specifier position." Furthermore, Tanaka argues that a specifier occurs to the right of its head in Japanese, and that *kadooka* has the following structure:

(12)   CP
                            C'   dooka
                  TP   C
                                  ka   (adapted from Tanaka 1999:385)
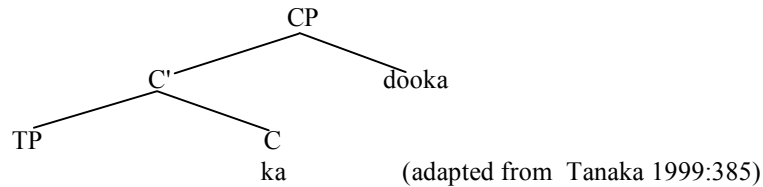
But this analysis raises the following question: is it reasonable to assume
that the specifier of CP occurs to the right of C, even though the specifiers of
other projections appear to occur to the left of their heads in Japanese? I note
that Miyagawa (1997, 2001, 2003) indicates that specifiers occur to the left of
their heads in Japanese. For example, the subject *kare-ga* 'he-NOM' in *Kare-ga
hon-o yomimashita* 'he read a book', shown below, occurs in a specifier to the
left of T, because the subject occurs at the beginning of the sentence.

 (13)   TP
                    DP$_1$ T'
                  kare-ga   *v*P   T
                  'he-NOM'   -mashita
                   t$_1$ *v'*   'PAST'
                         DP   *v*
                        hon-o   yomi-
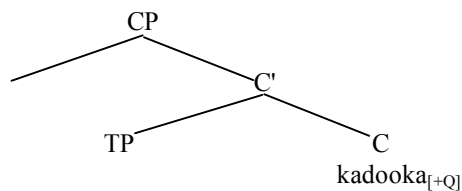   'book-ACC'   'read'

If specifiers occur to the right of their relevant heads, then the subject *kare-ga*
'he-NOM' in (13) could not be in [Spec, TP], but would have to be in some
other position. Another possibility is that the specifier of TP occurs to the left of
T, but the specifier of CP occurs to the right of C. These proposals seem
unnecessarily complicated.
       Rather, I argue that the first syllable of *kadooka* is a Q-feature in C and that
dooka is not a specifier. I do not have an account of the exact position of *dooka*,
but some possibilities are as follows: 1) *dooka* also occurs in C, so *kadooka* is a
single head with a Q-feature, 2) *dooka* occurs in some other projection in an

elaborated CP, along the lines of that proposed by Rizzi (2000). These possibilities are worthy of further analysis, but for the sake of simplicity I assume 1); that *kadooka* forms a single head in C, and that this head has a Q-feature, as shown below.

(14)

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                          CP
                         /  \
                        /    C'
                       /    /  \
                     TP    /    C
                          kadooka[+Q]
```

The following examples may provide evidence for this proposal. These examples have the same (or virtually the same) meaning; they're both ungrammatical in the same way. The only difference between the two examples is what follows *ka*; *dooka* follows *ka* in (1a), repeated below as (15a), and *to* 'COMP' follows *ka* in (15b).

(15)   (a) ??John-wa [CP Mary-ga **nani-o**   katta   ka-**dooka**] Tom-ni
           John-TOP Mary-NOM what-ACC bought if/whether Tom-DAT
           tazunetta no?
           asked   Q
           'What did John ask Tom if/whether Mary bought?'

       (b) ??John-wa [CP Mary-ga **nani-o**   katta   **ka-to**]   Tom-ni
           John-TOP   Mary-NOM what-ACC bought Q-COMP Tom-DAT
           tazunetta no?
           asked   Q
           'What did John ask Tom if/whether Mary bought?'

The element *to* is a complementizer because it can occur by itself at the end of an embedded clause, as can be seen in the following example.

(16) Hideya-wa [CP [C [Junko-ga   sore -o   katta] **to**]]   kare-ni
      Hideya-TOP   Junko-NOM that-ACC bought COMP him-DAT
      iimashita.
      told
      'Hideya told him that Junko bought that.'

I assume that **to** cannot occur in [Spec, CP] because it is a complementizer,
meaning that in example (15b), [Spec, CP] of the embedded clause does not
contain an overt element. Since *kadooka* has virtually the same meaning and
occurs in the same position as *ka-to*, it may also be reasonable to assume that
there is no overt element in [Spec, CP] of the embedded clause in (15a).[8]

   The ill-formedness of example (1a) can then be accounted for in terms of
the MLC under the assumption that both *nani-o* 'what-ACC' and *kadooka*
'if/whether' have a Q-feature. In order for the matrix clause to be a *wh*-question,
the Q-feature associated with *nani-o* 'what-ACC' must raise to the matrix C.
However, movement of the Q-feature associated with *nani-o* 'what-ACC' is
blocked by the intervening Q-feature of *kadooka* 'if/whether' in the embedded
C, as this is the closest Q-feature to the matrix C. Below is a diagram.[9]

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8. Example (15b), along with (i) below, based on an example pointed out to me by
Yosuke Sato (p.c.), may support the notion that there is an elaborated CP in accord with
Rizzi (2000).

(i) Watashi-wa [Junko-ga   kuruma-de itta **kadooka to**]   tazuneta.
        I-TOP   Junko-NOM   car-by-went if/whether COMP asked
'I asked whether/if Junko went by car.'

I think that it is unlikely that *ka* and *to* in (15b), and *kadooka* and *to* in (i) can co-occur in
C. Therefore, they may be heads of different projections in the left periphery.
9.   The structure of this sentence is rather complex. The diagram given in (17), as well
as that in (19) below, follow Larson's (1988) analysis of certain Dative Shift
constructions in English in which the direct and indirect objects are both sisters to V (cf.
Larson 1988:359), as in a construction such as *sent Mary a letter*, in which *Mary* is an
indirect object and *a letter* is a direct object, and both objects are sisters to a V, as shown
in (i). Note that *a letter* is a sister to a V head. The initial VP corresponds to the *v*P of
more recent work in the Minimalist Program. Whether or not this structure is accurate is
an issue worthy of further analysis.

   (i)   [VP [V' [V [V sent [DP Mary]] [DP a letter]]]]

(17)
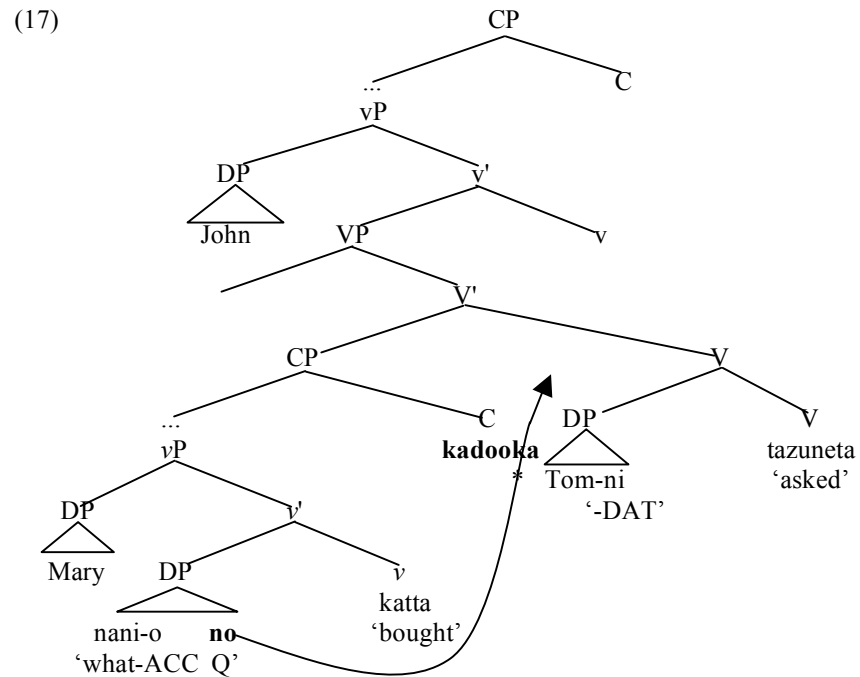
In this section, I have argued that certain *wh*-island violations result from Q-feature movement, and that these supposed islands do not contain overt specifiers. One possibility, however, is that they contain covert specifiers. If this were the case, their ungrammaticality could result from movement of an XP; i.e. movement of a *wh*-phrase would be blocked by a null element in [Spec, CP]. However, I claim that the ungrammaticality of these examples follows straightforwardly as MLC violations involving head movement of Q-features, and so there is no reason to postulate the presence of a covert specifier in CP.

4. Multiple *wh*-questions

In the previous section, I accounted for the ungrammaticality of (1a), repeated below. Now recall that the addition of a *wh*-phrase to the matrix clause results in grammaticality, as shown in (1b), repeated below.

(1)   (a) ??John-wa [CP Mary-ga   **nani-o**   katta   kadooka] Tom-ni
               John-TOP Mary-NOM what-ACC bought if/whether Tom-DAT
               tazunetta no?
               asked   Q
               'What did John ask Tom if/whether Mary bought?'

          (b) John-wa [CP Mary-ga   **nani-o**   katta   kadooka] **dare-ni**
               John-TOP Mary-NOM what-ACC bought if/whether who-DAT
               tazunetta no?
               asked   Q
               'Who did John ask if/whether Mary bought what?'

In (1b), the Q-feature associated with *dare-ni* 'who-DAT', in this case *no*,
moves overtly to the matrix C, where it checks the Q-feature of C. Also, *nani-o*
'what-ACC' has scope in the matrix clause, which I assume indicates that its Q-
feature moves to the matrix C. In this way, it appears as though there may be
more than one Q-feature in C, but only one of which is pronounced. However,
this is problematic because movement of the second Q-feature to C should
violate the MLC, as there are two Q-features that are closer to the matrix C, the
Q-feature associated with *dare-ni* 'who-DAT' and the Q-feature associated with
kadooka 'if/whether'.

    Richards (2001) provides a possible explanation in terms of what he refers
to as the Subjacency Tax Approach, which is based on Brody's (1995) view that
Subjacency only needs to be satisfied once "per *wh*-comp (Richards 2001:9)."
Once Subjacency is satisfied, any other movement of a *wh*-phrase "is free of
Subjacency (Richards 2001:9)." According to this approach, (1b) is grammatical
because *dare-ni* 'who-DAT' is able to move to the matrix C without violating
Subjacency, as it does not pass over two bounding nodes. The Subjacency Tax is
paid and further movement of the *wh*-phrase *nani-o* 'what-ACC' from the
embedded clause is not subject to Subjacency, as this phrase passes over two TP
bounding nodes on its way to the matrix C.

    Subjacency refers to movement of phrases that occur in specifiers of
projections and not to movement of heads. My analysis relies on head
movement instead of specifier movement, and so a similar approach that can
account for head movement is needed. A related proposal of Richards' may be
suitable. This is the *Principle of Minimal Compliance* (PMC), defined below,

which is the notion "...that a given constraint only has to be satisfied once in a certain domain (Richards 2001:197)."

(18)   (a) *Principle of Minimal Compliance* (PMC)

If the tree contains a dependency headed by H which obeys constraint C, any syntactic object G which H "immediately c-commands" can be ignored for purposes of determining whether C is obeyed by other dependencies.

(b) A immediately c-commands B iff the lowest node dominating A dominates B and there is no C such that A asymmetrically c-commands C and C asymmetrically c-commands B. (Richards 2001:199)

Richards provides evidence of various phenomena to support the existence of the PMC. For example, he shows how the PMC accounts for instances of reflexivity in Dutch, weak-crossover in English, VP-ellipsis in English, long-distance scrambling of adjuncts in Japanese, etc. If the PMC can explain various phenomena in different languages, then it may be a principle that is at work in language in general, and so an explanation of the multiple *wh*-question facts in Japanese in terms of the PMC may be desirable.

The Subjacency Tax Approach falls under the PMC as a subcase because it is the stipulation that Subjacency, a constraint, only needs to be satisfied once in the relevant portion of a sentence. This Subjacency Tax Approach can then be reformulated in terms of the MLC and the PMC. In a multiple *wh*-question, when the Q-feature in the matrix C is checked by the closest Q-feature, the MLC is satisfied. Therefore, the Q-feature in the matrix C heads a well-formed dependency. This Q-feature in C immediately c-commands itself, and so it may be ignored with respect to the MLC, thereby allowing a more distant Q-feature to raise to C.

The grammaticality of (1b), repeated below, can then be accounted for in terms of the PMC.

(1)   (b) John-wa [_{CP} Mary-ga   **nani-o**   katta   kadooka] **dare-ni**
             John-TOP   Mary-NOM   what-ACC bought if/whether who-DAT
             tazunetta no?
             asked   Q
             'Who did John ask if/whether Mary bought what?'

The LF representation of this example is shown below in (19). Here, the Q-
feature associated with *dare-ni* 'who-DAT' raises to the matrix C to check an
uninterpretable Q-feature, and this Q-feature is overtly pronounced as *no*.
Movement of this Q-feature satisfies the MLC because there is no intervening
head to block its movement. Therefore, *no* 'Q' in the matrix C heads a well-
formed dependency. Since this Q-feature is c-commanded by C, as it is in C, it
may be ignored with respect to the MLC. Therefore, the matrix C may attract a
lower Q-feature. The next closest Q-feature is the Q-feature associated with
kadooka 'if/whether' in the embedded C. However, this Q-feature already
satisfies the uninterpretable Q-feature in the embedded C and so it has no reason
to move. Therefore, the matrix C is able to attract the lower Q-feature associated
with *nani-o* 'what-ACC'.

(19)
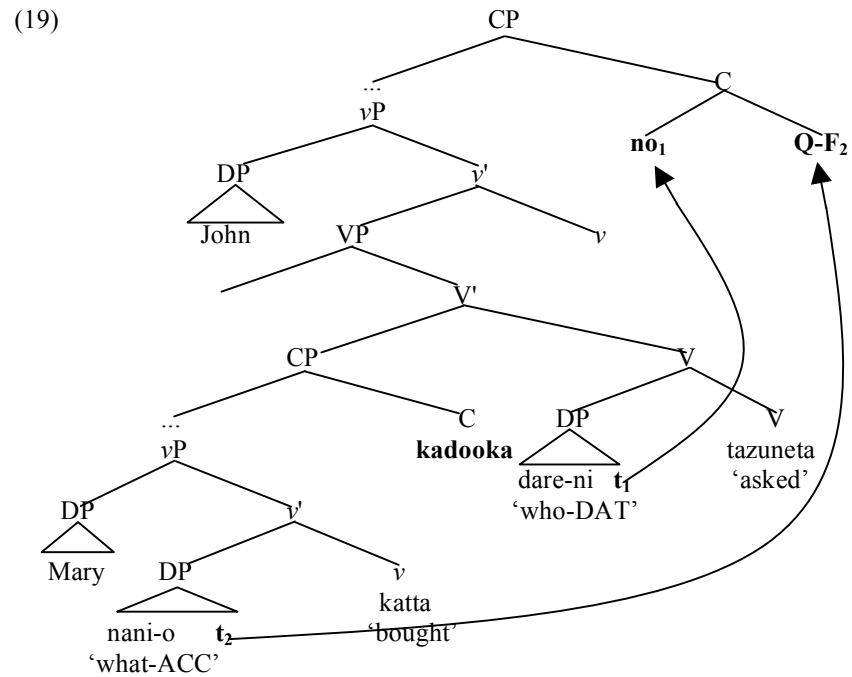
This example then shows that once the MLC is satisfied with respect to the matrix C, the matrix C may attract the next available Q-feature. Since the Q-feature associated with *kadooka* 'if/whether' in the embedded C is not available, the matrix C is able to attract the Q-feature associated with *nani-o* 'what-ACC'.

   There is another remaining issue. In (1b) above, two Q-features are present in the matrix C, but only one Q-particle is pronounced. When two Q-particles are pronounced, as in the following example, ungrammaticality results.

(20)   (b) *John-wa [CP Mary-ga   nani-o   katta   kadooka]
             John-TOP   Mary-NOM what-ACC bought if/whether
             dare-ni   tazunetta **no no**?
             who-DAT asked   Q   Q
             'Who did John ask if/whether Mary bought what?'

These facts can be accounted for by the following generalization.

(21) There may not be more than one Q-particle (a Q-feature that is
      pronounced) in C.

This constraint may be a case of haplology (Heidi Harley, p.c.) which prevents there from being two identical adjacent morphemes at Spell-Out. Some possible causes for (21) may be production and/or processing difficulties, or that when two Q-features occur next to each other, they merge into one Q-feature at Spell-Out.

5. Conclusion

   I have argued that the unacceptability of single *wh*-questions in which a *wh*-phrase is contained within a supposed *wh*-island results from a violation of the MLC that involves head-movement of a Q-feature. Furthermore, when the MLC is satisfied by movement of the closest Q-feature to C, then C may attract the next available Q-feature. Crucially, in accord with the PMC, this secondary Q-feature movement is not subject to the MLC. Although there may be two Q-features in C in multiple *wh*-questions, only one of them may be pronounced due to a constraint against pronouncing two adjacent Q-features. Notably, this analysis accounts for *wh*-questions such as (1a-b) in terms of Q-feature movement and its interaction with the MLC and the PMC, without the requirement that there be XP movement of a null *wh*-operator, as argued for by Watanabe (1992a, 1992b, 2003). Furthermore, the *wh*-question data are accounted for in terms of movement that occurs at a single level, because movement of Q-features is overt. This differs from an account that relies on both overt and covert *wh*-movement, as argued for by Watanabe.

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