【研究ノート】

A Short Note on the Internal Structure of Japanese Wh-Phrases*

FUKUTOMI Yasuyuki

1. Introduction

The purpose of this paper is to investigate two kinds of less-studied interrogative sentences in Japanese and to give them a unified analysis. Two constructions that I am concerned with are alternative questions and so-called $wh$-scope marking questions, as illustrated in (1) and (2) respectively:

(1) John-wa kooii ka ocha ka docchi-o nonda no
   John-TOP coffee or tea (or) which-ACC drank Q
   ‘Which of these two things did John drink: coffee or tea?’

(2) anata-wa John-ga dare-o aisiteiru ka doo omotteiru no?
   you-Top John-Nom who-Acc love Q how think Q
   ‘Who do you think that John loves?’

The discussion proceeds as follows. In section 2 and 3, I summarize the basic facts of Japanese alternative questions and $wh$-scope marking questions, respectively. Section 4 illustrates that these two types of questions display the same word order restriction. Section 5 shows that under the assumption that Japanese $wh$-phrases have the complex internal structure, a unified analysis can be offered to both constructions. Conclusions are presented in section 6.

2. Alternative Questions in Japanese

Let us first begin by describing basic properties of alternative questions in Japanese.

In English the question with the disjunctive phrase in the object position is ambiguous, giving either a yes–no question reading or an alternative question reading. The example in (3) illustrates this:

---

* I have benefited greatly from discussions at various points with Sung-Ho Ahn, Tomohiro Fujii, Chung-hye Han, Jim Huang, Chungmin Lee, Myung-Kwan Park, and Hidekazu Tanaka. Helpful comments were provided by audiences at the 4th Workshop on Altaic in Formal Linguistics at Harvard University, Le septième Colloque de Syntaxe et Semantique a Paris at Ecole Normale Superieure, poster session of the 18th Colloquium on Generative Grammar at Universidade de Lisboa, and the 2008 LAGB Meeting at University of Essex, where versions of this paper were presented. I am also grateful to Ryo Imoto and Louise Mycock for comments on an earlier draft. All remaining errors and omission, naturally, are mine.
(3) Did John drink coffee or tea?
   a. ‘Is it true or false that John drank any of these two things, coffee or tea?’
   b. ‘Which of these two things did John drink: coffee or tea?’

   Larson (1985) accounts for this ambiguity by assuming that scope of disjunction is assigned through the movement of a phonologically null scope indicator that originates adjacent to the disjunctive phrase.

   (4) a. Op₁ (t₁ or not) [did John drink [coffee or tea]]
   b. Op₁ [did John drink [t₁, coffee or tea]]

   Under this analysis, the alternative reading is obtained when the scope indicator moves from its original position adjacent to the NP disjunct to the specifier of CP, as shown in (4b). In the case of a yes–no reading, the scope marker is adjoined to the IP level, as shown in (4a).

   Han and Romero (2004) point out that the corresponding alternative questions in SOV languages such as Korean and Hindi do not yield the ambiguity of this kind and these languages employ a different way of expressing alternative questions. As we can see in the example (5), the Japanese question with the NP disjunct in the object position also cannot have an alternative question reading, but can only have a yes–no reading:

   (5) John-wa kohii ka ocha-o non-da no?
       John-TOP coffee or tea-ACC drank Q
       ‘Is it true or false that John drank any of these two things, coffee or tea?’
       ‘Which of these two things did John drink: coffee or tea?’

   What is interesting in this context is that in Japanese to indicate alternative question reading, an overt wh-phrase _docchi_ or _dochira_ ‘which’ must appear in addition to the associated NP disjunct, as we have already shown in (1). Here the example is repeated in (6):

   (6) John-wa kohii ka ocha ka _docchi-o_ non-da no  (= (1))
       John-TOP coffee or tea (or) which-ACC drank Q
       ‘Which of these two things did John drink: coffee or tea?’

   Since Japanese is one of well-known wh-in-situ languages, the _wh_-phrase _docchi_ does not appear at the beginning of the sentence. However, the _wh_-phrase must be related to the matrix specifier of CP through some kind of movement operation such as an LF-movement, a null operator movement, or a particle movement, because the alternative questions obey the _wh_-island constraint, as illustrated in (7):

   (7) Mary-wa John-ga kohii ka ocha ka _docchi-o_ non-da ka siritagatteiru no?
       Mary-TOP John-NOM coffee or tea (or) which-ACC drank Q want-to-know Q
       ‘Which of these two things does Mary want to know that John drank: coffee or tea?’

   This island-effect constitutes supporting evidence for Larson’s (1985) movement approach to
disjunction.

These complete the description of Japanese alternative questions. Let us now turn to the second kind of questions in the next section.

3. **Wh-Scope Marking Questions in Japanese**

In Japanese, the scope of a *wh*-phrase is determined by a *c*-commanding clause-final particle *ka or no*. The examples in (8) illustrate this point:

(8) a. anata-wa John-ga dare-o aīsiteiru ka sitteiru.
    you-Top John-Nom who-Acc love Q know
    ‘You know who John loves.’

b. anata-wa John-ga dare-o aīsiteiru to omotteiru no?
    you-Top John-Nom who-Acc love COMP think Q
    ‘Who do you think that John loves?’

    you-Top John-Nom who-Acc love Q think
    ‘You think who John loves.’

The *wh*-phrase *dare ‘who’* appears in the embedded clause both in (8a) and (8b). In (8a) the question particle *ka* appears on the embedded verb and yields an embedded question, while in (8b) the particle *no* attaches on the matrix verb and yields a matrix question.¹

In addition to the long-distance *wh*-question in (8b), we have another question-forming strategy as in (9):

(9) anata-wa John-ga dare-o aīsiteiru ka doo omotteiru no? (= (2))
    you-Top John-Nom who-Acc love Q how think Q
    ‘Who do you think that John loves?’

The sentence in (9) consists of two clauses, each containing a *wh*-phrase. A characteristic of this type of questions is that its felicitous answer involves supplying the value for the embedded *wh*-phrase like (10):

(10) a. Mary-wa [John-ga nani-o yonda ka] doo omotteiru no?
    Mary-TOP John-NOM what-ACC read Q how think Q
    ‘What does Mary think that John read?’

b. LGB-o yonda to omotteiru
    LGB-ACC read COMP think
    ‘She thinks that he read LGB.’

¹ Strictly speaking, *no* is not a question marker, but a reduced form of *no desu ka*, consisting of a nominalizer *no*, a copular verb, and the question marker *ka*. Notice further that *ka* and *no* cannot be used interchangeably. While both particles can be used for matrix interrogative marking, depending on the politeness marking on the verb, the particle *ka* is the only option when a question is embedded.
The contrast in (11) indicates that this type of questions is not a sequence of questions.

(11) a. John-wa dare-o aisiteiru no?  Anata-wa doo omou no?
    John-Top who-Acc love Q you-Top how think Q
    ‘What do you think?  Who does John love?’

b.*anata-wa John-ga dare-o aisiteiru no doo omotteiru no?
    you-Top John-Nom who-Acc love Q how think Q
    ‘Who do you think that John loves?’

Notice that in (11a) both questions are marked by the particle *no, which indicates that two sentences are independent and are not in the subordinating relation. In contrast, the ungrammaticality of (11b) apparently results from the fact that the embedded clause is marked by the particle *no since the particle *ka is the only option for the embedded question. This contrast suggests that the construction at hand truly involves subordination.

What is interesting here is that although the verb *omou ‘think’ cannot take a question complement, as in (8c), the sentence (9) requires a question as an embedded clause. In fact, if the embedded complementizer is changed into a declarative complementizer -*to, the sentence is degraded as illustrated by the ungrammaticality of (12):

(12) *anata-wa John-ga dare-o aisiteru to doo omotteiru no?
    you-Top John-Nom who-Acc love COMP how think Q
    ‘Who do you think that John loves?’

This reminds us of the obligatoriness of partial *wh-movement in German, as in (13):

(13) a.*Was glaubst du dass sie wann gekommen ist?
    WH think you that she when come is
    ‘When do you think that she came?’

b. Was glaubst du wann sie gekommen ist?
    WH think you when she come is
    ‘When do you think that she came?’

These considerations indicate that sentences like (9) belong to the same type of questions called “*wh-scope marking” or “partial *wh-movement” constructions. Other properties shared by “*wh-scope marking” constructions in other languages, including “anti-locality” (14), the incompatibility with verbs selecting a question (15), and a “negative island” effect (16) corroborate this point.

(14) *anata-wa nani-o doo yondeiru no?
    you-TOp what-ACC how be-reading Q
    intended: ‘What are you reading?’

(15) a. anata-wa Mary-ga dare-to hanasita ka doo omotteiru no?
    you-TOp Mary-NOM who-with talked Q how think Q
FUKUTOMI: The Internal Structure of Japanese Wh-Phrases

‘Who do you think Mary talked to?’
b.*anata-wa Mary-ga dare-to hanasita ka doo tazuneta no?
you-TOP Mary-NOM who-with talked Q how asked Q intended: ‘Who did you ask Mary talked to?’

(16) *anata-wa Mary-ga dare-to hanasita ka doo omotteinai no?
you-TOP Mary-NOM who-with talked Q how think-not Q
‘Who don’t you think Mary talked to?’

These completes basic descriptions of wh-scope marking constructions in Japanese.

4. Word Order Restrictions: A Case of Intervention Effect?

Both alternative questions and wh-scope marking questions display a peculiar word order restriction, as shown in (17) and (18), respectively:

(17) *John-wa docchi-o koohii ka ocha ka nonda no?
   John-TOP which-ACC coffee or tea (or) drank Q
‘Which of these two things did John drink: coffee or tea?’

(18) *anata-wa doo [John-ga dare-o aisiteiru ka] omotteiru no?
you-TOP how John-NOM who-ACC love Q think Q
intended: ‘Who do you think that John loves?’

In (17) the wh-word docchi precedes the associated NP disjunct, resulting in an ungrammatical sentence. Likewise, in (18) the wh-word doo precedes the associated embedded clause and the sentence cannot be interpretable.

These impossibilities of wh-phrase preposing are reminiscent of intervention effects in a Japanese interrogative clause, though there is an overt/covert difference.

(19) ?* [John ka Bill] -ga nani-o kaimasita ka?
   John or Bill-NOM what-ACC bought Q
‘What did John or Bill buy?’

As the ungrammaticality of (19) shows, the NP disjunct cannot stand between the wh-word and the c-commanding interrogative complementizer.

5. A Proposal: Internally Complex Wh-phrase

To give an account for the above-mentioned word order restrictions, I will argue that two questions involve the same structure, especially involving the wh-phrase with the same internally complex structure.

First of all, I propose that the NP disjunct and the overt wh-phrase form a constituent. A kind of supporting evidence comes from a selectional restriction given in (20). To be inter-
interpreted as an alternative question, the overt wh-phrase cannot be nani ‘what’; instead it must be realized as docchi:

(20) *John-wa kooii ka ocha ka nani-o nonda no
John-TOP coffee or tea (or) what-ACC drank Q
intended: ‘What did John drink, coffee or tea?’

Another piece of evidence is the possibility of clefting as in (21). Though the phrase “kooii ka ocha ka docchi ka” receives an existentially quantificational reading instead of an alternative question reading, it occurs in the focus position of the cleft construction:

John-NOM drank-C-TOP coffee or tea (or) which-or copula
‘It is coffee or tea that John drank.’

Assuming the constituency of the wh-phrase and its associated phrase, I propose the specific internal structure of these constituents. Notice that the disjunctive phrase functions as a restriction that limits the presupposed set for the possible answers. Likewise the embedded clause in wh-scope marking constructions also limits the presupposed set for the possible answers. Now we can sketch the syntactic structure of the wh-phrase that reflects its semantics. First an unspecified or default wh-word is merged with NP that functions as restrictor. Then an operator that binds the wh-word, which is itself interpreted as an indefinite variable (Nishigauchi 1986), is merged. Following Watanabe (2006), I assume that there is a Case Phrase above the NP projection and below the DP projection, resulting in the structure in (22):

(22) [DP [CASE [whp Operator [restrictor NP…] [wh-phrase]]]]

Also following Watanabe (2006), the Restrictor NP must move to the specifier of Case phrase for the Case theoretic reasons, resulting the configuration in which the Restrictor NP intervenes between the licensing complementizer and the wh-word, as illustrated in (23). The intervention blocks the movement of the wh-word over the restrictor NP or CP:

(23) a. [CASE [np kooii ka ocha] [wh [restrictor NP t]docchi]CASE]
b.*[cp OP… [case [np kooii ka ocha] [whp docchi [restrictor NP t] WH] CASE]…COMP]
   \———————* (not allowed)

c. [CASE [cp John-ga dare-o aisiteiru ka] [wh [restrictor cp t]doo]CASE]
d.*[cp OP… [case [cp John-ga dare-o aisiteiru ka] [whp doo [restrictor cp t] WH]]
   \———————* (not allowed)
   CASE]…COMP

We can confirm from the following sentences that those are really blocking phenomena. When the restrictor NP does not contain a disjunctive phrase, the wh-word can be raised over the restrictor, as in (24):

(24)
(24) a. dessert-wa docchi-o tabeta no
dessert-TOP which-ACC ate Q
‘Which of desserts did you eat?’
b. John-wa docchi-no-dessert-o tabeta no
John-TOP which-GEN-dessert-ACC ate Q
‘Which dessert did you eat?’

In (24a) the restrictor NP is realized as a topic, and in (24b) it is linked to the following NP by genitive marker -no. We find further evidence for the blocking effect in right dislocated structures. When the restrictor NP or CP is right dislocated and removed from between the *wh*-word and its licensing complementizer, sentences become acceptable as in (25):

(25) a. John-wa docchi-o nonda no, kooiih ka ocha ka
   John-TOP which-ACC drank Q coffee or tea (or)
b. anata-wa doo omotteiru no, [John-ga dare-o aisiteiru ka]
   you-TOP how think Q John-NOM who-ACC love Q

6. Concluding Remarks

Up to now I have only dealt with alternative questions with a disjunctive phrase in the object position. However, Larson’s (1985) analysis of matrix yes–no questions and embedded *whether* complements opens up a new way to look at *ka-doo-ka* ‘whether’ complement in Japanese. We can view the whole *ka-doo-ka* phrase as disjunction, and the *wh*-word *doo*, which is realized as a subpart of *ka-doo-ka*, intervenes between the matrix complementizer and the embedded *wh*-phrase. This analysis naturally accounts for the acceptability difference between *wh*-movement and scrambling with respect to *wh*-island sensitivity, as shown by the contrast between (26a) and (26b):

(26) a.³John-wa [DJSF Mary-ga nani-o katta ka-doo-ka] Tom-ni tazuneta no?
   John-TOP Mary-NOM what-ACC bought if/whether Tom-DAT asked Q
   ‘What did John ask Tom if/whether Mary bought?’
   LGB-ACC John-NOM Mary-NOM bought if/whether Tom-DAT asked

In summary, assuming that the operator and the restrictor are configured like (22) within a single *wh*-phrase, we can offer a unified account for both alternative and *wh*-scope marking questions. The analysis in this paper also lends an indirect support for Tsai’s (1999) proposal that licensing of Japanese *wh*-phrases occurs at the phrasal level. Lastly our findings lend a strong support for Larson’s (1985) movement analysis of alternative questions in English in the sense that Japanese has an overt counterpart to the proposed null operator in English. If this is on the right track, then we have shown that, in addition to the clausal domain, there is an intervention effect within the DP domain.
References

den Dikken, Marcel. 2004. “The Syntax of Either ... Or ... Once More,” ms., CUNY Graduate Center.