Questioning vs. Identifying: A Functionalist Analysis of the [A candidate that which professor recommended was hired?] Construction in Japanese

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1. Introduction

Japanese has an interrogative construction containing a relative clause in which a WH-expression (WHE) appears (hereinafter, *interrogative relative construction*, IRC). For example:

(1)a $[_{NP} [_{Rel\ Clause}$ ... **WHE** ...] Head N] $[_{Predicate}$ ...]?

  b [[**dono kyoozyu-ga** suisen-sita] hito]-ga
     which prof.(Nom) recommended person(Nom)
     saiyoo-saremasita ka.
     was hired Q
    Lit. A person that which professor recommended was hired?

I will discuss the IRC from a functionalist perspective for two reasons. The first reason is its peculiarity. The meaning of IRC questions is not immediately transparent to the analyst. Do they ask for the entity corresponding to the head N or for the entity corresponding to the WHE alone? I will demonstrate that the IRC provides the possibility of separating what is to be questioned and what is to be identified. This phenomenon is schematically represented in (2).

(2) **narrow-reading**   Identify the referent

                  ↓

$[_{NP} [_{Rel\ C}$ ... | WHE Questioned | ...] Head N] $[_{Pred}$ ...]?

                              ↑

broad-reading   Identify the referent

As the ungrammaticality of the translation of (1b) shows, English does not permit one to separate these two concepts; i.e., what is questioned is what is to be identified in English.

The second reason for investigating the IRC is the descriptive inadequacy of recent proposals. This construction has been analyzed by several researchers in the framework of Government and Binding Theory. Their motivation is as follows: because it is possible for the WHE

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to move to an operator position at LF even though there is no movement at S-structure in Japanese, the IRC may reveal whether or not Move α has the same properties at these two levels of representation (Huang 1982; Nishigauchi 1984, 1986; Pesetsky 1987). I will argue that LF, which is supposed to represent the properties of syntactic form relevant to semantic interpretation (May 1985), cannot provide descriptively adequate accounts for this construction.

2. Broad-reading: what is questioned is NOT what is to be identified.

Let us first consider the broad-reading in (2). In this reading, the questioner wants to identify the referent of the head N, but s/he nevertheless questions an entity in the relative clause. A typical context is illustrated in the following scenario. Suppose that both A and B attend a piano competition, but A has to leave before the winner is announced. The following day, A asks (3).

(3)   A: Who/Which person won the competition?

(4)   Ba: It was Alice Clemens.
      Bb: It was the one Professor Huxley recommended.
      Bc: It was the one who played Chopin's Polonaise.
      Bd: It was the one who played second from the last.
      Be: It was the one wearing the blue outfit.

If in fact the winner was Alice Clemens, who was recommended by Professor Huxley, and who played Chopin's Polonaise second from the last in the performance, and who was wearing a blue outfit, any answer in (4) could serve to identify the winner of the competition. However, the utility of each answer depends on the background knowledge of the questioner. For example, (4Ba) is useful only if A knows the competitors by name, (4Bb) only if A knows the recommenders, (4Bc) only if A remembers the titles of pieces played by the competitors, and so forth. B may have a presumably infinite number of denotationally equivalent responses.

Asking a question is a speech act of eliciting information (Searle 1969). Merely true answers often do not help accomplish this goal. Because the respondent may not know which descriptions can communicate the intended denotation to the questioner, unsatisfactory answers such as in (5) may result.

(5)   A: Who won the competition?
     B: Alice Clemens.
     A: Who is she?

B: She is the one who played Chopin's Polonaise.
A: I don't remember which competitor that was.
B: She was the one wearing a blue outfit.
A: Oh, I understand.

The IRC in Japanese serves to specify a useful description. To illustrate, the IRC in (6) enables A to request in a single question not only the identification of the winner, but also how the winner should be identified. The IRC contains "built-in" instructions on how the question should be answered.

(6) b dono kyoozyu-ga suisen-sita hito-ga
   which professor(Nom) recommended person(Nom)
   yuusyoo-simasita ka.
   won   Q
   Lit. A person whom which professor recommended won?

   c dare-no kyoku-o hiita hito-ga yuusyoo-simasita ka.
   whose music(Acc) played
   Lit. A person who played whose piece of music won?

   d nanban-me-ni hiita hito-ga yuusyoo-simasita ka.
   what number played
   Lit. A person who played in what position (in the sequence of the performances) won?

   e naniiro-no huku-o kiteita hito-ga yuusyoo-
   what color(Gen) cloth(Acc) was wearing
   simasita ka.
   Lit. A person who was wearing what color clothing won?

The sentences in (4) are appropriate answers to the corresponding questions in (6) in a bilingual conversation.

The logic behind the use of the IRC in the broad-reading is that, given the value of the WHE, the questioner can identify the referent of the head N. For example, there is a one-to-one correspondence in the questioner's mind between the clothing colors and the competitors themselves.

(7)

Color of Clothing	Competitor
green	a
purple	b
blue	c
etc.	etc.

In English, the IRC can occur only in echo questions; i.e., when the construction is already provided by the previous utterance, and the questioner recapitulates it, clarifying some part(s).[1] The IRC in Japanese is used in the opposite way: the questioner anticipates the form of the answer.

3. Narrow-reading: when what is questioned is what is to be identified.

In order to describe the narrow-reading, in which what is questioned is the same as what is to be identified, it is instructive to mention Nishigauchi's (1984) analysis of the IRC.

3.1. The pied-piping account of the IRC

Following Kuno (1978), Nishigauchi assumes that in elliptical answers everything but the focused element must be omitted.

(8) Q: suzuki-san-wa satoo-san-ni nan-zi-ni aimasita ka.
       Mr. Suzuki(Top) Mr. Sato(Dat) at what time met Q
       At what time did Mr. Suzuki meet Mr. Sato?

   Aa: ku-zi-ni desu.
       at 9 o'clock
       Lit. (It) is at 9 o'clock.
   Ab: #satoo-san-ni ku-zi-ni desu.

According to Nishigauchi, the LF of (8Q) is:

(9) [nan-zi]$_i$ [suzuki-san wa satoo-san ni t_i aimasita ka]

He claims that an elliptical answer with the copula da (desu) 'is/are' to a WH-question must supply only the value of the operator expression of the question, i.e. the preposed WHE. (8Ab) is inappropriate because satoo-san ni 'Mr. Sato(Dat)', which is not a value of the operator expression in the question, is left undeleted. He then examines IRCs and their possible answers.

(10) Q: dono kyoozyu-ga suisen-siteiru   hito-ga
         which prof.(Nom) is recommending   person(Nom)
         saiyoo-sare   soo   desu ka.
         be employed   Evid(inferential) Cop
         Lit. A person that which professor is recommending is likely
         to be employed?

Aa: suzuki kyoozyu-ga suisen-siteiru hito desu.
     (It) is the person that Prof. Suzuki is recommending.

Ab: # suzuki kyoozyu desu.
     (It) is Prof. Suzuki.

Since (10Ab) is not a possible answer, Nishigauchi posits (11a) below, not (11b), as the LF representation of the IRC.

(11) a $[_{NP}$ **WHE** $_i$ $[_{Rel\ C}$ ... t_i ...] **Head** $]_j$ $[_{S'}$ $[_S$ ... t_j ...] Q]

b   *[**WHE** $_i$] $[_{S'}[_S[_{NP}$ $[_{Rel\ C}$ ... t_i ...] Head] ...] Q]

The appropriateness of (10Aa) shows that the entire NP that contains a WHE is moved into the operator position in addition to the movement of the WHE within the relative clause. He considers this as a kind of pied-piping effect. The inappropriateness of (10Ab), on the other hand, shows that the WHE alone cannot move to the operator position—which is, according to Nishigauchi, due to the Subjacency constraint. He claims that although Subjacency is not applicable at S-structure in Japanese, it is applicable at LF. In (11b) Subjacency is violated; hence the inappropriateness of (10Ab).

There are, however, some IRC questions for which supplying only the value of the WHE is acceptable.

(12) Q: nani-too-o   sizi-siteiru   hito-ga   itiban
         which political party(Acc) are supporting people(Nom)   most
         ooi   desu ka.
         many
         Lit. People who support which political party are most
         numerous?

Aa: zimin-too-o   sizi-siteiru hito desu.
     Liberal-Democratic Party(Acc)
     (It) is the people who support the Liberal-Democratic Party.

Ab: zimin-too desu.
     (It) is the Liberal-Democratic Party.

Nishigauchi does not count (12Ab) as evidence for the violation of Subjacency, but rather he considers it as a truncated form of (12Aa). He writes,

> Various factors, more or less pragmatic in nature, must be involved here ... it appears to be easier to recover the identity of a certain description from a truncated answer when the sets denoted by the entire description and by the value of the operator inside that description are disjoint in reference ... In the case of [12], the description in question involves the set of people and the operator inside that description ranges over a set of political parties, and those two relevant sets are sufficiently disjoint ... in [10], the entire description refers to a set of candidates for a certain position and the WH expression contained within it ranges over a set of professors: these two sets are close to each other in reference, if not intersecting. (1984:13)

The statement is inaccurate, however. Consider the following:

(13) Q: dono koohosya-o   sizi-suru gakusee-ga   ooi desu ka.
         which candidate(Acc) support   student(Nom)
         Lit. Students who support which candidate are numerous?

Aa: zyehu tyan-o sizi-suru gakusee desu.
     (It) is the students who support Jeff Chang.

Ab: zyehu tyan desu.
     (It) is Jeff Chang.

According to Nishigauchi's account, (13Ab) must be factored out, or at best marginally accepted, because the set of students and the set of candidates are close to each other in reference. In fact, Jeff Chang is the current president of the student body, and he is a student at UC Berkeley. And yet (13Ab) is an appropriate answer. Moreover, most native speakers consider (13Ab) as more appropriate than (13Aa). They say that what is actually asked regards the candidate who is popular among students, not the students themselves. Therefore, (13Aa) sounds like a textbook response; viz., it too strictly follows the structure of the question.

Although Nishigauchi's methodology of using elliptical answers as evidence to derive LF representations of corresponding questions is

problematic, the effect he points out does exist.[2] Many, if not most, native speakers feel the b-answer is inappropriate in (10) but is perfectly appropriate in (12). This fact calls for explanation.

What Nishigauchi considers exceptions to his analysis are those for which the narrow-reading is possible or preferred. In the case of (10Q), the broad-reading is strongly preferred for reasons which will be discussed later, whereas in (12Q), the narrow-reading is mandatory. The crucial information to determine the reading in the latter case comes from the adjective *ooi* 'many/numerous'. This quantificational adjective makes the broad-reading (i.e., the questioner's intention is to identify the referent corresponding to the head N) impossible. "Individual" cannot be numerous. Therefore, the respondent takes the narrow-reading and may supply an elliptical answer with the value of the WHE alone. (12Q) can be phrased as "Which political party is supported by many people?"

3.2. D-linked WHEs

Another formalist analysis I would like to discuss is that of Pesetsky (1987). He asserts that there are two types of WHEs, *discourse-linked (D-linked)* and *non-discourse-linked (non-D-linked)*. *Which*-phrases are D-linked in the sense that they require that both the questioner and respondent have in mind a set of entities from which a felicitous answer will be drawn. The WHEs like *who, what,* or *how many books* impose no such requirement, and are thus non-D-linked. Non-D-linked WHEs adjoin to S' at LF as proposed in Chomsky (1976), whereas D-linked WHEs remain in situ at LF. Pesetsky claims that the moved WHE shows a diagnostics for movement, e.g. Subjacency, but the unmoved WHE fails to show such effects. The following sentences of Pesetsky illustrate the difference between non-D-linked and D-linked WHEs.

(14) a *Mary asked *what$_i$* **who** read e$_i$. (Non-D-linked)

    b Mary asked *which book$_i$* **which man** read e$_i$. *(D-linked)*

In (14a), when *who* moves to Comp at LF, it violates the Nested Dependency Condition; hence ungrammaticality results.[3] According to Pesetsky, (14b) is grammatical because *which man* (D-linked) remains in situ at LF.

Since phrases like *what the hell* are used to express surprise, the appropriate values corresponding to them are presumed not to figure in previous discourse. Therefore, those phrases are good examples of "aggressively" non-D-linked WHEs, which must move at LF. He considers that the Japanese equivalent of *the hell* is *ittai*. Comparing the following pair of sentences, he concludes that a Subjacency effect does

show up when the WHE is "aggressively" non-D-linked.

(15) a marii-wa zyon-ni   nani-o   ageta hito-ni   atta no?
       Mary(Top) John(Dat) what(Acc) gave person(Dat) met Nlz
       Lit. What did Mary meet the man who gave to John?

    b *marii-wa zyon-ni **ittai** nani-o ageta hito-ni atta no?

In my analysis, (15b) does not permit the broad-reading because (in order to use the IRC to identify the referent of the head N) not only does the questioner know the possible values of the WHE, but s/he must also have in mind a one-to-one correspondence between the values of the WHE and the possible referents of the head N (cf. (7)). Therefore, as Pesetsky correctly claims, *ittai* is incompatible in (15b).[4] As far as structure is concerned, however, (15b) could tolerate the narrow-reading.

(16) Q: marii-wa **ittai** dare-o   korosita hito-o   keesatu-ni
        Mary(Top)   who(Acc) killed   person(Acc) police(Dat)
        tuuhoo-sita no?
        reported   Nlz
        Lit. Who did Mary report to the police the person who killed?

    Aa: suzuki kyoozyu-o korosita hito desu.
        (It) is the person who killed Prof. Suzuki.

    Ab: suzuki kyoozyu desu.
        (It) is Prof. Suzuki.

The appropriateness of (16b) shows that the narrow-reading is possible. Thus, Pesetsky's claim that the IRC with a non-D-linked NP is ungrammatical because of a Subjacency violation at LF does not hold.

4. Selection of the interpretation of the IRC

I have so far demonstrated that the IRC allows both broad- and narrow-readings, and that the choice between the two readings is determined by context. Let us now consider what particular elements in context are relevant to the selection. There are two crucial notions: (i) the referability of the head N, and (ii) the inherent topic-worthiness.[5]

4.1. Referability of the head noun

Recall that in case of (10Q), the head N is very likely to be interpreted as referential, whereas in (12Q), the head N must be interpreted as non-referential. When the head N is understood as referential, the broad-reading is favored. In real discourse, there are usually some clues as to

whether or not the head N is intended to be referential. In (12Q), the clue is the use of *ooi* 'many/numerous'. The following pair of sentences illustrates another such clue.

(17) Q: dono kyoozyu-ga **suisen-suru** gakusee-ga kigyoo-ni
which prof.(Nom) **recommends** student(Nom) industry(Dat)
ninki-ga arimasu ka.
popularity(Nom) there is
Lit. Students that which professor **recommends** are popular in the industry?
Free. Who recommends the students who are in demand?

Ab: suzuki kyoozyu desu.
(It) is Prof. Suzuki.

(18) Q: dono kyoozyu-ga **suisen-siteiru** gakusee-ga kigyoo-ni
is recommending
ninki-ga arimasu ka.
Lit. A student that which professor **is recommending** is popular in the industry?
Free. Whose student is in demand?

Ab: #suzuki kyoozyu desu.
(It) is Prof. Suzuki.

In (17), the b-answer is possible, but not likely to be chosen in (18). Notice that the verb form in the IRC in (17Q) is simple present, whereas that in (18Q) is present progressive. In general, simple present does not describe a particular event in time but rather a type of event. Therefore, the complex subject NP is naturally interpreted as non-referential in (17). Although very different in connotation, it can be paraphrased as: "Which professor's recommendation gets students the best jobs?" Uttering (17Q) can be a circumlocutory way of eliciting information about professors' influence in the industry. In (18Q), on the other hand, the questioner is referring only to the current event, and thus the head N is likely to be interpreted as referential. Therefore, without strong evidence which suggests otherwise in discourse, the respondent chooses the broad-reading, i.e. to identify the referent of the head N.[6]

4.2. Inherent topic-worthiness
In some cases, the IRC question may be neutral with respect to these two readings.[7]

(19) Q: dono tyookyoosi-ga kunren-sita inu-ga yuusyoo-simasita ka.
which trainer(Nom) trained dog(Nom) won
Lit. A dog that which trainer trained won?

Ab: suzuki tyookyoosi desu.
(It) is Trainer Suzuki.

Since (19Q) is asking about a particular past event, we expect the head N to be referential, and therefore the b-answer is inappropriate. Some native speakers found (19Ab) a strange answer, and others did not. This split is due to the equal probabilities of the two readings without further context. If (19Q) is a conversation-initiating question, I favor the broad-reading, identifying the dog, but the narrow-reading is not as unnatural as was seen in (10). I attribute this effect to *inherent topic-worthiness*.[8] Certain entities (e.g. humans) have inherently higher probability to be selected as a topic than others (e.g. animals) when contextual support is minimal. When the value of WHE is high in topic-worthiness, and the sentence can be interpreted as expressing its property, a narrow-reading is possible even when the head N is referential. Therefore, if the WHE in (19Q) is *dare* 'who', which is more general than *dono tyookyoosi* 'which trainer', the b-response is less acceptable for some speakers.[9] This is because producing prize-winning champions is an important property of trainers but not of "ordinary" people.

5. Conclusion
I have argued in this paper that there are two possible interpretations of the IRC in Japanese: asking for the value of the WHE alone (narrow-reading) and for the value of the entire complex NP (broad-reading). The construction itself is neutral with respect to these two readings. The appropriate application is selected on the basis of intra- and inter-sentential context(s). If the respondent considers that the questioner is asking for the identity of the referent corresponding to the complex NP, s/he may provide an elliptical answer with the value of the entire NP, whereas if the respondent considers that the identity of the entire NP is not in question, s/he may respond to it, supplying only the value of the WHE.

The formalist analyses concerning the IRC have ignored this fundamental fact. In so-doing they assume that only one reading (the broad-reading) is assigned to this form—which is observationally inadequate. Analyzing the IRC, moving constituents around at LF does not make the sentences more transparent to semantic interpretation.

Notes

The comments of the following individuals on earlier versions shaped this paper: Charles Fillmore, Paul Kay, Hideo Komatsu, George Lakoff, Toshio Ohori, Peter Sells, Stanley Starosta, Robert Van Valin, and Helen Wheeler.

1 Following the presentation of this paper, Arnold Zwicky pointed out that in examination questions, the IRC may occur even in English. I have never heard any yet, however.

2 Kuno and Masunaga (1986) caution that it is risky to attempt to determine the syntax of questions solely on the basis of the syntax of answers to them because many pragmatic factors interact with the answering patterns. They argue against the pied-piping account, using answers to questions with koto-clauses, coordinate structures, and temporal clauses.

3 Nested Dependency Condition: If two wh-trace dependencies overlap, one must contain the other (Pesetsky 1987).

4 The anomaly of (15b) is also due to the use of ager- 'give', which implies that the questioner takes the view point of the unknown giver over the more discourse-salient participants, Mary and John.

5 This term was suggested by Robert Van Valin.

6 For significance of referability of the complex NP in determining possible elliptical answers to IRC questions, see Kuno and Masunaga (1986) and Hasegawa (1987, 1988).

7 Example (19) has been provided by Charles Fillmore.

8 This may be related to the Silverstein Hierarchy (Silverstein 1976) and the Topichood Condition for Extraction (Kuno 1987).

9 This effect was called to my attention by Toshio Ohori.

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