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Wh-Tideland

In Japanese, examples like the following cannot be construed as matrix wh-questions.

(1) a. John wa [dare ga nani o tabeta ka] oboe tei -masu ka?
   TOP who NOM what ACC hit-POL Q
   ‘Does John remember who hit?’

   b. John wa [dare ga kuru ka] sittei -masu ka?
   TOP who NOM come Q know-POL Q
   ‘Does John know who came?’

They are taken to instantiate the Wh-Island violation, and it has been a controversy whether the subjacency holds at LF (Nishigauchi 1990) or not (Watanabe 1992). Nevertheless, the effect has been assumed to be syntactic, pre-Spell-Out in Minimalist terms (Chomsky 1995, et seq.)

The previous literature has been devoted to show how the absence of the Complex NP Constraint effect can be accounted for.

(2) [IP [NP [CP dare ga e, kaita hon, ga] yoku ure -masu ka]?
   who NOM wrote book NOM well sell-POL Q
   (lit.) ‘Who does [a book that t1 wrote e] sell well?’

Neither Nishigauchi’s LF pied-piping or Watanabe’s syntactic wh-movement of ‘invisible’ operator goes through. In (2), if the whole complex NP is pied-pied as proposed in Nishigauchi (1986, 1990), the trace left at the subject position is of the complex NP, and hence its interpretation should be a variable for ‘books,’ not for ‘persons.’ But (2) is a question about a ‘person,’ not about a ‘book’ (von Stechow 1996). Even if the ‘invisible’ wh-operator is generated at the Spec DP of the complex NP as proposed in Watanabe (1992, 1993), it still has to move out of that DP. If the complex NP is a subject as in (2), the Subject Condition, another subjacency condition would be at stake.

Not only the Complex NP Constraint, however, it has been known that Japanese does not show any subjacency effects other than the Wh-Island effect.

(3) No Subject Condition (cf. Saito 1985)

[John no [dono kuruma] ga koware-masi-ta ka?
   GEN which car NOM break-down-POL -PAST Q
   (lit.) ‘[John’s which car] broke down? = ‘Which car of John’s broke down?’

(4) No Sentential Subject Condition

[John ga dare o nagutta no] ga monda desu ka?
   NOM who ACC hit that NOM problem be(POL) Q
   (lit.) ‘Is [that John hit who] the problem?’ = ‘Who is [that John hit t1] the problem?’

(5) No Pure Complex NP Constraint

[John wa [[Bill ga dare o nagutta] hanasi] o kiki-masi-ta ka?
   TOP NOM who ACC hit story ACC hear-POL -PAST Q
   (lit.) ‘Did John hear [the story [that Bill hit who]]?
   = ‘Who did John hear [the story [that Bill hit t1]]?’

(6) No Adjunct Condition

[John wa [dare ga kita kata] dekake-masi-ta ka?
   TOP who NOM came because leave-POL -PAST Q
   (lit.) ‘Did John leave [because who came]?
   = ‘Who did John leave [because t1 came]?”

If there is no LF wh-movement, the issue of LF subjacency becomes moot. Yet the apparent Wh-Island effect illustrated in (1) still remains as a question.

In this paper, I argue that in Japanese, the apparent Wh-Island effect is semantic, and there is no syntactic wh-movement, covert or invisible. In particular, I adopt a view that a wh-question is semantically a type of yes/no question (Groenendijk & Stokhof 1982), denoting a set of propositions (Hamblin 1973), existentially quantifying (Karttunen 1977) over a choice-function variable (Reinhart 1995), which is achieved by the existential closure (Heim 1982), and propose that the so-called wh-words in Japanese (Kuroda 1965) are cardinal indefinites in the sense of Diesing (1992), and the question particle ‘KA’ is the morphological reflex of the existential closure. Thus, (1b), for example, will be translated as in (7).

(7)  \( p \land p = \neg \text{know}_*(q). \quad \{q l \exists q = \neg \text{come}_*(f(person)) \land q = \neg \text{come}_*(f(person)) \}\)
As the embedded question denotes a set of existentially closed propositions, the wh-interpretation of the cardinal predicate cannot be associated with the matrix set (of propositions).

In English multiple wh-questions, on the other hand, an overtly moved wh-phrases functions as an interrogative existential quantifier, whereas wh’s-in-situ are also choice-function variables that can optionally be unselectively bound by the overtly moved wh-phrase (Pesetsky 1987). If a moved wh-phrase is selective, it only binds its trace. If it is unselective, it can bind other unbound choice-function variables in its scope. Given these, (8) has four logically possible LF configurations as in (9).

(8) Who remembers [where Mary bought what]?
(9) a. \(*W_h^1 \ t_i \ [W_h^j \ hw_k \ t_j]\ \ (wh = \text{wh-in-situ})
   b. \(W_h^i \ t_i \ [W_h^j, k \ hw_k \ t_j]\ \ (W_h = \text{overtly moved, selective})
   c. \(W_h^i, k \ t_i \ [W_h^j \ hw_k \ t_j]\ \ (W_h = \text{overtly moved, unselective})
   d. \(W_h^i \ t_i \ [W_h^j, k \ hw_k \ t_j]\ \ (W_h = \text{overtly moved, unselective})

In (9a), both wh-phrases moved in the matrix clause and in the embedded clause are selective, and the wh-in-situ is left unbound, and hence it is uninterpretable. In (9b), the wh-phrase moved in the matrix clause is selective, and the one moved in the embedded clause is unselective. The wh-phrase moved in the matrix clause binds its own copy, and the one moved in the embedded clause binds the wh-in-situ as well as its own copy, since it is unselective. This yields the interpretation with the wh-in-situ taking the embedded scope.

In (9c), the wh-phrase moved in the matrix clause is unselective, and the one moved in the embedded clause is selective. The wh-phrase moved in the embedded clause only binds its own copy, and the wh-phrase moved in the matrix clause unselectively binds both its own copy and the wh-in-situ. This yields the interpretation with the wh-in-situ taking the matrix scope. In (9d), both wh-phrases moved in the matrix clause and in the embedded clause are unselective, and the wh-phrase moved in the embedded clause unselectively binds both its own copy and the wh-in-situ. As there is no wh-in-situ left unbound, the moved wh-phrase in the matrix clause just binds its own trace copy, though it is unselective as well. Again we get the interpretation with the wh-in-situ taking the embedded scope.

Assuming with Tsai (1994) that mapping from LF to semantics proceeds cyclically in a bottom-up fashion, choice-function variables will be bound by the lowest unselective interrogative existential quantifier, which substantiates a locality effect of unselective binding.

(10) a. \(*W_h^i, k \ t_i \ [W_h^j \ hw_k \ t_j]\ \ (W_h = \text{wh-in-situ})
   b. \(*W_h^i, k \ t_i \ [W_h^j, k \ hw_k \ t_j]\ \ (W_h = \text{wh-in-situ})
   c. \(*W_h^i, j \ t_i \ [W_h^j, k \ hw_k \ t_j]\ \ (W_h = \text{wh-in-situ})
   d. \(*W_h^i, j, k \ t_i \ [W_h^j, k \ hw_k \ t_j]\ \ (W_h = \text{wh-in-situ})

Selected References: