

Intermediate Agree: Complementizer as a Bridge

In this paper, I propose a solution to a major problem for the Phase Impenetrability Condition (PIC) in (1) (Chomsky 2000) posed by apparent cases of long-distance wh-agreement in Japanese. In particular, I propose an agreement mechanism, Intermediate Agree, which allows an embedded wh-element to undergo agreement with a Q-morpheme outside of its clause *by way of* any intervening complementizers, thus allowing us to maintain (1) under the well-motivated assumption that in-situ wh-elements in Japanese are licensed under Agree.

Watanabe (to appear) claims that the scope of in-situ wh-elements in Japanese is determined by agreement with a c-commanding Q-morpheme (probe). In particular, he attributes wh-island sensitivity in (3) to the locality built into the operation Agree itself (i.e., a probe must agree with the closest goal; Chomsky 2000). However, this analysis is problematic given the PIC in (1) since, in the absence of an intervening goal (wh-island), an embedded in-situ wh-element can take scope outside of its clause, as in (2). Agreement between the matrix Q-morpheme and the embedded wh-element in (2), which is necessary for matrix wh-scope under Watanabe's approach, should be prevented by the PIC, as illustrated in (4).

To solve this problem, I propose the Agree mechanism in (5), which incorporates the basic ideas of Pesetsky and Torrego (2004) that Agree is a valuation operation in form of feature sharing and that Agree is possible if either of goal or probe contains uninterpretable feature, contra Chomsky (2000 and 2001). Given (5), the features of a goal participating in Agree are shared by a probe and transmitted to the head bearing this probe. If the probe is located in a phase-head, these shared features are accessible and may undergo further Agree with a probe in the next phase head without violating PIC. I call this kind of Agree, schematized in (6), *Intermediate Agree*. Also, I argue that feature interpretability is determined by (7). In particular, I posit the assumptions in (8) for the feature interpretability of wh-features and Q-features, entailing that the scope of a wh-element is determined by which Q-feature (located in C⁰) an occurrence of its wh-feature associates with, as illustrated in (9).

Returning to the problematic example in (2), I assume that the Japanese complementizer *-to* bears unvalued φ -features and needs to undergo Agree with an embedded element to value these features. Because a wh-feature on *nani* is not combined with any Q-feature on the Q-morpheme (see (8)), it should participate in this Intermediate Agree in order to be combined with a Q-feature on the Q-morpheme on the upper C⁰, as in (10a). As a result, φ -features and the wh-feature on *nani* are shared by and transmitted to *-to* on C₂, as shown in (10b). Since *-to* is accessible to the Q-morpheme *no* on the matrix C under the PIC in Chomsky (2001), a wh-feature and valued φ -features on it can undergo further Agree with *no*, valuing its unvalued Q-feature (see (8iv)) and φ -features, respectively as illustrated in (10c). As a result, φ -features and the wh-feature on *-to* are shared by and transmitted to *no*. Because an occurrence of the wh-feature associated with *nani* are combined with the Q-feature on the Q-morpheme *no* occupying the matrix C-head, the sentence is interpreted as wh-question and *nani* takes the matrix scope without violating PIC. Finally, an occurrence of the wh-feature on *-to* should be deleted because this feature is interpretable only when it is associated with a wh-element or the Q-morpheme. In this way, Intermediate Agree lets a complementizer lacking a Q-feature function as a bridge connecting the embedded clause with the matrix clause.

This analysis has two interesting implications: (3) becomes grammatical when *dare-to* 'who with' is scrambled to the embedded CP-Spec (the edge of the phase), as in (11). However, (12), where *dare-to* is replaced with *naze* 'why', is ungrammatical despite the fact that *naze* has been scrambled to the embedded CP-Spec. This fact is natural given Intermediate Agree. Following Miyagawa's (2005) claim that scrambling is agreement-driven, I suggest that the scrambling witnessed in (11) can be thought of as an instance of Intermediate Agree involving EPP and φ -features. Because *dare* bears φ -features, it should be able to undergo Agree with the embedded C and scramble to the embedded CP-Spec. Consequently, its wh-feature becomes accessible to the matrix Q-morpheme, thus allowing matrix scope, without violating the PIC and giving rise to a minimality effect induced by the Q-feature on the embedded C. On the other hand, since *naze* is an adjunct lacking φ -features, it cannot undergo this sort of "scrambling-type" Intermediate Agree. Thus, the wh-feature on *naze* cannot be combined with the Q-feature on the matrix Q-morpheme.

The second implication of this analysis is that it might be able to explain Takahashi's (1993) observation that some instances of long scrambling of wh-elements are actually wh-movement; the relevant example is given in (13). In (13), the wh-element *dare-to* 'who-with' within the most embedded clause is scrambled into the CP-Spec in the next embedded clause and takes scope there not within the most embedded interrogative clause, which should be possible if it undergoes reconstruction. This is natural under the analysis here. Since scrambling involves Intermediate Agree in EPP and φ -features, it should be the case that wh-feature on *dare-to* is transmitted to the Q-morpheme on the higher embedded C via Intermediate Agree (i.e. scrambling) and combined with its Q-feature, making *dare-to* take the scope within the higher embedded clause.

- (1) The domain of H is not accessible to operations outside HP, but only the edge of HP.
- (2) Hideki-ga [Kyoko-ga nani-o ka-tta to] i-tta no?
 Hideki-Nom Kyoko-Nom what-Acc buy-Past C say-Past Q
 'What did Hideki say that Kyoko met?'
- (3) Hideki-wa [Kyoko-ga dare-to a-tta kadooka] Norito-ni tazune-ta no?
 Hideki-Top Kyoko-Nom who-with meet-Past whether Norito-Dat ask-Past Q
 ?? 'Who did Hideki ask Norito whether Kyoko met?'
- (4) [CP₁ ... [V*P₁ ... [CP₂ ... [V*P₂ **nani-o** ... v*2] ... [C₂ to]] ... v*1] ... [C₁ **no**]]
 ↑
 ----- inaccessible
- (5) Agree is a valuation operation with the form of feature sharing, making features visible to Multiple Transfer:
 i. Every feature participating in Agree is shared by probe and goal.
- (6) i. [HP ... H {F(-val)}] [YP ... Y ZP {F(+val)}] H & X: phase head
 valuation via Intermediate Agree
 ii. [XP X {F(-val)} ... [HP ... H {F(+val)}] [YP ... Y ZP {F(+val)}]
 ----- accessible -----
 ----- inaccessible ----- violation of PIC
- (7) Features are interpretable in relevant interface components, when they are associated with an appropriate head: otherwise, they should be deleted in Multiple Transfer.
- (8) i. Wh-features are interpretable only when they are associated with wh-elements or Q-morpheme (i.e. C⁰ equipped with a Q-feature).
 ii. Q-features are interpretable only if it is associated with C⁰.
 iii. To be interpreted as wh-question and determine the scope of a wh-element, C⁰ (cf. Q-morpheme) must contain an occurrence of wh-feature in addition to a Q-feature.
 iv. A wh-feature is able to value an unvalued Q-feature.
- (9) a. [CP ... C⁰ {Q, [+val], wh_a} ... [CP ... C⁰ ... nani (wh_a) ...]] the matrix wh-scope
 b. [CP ... C⁰ ... [CP ... C⁰ {Q [+val] wh_a} ... nani (wh_a) ...]] the embedded wh-scope
- (10) a. [V*P **nani-o** ... v*] ... [C₂ to]
 [φ(+val), wh] φ(-val)
 Intermediate Agree (feature sharing of wh and φ(+val))
 ↓
 b. [CP₁ ... [V*P ... [CP₂ ... [V*P **nani-o** ... v*] ... [C₂ to]] ... v*] ... [C₁ **no**]]
 {φ(+val), wh} {φ(+val), wh} {φ(-val), Q(-val)}
 Agree
 ↓
 c. [CP₁ ... [V*P₁ ... [CP₂ ... [V*P₂ **nani-o** ... v*2] ... [C₂ to]] ... v*1] ... [C₁ **no**]]
 {φ(+val), wh} {φ(+val), wh} {φ(+val), Q(+val), wh}
- (i) feature sharing of **wh** and **φ(+val)**. (ii) Valuation of **Q(-val)** by **wh**. (iii) Deletion of **wh** on **-to** by (7).
- (11) Hideki-wa [dare-to_i Kyoko-ga t_i a-tta kadooka] Norito-ni tazune-ta no?
 'Who did Hideki ask Norito whether Kyoko met?'
- (12) Hideki-wa [naze_i (why) Kyoko-ga t_i Hideki-to a-tta kadooka] Norito-ni tazune-ta no?
 '*Why did Hideki ask Norito whether Kyoko met Hideki?'
- (13) Hideki-wa [dare-to_i Kyoko-ga [Norito-ga t_i a-tta ka] tazune-ta ka] siritagatte i-ru.
 Hideki-Top [who-with Kyoko-Nom Norito-Nom meet-Past Q ask-Past Q wonder be-Pres.
 OK 'Hideki wonders who Kyoko asked whether Norito met t.'
 * 'Hideki wonders whether Kyoko asked who Norito met t.'

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