AGREE AND COVERT PHRASAL MOVEMENT: EVIDENCE FROM FOCUS PARTICLE LICENSING IN JAPANESE

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Chomsky (2000, 2001) proposes Agree as an operation that links positions in syntactic structure, discarding feature movement proposed in Chomsky (1995: Ch. 4). Pesetsky (2000), on the other hand, defends an analysis in which covert phrasal movement plays a crucial role, thus arguing for the need of invisible movement for the link between syntactic positions. This paper argues that both Agree and covert phrasal movement are operations needed to establish an invisible link, drawing evidence from focus particle licensing in Japanese. Covert phrasal movement establishes long-distance scope, but must be accompanied by an independent operation of Agree. Agree itself may establish short-distance scope without any sort of movement. The present paper shows the importance of Agree as well as covert phrasal movement in accounting for scope-related phenomena.*

Keywords: *Agree, covert phrasal movement, scope, focus particle, scalar implicature*

1. Introduction

This paper will give particular attention to the scopal properties of *sae* 'even,' one of the many focus particles in Japanese, and argues for its participation in Agree in the sense of Chomsky (2000, 2001) and also in covert phrasal movement in the sense of Pesetsky (2000). Long-distance scope of the particle invites an analysis in terms of movement, but this raises the question of the nature of the operation (section 2). We suggest that covert phrasal movement is involved in long-

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distance scope (section 3). Agree alone without movement would be sufficient to establish short-distance scope, however, and there indeed seems to be some agreement involved in licensing the particle (section 4). We will give empirical evidence for the need of both Agree and covert phrasal movement, where an occurrence of *sae* is blocked under certain conditions (section 5). Such an occurrence of *sae*, however, is saved by an occurrence of another focus particle, *mo*, and this indicates that there is a different instance of Agree coming into play (section 6). We will see independent evidence for this type of Agree (section 7), along with its long-distance analogue (section 8). We conclude the paper by giving a broader perspective of the analysis proposed (section 9).

2. Issues Surrounding Scope

The scope of a focus particle may extend to a higher clause than the one in which it appears (Aoyagi (1994), Hasegawa (1994), Sano (1985, 2000, 2001a, b), among many others). Consider the focus particle *sae* ‘even’ appearing in a sentence like the following, where we assume that the topicalized matrix subject, *Taro-wa*, occupies an IP-external position (say the Spec of TopP):

- (1) Taro-wa [_{IP1} [_{IP2} Aiko-ga Jiro-no okane-sae nusunda]
 Taro-Top Aiko-Nom Jiro-Gen money-even stole
 to iihatta]
 C insisted
 ‘Taro insisted that Aiko stole even Jiro’s money’

Here *sae* attaches to *Jiro-no okane* ‘Jiro’s money,’ the object of IP₂, which is embedded under IP₁ (which is in turn embedded under TopP). The particle may take either short-distance scope, scoping over IP₂ but no higher, or else long-distance scope, scoping over IP₁, across a clausal boundary. If it takes IP₂ as its scope, it induces the scalar implicature to the effect that Jiro’s money is the least likely thing for Aiko to steal; if it takes IP₁ as its scope, the scalar implicature induced is that Jiro’s money is the least likely thing for one (or Taro) to insist that Aiko would steal.¹

¹ We are essentially applying Karttunen and Peters’ (1979) conventional-implicature approach to English *even* to its Japanese analogue *sae*, but only with respect to

The most obvious way to handle the long-distance scope reading of *sae* in a sentence like (1) is one based on a QR-like operation that raises a focus particle *fp* or the largest phrasal category XP^{fp} that bears the relevant feature(s) of *fp* (*Jiro-no okane-sae* in (1)), to some matrix position out of the embedded clause in which it originates.² The operation is covert, without pied-piping phonological features. If we assume LF, a component distinct from “overt syntax,” then the operation applies at LF; if there is no distinct LF component, as suggested by Chomsky (2000, 2001), then a principle of phonology spells out the tail of the chain created by the operation (cf. Pesetsky (2000: esp. 7–10), Chomsky (2001: esp. 40)). Even if we put aside this Spell-Out issue, two important questions remain: (A) whether it is *fp* alone or the phrasal category XP^{fp} , that raises;³ (B) what mechanisms are involved in the operation. Let us examine them in turn.

3. Evidence for Phrasal Movement

There is reason to believe that the entire *sae*-phrase, not just the focus particle, is raised out of the embedded clause in the long-distance scope reading of the particle in (1). Put generally, long-distance scope (of *fp*) requires covert phrasal movement (of XP^{fp}) in the sense of Pesetsky (2000). As is well-known, long-distance movement, overt or covert, of quantified phrases, including *wh*- and other focused expressions, displays such subject-object asymmetry as exemplified by the following:⁴

the so-called scalar implicature; as for the existential implicature often considered in the literature to be associated with *even* and *sae*, see below.

² The reason why we refer to the phrasal category in question as XP^{fp} rather than as *fpP* (focus particle phrase) is to remain neutral as to whether a focus particle bears any categorial feature that projects to form a phrasal category distinct from the one it merges with.

³ See Aoun and Li (1993) for an analysis of the process of QR that involves pied-piping the whole quantified phrase (QP-raising) followed by raising the bare quantifier (bare Q-raising).

⁴ Examples (3) are from Chomsky (1981: 236) and (4) from Chomsky (1981: 234–5), the latter based on Kayne’s (1981: 322) examples. Examples (5) are from Kayne (2000: 235); see also Bayer (1996: 60). Similar observation obtains in Italian (Longobardi (1991)).

- (2) a. who_i do you think (that) John loves t_i
 b. who_i do you think (*that) t_i loves John
- (3) a. it is unclear who thinks (that) we saw whom
 b. *it is unclear who thinks (that) who saw us
- (4) a. in all these weeks, he's suggested that they see no one
 b. in all these weeks, he's suggested that no one see them
- (5) a. she has requested that he read only *Aspects*
 b. she has requested that only John read it

As shown by (2), overt *wh*-movement of a subject, but not an object, across the adjacent complementizer *that* to a higher clause is blocked. In (3), covert *wh*-movement of the subject, but not the object, out of the embedded clause results in deviance.⁵ In (4) and (5), the matrix scope construal of the quantified/focused phrase *no one/only N* is impossible if the phrase is an embedded subject as in the (b)-examples, but possible if it is an object as in the (a)-examples, although no such asymmetry obtains in the short-distance (embedded) scope construal, which is available throughout. We might add to this category of subject-object asymmetry Saito's (1985) claim that the subject cannot scramble long-distance in Japanese. As far as *wh*-interrogatives are concerned, however, Japanese shows no indication of subject-object asymmetry (cf. Lasnik and Saito (1992)):

- (6) a. *anata-wa* [*Taro-ga dare-o ijimeta to*] *omoimasu-ka*
 you-Top Taro-Nom who-Acc bullied C think-Q
 'who do you think that Taro bullied'
- b. *anata-wa* [*dare-ga Taro-o ijimeta to*] *omoimasu-ka*
 you-Top who-Nom Taro-Acc bullied C think-Q
 'who do you think bullied Taro'

A plausible account for the absence of subject-object asymmetry in Japanese *wh*-interrogatives is available, however, if what is involved in this construction is not (covert) movement of the entire subject/object DP (*wh*-phrase) but movement of its part, say an empty operator (Watanabe (1992)) or the question particle *ka* (Tonoike (1992), Hag-

⁵ Unlike overt movement cases like (2), the presence of the complementizer *that* is irrelevant to covert instances of the subject-object asymmetry, and this may well be an indication that what are categorized into the class of subject-object asymmetry are actually not uniform phenomena amenable to the same account (say in terms of ECP), a topic discussed extensively in work of the 1980s; we put the matter aside.

strom (1998), Hirata (1999, 2000)); in the *ka*-movement analysis, the operation is phonologically visible X^0 -movement, moving *ka* to C, as distinct from XP-movement of a *wh*-phrase to [Spec, C] found in a language like English. There is no subject-object asymmetry in (6) because there is no movement of the entire subject/object.⁶ In English cases like (2)–(5), there is such asymmetry because the entire subject/object is indeed involved in movement. Although covert movement cases like (3)–(5) provide no direct evidence for phrasal movement of the entire subject/object, the phrasal nature is supported by Guerzoni's (1999) argument for covert phrasal movement: long-distance licensing of an NPI like *anyone* over an intervener (such as a closer instance of negation) involves covert phrasal movement with subject-object asymmetry, whereas its short-distance licensing by the nearest negation (or other licensor) may be just feature movement (covert X^0 -movement) with no subject-object asymmetry.

If the subject-object asymmetry is diagnostic of phrasal movement, we can determine whether it is a phrasal category containing *sae* or just the particle itself that raises to give long-distance scope, by examining whether there is any subject-object asymmetry in the availability of this reading. Consider the following:

- (7) Taro-wa [_{IP1} [_{IP2} Aiko-sae Jiro-no okane-o
Taro-Top Aiko-even Jiro-Gen money-Acc
nusunda] to iihatta]
stole C insisted
'Taro insisted that even Aiko stole Jiro's money'

In contrast to the object *sae*-phrase in (1), the subject *sae*-phrase in (7) cannot take long-distance scope over the matrix clause: it does not give a matrix-oriented scalar implicature such that Aiko is the least likely person for Taro to insist would steal Jiro's money; the only scalar implicature available is an embedded-oriented one to the effect that Aiko is the least likely person to steal Jiro's money.⁷ If what is moved long-distance were just the focus particle, analogously to movement of the

⁶ Note that Japanese is a language with no subject condition effect (Kikuchi (1989), Lasnik and Saito (1992: esp. 42–43)), so that extraction (of an operator or *ka*) out of the subject phrase should pose no problem.

⁷ This is to be contrasted with the matrix scope reading obtained when *sae* attaches to a matrix material that is related to a (covert) embedded subject via some rule of predication applying to a topic-comment structure, as in the following:

question particle *ka* in *wh*-interrogatives, there should be no subject-object asymmetry and long-distance scope of the subject should be possible in (7) in the same way that (6b) is acceptable. The natural conclusion is that the entire *sae*-phrase must be moving for long-distance scope.

4. Agree

Let us turn to the second question raised above: what mechanisms are involved. Aoyagi (1998, 1999) claims that *sae* moves to T at LF, though on the basis of facts apparently different from scope. Sano (2001a, b) shows that the presence of T/I(nfl) is required to create the scopal domain of the particle: the smallest category that it scopes over is IP. This would receive a natural account if Agree in the sense of Chomsky (2000, 2001) holds of the pair (*sae*, I), with scope determined on the basis of the category within which the relevant elements enter into agreement. Let us assume so. But Agree requires matching features. What are the matching features of I and *sae* that induce Agree?

Recall that *sae* has a scalar implicature of “unlikelyhood” or “unexpectedness,” a concept associated with modality or subjectivity (see Herburger (2000: 119f) for the subjectivity of English *even* in its scalar meaning). Note that adding a particle like *yo*, a modal element indicating some kind of assertion (cf. Nakau (1994: 54f)), to the right of the matrix verb *iihatta* ‘insisted’ in (1) facilitates the matrix scope reading of *sae*:

- (8) Taro-wa [Aiko-ga Jiro-no okane-sae nusunda]
 Taro-Top Aiko-Nom Jiro-Gen money-even stole
 to iihatta-yo
 C insisted

‘Taro insisted that Aiko stole even Jiro’s money’

Note also that the verb *iihar(-u)* ‘insist(-Pres)’ has some “emotional” connotation with it, as compared with, say, a more neutral verb like *iw* ‘say.’ We could say that the former is more modality-oriented than

- (i) Taro-wa Aiko_I-no koto-sae [_{IP1} [_{IP2} (kanojo_I-ga) Jiro-no okane-o
 Taro-Top Aiko-Gen thing-even she-Nom Jiro-Gen money-Acc
 nusunda] to iihatta]
 stole C insisted
 ‘even about Aiko, Taro insisted that she stole Jiro’s money’

the latter, and in fact replacing *iihatta* 'insisted' with the more objective *itta* 'said' makes the matrix scope reading somewhat less plausible than (1):

- (9) Taro-wa [Aiko-ga Jiro-no okane-sae nusunda] to itta
 Taro-Top Aiko-Nom Jiro-Gen money-even stole C said
 'Taro said that Aiko stole even Jiro's money'

It looks as if *sae* searches for modality somewhere in the sentence. Now it is often the case that a modal has a focus within its scope. To cite from English, the following sentences, differing in whether the focus of the modal *must* falls on the subject (10a) or the object (10b), also differ in truth conditions:

- (10) a. Officers_F must escort ballerinas.
 b. Officers must escort ballerinas_F.

To quote Rooth (1996: 273), "a bank clerk escorting a ballerina would violate the first rule [= (10a)] ... but not the second [= (10b)], and an officer escorting a journalist would violate the second but not the first." Similarly, the following example allows, among others, an interpretation with the focus of the modality of assertion (typically induced by *yo*) falling either on *yubiwa* 'ring' (A) or on *Aiko* (B):

- (11) Taro-wa yubiwa-o Aiko-ni ageta to iihatta(-yo)
 Taro-Top ring-Acc Aiko-to gave C insisted
 (A) 'it is a ring that Taro insisted that he gave to Aiko'
 (B) 'it is Aiko that Taro insisted that he gave a ring to'

But if we add *sae* to, say *Aiko-ni* in (11) with the understanding that its scope is over the matrix clause, as in the following,

- (12) Taro-wa yubiwa-o Aiko-ni-sae ageta to iihatta(-yo)
 Taro-Top ring-Acc Aiko-to-even gave C insisted
 'Taro insisted that he gave a ring even to Aiko'

then the focus of the assertion modality necessarily coincides with that of *sae*. It is possible to understand the focus of the assertion to fall on *yubiwa* so that (12) is given an English rendition like "it is a ring that Taro insisted that he gave even to Aiko," but only if the scope of *sae* is understood to be within the embedded clause. Likewise, under the matrix scope reading of *sae* in (1)/(8), the focus of the assertion necessarily falls on the *sae*-phrase: the focus of the matrix modality matches with that of *sae*.

It is reasonable to assume that among semantic features of a focus particle like *sae* is [+F(ocus)]. The above consideration leads us further to assume that *sae* may also be assigned a modality feature,

[*uM(odality)*]. This feature is unvalued (hence prefixed with *u*), assigned the positive value by an element with the feature [+*M*] under Agree. Assume also that the head *I* of *IP* may be optionally assigned [+*M*] (creating a natural combination with the verb *iihar* ‘insist’ but a less natural combination with *iw* ‘say,’ a pragmatic tendency outside the narrow syntactic computation); when assigned [+*M*], the *I* head may also be assigned a focus feature, which, however, is unvalued, hence [*uF*].⁸

Unvalued features are uninterpretable, but uninterpretable features serve to activate elements bearing them, inducing Agree under Match, which holds between the same features, independently of value. Features may be assigned values by valued matching features under Agree. In assuming these we are following Chomsky (2001), but we slightly depart from Chomsky, who assumes that unvalued uninterpretable features remain uninterpretable even after being assigned values; on the generality of this assumption we will remain neutral.

Thus *sae* has the feature [+*F*] and also [*uM*], the latter optionally. The *I* head of *IP* may also have [+*M*, *uF*]. Matching of [+*M*, *uF*] of *I* and [+*F*, *uM*] of *sae* induces Agree, assigning the positive value to [*F*] of *I* and to [*M*] of *sae*. But this should be possible only between *I* and *sae* in the same clause with at most one boundary of a phase (=vP/CP) intervening; Agree between the matrix *I* and the occurrence of *sae* on the object of an embedded CP, for example, is blocked by the Phase-Impenetrability Condition (PIC) of Chomsky (2000, 2001). For (13) with ZP the smallest phase beyond another phase HP, the PIC is stated as (14) (Chomsky (2001: 13–14)):

- (13) a. [_{ZP} Z ... [_{HP} α [_H YP]]] (order for English)
 b. [[α [_{YP} H]_{HP}] ... Z_{ZP}] (order for Japanese)
 (14) The domain of *H* is not accessible to operations at ZP; only *H* and its edge α are accessible to such operations.

Thus consider (15), the structure of (1) relevant here:

- (15) [[[[[[XP-sae nusunda_{vP2}] v₂ vP₂] I₂ IP₂] to_{CP}] iihatta_{vP1}] v₁ vP₁] I₁ IP₁]

⁸ Miyagawa (2001: 334, n. 35) also entertains the possibility that T(=I) bears a focus feature that enters into agreement with a focused phrase in the sentence, on grounds independent of the present argument.

Suppose *sae* and I_2 have features $[+F, uM]$ and $[+M, uF]$, respectively. Although $XP\text{-}sae$ is in VP_2 , within the domain of v_2 , nevertheless I_2 is accessible to *sae*, since I_2 is between $C=to$ and vP_2 , that is, between Z and HP in (13) (see Chomsky (2001: 14)). Therefore Agree may hold of the pair (I_2, sae) , valuing $[M]$ for *sae* and $[F]$ for I_2 . Suppose, however, that the element bearing $[+M, uF]$ is not I_2 but the matrix I_1 . In this case the PIC prevents I_1 from accessing *sae*, with three phases, vP_1 , CP and vP_2 , intervening. For I_1 to be able to access *sae*, the latter must move to a position where at most one phase boundary intervenes between the two. Simply applying the idea of Chomsky (2000: esp. 109–110, 128), we assume that an EPP feature assigned to the head of each of the three intervening phases vP_2 , CP , vP_1 , allows $XP\text{-}sae$ (the phrasal category determined by the active feature $[uM]$ of *sae*) to undergo successive movement, to $[Spec, v_1]$ passing through $[Spec, v_2]$ and $[Spec, C]$.⁹ $XP\text{-}sae$ moved to $[Spec, v_1]$ can then be accessed by I_1 , and Agree may hold of (sae, I_1) , as desired.

Note that this account requires phrasal movement of *sae* for long-distance scope but not for short-distance scope, which may be a by-product of just Agree holding between *sae* and its clause-mate I without movement. In the next section we will see that the distinction between the two options, Agree and phrasal movement, accounts for varying acceptability judgments of certain sentences on certain scopal readings, thus giving empirical evidence for the distinction.

5. Agree/Move Blocked by PP

Note that *sae* may cooccur with a postposition P , and when it does, it can appear to the right of P for all speakers but it may appear to its left only for some speakers, as in the following, where the parenthesized asterisk indicates unacceptability for a certain set of speakers:¹⁰

⁹ This successive movement approach is analogous to a typical A' -movement like *wh*-movement, and predicts sensitivity to island conditions like Complex NP Constraint, as in fact observed by Aoyagi (1994) and Sano (2000).

¹⁰ I am indebted to an anonymous *EL* reviewer and Toshinobu Mogi for this (presumably ideolectal) difference in judgment. Note that by “postpositions” we mean those that are not structural Case-markers. Thus the nominative Case-marker *ga* does not tolerate an occurrence of *sae* to its right, requiring its occurrence to the left, as in *Taro-sae-ga* ‘Taro-even-Nom’ vs. **Taro-ga-sae*.

- (16) Aiko-ga { a. shachoo-to-sae/b. (*)shachoo-sae-to }
 Aiko-Nom president-with-even president-even-to
 kenkashita
 quarreled
 ‘Aiko quarreled { even with/with even } the president’
- (17) Aiko-ga wairo-o { a. Jiro-kara-sae/b. (*)Jiro-sae-kara }
 Aiko-Nom bribe-Acc Jiro-from-even Jiro-even-from
 moratta
 received
 ‘Aiko received a bribe { even from/from even } Jiro’
- (18) Aiko-ga { a. Jiro-ni-sae/b. (*)Jiro-sae-ni } nagurikakatta
 Aiko-Nom Jiro-at-even Jiro-even-at hit
 ‘Aiko hit { even at Jiro/at even Jiro }’

The status of P as a lexical or a functional category is a matter of controversy. Assume that the difference in judgment of sentences like the (b)-examples above is attributed to the difference in categorial status of P: for those who accept the *sae*-P order, P is a lexical (substantive) category, and for those who don't, it is a functional (nonsubstantive) category. Chomsky (2001: 14) suggests that phases are (close to) functionally headed XPs. If, for those who take P as a functional category, PP is a phase, then the PIC prevents access to *sae* in the domain of P from I, with two phases, PP and ν P, intervening. EPP-feature assignment triggering phrasal movement would not help, since, among phases, only CP and ν P, namely “strong” phases in the sense of Chomsky (2001), have the EPP option. Thus even if an EPP-feature is assigned to ν , the *sae*-phrase in the domain of P in the configuration [_{PP} [XP-*sae*] P] cannot move to the Spec of ν , under the PIC, unless P had also been assigned an EPP-feature that would trigger intermediate movement of the *sae*-phrase to its Spec, which is impossible. For those who take P as not functional but lexical, PP is not a phase and I can access *sae* in the domain of P, crossing only a single phase boundary, ν P, without violating the PIC. For either type of speakers, the P-*sae* order is acceptable, since only one phase, ν P, intervenes between I and the whole *sae*-phrase containing P.

However, even for those who accept the *sae*-P order (those who take P as lexical, on our assumption), *sae* cannot take long-distance scope across P over a higher clause. Consider the following, where we are concerned only with those who accept the *sae*-P order:

- (19) Taro-wa [_{IP1} [_{IP2} Aiko-ga { a. shachoo-to-sae/
Taro-Top Aiko-Nom president-with-even/
b. shachoo-sae-to } kenkashita] to iihatta]
president-even-with quarreled C insisted
'Taro insisted that Aiko quarreled { even with/with even }
the president'
- (20) Taro-wa [_{IP1} [_{IP2} Aiko-ga wairo-o { a. Jiro-kara-sae/
Taro-Top Aiko-Nom bribe-Acc Jiro-from-even/
b. Jiro-sae-kara } moratta] to iihatta]
Jiro-even-from received C insisted
'Taro insisted that Aiko received a bribe { even from/from
even } Jiro'
- (21) Taro-wa [_{IP1} [_{IP2} Aiko-ga { a. Jiro-ni-sae /b. Jiro-sae-ni }
Taro-Top Aiko-Nom Jiro-to-even/ Jiro-even-to
nagurikakatta] to iihatta]
hit C insisted
'Taro insisted that Aiko hit { even at/at even } Jiro'

The (a)-examples in which *sae* appears in the PP-external position allow long-distance as well as short-distance scope reading of the particle; for example, (19a) may have either a matrix scalar implicature to the effect that the president is the least likely person for Taro to insist that Aiko would quarrel with, or an embedded scalar implicature that the president is the least likely person for Aiko to quarrel with. The long-distance construal must be the result of successive phrasal movement, here movement of the entire PP along with *sae*, passing through the Spec positions of the embedded ν and of C to the Spec of the matrix ν , as discussed above.

The (b)-examples with a PP-internal occurrence of *sae*, in contrast, allow only short-distance scope. Recall that Agree can hold between I and *sae* within the same clause across a PP-boundary as long as the PP is not a phase, and this is the source of the short-distance scope, blocked for those who take P as functional. Since long-distance scope is possible only via phrasal movement, the unavailability of long-distance scope reading of the PP-internal *sae* indicates that extraction of the *sae*-phrase out of PP is impossible. This is not surprising. From a cross-linguistic perspective, the constraint against movement out of PP is a general phenomenon (Riemsdijk (1978), Koster (1978)), and there is no reason to expect that the same is true of covert movement—especially so if there is no distinct LF component; see Chomsky

(2000: esp. 131f, 2001: esp. 5), Pesetsky (2000: 7ff). Thus the unavailability of long-distance scope of *sae* when it is followed by P can be related to the impossibility of overt phrasal movement of a complement out of PP as in (22) below, although it may well be that some PF-related morphological constraint (robust in an agglutinative language like Japanese) independently excludes resultant overt P-stranding, above and beyond the constraint against movement out of PP:¹¹

- (22) *shachoo(-sae)_i Aiko-ga [PP *t_i-to*] kenkashita
 president(-even) Aiko-Nom with quarreled
 '(even) the president, Aiko quarreled with'

We are thus in disagreement with Bayer (1996: esp. 109ff), who allows covert/LF analogue of (22), namely covert/LF phrasal movement of a focused phrase out of PP that we are arguing is disallowed. In our system a focus particle may acquire short-distance (but not long-distance) scope across P under Agree, an option not available to the framework within which Bayer advanced his theory. Kayne (2000: Ch. 13) attributes a contrast such as (23) to the unavailability of P-stranding for those who reject (23b) (Kayne (2000: 239)):¹²

- (23) a. John spoke only to Bill
 b. ?John spoke to only Bill

We, however, assume that extraction out of PP is disallowed across speakers, and attribute the acceptability variation of the (b)-examples in (16)–(18) (and, by extension, of an English example like (23b)) to the variance in phase-hood of PP, determined by the functional status of P.¹³ Kayne does not discuss whether long-distance scope across P

¹¹ P-stranding observed in restricted environments in English and the Scandinavian languages and in even more restricted contexts in Germanic languages like Dutch is of course a marked phenomenon, as claimed as early as in Riemsdijk (1978), Koster (1978) and Hornstein and Weinberg (1981).

¹² The question mark in (23b) is "meant to indicate not that speakers generally find this sort of example intermediate in acceptability but rather that speakers vary substantially in their judgments ..." (Kayne (2000: 237)). It appears that the same is true of the (b)-examples in (16)–(18). See also Taglicht (1984: 71), Bayer (1996: 40 (note 15), 52, 106) for the status of a focus particle within PP.

¹³ Note that Japanese analogues of (23) are both acceptable:

(i) Taro-wa { a. Aiko-ni-dake/b. Aiko-dake-ni } hanashita
 Taro-Top Aiko-to-dake Aiko-only-to spoke
 'Taro spoke { only to Aiko/to only Aiko }'

This is because, unlike *sae* (and English *only*), *dake* 'only' in Japanese may be

is available to those who accept (23b) (recall the availability of long-distance scope of *only* in (5a)); his theory, unlike ours, does not predict a connection between the availability of long-distance scope and the relative order of P and a focus particle.

To summarize this section, long-distance scope of *sae* across P is impossible across speakers because long-distance requires phrasal movement, resulting in extraction out of PP. Its short-distance scope is possible for those who take P as a lexical category, because short-distance scope may be a product of just Agree, and Agree may hold of (I, *sae*) across P if P is a lexical category not creating a phase.

6. *Sae* and *mo*: Another Instance of Agree

What is noteworthy about the occurrence of *sae* inside PP as in the (b)-examples in (16)–(18) is that even those who reject it recognize its considerable improvement in acceptability with another focus particle, *mo* ‘also,’ attached to PP; sentences like the following are judged by many of them to be far better than (16b), (17b) and (18b), respectively:¹⁴

- (24) Aiko-ga shachoo-sae-to-mo kenkashita
Aiko-Nom president-even-with-also quarreled
(lit.) ‘Aiko quarreled also with even the president’
- (25) Aiko-ga wairo-o Jiro-sae-kara-mo moratta
Aiko-Nom bribe-Acc Jiro-even-from-also received
(lit.) ‘Aiko received a bribe also from even Jiro’
- (26) Aiko-ga Jiro-sae-ni-mo nagurikakatta
Aiko-Nom Jiro-even-at-also hit
(lit.) ‘Aiko hit also at even Jiro’

associated with V (as well as *v*), as argued in Sano (2001b); in terms of the present discussion, Agree holds of the pair (V, *dake*) without violating the PIC even if PP intervenes as a phase. With *sae* in place of *dake* in (i), the (b)-version suffers from the same acceptability variation as seen in the (b)-examples in (16)–(18):

- (ii) Taro-wa { a. Aiko-ni-sae/b. (*)Aiko-sae-ni } hanashita
Taro-Top Aiko-to-even Aiko-even-ni spoke
‘Taro spoke { even to Aiko/to even Aiko }’

¹⁴ I am indebted to Toshinobu Mogi for bringing this to my attention.

Since Agree does not hold between *sae* and I across P for the speakers in question, and *mo* is saving the occurrence of *sae* otherwise impossible, *sae* must be entering into agreement with *mo*. The same must be true of the speakers who accept the (b)-examples in (16)–(18), since generally a focus particle cannot take scope beyond another focus particle that c-commands it (Sano (1988, 2001a)). Thus consider the following sentence, discussed in Sano (1985):

- (27) kono inu-wa [migime-dake-o tsumuru] koto-ga dekiru
 this dog-Top right-eye-only-Acc close C-Nom can
 ‘this dog can close only its right eye’

This sentence is ambiguous with respect to the scope of the focus particle *dake* ‘only.’ If its scope is within the bracketed clause and not beyond, the sentence is interpreted as saying that the dog is able to only close its right eye (it can wink its right eye). If the particle extends its scope over the matrix clause, the sentence says that only its right eye is the dog able to close (it cannot close its left eye). Only the former, narrow scope reading survives, if *mo* (in fact any focus particle, such as *sae* or *kurai* ‘such as’) intervenes between *dake* and the matrix predicate *dekiru* ‘can’ (Sano (1988)):

- (28) kono inu-wa [migime-dake-o tsumuru]
 this dog-Top right-eye-only-Acc close
 koto- {mo/sae/kurai} dekiru
 C-also/even/such-as can
 (lit.) ‘this dog can also/even/such-as close only its right eye’

Here *dake* cannot take scope over the matrix clause across the intervening focus particle, and the sentence can only mean something to the effect that the dog can also/even close only its right eye or it can do such a thing as closing only its right eye. Similarly, a sentence like (29) below is ambiguous as to whether the focus particle *bakari* ‘only’ takes scope over the entire sentence to give a multiple-event interpretation (29A) or it is interpreted (as if) *in situ*, giving a “group” interpretation to the bracketed phrase (29B)—ambiguity reminiscent of the well-known distributive/collective ambiguity of a quantifier like *all*:

- (29) Taro-wa [onnanoko-bakari]-to kenkashita
 Taro-Top girl-only-with quarreled
 (A) ‘Taro quarreled always with girls’
 (B) ‘Taro quarreled with a group of girls alone’

But if we add *mo* (or *sae*, etc.) to the PP headed by *to* ‘with,’ only the *in-situ* interpretation survives:

- (30) Taro-wa [[onnanoko-bakari]-to_{PP}]-mo kenkashita
 Taro-Top girl-only-with-also quarreled
 (lit.) 'Taro quarreled also with (a group of) girls alone'

Again, a focus particle, here *bakari*, cannot be associated with the predicate for sentential scope across another focus particle like *mo*.

Given the generality of this sort of intervention effect of focus particles (termed the Focus-Island Effect in Sano (2001a)), *sae* in sentences like (24)–(26) also should not be accessible to I across *mo* even for those who accept the (b)-examples in (16)–(18). We conclude that if there is any element that is accessing *sae* in (24)–(26), it must be *mo*.

If Agree holds between *sae* and *mo*, what are the matching features that induce Agree? Recall again that *sae* induces a scalar implicature. It is often claimed, however, that *sae*, or its English counterpart *even*, also induces an existential implicature (see Horn (1969), Lakoff (1972), Karttunen and Peters (1979), among others)). Consider the following example from Sakahara (1985):

- (31) Yamada-sae sono shiken-ni gookakushita
 Yamada-even the exam-Dat passed
 'even Yamada passed the examination'

The scalar implicature SI and the existential implicature EI induced by *sae* in (31) would be (32a) and (32b), respectively:

- (32) a. 'Yamada is the least likely person to pass the exam'
 b. 'there is someone other than Yamada who passed the exam'

Sakahara (1985) argues, however, that what is alleged to be an EI of *sae* is cancelable, which is unexpected if it is an implicature, and he suggests that it is merely a by-product of the SI of *sae* and should not be included in the basic meaning of the particle. As he points out, (32b) is cancelable if the exam in question is a makeup and Yamada is the only person to take it. As for English *even*, Herburger (2000) similarly claims that the alleged EI of *even* should be dealt with in terms of pragmatic inference (see also Fauconnier (1975a, b)). She goes on to argue that what is generally taken to be the SI of *even* should be made part of its literal, truth-conditional meaning. Both Sakahara and Herburger share the view that something like an SI, but not an EI, should be included in the semantics of *sae/even*.

As for *mo* 'also,' clearly there is an EI induced by this particle, so that replacement of *sae* with *mo* in (31) as in (33) below produces an EI expressed as (32b):

- (33) Yamada-mo sono shiken-ni gookakushita
 Yamada-also the exam-Dat passed
 'Yamada also passed the examination'

Sometimes, however, *mo* may be associated with what looks like an SI, for example in a sentence like the following once used in a curry commercial:

- (34) Indojin-mo bikkuri!
 Indian-also (be-)surprised
 'Indians also (are) surprised!'

Here a better English translation might be 'even Indians are surprised.' But if there is anything like an SI here, it seems to be a result of our knowledge about Indians, coupled with the nature of *bikkuri* as an adversative predicate: a product of pragmatic inference from a particular context and background knowledge. The reasonable assumption seems to be that *mo* induces an EI but not an SI; what looks like an SI is not part of the meaning of *mo* but just a pragmatic inference—something like the reverse of *sae*.

The contrasting nature of *sae* and *mo* just observed leads us to assume that *sae* and *mo* are assigned the features [+SI(, *u*EI)] and [+EI(, *u*SI)], respectively; when the parenthesized unvalued features are chosen, they must be assigned a value in the course of the derivation (or perhaps by "pragmatics," at the conceptual-intentional (C-I) interface in the sense of Chomsky (1995) that interacts with performance systems). Thus consider the following, where *sae* and *mo* cooccur:

- (35) Yamada-sae-mo sono shiken-ni gookakushita
 Yamada-even-also the exam-Dat passed
 (lit.) 'even Yamada also passed the examination'

Suppose *sae* is assigned [+F, +SI, *u*EI] and *mo*, [+F, +EI, *u*SI], where the positively valued features are "obligatory" features, inherent to the particles. The unvalued features, like [*u*M] of *sae* considered above, are optional but are required to activate the elements bearing them, as noted above. Since the two sets of features match (the same features involved), they induce Agree, and the positively valued [+SI] of *sae* assigns the same value to [*u*SI] of *mo*, turning it to [+SI], and similarly [+EI] of *mo* values [*u*EI] of *sae*, turning it to [+EI]. All features are valued, and the derivation converges with the string *sae-mo* inducing both the existential and the scalar implicatures. Note that (35) cannot be used in the context where (31) could be used, namely in the situa-

tion where there is no one other than Yamada that took a makeup exam; *sae-mo* is not simply an “emphatic” variant of *sae*, as might first appear to be, because it induces an EI (without any pragmatic support), due to *mo*.

The same process applies to (24)–(26), where P intervenes between *sae* and *mo*, which is unproblematic whether PP is a phase or not, and also to a sentence like the following, where both particles appear PP-externally:

- (36) Aiko-ga shachoo-to-sae-mo kenkashita
 Aiko-Nom president-with-even-also quarreled
 (lit.) ‘Aiko quarreled also even with the president’

Note that we are assuming that the features involved in Agree differ according to whether the operation applies to the pair (*sae*, I) or to (*sae*, *mo*). In the former case the relevant features are [F, M] and in the latter they are [SI, EI], although in both cases the inherently valued features of *sae*, namely [+F, +SI], are present throughout. In the next section we will see evidence for the involvement of different features in the two types of Agree.

7. Evidence for Agreement with *mo*

Consider first the following pair of causative sentences:

- (37) a. Taro-wa Aiko-ni [nezumi-sae tabe-ru] yooni
 Taro-Top Aiko-Dat mouse-even eat-Pres C
 sase-ta
 cause-Past
 ‘Taro made Aiko eat even a mouse’
 b. Taro-wa Aiko-ni [nezumi-sae tabe]-sase-ta
 Taro-Top Aiko-Dat mouse-even eat-cause-Past
 ‘Taro made Aiko eat even a mouse’

In both examples *sae* is attached to the object of the verb embedded in the bracketed clausal constituent, and it may take scope over the matrix sentence, with the matrix-oriented scalar implicature that a mouse is the least likely thing for Taro (or one) to make Aiko eat. However, the particle can take a narrow, embedded scope in (37a) only, so that the embedded-oriented scalar implicature, that a mouse is the least likely thing for Aiko (or one) to eat, is available in (37a) but not in (37b). The reason should be obvious: *sae* (in the absence of *mo*) must have as its associate an occurrence of I to agree with, and

there is an occurrence of *I* in the bracketed constituent in (37a) (where the embedded verb is followed by the present inflection) but not in (37b) (where the verb is without inflection). Thus in (37a), *sae*, with the features $[+F, uM]$, may enter into agreement relation with the *I* head of the embedded clause when the latter is assigned the matching features $[+M, uF]$, so that the unvalued features, $[M]$ for *sae* and $[F]$ for *I*, are assigned values from their valued counterparts. This gives rise to the narrow scope reading of the particle that is unavailable in (37b). Both examples allow *sae* to have scope over the matrix clause when the matrix *I* is assigned $[+M, uF]$: in (37a), via successive movement of the *sae*-phrase through the Spec of the embedded *v* and the Spec of the *yooni*-headed CP, to the Spec of the matrix *v*; in (37b), either via similar successive movement if there are two occurrences of *vP* (embedded and matrix), or perhaps just via Agree if there is only one such occurrence, depending on the structure of the causative sentence (see Hasegawa (2001)).¹⁵ Note in passing that *sae* has the feature $[+SI]$ throughout, but is ignored here since it does not enter into Match/Agree holding of (*sae*, *I*).

Consider next the following, differing from (37b) in that *mo* appears instead of *sae*:

- (38) Taro-wa Aiko-ni [nezumi-mo tabe]-sase-ta
 Taro-Top Aiko-Dat mouse-also eat-cause-Past
 'Taro made Aiko eat a mouse also'

Mo here may have either the bracketed constituent or else the matrix clause as the domain of its existential implicature; that is, it can take either narrow or wide scope, in contrast to *sae* in (37b). Thus (38) may be interpreted either with a narrow EI such that there is something other than a mouse that Aiko ate (independently of Taro's order), or else with a wide EI such that there is something other than a mouse that Taro made Aiko eat. On this latter construal (but not on the former), Taro is taken as having done something to Aiko before he

¹⁵ The latter possibility gains support from a sentence like the following, which is acceptable to those who accept the *sae*-P order:

- (i) Taro-wa Aiko-ni [shachoo-sae-to kenkas]-ase-ta
 Taro-Top Aiko-Dat president-even-with quarrel-cause-Past
 'Taro make Aiko quarrel with even the president'

made her eat a mouse.

Now see what happens when *sae* and *mo* cooccur as in the following:

- (39) Taro-wa Aiko-ni [nezumi-sae-mo tabe]-sase-ta
 Taro-Top Aiko-Dat mouse-even-also eat-cause-Past
 'Taro made Aiko eat even a mouse also'

In contrast with (37b), this sentence may be interpreted not only with the matrix-oriented scalar implicature observed in (37), but also with a scalar implicature corresponding to the embedded-oriented implicature of (37a), namely that a mouse is the least likely thing for Aiko (or one) to eat, which is unavailable in (37b). If *sae* in (39) were to enter into agreement with I in the same way as in (37b), the contrast in the availability of what looks like a narrow scope reading of *sae* would be a mystery. Actually, however, *sae* in (39) agrees with a different element than in (37b), namely with *mo*. *Sae* in (39) is not assigned the feature [μ M] that must be valued by an occurrence of I with [+M], but rather the feature [μ EI], which is valued by the occurrence of *mo* with [+EI]. Since Agree holds between *sae* and *mo* in (39), and since *mo* may take scope either under or over the causative predicate that selects an uninflected verb in a sentence like (38), *sae* in (39) may take narrow or wide scope depending on the scopal interpretation of *mo* it agrees with. Although we will not go into the details of how the scope of *mo* is assigned, a possibility is that it acquires scope through agreement with either a verbal element (which presumably need not be ν ¹⁶) or I, and its agreement with a verbal is what produces its narrow scope reading in (38), giving the narrow EI noted above. In any event the narrow-scope scalar implicature of *sae* in (39) with no counterpart in (37b) supports the idea that *sae* may enter into agreement with different types of element, I or *mo*, with different features activating the operation.

¹⁶ That *mo* need not agree with ν is suggested by a sentence like (i):

(i) aratana kishoojooken-ga [hyoo-mo hur]-ase-ta
 new whether-condition-Nom hail-also fall-cause-Past
 'the new whether condition made it hail'

Here the bracketed constituent does not contain ν (though it may contain the intransitive counterpart of ν) and yet the scope of *mo* may stay inside it, within the scope of the matrix causative.

8. Long-Distance Agreement with *mo*

With *sae* capable of agreement either with I or *mo*, a sentence may be ambiguous according to whether it is I or *mo* that the particle agrees with. Thus consider a sentence like the following, obtained from (19a) by adding *mo* to the CP complement of the matrix verb:

- (40) Taro-wa [Aiko-ga shachoo-to-sae kenkashita to_{CP}]-
 Taro-Top Aiko-Nom president-with-even quarreled C
 mo iihatta
 also insisted
 ‘Taro insisted also that Aiko quarreled even with the president’

In (40) Agree may hold between *sae* and the embedded I when they have the features [+F, *uM*, +SI] and [+M, *uF*], respectively (with [+SI] irrelevant to Agree). This gives rise to the embedded scope reading of *sae*. *Mo* attached to CP is assigned [+F, +EI, *uSI*], where the parenthesized [*uSI*], if chosen, must be licensed by “pragmatic inference” (see the text between (34) and (35)). The whole sentence has an existential implicature due to *mo*, and its embedded clause is associated with the scalar implicature induced by *sae*.

Alternatively, *sae* in (40) may be assigned [+F, +SI, *uEI*], which matches with [+F, +EI, *uSI*] assigned to *mo*, inducing Agree, valuing the unvalued feature of each particle (in this case [F] is irrelevant to the operation). Note, however, that Agree between *sae* and *mo* is only possible via successive phrasal movement of the *sae*-phrase, due to the PIC. Thus the *sae*-phrase moves through the Spec of the embedded *v* to the Spec of CP where it agrees with *mo*, and this essentially gives rise to the matrix scope reading of *sae* with the scalar implicature that the president is the least likely person for Taro to insist that Aiko quarreled with. The phenomenon is, as it were, long-distance agreement with *mo*, analogous to long-distance agreement with I, both mediated by movement.

Note that Agree cannot hold between *sae* and the matrix I in (40) even if the set of features [+M, *uF*] is assigned to this matrix I (rather than to the embedded I) that would match with the features assigned to *sae*, because of the intervention of a focus particle (here *mo*), discussed above (the Focus-Island Effect). How this intervention effect, observed widely in examples like (28) and (30) and those discussed in Sano (2001a), is to be accounted for is a separate matter. Thus the

only possible way for *sae* to gain a matrix scope reading in (40) is via agreement with *mo* mediated by movement of the *sae*-phrase to the Spec of CP.

Now consider (41), obtained from (19b) by adding *mo* to CP:

- (41) Taro-wa [Aiko-ga shachoo-sae-to kenkashita to_{CP}]-
 Taro-Top Aiko-Nom president-even-with quarreled C
 mo iihatta
 also insisted
 'Taro insisted also that Aiko quarreled with even the president'

For those who take P as lexical, PP is not a phase so that the sentence is acceptable with Agree holding between *sae* and the embedded I without movement; (41) differs from (19b) only in the existential implicature induced by the matrix *mo*. In fact, (41) does not have the matrix scope reading of *sae* for essentially the same reason that (19b) does not. Suppose that *sae* was assigned [+F, +SI, uEI]. This would match with [+F, +EI, uSI] assigned to *mo*, but Agree cannot apply, since it requires movement of the *sae*-phrase, impossible in this case because it involves extraction out of PP. Therefore Agree cannot hold of the pair (*sae*, *mo*) for the same reason it does not hold between *sae* and the matrix I in (19b), and the matrix scope reading of *sae* remains impossible.

9. Concluding Remarks

This paper has argued that the operation Agree proposed by Chomsky (2000, 2001) is crucially involved in focus particle licensing, by mainly examining the scopal properties of *sae*. Sometimes covert phrasal movement, in the sense of Pesetsky (2000), is required to establish a proper local relation between *sae* and what it agrees with, namely I or *mo*, and this gives *sae* a long-distance scope reading. The present paper thus constitutes an argument that Agree and covert phrasal movement are both possible operations that establish an invisible link between positions in syntactic structure.

Chomsky (2001: 6) suggests that for Agree to apply to a pair of elements, both elements (probe and goal) must be active. What activate the two are uninterpretable, namely unvalued, features, so the suggestion is that both must have unvalued features for the operation. The analysis of *sae* in this paper fits nicely with this conception, although

further justification is required for the analysis and the assumptions involved in order to lend plausibility to the overall picture. Furthermore, it is not clear whether unvalued features remain uninterpretable even after being valued, as Chomsky suggests. This is particularly so when the features involved are semantic ones, such as [M], [SI], [EI]. In fact, we have suggested (though not discussed) the possibility of [*u*EI] of *sae* and [*u*SI] of *mo* being “valued” from the other side of the C-I interface, by some sort of “pragmatic inference.”

Evidently more needs to be investigated than has been studied in this paper to see the nature of Agree involved in focus particles, particles with important and intricate interactions with performance systems.

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