

A Mismatch between Position and Interpretation: Focus Association with *even* in Japanese*

Sachie Kotani
University of Delaware

1. Introduction

This paper is about focus ambiguity of Japanese focus particles such as *-sae* ‘even’. Japanese focus particles cause a mysterious ambiguity, as shown in (1).

- (1) Anokin-medarisuto-wa uta-sae dasi-ta.
that gold-medalist-Top song-even release-Pst
- a. ‘In addition to releasing something else (e.g. a photo-album and an autobiography),
that gold-medalist even released a song.’ [Object-focus]
- b. ‘In addition to doing something else (e.g. being on TV and dating an actress),
that gold-medalist even released a song.’ [VP-focus]

In (1), the focus particle, *-sae*, suffixes to the object, *uta* ‘song’. It is naturally predicted that (1) only has a straightforward reading in (1a), where the object is focused. Significantly, however, (1) allows another reading in (1b), where the VP is focused.

Although this ambiguity has been observed in the literature (cf. Aoyagi 1994), there has been no analysis that gives an account of the mystery how the focus particle, *-sae*, suffixing the object can associate with VP. Shedding light on *-sae*, this paper argues that the focus particle attaches to VP in syntax, which makes (1b) a possible reading for (1). This paper also argues that the surface form/alignment in (1) is a morphological reflex, which is derived by means of adjacency and the morphological property of *-sae* and the heads that they are bound morphemes. In section 2, we will show the ambiguity, comparing with the case of English *even*. In section 3, we will propose an analysis based on the syntactic structure, where *-sae* attaches to VP. LF interprets the structure, while the morpho-phonological domain applies movement, depending on its independent principles: Morphological Merger. We will also see that the phonological domain has a constraint on prosody, which requires *-sae* and a focused phrase must be in the same intermediate phrase. In section 4, we will show that the proposed analysis also gives an account of another type of focus ambiguity in Japanese. We will show some more consequences in terms of scrambling and some other SOV languages. Section 5 is the conclusion.

This paper implies that the morpho-phonological domain has its own movement, which affects the surface form of derivations, but not the LF interpretation.

2. Focus Ambiguity

The focus particle, *-sae*, in Japanese is a bound morpheme, and attains the interpretation of being the most unlikely person, thing or event among some possibilities. This means that, in (1a),

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- (7) a. That gold-medalist released his photo album, his autobiography, and **even** released [_{DP} a song].
 b. That gold-medalist wrote and **even** [_V released] a song.

That is, in English, *even* requires a focused element in its surface syntactic c-command domain (cf. Herburger 2000).² It does not seem true in the Japanese case in (1) since the object suffixed with *-sae* does not c-command VP. Then, how can *-sae*, which suffixes to the object, take VP as an associate?

3. Analysis

We argue that the focus particle, *-sae*, attaches to VP in syntax and LF, like the focus adverb *even* in English. We also argue that the surface alignment in (1), where *-sae* suffixes to the object, is a morphological reflex of the ordering on the basis of adjacency and the morphological property of *-sae* and the head (tense) morphemes; they are bound morphemes.

3.1 The Structure in Syntax and LF

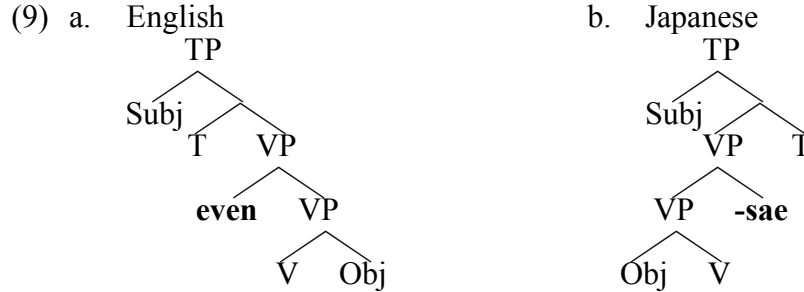
Assuming Selkirk (1984, 1995), we develop our analysis within the mechanism stated in (8).

- (8) a. F-marking of the head of a phrase licenses the F-marking of the phrase.
 (Selkirk 1984, 1995)
 b. F-marking of an internal argument of a head licenses the F-marking of the head.
 (Selkirk 1984, 1995)
 c. LF interpretation is based on the structure derived in syntax.
 d. LF interprets an F-marked element that *-sae* c-commands in syntax as the associate of *-sae*.

The Selkirk (1984, 1995) theory of focus projection is composed of a set of principles for the licensing of F-marking, as stated in (8a) and (8b). When either the verb or the internal object is F-marked, these principles make VP F-marked, too. This means that F-marking of a word projects into F-marking of a phrase including the word. When a derivation is spelled-out, LF starts its interpretation on the basis of this structure, as stated in (8c). In LF, an F-marked element associates with *-sae*, as in (8d).

Now we argue that, as in (9b), the focus particle, *-sae*, attaches to VP, but not the object, in syntax, like a focus adverb *even* in English in (9a).

² As Jackendoff (1972) mentioned, *even* does not require to c-command the subject to associate with it, as shown in (i).
 (i) JOHN **even** gave his daughter a new bicycle. (Jackendoff 1972)
 However, some of my informants cannot have this reading.



This means that LF also has this structure, where *-sae* attaches to VP, by the assumption in (8c).³ In (9a), *even* c-commands VP, V, and the object. Given the assumption in (8b) and (8d), any one of them can be an associate of *even* when it is F-marked, which is shown in (10a-d).

- (10) a. Subj **even** [V]_F Obj
 b. Subj **even** V [Obj]_F
 c. Subj **even** [[V]_F Obj]_F
 d. Subj **even** [V [Obj]_F]_F

- (11) a. Subj Obj [V]_F **-sae**
 b. Subj [Obj]_F V **-sae**
 c. Subj [Obj [V]_F]_F **-sae**
 d. Subj [[Obj]_F V]_F **-sae**

This makes a sentence three-way ambiguous: the object-focus, the verb-focus, and the VP-focus. In (9b), similarly, *-sae* c-commands VP, V, and the object. This should allow any one of them to become an associate of *-sae*, when it is F-marked, as in (11). Then, in LF, Japanese allows a sentence such as (1) to be three-way ambiguous, like English.

Now we consider how the F-marked element, which is the associate of *-sae*, is interpreted in LF. Rooth (1985, 1992) proposes that, when the sister phrase of *even* includes any focused element, a scale of alternatives of the phrase is constructed. Following this, we assume that, in the semantic interpretation, a focused constituent makes a set of alternatives. When a phrase has a focused constituent, then the phrase constructs a set of alternatives too. So, when the object is F-marked like (10b), which makes a set of alternatives, VP also constructs a set of alternatives since it includes the object as a constituent. The focus adverb, *even*, or the focus particle, *-sae*, associates with a member of the set of VP. Let us consider it in detail in (12).

- (12) a. Sean **even** [_{VP} bought [a boat]_F]. => {a car, a house, a boat...}
 => {bought a car, bought a house, bought a boat...}
- b. Sean **even** [_{VP} [bought]_F a boat]. => {considered, looked for, bought...}
 => {considered a boat, looked for a boat, bought a boat...}

³ For the sake of convenience of explanation, we do not use the spirit VP hypothesis in this paper. Instead, we just use VP under TP. As for the explanation using the sprit VP hypothesis, see Kotani (in progress).

- c. Sean **even** [_{VP} bought a boat]_F. => {quit linguistics, traveled around, bought a boat...}

In (12a), the object, *a boat*, is F-marked so that it has a set of alternatives like {a car, a house, a boat...}. (Since it is a constituent of VP, VP makes a set of alternatives like {bought a car, bought a house, bought a boat...}. *Even* associates with *bought a boat* among them.) In (12b), the verb, *bought*, is F-marked, and it has a set of alternatives like {considered, looked for, bought...}. VP makes a set of alternatives like {considered a boat, looked for a boat, bought a boat...}, and *even* associates with *bought a boat* in the set. When VP is F-marked, as in (12c), VP has a set of alternatives like {quit linguistics, traveled around, bought a boat...}, and *even* associates with *bought a boat*.

So far, we have argued that, based on the syntactic structure, it is possible to have the VP-focused reading in Japanese case like (1). Then, if *-sae* attaches to VP in syntax and LF, why does it suffix to the object in (1)?

3.2 Morphological Requirement of *-sae*

In this section, we consider how the surface alignment in (1) is derived from the structure in (9b). In other words, why does *-sae* suffix to the object? We claim that it does so because of adjacency and the morphological property that *-sae* and the head morphemes in Japanese are bound morphemes. The focus particle, *-sae*, is a bound morpheme, which has to suffix to something. Tense morphemes are also bound morphemes and have to suffix to something verbal.

Following Embick and Noyer (2001), we assume that the phonological domain operates movement to resolve morphological dependencies, and we take the position stated in (13).

(13) PF movement:

Syntax generates and moves terminals, according to its own principles and is oblivious to morphophonological concerns. PF takes the output of syntax and resolves morphophonological dependencies according to its own principles.

(Embick and Noyer 2001)

We also assume, following Marantz (1984, 1988), the Morphological Merger stated in (14), and assume that affixation occurs in the phonological domain.

(14) Morphological Merger:

At any level of syntactic analysis (D-structure, S-structure, phonological structure), a relation between X and Y may be replaced by (expressed by) the affixation of the lexical head of X to the lexical head of Y. (Marantz 1988)

Now we adopt Embick and Noyer's (2001) analysis that there are at least two varieties of Merger; one occurs in Morphology before Vocabulary Insertion, and the other in Morphology after or concomitant with Vocabulary Insertion. We propose the mechanism stated in (15).

- (15) a. Lowering and raising of the head occurs in Morphology before Vocabulary Insertion and forms a complex head.⁴
 b. *-Sae* affixation occurs in Morphology after or concomitant with Vocabulary Insertion subject to linear adjacency.

Bobaljik (1994) also suggests the Adjacency Condition for forming a complex head, as in (16).

(16) The Adjacency Condition (informal):

In order for an affix and a stem to be combined, they must be *adjacent*. (Bobaljik 1994)

As Bobaljik (1994) discusses, T is allowed to lower to V in English and becomes adjacent to V even though an adjoined adverb intervenes between them in syntax, which is shown in (17).

(17) [TP Sam $\underbrace{t_T [VP \text{ definitely like-} s_T \text{ horseradish}]}_{\text{Lowering}}$].

T does not have to be adjacent to V in the alignment at spell-out. It should be the case that the phonological domain operates movement to resolve morphological dependencies, as in (13). Since *-sae* is a bound morpheme, it is required to suffix to something. Note that *-sae* suffixes to any categorial element quite freely, but not T. Consider (18).

- (18) a. Sean-wa (sono) [N booto]-**sae** kat-ta. [N-**sae**]
 Sean-Top the boat-**even** buy-Pst
 ‘Sean even bought a boat.’
- b. Sean-wa (sono) booto-o [V kai]-**sae** si-ta. [V-**sae**]
 Sean-Top the boat-Acc buy-**even** do-Pst
 ‘Sean even bought a boat.’
- c. Sean-wa toire-[P de]-**sae** hon-o yom-ta. [P-**sae**]
 Sean-Top bathroom-at-**even** book-Acc read-Pst
 ‘Sean read a book even in the bathroom.’
- d. Beamer-wa [Adj yasaki]-**sae** at-ta. [Adj-**sae**]
 Beamer-Top friendly-**even** be-Pst
 ‘Beamer was even friendly.’
- e. Sean-wa Monica-ga booto-o kat-ta [C koto]-**sae** sir-anakat-ta. [C-**sae**]
 Sean-Top Monica-Nomboat-Acc buy-Pst C/that-**even** know-Neg-Pst
 ‘Sean didn’t even know that Monica bought a boat.’
- f. Sean-wa [D sore]-**sae** sir-anakat-ta. [D-**sae**]
 Sean-Top that-**even** know-Neg-Pst
 ‘Sean didn’t even know that.’
- g. * Sean-wa (sono) booto-o kat-[T ta]-**sae** *[T-**sae**]
 Sean-Top the boat-Acc buy-Pst-**even**

⁴ Embick and Noyer (2001) only mention Lowering as the type of Merger occurring in Morphology before Vocabulary Insertion. We take the position that both Lowering and Raising belong to this type since both of them are necessary for forming a complex head.

-*Sae* suffixes to N in (18a), V in (18b), P in (18c), Adj in (18d), C in (18e), and even D in (18f), but not T in (18g). This is considered the morphological property of -*sae*, as stated in (19).⁵

(19) -*Sae* cannot suffix to T.

Now we consider how this mechanism works and derives the surface morpho-phonological order, where -*sae* suffixes to the object although it attaches to VP in syntax. When we have (20) at spell-out, either Lowering or Raising in (15a) forms a complex head V-T as in (20a) or (20b). After this, in the Raising case in (20a), a bound morpheme, -*sae*, suffixes to the object, depending on adjacency in (15b), which derives the surface ordering in (21a).

(20) Spell-out: Subj [_{VP} Obj V]-**sae** T
 a. Raising: Subj [_{VP} Obj t_V]-**sae** V-T
 b. Lowering: Subj [_{VP} Obj V-T]-**sae** t_T

(21) a. Subj Obj-**sae** V-T
 b. * Subj Obj V-T-**sae**

The Lowering case in (20b) derives an impossible alignment in (21b) since -*sae* cannot suffix to T. This makes the derivation crash.

Now we have two possible reasons for why (20b) derives the impossible form in (21b). One is because Japanese does not allow Lowering, which can be supported by the argument by Koizumi (1995, 2000), where V raises to T in the overt syntax. The other possibility is because -*sae* cannot suffix to T. Since Japanese V-to-T movement analysis is controversial (cf. Fukui and Takano 1998), and since another focus particle, -*dake* ‘only’, can suffix to T, as in (22), we propose that the reason why (21b) is not allowed is because of the property/requirement of -*sae*.⁶⁷

(22) Sean-wa (sono) booto-o kat-[_T ta]-**dake**
 Sean-Top the boat-Acc buy-Pst-only/just
 ‘Sean just/only bought the boat (implying something like he didn’t use it at all).’ [T-**dake**]

In this section, we have explained why -*sae*, suffixes to the object, although it attaches to VP in syntax.

3.3 Phonological Requirement

We now consider how an F-marked element is interpreted in the phonological domain and especially why the Japanese example in (1) is two-way ambiguous, but not three-way. In other words, why is the V-focus reading impossible in (1), although LF allows it? We argue that it is due to a phonological reason that the F-marked verb is in a different intermediate phrase (*iP*) from -*sae*, when V and T are affixed under Morphological Merger.⁸

⁵ Some might consider -*sae* is rather like a clitic than just a bound morpheme since it suffixes to anything quite freely. That might be possible, but since this is beyond the scope of this paper, we will leave this open.

⁶ Thanks to Benjamin Bruening (p.c.) for pointing the issue of V-to-T movement out to me.

⁷ Thanks to Hideaki Yamashita (p.c.) for bringing the example of -*dake* to me.

⁸ Thanks to Satoshi Tomioka (p.c.) for drawing my attention to prosody.

We simply assume that an F-marked element is assigned a stress in the phonological domain. Following Jackendoff (1972), we further assume that the location of the intonational accent within the F-marked constituent is determined by the location of the main phrase stress within that constituent, which is formulated as in (23).

(23) Accent to Main Stress within Focus:

$$\begin{array}{ccc}
 [\dots\sigma_{\text{main stress}}\dots]_{\text{F}} & \rightarrow & [\dots\sigma_{\text{main stress}}\dots]_{\text{F}} \\
 & & \downarrow \\
 & & \text{pitch accent}
 \end{array}
 \quad (\text{Selkirk 1995})$$

If an F-marked element is composed of more than one constituent, like in the case of VP, we assume (24), modifying Cinque's (1993) Null Theory, which is briefly summarized as the main stress of a sentence falls on the most deeply embedded phrase in a sentence.

(24) The main stress of a F-marked element falls on the most deeply embedded phrase in the F-marked element.

Following Nagahara (1994), we also assume the two constraints for Japanese phrasal phonology, as in (25).

(25) a. Focus-Left-Edge:

Left edge of focus = left intermediate phrase edge

b. Focus-to-End:

No intervening intermediate phrase boundary between focused phrase and the end of sentence.

(Nagahara 1994)

Now we claim that the phonological domain has a constraint in (26) about an intermediate phrase of *-sae*.

(26) *-sae* must be in the same intermediate phrase as an F-marked element. Otherwise, the derivation crashes.

When the object is an F-marked element and associates with *-sae*, it is assigned a stress and receives a pitch accent. The intermediate phrase starts at the left edge of the object as in (25a). Given (25b), the intermediate phrase includes *-sae* following the object too, which satisfies the constraint in (26), as shown in (27a).

(27) a. Subj $\{i_{\text{P}}(\text{Intermediate Phrase}) [\underline{\text{Obj}}]_{\text{F}}\text{-sae V-T}$

b. Subj $\{i_{\text{P}} [\text{VP } \underline{\text{Obj}} \text{ t}_{\text{V}}]_{\text{F}}\text{-sae V-T}$

c. Subj Obj-sae $\{i_{\text{P}} [\underline{\text{V}}]_{\text{F}}\text{-T}$

As shown in (27b), when VP is F-marked in syntax, then the object starts an intermediate phrase as per (25a). The intermediate phrase also includes *-sae*, which satisfies the condition in (26). In this case, according to the modified stress rule in (24), the object has a stress since it is the most embedded phrase inside of VP. When the verb is F-marked in the syntactic derivation, the verb gets stressed and has a pitch accent. It also starts an intermediate phrase at the position of T, but it is out of VP attached with *-sae*, as in (27c). This violates the condition in (26), and the

derivation crashes. We claim that this is the reason why the V-focused reading is impossible in Japanese case in (1) even though it is semantically possible.

Given the argument above, we have the following patterns as a possible example:

- (28) [Object-focus]
 Spell-out: Subj [_{VP} [Obj]_F V]-sae T
 Morpho-phonology: Subj [_{VP} [Obj]_F]-sae V-T => Subj {_{iP} Obj_F-sae V-T
- (29) [VP-focus]
 Spell-out: Subj [_{VP} Obj V]_F-sae T
 Morpho-phonology: Subj [_{VP} Obj t_V]_F-sae V-T => Subj {_{iP} Obj_F-sae V-T
- (30) [V-focus]
 Spell-out: Subj [_{VP} Obj [V]_F]-sae T
 Morpho-phonology: Subj [_{VP} Obj t_V]-sae [V]_F-T =>* Subj Obj-sae {_{iP} V_F-T
 (-Sae is not in *iP*)

It is shown that the only derivations allowed in the morpho-phonological domain are (28) and (29), which are the object-focus and the VP-focus, respectively. This is exactly what we see in the data, as in (31-33), where a word written with capital letters is accented.

- (31) Anokin-medarisuto-wa UTA-sae dasi-ta.
 that gold-medalist-Top song-even release-Pst
 ‘In addition to releasing something else (e.g. a photo-album and an autobiography), that gold-medalist even released a song.’ [Object-focus]
- (32) Anokin-medarisuto-wa UTA-sae dasi-ta.
 that gold-medalist-Top song-even release-Pst
 ‘In addition to doing something else (e.g. being on the TV and dating with an actress), that gold-medalist even released a song.’ [VP-focus]
- (33) *Anokin-medarisuto-wa uta-sae DASI-ta.
 that gold-medalist-Top song-even release-Pst
 ‘In addition to doing something else with a song (e.g. writing), that gold-medalist even released a song.’ [V-focus]

This is why the Japanese example in (1) only has two focus readings.

So far, we have argued that *-sae* attaches to VP in syntax, but suffixes to the object in morphology. The V-focused reading is not allowed, actually, due to a phonological reason, and not due to a syntactic or semantic reason.

4. Consequences

There is another type of focus ambiguity of the focus particle, *-sae*, in Japanese. In addition, it is well known that Japanese allows scrambling (cf. Saito 1985). In this section, we will examine if the proposed analysis can give an account of these two cases. We also show that the

proposed analysis makes correct predictions for some other SOV languages, such as Telugu and Turkish.

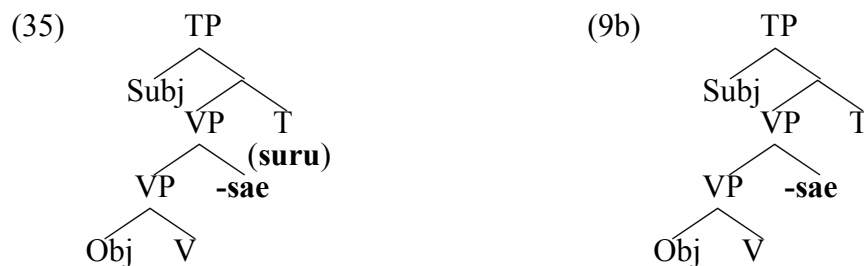
4.1 Focus of *-sae* on the Verb

Japanese has another type of focus ambiguity of the focus particle, *-sae*, which shows the same pattern as the English *even*, *i.e.*, it is three-way ambiguous. The example in (34) has three readings, as shown in (34a-c) (cf. Aoyagi 1994).

- (34) Anokin-medarisuto-wa uta-o dasi-**sae** si-ta.
 that gold-medalist-Top song-Acc release-**even** do-Pst
- a. ‘In addition to doing something else with a song (e.g. writing), that gold-medalist even released the song.’ [V-focus]
- b. ‘In addition to releasing something else (e.g. photo-album and autobiography), that gold-medalist even released a song.’ [Object-focus]
- c. ‘In addition to doing something else (e.g. being on TV and dating an actress), that gold-medalist even released a song.’ [VP-focus]
- (1) Anokin-medarisuto-wa uta-**sae** dasi-ta.
 that gold-medalist-Top song-**even** release-Pst
- a. ‘In addition to releasing something else (e.g. a photo-album and an autobiography), that gold-medalist even released a song.’ [Object DP-focus]
- b. ‘In addition to doing something else (e.g. being on TV and dating an actress), that gold-medalist even released a song.’ [VP-focus]

In (34), the focus particle suffixes to the verb instead of the object as in (1), and there is another verb, *suru* ‘do’, besides *dasu* ‘release’.⁹ In this case, *-sae* can take the verb as its associate, as in (34a), the object, as in (34b) and the VP, as in (34c). In addition, (34b) has the same reading as (1a), and (34c) has the same meaning as (1b). Why is it possible to have the V-focused reading in the case of (34)?

We assume that *-sae* attaches to VP in the case of (34), like (9b), as shown in (35).



Unlike (9b), however, another verb, *suru* ‘do’, is inserted in the position of T. We consider that a numeration optionally has another verb, *suru*, and that the numerations with and without *suru* are in different derivations, which never compete. When a focus particle is selected in the numeration, *suru* can be selected but it does not have to be. If it is selected, we have the derivation like (35), whereas, if not, we have (9b) instead.

⁹ *Suru* behaves similarly to the English dummy verb *do* used for *do*-insertion.

Let us examine if our analysis gives an account of this case too. Like the case of (1), it is possible that, in LF, *-sae* can associate with VP, the object, and the verb, when they are F-marked in syntax, since they are all c-commanded. This means that, in LF, (34) is three-way ambiguous. Then, what happens in the morpho-phonological domain? When the derivation of (35) is spelled-out, we have an alignment of syntactic objects in (36a).

- (36) a. Subj [_{VP} Obj V]-**sae** T
 b. Subj [_{VP} Obj V]-**sae** *suru*-T
 c. Subj Obj V-**sae** *suru*-T

In this case, since the numeration has another verb, *suru* ‘do’, which is directly inserted in T, Raising is not required to apply to form a complex head in Morphology. It follows that *-sae* suffixes to the V because of adjacency in (15b). This derives the surface alignment in (36c). Then, what happens if Raising is applied to (36a) in morphology? If Raising applies to (36a), we would have (36a).

- (37) a. Subj [_{VP} Obj t_V]-**sae** V-*suru*-T
 b. * *dasu-si-ta*

As shown in (37a), when Raising applies, we have a morphologically impossible complex head, which has a verb and another verb *suru* co-occurred, as in (37b). This means that the derivation in (37a) derived by Raising crashes in the morpho-phonological domain.

Now we consider what surface alignment would be derived from (36a), depending on which constituent is F-marked, as in (37a-c).

- (38) a. Subj [_{VP} [Obj]_F V]-**sae** T
 b. Subj [_{VP} Obj V]_F-**sae** T
 c. Subj [_{VP} Obj [V]_F]-**sae** T

When the object is F-marked in syntax, the derived structure is (38a). When the VP is F-marked, the derived structure is (38b), and, when the verb is F-marked, it is (38c). Let us observe what is derived in the phonological domain in each case:

- (39) a. Subj {*iP*(Intermediate Phrase) [Obj]_F V}-**sae** *suru*-T
 b. Subj {*iP* [_{VP} Obj V]_F}-**sae** *suru*-T
 c. Subj Obj {*iP* [V]_F}-**sae** *suru*-T

In (39a), the object is accented and starts the intermediate phrase. In (39b), the object is the most embedded phrase in the F-marked VP so that it is assigned the main stress as per (23) and accented. The object also starts the intermediate phrase. In (39c), the verb is accented and starts the intermediate phrase. In all the three cases, since *-sae* is in the same intermediate phrase as the F-marked element, which is assigned a stress and accented, they are all allowed in the phonological domain. Since the three derivations are allowed in both LF and the morpho-phonological domain, they are all possible derivations, and, at the same time, possible readings too.

To summarize, we have the following patterns for (34):

(40) [Object-focus]

Spell-out: Subj [_{VP} [Obj]_F V]-sae T

Morpho-phonology: Subj [_{VP} [Obj]_F V]-sae *suru*-T => Subj {_{IP} Obj_F V-sae *suru*-T

(41) [VP-focus]

Spell-out: Subj [_{VP} Obj V]_F-sae T

Morpho-phonology: Subj [_{VP} Obj V]_F-sae *suru*-T => Subj {_{IP} Obj_F V-sae *suru*-T

(42) [V-focus]

Spell-out: Subj [_{VP} Obj [V]_F]-sae T

Morpho-phonology: Subj [_{VP} Obj [V]_F]-sae *suru*-T => Subj Obj {_{IP} V_F-sae *suru*-T

This shows that (40)-(42) are all possible derivations, which are the object-focused, the VP-focused, and the V-focused readings, respectively. This is exactly the data we have, as in (43)-(45), where the accented word is shown in capitalized.

(43) Anokin-medarisuto-wa UTA-o dasi-**sae** si-ta.
that gold-medalist-Top song-Acc release-**even** do-Pst
'In addition to doing something else (e.g. being on the TV and dating with an actress), that gold-medalist even released a song.'
[VP-focus]

(44) Anokin-medarisuto-wa UTA-o dasi-**sae** si-ta.
that gold-medalist-Top song-Acc release-**even** do-Pst
'In addition to releasing something else (e.g. photo-album and autobiography), that gold-medalist even released a song.'
[Object-focus]

(45) Anokin-medarisuto-wa uta-o DASI-**sae** si-ta.
that gold-medalist-Top song-Acc release-**even** do-Pst
'In addition to doing something else with a song (e.g. writing), that gold-medalist even released a song.'
[V-focus]

As we have seen, our analysis gives an account of why the focus particle, *-sae*, can associate with VP although it suffixes to the object in (1). In addition, it also accounts for the question of why the V-focused reading is allowed in the case of (34), but not in (1). Furthermore, it explains why *-sae* can associate with the object even though it suffixes to the verb in (34).

4.2 Object Scrambling across Subject

There is an interesting phenomenon concerning the focus ambiguity of *-sae*: although the object suffixed with *-sae* may undergo scrambling across the subject, the VP-focused reading still exists, as shown in (46b).

- (46) a. Anokin-medarisuto-wa UTA-sae dasi-ta.
 that gold-medalist-Top song-even release-Pst
- b. UTA-sae ano kin-medarisuto-wa dasi-ta.
 song-even that gold-medalist-Top release-Pst
- i. ‘That gold-medalist released even a song (in addition to an autobiography etc.).’
[Object DP-focus]
- ii. ‘That gold-medalist even released a song (in addition to being on TV).’ [VP-focus]

This can be uttered in a context like (47).

- (47) A: Ano kin-medarisuto, terebi-ni de-te joyuu-to tuki-at-teiru no da yo.
 that gold-medalist TV-Dat appear-and actress-with date-Prog C Foc Part
 ‘That gold-medalist is on TV and is dating an actress.’
- B: UTA-sae aitu(-wa) dasi-ta (no da yo).
 song-even that guy-Top release-Pst C Foc Part
 ‘That guy even released a song.’

This supports our analysis that *-sae* attaches to VP in syntax and associates with VP, when we assume that, in this case, scrambling is a PF operation, not a syntactic one.

For so-called scrambling, Ueyama (1998) develops an argument that there are two types of Object Subject (OS) constructions, Deep OS type and Surface OS-type, as shown in (48), which is summarized in Hoji (2006).

- (48) a. Deep OS-type (corresponding to so-called A-scrambling)
 PF: NP-Acc/Dat (Dislocated Phrase) ... NP-Nom ... V
 LF: NP-Acc/Dat (Dislocated Phrase) [_{IP} *ec*₁ [_{IP} ... NP-Nom *t*₁ ...]]
- b. Surface OS-type (corresponding to so-called A-bar-scrambling)
 PF: NP-Acc/Dat (Dislocated Phrase)
 LF: NP-Nom...[NP-Acc/Dat (Dislocated Phrase) NP-Nom ... V] (Hoji 2006)

According to Hoji (2006) citing Ueyama (1998), the Deep OS type in (48a) affects LF representation, whereas the LF representation for the surface OS in (48b) is the exact same as the Subject Object counterpart. Given this, we claim that our example in (46b) is the case of (48b), in which the object is displaced in PF. That is why it does not affect the focus interpretation and the VP-focused reading is possible.

Now, we have to define when and how this PF displacement applies. Adopting Fox and Pesetsky (2005), which takes Chomsky’s (2000, 2001) suggestion that the mapping between syntax and phonology (Spell-out) takes place at various points in the course of the derivation, we assume multiple spell-out and Order Preservation.¹⁰ This is formalized, as stated in (49).

¹⁰ Thanks to Benjamin Bruening (p.c.) for drawing my attention to this.

- (49) The relation “<” [modified to fit with copy theory of movement]
 An ordering statement of the form $\alpha < \beta$ is understood by PF as meaning that the last element dominated by α and not dominated by a trace precedes the first element dominated by β and not dominated by a trace. (Fox and Pesetsky 2005)

This is briefly summarized as that information about linearization, once established at the end of a given Spell-out domain, is never deleted in the course of a derivation. According to this, we have the following acceptable scenario:

- (50) Scenario 1 (leftward movement from a left-edge position)
 $[_{D'} \dots \underbrace{X \alpha}_{[_{D'} t_X Y Z]}]$ Ordering: $X < \alpha$ $X < Y$
 $\alpha < D \rightarrow \alpha < Y$ $Y < Z$ (Fox and Pesetsky 2005)

In (50), X precedes α in the domain D' , and α precedes D, which includes the trace of X and Y. In the domain D, X precedes Y and then Z. Since X is the left-edge of D when the domain D is spelled-out, “the ordering statements added by Spell-out of D' are consistent with the ordering statements previously added in D (Fox and Pesetsky 2005).” There is no ordering contradiction in this case. In the alternative scenario, however, an element not at the left-edge of D undergoes movement, which derives an acceptable derivation, as shown in (51).

- (51) Scenario 2 (leftward movement from a non-left-edge position)
 $*[_{D'} \dots \underbrace{Y \alpha}_{[_{D'} X t_Y Z]}]$ Ordering: $Y < \alpha$ $X < Y$
 $\alpha < D \rightarrow \alpha < X$ $Y < Z$ (Fox and Pesetsky 2005)

In (51), Y precedes α , which precedes D including X. This means that Y precedes X in the domain D' . In the domain D, X precedes Y. This creates an ordering contradiction.

Now let us see what happens when we apply this mechanism to (46b), as illustrated in (52).

- (52) $[_{CP}$ UTA-sae ano kin-medarisuto-wa $[_{VP}$ t_{UTA-sae} tv] dasi-ta]
 song-even that gold-medalist-Top release-Pst

In (52), the object is moved from the edge of VP to the edge of CP. When VP is spelled-out, Morphological Merger applies, and *-sae* attaches to the object, which undergoes movement into the edge of the other domain, CP. The object *UTA-sae* precedes the verb in the spell-out domain, VP. In addition, it also precedes the subject, which also precedes the VP. This is exactly the same as Scenario 1 in (50). There is no ordering contradiction, and the object movement causes no problem in this derivation.

Then, how about the other case that we can have the VP-focus reading? Even if the object moves out of VP when *-sae* suffixes to the verb, the object-focus reading and the VP-focus reading still remain, as in (53b).

- (53) a. Anokin-medarisuto-wa UTA-o dasi-sae si-ta.
 that gold-medalist-Top song-Acc release-even do-Pst
- b. UTA-o ano kin-medarisuto-wa dasi-sae si-ta.
 song-Acc that gold-medalist-Top release-even do-Pst
- i. ‘In addition to releasing something else (e.g. photo-album and autobiography), that gold-medalist even released a song.’ [Object DP-focus]
- ii. ‘In addition to doing something else (e.g. being on TV and dating an actress), that gold-medalist even released a song.’ [VP-focus]

This is naturally uttered, as in (54) and (55).

- (54) A: Ano kin-medarisuto, syasinsyuu-to jijyoden-o dasi-ta no da yo.
 that gold-medalist photo-album-and autobiography-Acc release-Pst C Foc Part
 ‘That gold-medalist released a photo-album and autobiography.’

- B: UTA-o aitu(-wa) dasi-sae si-ta (no da yo).
 song-Acc that guys-Top release-even do-Pst C Foc Part
 ‘That guys even released a song.’ [Object DP-focus]

- (55) A: Ano kin-medarisuto, terebi-ni de-te joyuu-to tuki-at-teiru no da yo.
 that gold-medalist TV-Dat appear-and actress-with date-Prog C Foc Part
 ‘That gold-medalist is on TV and is dating an actress.’

- B: UTA-o aitu(-wa) dasi-sae si-ta (no da yo).
 song-Acc that guy-Top release-even do-Pst C Foc Part
 ‘That guy even released a song.’ [VP-focus]

(53b) is derived from (53a) by means of PF movement, as shown in (56).

- (56) [CP UTA-o ano kin-medarisuto-wa [VP t_{UTA-sae} dasi]-sae si-ta]
 song-Acc that gold-medalist -Top release-even do-Pst

In (56), like (52), the object undergoes movement and is displaced from the edge of VP to the edge of CP. The object *UTA-o* precedes the verb in the spell-out domain, VP. It also precedes the subject, which also precedes the VP. This is the same as Scenario 1 in (50). There are neither ordering contradictions nor problems caused by the object movement in this derivation. This tells us that scrambling at least does not affect scope ambiguity of *-sae* so long as the stress falls on the same constituent as in the non-scrambled case.

Some might wonder if scrambling affects the intermediate phrase. The answer is no; scrambling does not affect it at all. Since the intermediate phrase starts on the left edge of the F-marked VP, which is the scrambled accented object, it starts at the beginning and lasts until the end of the sentence. In this case, the F-marked element and *-sae* are both in the same intermediate phrase in (46b) and (53b), which does not violate the condition in (26), as shown in (57) and (58).

(57) {*iP*} UTA-**sae** ano kin-medarisuto-wa dasi-ta.
 song-**even** that gold-medalist-Top release-Pst
 ‘That gold-medalist even released a song.’

(58) {*iP*} UTA-o ano kin-medarisuto-wa dasi-**sae** si-ta.
 song-Acc that gold-medalist-Top release-**even** do-Pst
 ‘That guy even released a song.’

As we have seen, even the object undergoes scrambling and is dislocated to the front position in the distance, the VP-focus reading is still possible. This means that the focus of *-sae*, the position of *-sae* and the stress/accent position of the focused phrase have a certain relationship. In our analysis, they are connected to each other by the syntactic structure, where the focus particle, *-sae*, attaches to VP.

4.3 Other SOV Languages

If this analysis is on the right track, there should be some other languages that behave similarly to Japanese. Our analysis predicts that, if there is an SOV language, where the focus adverb is a free morpheme like in English, but not a bound morpheme, then the focus adverb appears between the object and the predicate/verb because of adjacency to have the VP-focus reading. In other words, if a focus adverb really adjoins VP, when Raising applies, the focus adverb should appear between the object and the complex predicate and associate with the object and the VP. If Lowering applies, it should be the case that the focus adverb should appear at the end and associate with the object, the VP, and the verb. Consider (59-60) and (61-62).

(59) Telugu:

Karthik Sean-ni **goda** kott-ee-du.¹¹
 Karthik Sean-Acc **even** hit-Pst-3Sg.

i. ‘Karthik hit even Sean (in addition to some other people).’ [Object-focus]

ii. ‘Karthik even hit Sean (in addition to some other actions like kicking the desk).’ [VP-focus]

(60) Turkish:

Ozge Karthik-’a **bile** var-du
 Ozge Karthik-Dat **even** hit-Pst

i. ‘Ozge hit even Karthik (in addition to some other people).’ [Object-focus]

ii. ‘Ozge even hit Karthik (in addition to some other actions like kicking the desk).’ [VP-focus]

(61) Telugu:

Karthik Sean-ni kott-ee-du **goda**.
 Karthik Sean-Acc hit-Pst-3Sg. even

‘Karthik even hit Sean (in addition to some other actions to Sean).’ [V-focus]

¹¹ According to Karthik Durvasula (p.c.), *goda* is one of the dialectal variants of the word.

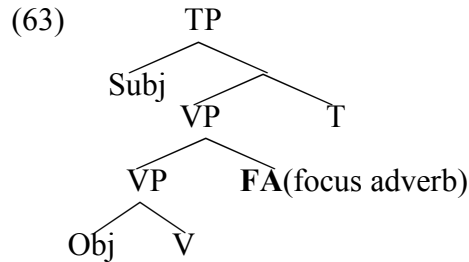
(62) Turkish:

Ozge Karthik-’a var-du **bile**
 Ozge Karthik-Dat hit-Pst even

‘Ozge even hit Karthik (in addition to some other actions to Karthik like kicking).’

[V-focus]

Both Telugu and Turkish have a focus adverb meaning ‘even’, which is a free morpheme. The tense marker, on the other hand, is a bound morpheme in both languages, like in Japanese. Let us consider the analysis that their focus adverb adjoins to VP like in Japanese, as in (63).



Then, we have (64a) when it is spelled-out.

- (64) a. Subj [Obj V] FA T
 b. Subj [Obj t_V] FA V-T
 c. Subj [Obj V-T] FA t_T

As in Japanese, Morphological Merger allows V to undergo affixation to T at either the position of V or T, as in (64b) and (64c). Since the focus adverb is not a bound morpheme, we have no morphological property like (19) in Japanese. When Raising applies, (64b) is derived, while, when Lowering applies, (64c) is derived.

If our analysis is correct, it is predicted that (64b) should allow the object-focus reading and the VP-focus reading at least. Since we have not tested what prosody is acceptable and what is stressed in each case of (64b) and (64c) in these languages, we cannot give an account on the basis of the phonological domain. However, our analysis could make some prediction like the following: when the object is stressed, both the object- and the VP-focus readings should be possible in both (64b) and (64c). When the verb is stressed, on the other hand, only the verb-focused reading is possible, and it is allowed only in (64c) because of the intermediate phrase. This is almost the same as the data in (59-60) and (61-62). In the pattern in (64b), both the object- and the VP-focus readings are allowed, as shown in (59-60). In the pattern in (64c), the verb-focused reading is allowed, as shown in (61-62).

Then, why can't we have the object- and the VP-focused readings in the pattern in (64c)? According to our Turkish informant, Özge Öztürk (p.c.), it sounds odd when something comes after a complex head at the end of a sentence in Turkish. However, in order to focus the verb, there is no other way except for having the focus adverb after the complex predicate. Given this, we claim that, at least in Turkish, Raising generally applies in Morphology rather than Lowering. Significantly, Öztürk (2005) claims that the head undergoes head-movement in Turkish for EPP-features. This could be paraphrased under the morphological merger into that Raising applies rather than Lowering except for the verb-focus cases. In order to have the verb-focused reading,

Japanese has to have another verb *suru* ‘do’, and that is the only case to have the verb-focused reading. However, as far as I consulted, it seems that Turkish does not have any parallel verb like *suru*. This might be the reason why Turkish allows Lowering in a certain case as a last resort. Given the discussion above, we claim that the object- and the VP-focused readings are not allowed in (64c). They are both allowed only in the case of (64b), which is correct, given (60). The verb-focused reading is allowed only in (64c), which is also correct, given (62).

As we have seen, our analysis makes a correct prediction for some other SOV languages in addition to the scrambling cases in Japanese.

5. Conclusion

This paper has argued that focus ambiguity of the Japanese focus particle, *-sae*, suffixing to the object is due to the syntactic position of *-sae* and the morphological properties of *-sae* and the heads. In syntax, it attaches to VP like English *even*. Semantics considers what is F-marked is focused and an associate with *-sae*. Our analysis makes a correct prediction with regard to the prosody and stress pattern in phonology too. The analysis has given an account of not only Japanese cases but also some other SOV languages, namely Telugu and Turkish.

References

- Aoyagi, Hiroshi. 1994. On Association with Focus and Scope of Focus Particles in Japanese. In *MIT Working Papers in Linguistics 24: Formal Approaches to Japanese Linguistics 1*, 23-44. MITPLW, Department of Linguistics and Philosophy, MIT, Cambridge, Mass.
- Bobaljik, Jonathan J. 1994. What Does Adjacency Do? In *MIT Working Papers in Linguistics 22*, 1-32. MITPLW, Department of Linguistics and Philosophy, MIT, Cambridge, Mass.
- Chomsky, Noam. 2000. Minimalist Inquiries: The Framework. In Martin, R., Michaels, D. and J. Uriagereka, eds. *Step by Step: Essays on Minimalist Syntax in Honor of Howard Lasnik*. Cambridge, MA.: MIT Press.
- Chomsky, Noam. 2001. Derivation by Phase. In Michael Kenstowicz, ed. *Ken Hale: A Life in Languages*. Cambridge, Mass.: MIT Press.
- Cinque, Guglielmo. 1993. A Null Theory of Phrase and Compound Stress. *Linguistics Inquiry* 24: 239-298.
- Embick, David, and Rolf Noyer. 2001. Movement Operations after Syntax. *Linguistic Inquiry* 32, 555-595.
- Fox, Danny, and David Pesetsky. 2005. Cyclic Linearization of Syntactic Structure. *Theoretical Linguistics* 31: 1-45.
- Fukui, Naoki, and Yuji Takano. 1998. Symmetry in syntax: Merge and Demerge. *Journal of East Asian Linguistics* 7: 27-86.
- Herburger, Elena. 2000. *What Counts Focus and Quantifiers*. Cambridge, Mass.: MIT Press.
- Hoji, Hajime. 2006. Assessing Competing Analyses: Two Hypotheses about ‘Scrambling’ in Japanese. In Ayumi Ueyama (ed.), *Theoretical and Empirical Studies of Reference and Anaphora-Toward the establishment of generative grammar as an empirical science*. Report of the Grant-in-Aid for Scientific Research (B), Project No. 153220052, Supported by Japan Society for the Promotion of Science, 2006, Kyushu University, pp. 139-185.
- Jackendoff, Ray. 1972. *Semantics Interpretation in Generative Grammar*. Cambridge, Mass.: MIT Press.

- Koizumi, Masatoshi. 1995. *Phrase Structure in Minimalist Syntax*. Ph.D. dissertation. Cambridge, Mass.: MIT.
- Koizumi, Masatoshi. 2000. String vacuous overt verb raising. *Journal of East Asian Linguistics* 9: 227-285.
- Kotani, Sachie. In progress. Morphological Merger, Insertion and Copying: Evidence from Japanese Focus Particles Associating with Predicates. Ms. University of Delaware.
- Marantz, Alec. 1984. *On the Nature of Grammatical Relations*. Cambridge, Mass.: MIT Press.
- Marantz, Alec. 1988. Clitics, Morphological Merger, and the Mapping to Phonological Structure. In Michael Hammond and Michael Noonan (eds.), *Theoretical Morphology: Approaches in Modern Linguistics*. SanDiego: Academic Press.
- Nagahara, Hiroyuki. 1994. *Phonological Phrasing in Japanese*. Ph.D. Dissertation, UCLA.
- Öztürk, Balkiz. 2005. *Case, Referentiality, and Phrase Structure*. Amsterdam/Philadelphia: John Benjamins Publishing Company.
- Rooth, Mats. 1985. *Association with Focus*. Ph. D. Dissertation, GLSA, University of Massachusetts, Amherst.
- Rooth, Mats. 1992. A Theory of Focus Interpretation. *Natural Language Semantics* 1, 75-116.
- Selkirk, Elisabeth. 1984. *Phonology and Syntax: The Relation between Sound and Structure*. Cambridge, Mass.: MIT Press.
- Selkirk, Elisabeth. 1995. Sentence Prosody: Intonation, Stress, and Phrasing. In John A. Goldsmith (ed.), *The Handbook of Phonological Theory*. Oxford: Blackwell Publishers.
- Tomioka, Satoshi. To appear. Pragmatics of LF Intervention Effects: Japanese and Korean Wh-Interrogatives. *Journal of Pragmatics*.
- Ueyama, Ayumi. 1998. *Two Types of Dependency*. Ph.D. Dissertation LA: University of Southern California.

Contact Information:

Sachie Kotani
 Department of Linguistics
 University of Delaware
 46 E. Delaware Ave. #303
 Newark, DE, 19716 USA
 skotani@udel.edu