

Emphatic Particles and their Scopal Interactions in Japanese

Akira Ishikawa

Sophia University, Dept. of English and Studies

7 Kioi-cho, Chiyoda-ku

Tokyo 102, Japan

ishikawa@hoffman.cc.sophia.ac.jp

Abstract

Japanese emphatic particles such as *mo*, *wa*, and *sae* are known to present exceedingly recalcitrant problems for grammarians. Since they are clearly concerned with connecting discourse presuppositions with the assertive content of the current utterance, their nature has to be pragmatic as well as semantic. Their syntactic, or rather morphological, behaviour also seems highly unmanageable since they interact not only with themselves but also with other types of particles, especially case particles. In this paper, we try to present a basic scheme for treating emphatic particles based on four features: type, self, edge and polarity. We also try to place emphatic particles in their proper place within overall grammar of the Japanese language.

1 Directly Comparable Propositions

Japanese "zyosi" particles *wa* and *mo* are known to imply the existence of entities comparable to those denoted by the phrases marked by them.

- (1) a. Taro ga ki-ta
Taro Nom come-PAST
'Taro came.'
- b. Taro wa ki-ta
Taro WA come-PAST
'(At least) Taro came.'
- c. Taro mo ki-ta
Taro MO come-PAST
'Taro came, too.'

Besides having the same truth conditions of (1a), (1b) also invokes in the mind of the hearer the existence of comparable people who might also have come.¹ Similarly, (1c) implies the existence of such comparable people. The contributions of the two particles can be captured by employing pseudo-logical formulas as follows.

- (2) a. Taro wa kita.
b. $\diamond \exists X(\text{Comparable}(X, \text{Taro}) \wedge \text{Came}(X))$
- (3) a. Taro mo kita.

¹That is, the intended reading for *wa* here is that of contrast.

b. $\exists X(\text{Comparable}(X, \text{Taro}) \wedge \text{Came}(X))$

The difference between (2b) and (3b) is the presence or absence of the possibility operator. That is, (2) commits the speaker only to the possibility of somebody other than Taro also having come, whereas (3) to its truth. Since the difference clearly comes from the respective semantic contributions of the two particles, by abstracting away from the difference, we obtain the common proposition equally implicated by the two sentences, i.e., that there exists at least one individual comparable to Taro who came. It is also well known that other particles such as *dake*'only', *made*'even', etc. invoke similar propositions involving comparable individuals (Martin, 1975, pp. 52-94, pp. 316-30), (Ishikawa, 1985, pp. 220-41), and (Teramura, 1991, pp. 3-190).

- (4) a. Taro made ki-ta
Taro even come-PAST
'Even Taro came.'
- b. Taro dake ki-ta
Taro only come-PAST
'Only Taro came.'

Let us call such propositions invoked by these and similar particles **directly comparable propositions** (henceforth, DCPs). Not only DCPs are necessary to describe the meaning of such particles as *wa* and *mo* as we saw above, but also to explain the interaction of multiple occurrences of such particles in a sentence, as we will see below.

Discussing understatements and hedges in English, Huebner (1983, p. 155) characterizes the projective nature of a sentence uttered in a dialogue as follows.

One of the most important points of departure for our study has been the idea mentioned in the first chapter that the (assertory) sentence represents a hypothesis about a propositional state of affairs, and it is this projective character of the sentence which produces its negatability. Linked to this has been the acknowledgement of the necessity for ratification of the propositional content, ratification being considered to have been effected when the propositional content has not been rejected by the hearer or hearers. This necessity for ratification of sentences, brought about by their inherent negatability, has been found to be the reason why the many linguistic modifying devices are used, since it is their function to reduce the risk of negation.

Though the function of DCP-inducing particles has more to do with assuring the mutual understanding of the discourse context between the speaker and the hearer than with reducing the negatability of an utterance as a possible face-threatening act by attenuating its possible aggressive character as in the case of understatements and hedges, they serve the same purpose of enhancing the ratifiability of a sentence. As pointed out by Saussure, relations between linguistic terms fall into syntagmatic and associative ones. The capacity of choosing more euphemistic terms in conversation rests upon the presence of a set of alternative terms readily employable for their weighing for appropriateness at every step in composing the utterance. In this regard, DCPs are similar, for they too readily come to the minds of the speaker and the hearer and weigh in by providing part of the background information the utterance has to square with. Thus, DCP-inducing particles can be considered as devices for positively utilizing such background information to enhance the ratifiability of an utterance by acknowledging mutual understanding of the utterance situation.

1.1 DCPs and Information Structure

In traditional educational grammars of Japanese, DCP-inducing particles are divided into *kakari zyosi* such as *wa, mo, koso, sae, demo, sika*, etc. and *huku zyosi* such as *sura, made, bakari, dake, nado*, etc., the former being thought of as endowed with the capacity of “being connected (to a predicative element)(Hasimoto, 1948, p. 65)” and the latter without it. But there have been different classifications based on different criteria such as Sakuma’s classification making *wa* and *mo* into a separate group from the rest of *kakari zyosi*, as discussed in (Teramura, 1991, pp. 10-12). More modern linguists and grammarians treat the particles as *toritare zyosi* ‘particles for taking up (i.e., marking different modes of conceptualization of the entity taken up for predication)(Miyazima and Nitta, 1995, p. 278). In this paper, we will follow this modern approach, and concentrate on the DCP-inducing aspect of the particles.

Martin (1975, p. 70) points out the difference between “foregrounding” and “backgrounding” functions of the DCP-inducing particles (henceforth, EP for ease of reference).

Notice that usually what occurs after *wá* is NEW information (*kore wa enpitu desu-sore WA pén desu* ‘This is a pencil-that is a pen’) and what occurs after *mó* is OLD information (*kore wa enpitu desu-sore MO enpitu desu* ‘This is a pencil-that is a pencil, too’).

In “*sore WA pen desu*”, *pen desu* ‘is a pen’ introduces new information, whereas *enpitu desu* ‘is a pencil’ in “*sore MO enpitu desu*” does not. It should be noted that in both sentences the referent of *sore* ‘that’ is accessible to the speaker and the hearer, and so is most likely not discourse-new. The articulation of a sentence into what is focus and what is not is the major characteristic of the theories of information packaging and information structure as proposed by (Vallduví, 1992) and (Lambrecht, 1994).

The theory of information packaging as proposed by (Vallduví, 1992) regards a sentence as embodying information-decoding instructions to be used by the hearer so that the hearer can update his knowledge database in the way intended by the speaker. A sentence is composed of two parts: **ground**, which is already part of the hearer’s knowledge, and **focus**, which is the new information conveyed by the sentence.² In the case of (Lambrecht, 1994), the dichotomy is between *topic* and *assertion*, which roughly corresponds to Vallduví’s link and focus. For our present purposes of explaining the distribution of Japanese EPs as well as their interactions, we will adopt Lambrecht’s opposition of topic and assertion(or, focus), for his notion of ratified topic is closely connected with the meaning of topical *wa*.

The relevance of informational articulation of the sentence for languages like Japanese was noticed by (Choi, 1996) and (Kim, 2000). Choi (1996) deals with scrambling of obligatory arguments of predicates in Korean and German. Kim (2000) discusses the deletion and movement operations in Korean which generate sentences with the optimal information structure. The mechanisms proposed in these two works have a direct bearing on the mechanism which will account for the distribution of case particles and EPs in Japanese, for the two languages have a lot of grammatical makeup in common. However, we will take a different tack and view the whole phenomenon in light of modal operators as discussed by Foley & van Valin (1984).

1.2 DCPs and modal operators

Foley & van Valin (1984, p. 224) proposes the following universal hierarchy of operators.

- (5) (ILLOC FORCE (EVID (TENSE (STATUS [peri (MOD [core (DIR (ASPECT [nucleus]))...))

²Ground is further divided into *link* and *tail*, the former corresponding to (Lambrecht, 1994)’s topic for ratification.

In view of the fact that Japanese is dependent marking with regard to the relationship between a predicate and its arguments (Nichols, 1992), where the dependent arguments rather than the head predicate are marked for the dependence relationship, it should not be unwarranted to seek the elements acting as the head for the phrases marked by EPs. We claim that they are the modal operators STATUS and MOD in (5), for they are responsible for setting the mood of the utterance, and DCPs are induced by EPs relative to the mood. Status is defined as “the variable of actuality of the event, whether it has been realized or not (Foley and van Valin, 1984, p. 213)”, whereas modality as “the speaker’s estimate of the relationship of the actor of the event to its accomplishment, whether he has the obligation, the intention, or the ability to perform it (Foley and van Valin, 1984, p. 214).

- (6) a. It is obligatory for Asa to hoe the field.
 b. Asa is able (knows how) to hoe the field.

In these sentences, the described situations are removed from the utterance situation in that the action of hoeing the field is not (necessarily) taking place at the utterance time. In this sense, status and modality introduce the multiplicity of situations associated with single sentences. However, these operators determine the pivotal situation in relation to which the situations corresponding to DCPs are located.

- (7) Taro wa bongo sae hanas-er-u
 Taro WA Sanskrit ADD speak-CAN-PRES
 ‘Taro can even speak Sanskrit.’

In (7), the pivotal situation is a potential one where Taro speaks Sanskrit. In the sense that the sentence is about Taro’s ability, and not an ongoing event involving Taro, the situation is removed from actuality. The EP *sae* indicates an additional element to be included in the set of comparable elements. Let us call the element marked by an EP **self**, and the comparable elements minus self **colleagues**. Since *sae* presents self as an additional element, the colleagues are taken to represent more usual members of the set of comparable elements. Thus, the DCPs calculable from (7) include potential situations where Taro speaks English, French, Spanish, etc.

- (8) eigo sae hanas-er-eba sono syoku ni tuk-er-u noni
 English ADD speak-CAN-COND the job TO get-CAN-PRES IRREALIS
 ‘If only I could speak English, I would get the job.’

In (8), the speaker has all the qualifications but one for the job. The pivotal situation is a hypothetical one where he is able to speak English. The DCPs describe those situations where he has additional but unnecessary abilities to secure the job. Unlike the previous example, both the pivotal situation and those corresponding to the DCPs are counterfactual, because the modal operators set the mood of the sentence to counterfactual. Thus, it is modal operators setting the level of actuality of the pivotal situation which dictate the working out of the DCPs associated with the sentence according to the conditions specified by the EP.

2 DCPs as F-structures

In this section, we introduce a new notation for DCPs using F-structures of Lexical Functional Grammar. This is because logical formulas are not particularly suited to the analysis of semantic and morphological composition of linguistic expressions. For one thing, a translation in predicate logic of a natural language sentence does not usually retain syntactic information of the sentence, let alone morphological information. For our purposes, it is vital to have a

notation which can be manipulated like logical formulas and preserve relevant syntactic information as well. The F-structure of LFG belongs to a class of linguistic representations known as attribute-value structures or feature structures, which allow us to integrate various kinds of information in the same format, thus well-suited as a linguistic representation which requires the coexistence and interactions of diverse information. Ishikawa (1985), for example, shows that F-structures combined with C(onstituent)-structures can explain conflict between syntactic and morphological heads in Japanese.

In this paper, we use F-structures to represent DCPs associated with a sentence. A sentence containing an EP is given a pair of F-structures, one representing the content of the sentence, and the other DCPs induced by the particle. More precisely, we provide a schema for the set of DCPs by introducing a variable standing for **colleagues** into the second type of F-structure. We also introduce an index to indicate the scope of the EP.

We illustrate how to produce a DCP schema by using the following sentence.

- (9) Taro mo ki-ta
 Taro MO come-PAST
 'Taro came, too.'

$$(10) \left[\begin{array}{l} \text{SUBJ} \left[\begin{array}{l} \text{SCOPE} \left[\text{PRED 'TARO'} \right] \\ \text{EP} \quad \text{MO}_{\mathbb{1}} \end{array} \right] \\ \text{PRED 'come(SUBJ)'} \end{array} \right] \quad (11) \left[\begin{array}{l} \text{SUBJ} \left[\begin{array}{l} \text{PRED} \quad \text{'COMP(X,TARO)'} \\ \text{TYPE} \quad \text{fulcral} \\ \text{SELF} \quad \text{additive} \\ \text{POLARITY} \quad \text{preserving} \end{array} \right] \\ \text{PRED 'come(SUBJ)'} \end{array} \right]_{\mathbb{1}}$$

(11) is the DCP schema induced from (10). The value of the SUBJ SCOPE PRED is replaced by a variable COMP(X,TARO). The scope of the EP MO is expanded into a representation characterizing the nature of the colleague, which is also marked with the same index as that of the EP. The three features are taken from the set of four features jointly characterize EPs: **type**, **self**, **edge** and **polarity**.

The type feature is of three kinds: set-theoretic, presentational and fulcral. Set-theoretic EPs are concerned with delimiting the range of colleagues essentially by including them in or excluding them from the set of elements sharing the same property which is currently predicated of self. Presentational EPs are more concerned with drawing the hearer's attention to the extremity of self as an example from its associated set, thereby providing him/her with an instruction on the proper inferences to draw. They indicate, as it were, how the self should fit in with the whole picture of the event, not just the relationship with their colleagues.

Fulcral EPs consist of *wa*, *mo* and *nara*. *Wa* is usually a topic marker: it signals an element for topic-ratification. Such elements must be discourse-accessible but retain a degree of unexpectedness as the topic of the sentence. Ratified topics are never marked by *wa*, but deleted from the sentence (Horiguti, 1995, p. 28).

- (12) a. Taro wa eiga ni it-ta-no?
 Taro TOPIC cinema TO go-PAST-QUEST
 'Did Taro go to the cinema?'
 b. (*Taro wa) eiga ni it-ta-yo
 Taro TOPIC cinema TO go-PAST-ASSERT
 '(Yes,) (*Taro/he) went to the cinema.'

In (12b), the ratified topic *Taro wa* should be deleted unless the intended reading is a contrastive one such as 'Taro indeed went to the cinema, but I don't know about the others.' In other words, *wa* as the marker for topic ratification turns into an EP with a contrastive meaning when it occurs in a context where the self is already a ratified topic (Lambrecht and Michaelis, 1998).

Fulchral EPs seem to form a separate class from presentational EPs in that they tend to take the widest scope in the sentence. They can take more than one modal operator in their scope.

- (13) a. Taro wa/mo/nara eigo ga hanas-er-u ga sono syoku ni
 Taro WA/MO/NARA English GA speak-CAN-PRES CONTRAST the job TO
 oobosu-beki-denai
 apply-SHOULD-NEG

'As to Taro, indeed he (too) can speak English, but he should not apply for the job.'

- b. #Taro sura/sae/demo eigo ga hanas-er-u ga
 Taro even English GA speak-CAN-PRES CONTRAST
 sono syoku ni oobosu-beki-denai
 the job TO apply-SHOULD-NEG

'Even Taro can speak English, but he should not apply for the job.'

Their primary function seems to indicate the main dichotomy of the sentence into topic/comment or focus/ground.

The self feature is used to indicate whether the self is a *unique*, *additional* or *approximate* instance of its associated set, the first two values corresponding to the including and excluding functions mentioned in connection with set-theoretic EPs. The last value, i.e. approximate, also represents an including function, but indicates that self might be only a delegate and not a true representative. In this regard, the feature might be taken to represent the opposite of the emphasizing function, but given the human limitations in their command of precise locutions, there should be no wonder that language should provide such means of equivocation.

The edge feature carries a kind of topological information concerning the relationship between self and colleague. A self can be characterized as *maximum* relative to its colleagues when it is ranked highest according to a certain measure. In contrast, the value *negative* is given to a self when it occupies the highest point of a measure whose points are negatively ordered in the sense that the least usual or desirable are ranked the higher. The value *brink* means an abrupt edge, so to speak, beyond which you are not on the same foothold. In a sense, this is the prototypical value of the edge feature. It is not concerned with whether the self is a maximal point or not, but only with it being an extreme instance.

The last feature, *polarity*, captures whether the colleague shares the same polarity with the self with regard to the property predicated of the self in the sentence. There is a certain correlation between the self feature and this feature. A unique self always implies the reverse polarity value, and never the preserving polarity value. For additive selves, the value is either preserving or non-applicable. Approximate selves can take any of the three values.

A table of representative EPs as analysed by the above scheme is given in Figure 1.

3 DCP operations

In this section, we discuss how DCPs can account for various grammatical behaviours of EPs.

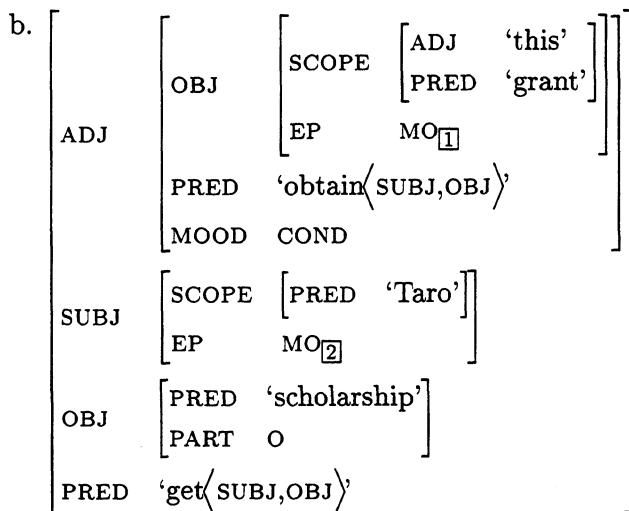
3.1 Conflicting foci

A sentence can have more than two occurrences of EPs, but it becomes unacceptable when the scopes of the EPs overlap.

item	type	self	edge	polarity
dake‘only’	set-theoretic	unique	na	reverse
made‘as far as’	set-theoretic	additive	maximum	preserving
nado‘or the like’	set-theoretic	approximate	na	preserving
bakari‘exclusively’	set-theoretic	approximate	na	reverse
koso‘precisely’	presentational	unique	na	reverse
sura‘even’	presentational	additive	negative	preserving
sae‘even’	presentational	additive	brink	na
demo‘even’	presentational	approximate	brink	preserving
sika‘except’	presentational	unique	na	reverse
wa‘TOPIC’	fulcral	unique	na	na
mo‘too’	fulcral	additive	na	preserving
nara‘as for’	fulcral	unique	na	na

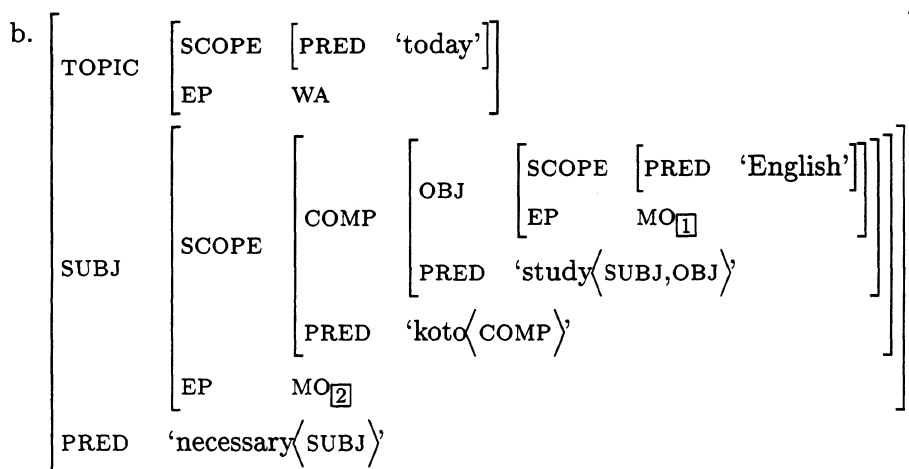
Figure 1: EPs and their features

- (14) a. kono zyoseikin mo tor-er-eba Taro mo syoogakuin ga mora-er-u
 this grant MO obtain-CAN-COND Taro MO scholarship GA get-CAN-PRES
 ‘If we also succeed in getting this grant, Taro will also get a scholarship.’



As (14b) shows, there is no conflict of scope between the two *mo*. And so the sentence is perfectly acceptable, By contrast, the next sentence is not, because the scope of one *mo* is properly includes by that of the other.

- (15) a. *ima wa eigo mo benkyoosur-u koto mo hituyoo-da
 now WA English MO study-PRES Nominal MO necessary-COP
 ‘Today, it is also necessary to study English as well.’



It turns out that set-theoretic EPs can be contained by the other types of EP. The reason seems to be that set-theoretic EPs allow the calculation of DCPs independently of that of the rest of the processes in the sentence, whereas presentational and fulcral EPs require that the calculation of the rest of the processes of the sentence to be included in that of their DCPs. A corroborating fact for this surmise is that set-theoretic EPs cannot contain the other types of EPs. For the calculation of the DCP for a containing set-theoretic EP must be preceded by that of the DCP for the contained EP of a presentational or fulcral EP, which makes it impossible to execute the former calculation independently of the latter, thus resulting in a loop-like situation.

(16)

ima wa eigo dake/made/nado/bakari benkyoosur-u koto koso/sura/.../nara hituyoo-da
 now WA English only/etc. study-PRES Nominal precisely/etc. necessary-COP
 'Today, it is necessary to do none other than study only English./etc.'

*ima wa eigo koso/sura/.../nara benkyoosur-u koto dake/made/nado/bakari hituyoo-da
 now WA English precisely/etc. study-PRES Nominal only/etc. necessary-COP
 'Today, it is necessary to only study none other than English./etc.'

Even when there is no scopal overlap, the presence of two EPs in a single clause can result in an unacceptable sentence. Apparently, this situation is also explainable by employing the above generalization: set-theoretic EPs allow independent calculation of DCPs while the other two types of EPs do not.

- (17) a. *Taro dake kono mondai made tok-er-u
 Taro only this problem as far as solve-CAN-PRES
 'Only Taro can solve even this problem.'
- b. ??Taro koso kono mondai sae tok-er-u
 Taro precisely this problem even solve-CAN-PRES
 'It is none other than who Taro can solve even this problem.'
- c. *Taro mo kono mondai mo tok-er-u
 Taro MO this problem MO solve-CAN-PRES
 'Taro too can solve this problem as well.'

But the situation is more complicated. When one of the EPs is topical (i.e., *wa* or *nara*), the configuration does not give rise to an unacceptable sentence. This is a piece of evidence that topical ratification is a different process than that of DCP calculation.

- (18) Taro wa/nara kono mondai mo/wa/nara tok-er-u
 Taro WA/NARA this problem MO/WA/NARA solve-CAN-PRES
 'Taro can solve this problem as well.'

4 Successive DCP operations

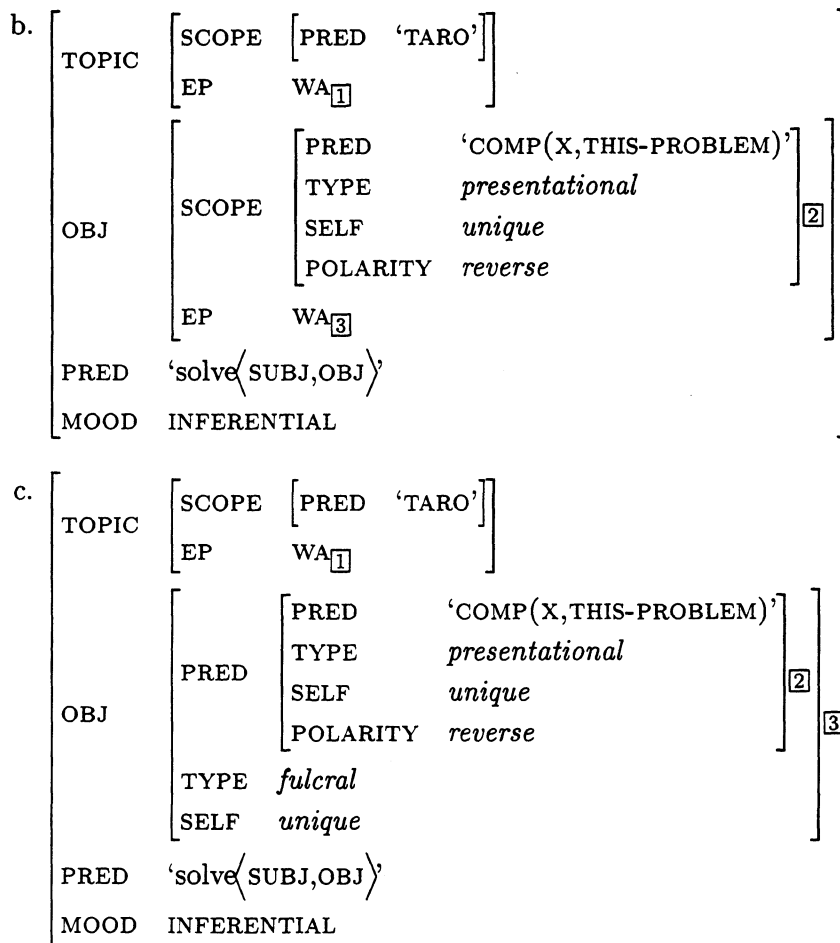
When two EPs are combined to form a unit such as *sae-mo*, *dake-nara*, etc., set-theoretic EPs occurs closest to the modified expression, followed by presentational EPs, which in turn are followed by fulcral EPs. This ordering tendency is strictly observed in such combinations, and can be explained by our feature characterization of EPs. Again, we can resort to the same generalization to explain this ordering effect: Set-theoretic EPs allow independent calculation of DCPs, whereas the other types of EPs do not; and fulcral EPs induce the major dichotomy of the sentence while the other types of EPs do not.

- (19) a. Taro wa kono mondai koso-wa tok-u-daroo
 Taro WA this problem precisely-WA solve-PRES-INFER
 'Taro will solve none other than this problem.'
- b. Taro wa kono mondai made-wa tok-u-daroo
 Taro WA this problem even-WA solve-PRES-INFER
 'Taro will solve at least as far as this problem.'
- c. *Taro wa kono mondai koso-mo tok-u-daroo
 Taro WA this problem precisely-MO solve-PRES-INFER
 'Taro will solve none other than this problem as well.'

As is clear from Figure 1, there is no conflict between the values of the features for *koso-wa* and *made-mo*.³ But for the third combination *koso-mo* the self and polarity features have conflicting values. The following F-structures illustrate a step-wise derivation of the corresponding DCP scheme of (19a)

- (20) a.
$$\left[\begin{array}{l} \text{TOPIC} \left[\begin{array}{l} \text{SCOPE} \left[\text{PRED 'TARO'} \right] \\ \text{EP} \text{WA}_1 \end{array} \right] \\ \text{OBJ} \left[\begin{array}{l} \text{SCOPE} \left[\begin{array}{l} \text{SCOPE} \left[\begin{array}{l} \text{ADJ 'THIS'} \\ \text{PRED 'PROBLEM'} \end{array} \right] \\ \text{EP} \text{KOSO}_2 \end{array} \right] \\ \text{EP} \text{WA}_3 \end{array} \right] \\ \text{PRED 'solve(SUBJ,OBJ)'} \\ \text{MOOD INFERENTIAL} \end{array} \right]$$

³The other topical EP *nara* cannot replace *wa* here. I have no explanation for this fact.



5 Indefinites

Indefinites like *dare* 'who', *dore* 'which', *doko* 'where', *itu* 'when', and *nani* 'what' also interact EPs. As indefinites, they do not have fixed referents as proper names or, for that matter, common nouns do. In questions, they can be used as interrogative proforms. In declarative sentences, they need to be marked by *ka* to qualify as indefinite noun phrases of existential import.

In view of (Vallduví, 1992)'s theory of information packaging, indefinites should be considered as inherently assigned the role of focus in the sentence. By themselves or as a constituent of a larger phrase within a sentence, they introduce new information of a quantificational nature. They are known not to act as links, i.e., topics for ratification.

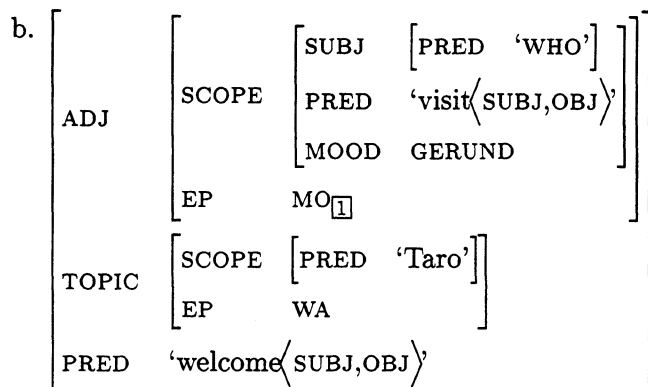
- (21) a. *dare-ka *wa/ga Taro o home-ta*
 someone WA/GA Taro Acc praise-PAST
 'Someone praised Taro.'
- b. *dare-mo *wa/ga Taro o home-ta*
 someone WA/GA Taro Acc praise-PAST
 'Everyone praised Taro.'

5.1 Indefinites and *mo*

That *dare-mo* is not a morphologically fixed expression defying compositional semantics is testified to by examples involving *mo* separated from *dare*. However, the calculation of the corresponding DCP proceeds in exactly the same manner as for ordinary noun phrases marked by *mo*. Only, with the self lacking in a definite referent, the calculation of the colleague ends up

in identifying the whole associated set, which might be restricted by the discourse context to a relevant subset of the whole human race.

- (22) a. dare ga hoomonsi-te mo Taro wa kangeisi-ta
 who GA visit-GER MO Taro WA welcome-PAST
 'Whoever visited him, Taro welcomed him/her'



It should be noted that presentational EPs cannot offer this kind of remote interaction with indefinites. This can be attributed to the basic difference between fulcral and presentational EPs regarding the dichotomizing powers. But we can account for a similar remote interaction available to certain presentational EPs like *demo* by calculating DCPs according to Figure 1.

- (23) dare ga hoomonsi-ta toki demo Taro wa kangeisi-ta-no
 who GA visit-PAST time even Taro WA welcome-PAST-QUES
 'Whoever visited him, Taro welcomed him/her then.'

6 Conclusion

We have seen that the distribution and behaviour of EPs can be explained by hypothesizing a classificational scheme based on four features: type, self, edge and polarity. The interaction of multiple occurrences of EPs within a sentence can be accounted for using the F-structure notation of LFG. We have also seen that DCPs are responsible for the degree of acceptability associated with the sentence. Furthermore, our F-structure representation has been shown to be capable of making EP's semantic contribution perspicuous and explainable.

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