

Flexible Theta-Marking and (Anti-)Labeling*

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1 Introduction

Japanese allows a rather flexible pattern of theta-marking, typically exhibited by so-called light-verb constructions (LVCs) involving verbal nouns (VNs), as shown in (1) (see Grimshaw and Mester 1988, Kageyama 1993, a.o.). In (1a), all the arguments of the VN *keikoku* ‘warning’ (in this particular case, agent-DP, goal-PP and theme-CP) appear within the domain of the VN (informally labeled as “VNP”), and they are all marked as genitive. (1b-c) are the examples of LCVs, where the VN and the light verb *su-* ‘do’ form a

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complex predicate. In (1b), only the agent DP appears outside the VNP, while in (1c) all the arguments appear outside it.

- (1) a. [-VNP^o [DP Taroo]-no [PP murabito-e]-no [CP ookami-ga kuru
T.-Gen villager-to-Gen wolf-Nom come
to]-no keikoku]
C-Gen warning
‘Taroo’s warning to the villagers that the wolf is coming.’
- b. [DP Taroo]-ga [-VNP^o [PP murabito-e]-no [CP ookami-ga
T.-Nom villager-to-Gen wolf-Nom
kuru to]-no keikoku]-o sita
come C-Gen warning-Acc did
‘Taroo did a warning to the villagers that the wolf was coming.’
- c. [DP Taroo]-ga [PP murabito-ni] [CP ookami-ga kuru to]
T.-Nom villager-to wolf-Nom come C
[-VNP^o keikoku]-sita
warning-did
‘Taroo warned to the villagers that the wolf was coming.’

To explain the constant theta-relations across (1a-c), various proposals have been made in literature, including *Argument Transfer* (Grimshaw and Mester 1988, Miyagawa 1989, Tsujimura 1990, Sato 1993, a.o.) and *LF-incorporation* (Hoshi 1994, Saito and Hoshi 2000, Saito 2006, a.o.), both of which somehow allow non-local theta-marking by VNs. However, their theoretical status is not clear, especially in the recent minimalist framework.

As for the origin of the flexibility, Saito (2003) proposes a parameter called *Derivational Configurationality Parameter*, which makes not only LVC but also scrambling and radical *pro*-drop possible, reviving Hale’s (1983) insight (see also Bošković and Takahashi 1998, Oku 1998, Sugisaki 2007). More recently, Saito (2016, 2018, 2020) argues that these properties of non-configurational languages, in particular scrambling and radical *pro*-drop, arise from the presence of affixal Case-markers *K(ase)*, which function as *anti-labeling device* in the labeling framework (Chomsky 2013, 2015).

Against this background, this paper proposes a novel analysis of the rather flexible pattern of theta-marking found in (1) by extending Saito’s (2016, 2018, 2020) idea of K as anti-labeling devices and Takita’s (2020) Labeling-for-Linearization hypothesis (*LfL*). To be more specific, it is proposed that there are functional heads that introduce arguments (dubbed as *Th(ematic)*), and that just like K renders arguments invisible for labeling, Th, serving as an anti-labeling device, can render predicates invisible for labeling. Then, it is illustrated that the fact that neither arguments nor predicates participate in labeling gives rise to the apparent “non-configurational” phrase structure in the sense of Hale (1983), making flexible theta-marking possible. This paper

thus puts the whole project forward by analyzing LVCs in terms of the anti-labeling framework on a par with scrambling and radical *pro*-drop. It is further claimed that the proposed analysis provides a novel support for the LfL-based solutions to labeling problems.

2 Theoretical Assumptions

Chomsky (2013, 2015) argues that the label of the syntactic objects (SOs) formed by Merge can be unambiguously determined only for cases like (2) (except for the cases where the head X is weak), and cases like (2c) require either movement or feature-sharing. Building on this framework, Saito (2016, 2018, 2020) proposes that no labeling problem arises in (2c) if one of the member of {XP, YP} contains a head functioning as an anti-labeling device, which instructs minimal search (MS) to determine the label of the SO solely based on the other member.

- (2) a. $\{? X, Y\}$ b. $\{_X X, YP\}$ c. $\{? XP, YP\}$

As for the reason why labels are required, I assume that labels are necessary only for PF reasons, following Takita's (2020) idea of LfL given in (3).

- (3) Labels are required solely for linearization in the sense that only labeled SOs can have the relative linear order of their members determined. (Takita 2020:82)

(4) illustrates how each type of SOs is accommodated under LfL together with the linearization rules given in (5), where 'x<y' means "x precedes y" (see Takita 2020:83-85). One unique feature of LfL is that SOs can remain unlabeled unless they cause a linearization problem, as in (4a,c).

- (4) a. $\{? X, Y\}$: can remain unlabeled if X is an affix or null
 b. $\{_X X, YP\}$: linearized by the linearization rule in (5a)
 c. $\{? XP, YP\}$: can remain unlabeled if XP is moved/elided/null
 d. $\{<_{F,F}> XP_{[F]}, YP_{[F]}\}$: linearized by the linearization rule in (5b)
- (5) a. i. Head-initial (e.g. English): $\{_X X, YP\} \rightarrow X<YP$
 ii. Head-final (e.g. Japanese): $\{_X X, YP\} \rightarrow YP<X$
 b. $\{<_{F,F}> XP_{[val]}, YP_{[unval]}\} \rightarrow XP<YP$

In particular, the case in (2a), whose treatment is not clear in the original labeling framework, can also be straightforwardly accommodated as in (4a).

3 Proposals and Analysis

This section explores the question of what makes flexible theta-marking possible in the Japanese-type language. Our answer is the following: Assuming

that each argument is introduced by a separate functional head Th, which is independent from lexical R(oot)s (Kratzer 1996, Lohndal 2014, a.o.) and categorizers such as *v* (Borer 2005, a.o.), I propose that Th is an acategorial (as it can appear both in verbal and nominal domains) weak head in the sense of Chomsky (2015) so that it functions as an anti-labeling device. In Japanese, arguments can come with K, which is a weak head and functions as an anti-labeling device (Saito 2016, 2018, 2020, Miyagawa, Wu and Koizumi 2019). Then, the presence of K makes arguments and predicates can be symmetric with respect to labeling, which effectively yields flexible theta-marking.

To see the function of weak heads as an anti-labeling device, let us review Saito's (2018, 2020) proposal. He argues that if K attaches to a DP as in (6a), the DP provides the label of the whole SO since K is a weak head. At the next step in (6b), K instructs MS to ignore the DP and detect the other member (TP in this case) as the label-provider. In this way, K as a weak head serves as an anti-labeling device.

- (6) a. $\{_D \text{ DP, K} \}$ b. $\{? \{_D \text{ DP, K} \}, \text{TP}\} \rightarrow \{_T \{_D \text{ DP, K} \}, \text{TP}\}$

Building on but departing from Saito (2018, 2020), this paper proposes a slightly different implementation. First, when the SO in (7a) is formed, MS immediately detects K, but since K is weak, the label of the whole SO is left undetermined. Nonetheless, (7a) is legitimate because no linear order between DP and K is required thanks to the affixal nature of K. More generally, when XP and $H_{w(\text{eak})}$ are Merged, the label can be undetermined if H_w is affixal or null because no linearization problem arises.

- (7) a. $\{? \text{ DP, K} \}$ b. $\{? \{? \text{ DP, K} \}, \text{TP}\} \rightarrow \{_T \{? \text{ DP, K} \}, \text{TP}\}$

At the next step in (7b), MS detects both K and T, and the latter becomes the label since K is weak while T is not. Given that the linearization rule in (5a-ii) puts the label-providing member in the SO-final position, it applies to (7b) as well, yielding the desirable linear order DP-K<TP. In other words, the asymmetry between H_w and a non-weak head H provides a clue for linearization, just like the one between H and XP (see Takita 2020:99-100).

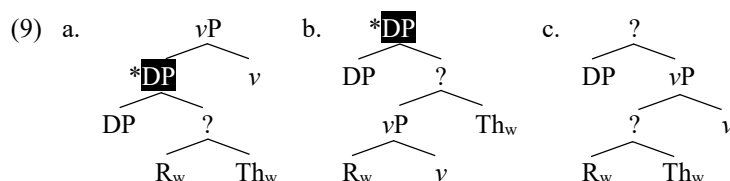
This asymmetry between heads can be generalized to head-head merger cases given in (8). As for (8a), where both heads are not weak, and (8c), where both are weak, no problem arises if one of them is affixal or null (cf. (4a)) even though the whole SOs are unlabeled.¹

- (8) a. $\{? \text{ X, Y} \}$ b. $\{_X \text{ X, Y}_w \}$ c. $\{? \text{ X}_w, \text{ Y}_w \}$

As for (8b), where a weak head is Merged with a non-weak head, the latter can provide the label so that no linearization problem occurs.

¹Note that we assume that if a head is weak then it is affixal/null, not vice versa (see Oda 2022).

Let us then consider how arguments are introduced. Suppose that they lack K, as in English. Assuming that R is a weak head as well since it is acategorial (Chomsky 2015), the argument lacking K participates in labeling while the “predicate” in (9a-b) (the R-Th- ν combination) cannot, because Th is also weak. In (9a), the DP argument Merged with $\{? R_w, Th_w\}$ provides the label of the resultant SO, with $\{? R_w, Th_w\}$ being “hidden” inside the argument **DP**. This makes ν fail to find $\{? R_w, Th_w\}$ later on. In (9b), Th is Merged after $\{\nu P, R_w, \nu\}$ is formed. Since $\{? \nu P, Th_w\}$ is unlabelable due to the weak Th, when it is Merged with the DP, the DP provides the label. Hence, the whole SO counts as an argument DP (the R-Th- ν combination hidden inside the **DP**), though a predicate is intended to be formed.



Notice that the problem is *not* the label-less SOs (i.e. the ones marked as “?”) but those with “wrong” labels, namely the **DPs**.² The point is that an argument lacking K is not weak so that it is visible for labeling, hence the predicate taking it must also be visible. Thus, in order to take an argument lacking K, the R-Th combination must be “strengthened” by ν (more generally the categorizer) as in (9c), so as to make the structure symmetric for labeling.³

On the other hand, the predicate does not have to be strengthened in the Japanese-type languages, because both the argument and the predicate come with weak heads (K and R/Th respectively). This makes the structure symmetric even when the R-Th- ν combination is formed in the way depicted in (9a-b). Taking a simple transitive sentence like (10a) as a concrete example, either of (10b-c) can yield a legitimate result.⁴ In (10b), $\{R_w, Th_w\}$ (= ?¹) attempts to take DP_{Obj}, just like (9a). Since DP_{Obj} has already been Merged with K_w, however, neither ?_{Arg}¹ nor ?¹ can provide a label for the resultant SO (= ?²). Therefore, the “wrong”-labeling problem can be avoided. At the next step, another Th_w is Merged with ?², yielding ?³. Since DP_{Subj} has been Merged with K_w, Merging ?³ with ?_{Arg}² again causes no “wrong”-labeling problem. Finally, ν is introduced to the structure, verbalizing the whole predicate. In (10c), On the other hand, ν is first introduced to the structure

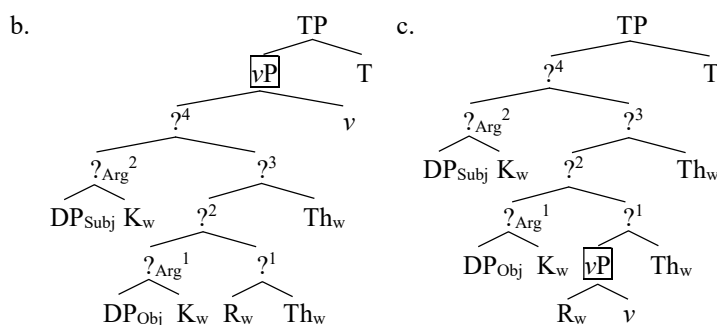
²Following Takita, Goto and Shibata (2016), Takita (2020) assumes that lower copies are visible to labeling, so moving the argument DP does not help avoiding the “wrong”-labeling problem.

³The labeling/linearization problem at the $\{? DP, \nu P\}$ level in (9c) must be resolved, but it can be done via usual ways such as subject raising.

⁴The notations “?_{Arg}”, “?” and the superscripts on them are just for the sake of illustration.

verbalizing R like (9b), and then the arguments are introduced via their respective Th-heads. Although each Th_w makes the resulting SO unlabeled, the arguments are also rendered unlabeled via K. Therefore, no “wrong”-labeling problems arises, unlike the cases in (9a-b).⁵

- (10) a. Miku-ga Tenma-o hometa.
 M.-Nom T.-Acc praised
 ‘Miku praised Tenma.’

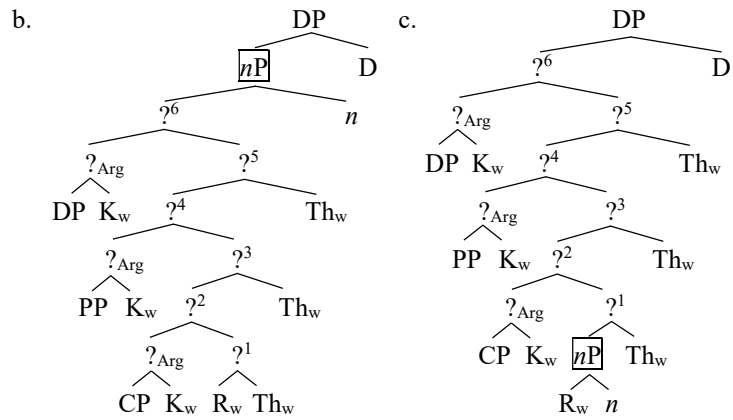


Note that in (10b) *v* is Merged after all the arguments have been introduced while in (10a) *v* is Merged before introducing any argument. Introducing *v* in the intermediate steps (like (9c)) also induces no “wrong”-labeling problem. In this way, languages with K allow arguments to be introduced to the structure in a highly flexible way, while those without K do not.

Turning to VNs, let us examine (11a), repeated from (1a), where all the arguments appear within the VN. Assuming that a VN shares R and Th-heads with its verbal counterpart while *n* appears instead of *v*, (11b-c) show the ways of introducing arguments which are parallel to the ones in (10b-c). Since the arguments are accompanied by K, each Th-head can occur anywhere below or above *n*. That is, Th-heads can be Merged either before (as in (11b)) or after (as in (11c)) the categorizer *n* is introduced to the structure.

- (11) a. [-^vVNP^v] [DP Taroo]-no [PP murabito-e]-no [CP ookami-ga kuru
 T.-Gen villager-to-Gen wolf-Nom come
 to]-no keikoku]
 C-Gen warning
 ‘Taroo’s warning to the villagers that the wolf is coming’

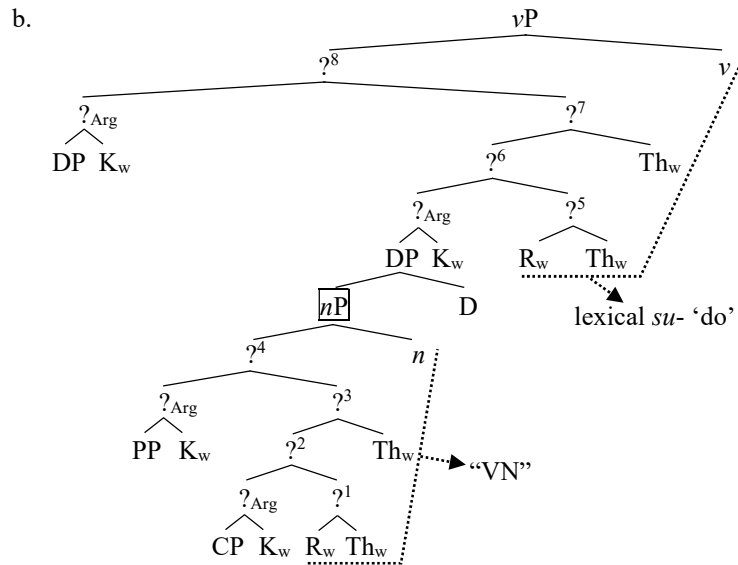
⁵As for linearization, no problem arises within each ?_{Arg} because K is a suffix. The SOs immediately containing ?_{Arg} (i.e. ?² and ?⁴ in (10b-c)), however, must have the linear order within them determined. This can be achieved by moving ?_{Arg}, which naturally follows from Shibata’s (2015) idea that in Japanese every argument must be moved so that morphological merger combines R-Th-*v* (and T) together.



When D closes off the traditionally called “VNP” domain, each argument receives genitive Case-marking. This results in “VN-internal” theta-marking.

Then, how is “VN-external” theta-marking allowed? One such case is (12a) (repeated from (1b)), which can have the structure given in (12b).

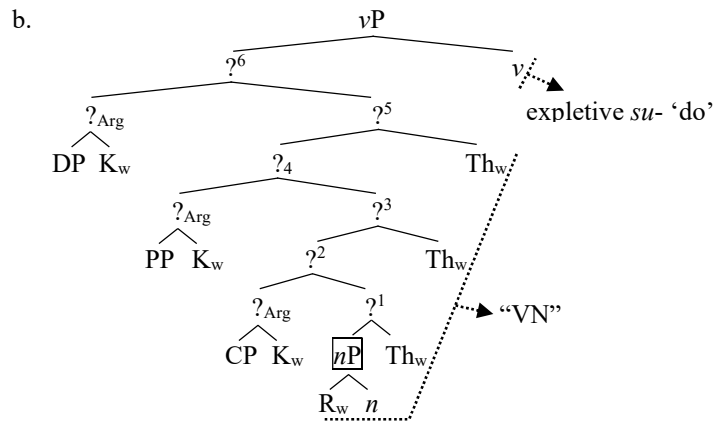
- (12) a. [DP Taroo]-ga [-VNP] [PP murabito-e]-no [CP ookami-ga
 T.-Nom villager-to-Gen wolf-Nom
 kuru to]-no keikoku]-o sita
 come C-Gen warning-Acc did
 ‘Taroo did a warning to the villagers that the wolf was coming.’



In (12b), where the “VNP” domain (namely below \overline{nP}) contains two Th-heads and there is a higher R corresponding to the verb *su-* ‘do’, which has its own Th-heads. The structure in (12b) claims that the verb *su-* ‘do’ in the LVC of the (12a)-type is a lexical verb that takes two arguments, namely the DP denoting an event (= “VNP”/DP) and the agent DP (= *Taroo-ga*), and that the PP- and CP-arguments are introduced by the Th-heads associated with the R corresponding to the VN.

On the other hand, (13a), repeated from (1c), is the case where all the arguments are theta-marked VN-externally. (13b) illustrates a possible structure for (13a), where all the Th-heads are sandwiched by *n* and *v*.

- (13) a. [DP *Taroo-ga*] [PP *murabito-ni*] [CP *ookami-ga kuru to*]
 T.-Nom villager-to wolf-Nom come C
 [“VNP” *keikoku-sita*]
 warning-did
 ‘*Taroo* warned to the villagers that the wolf was coming.’

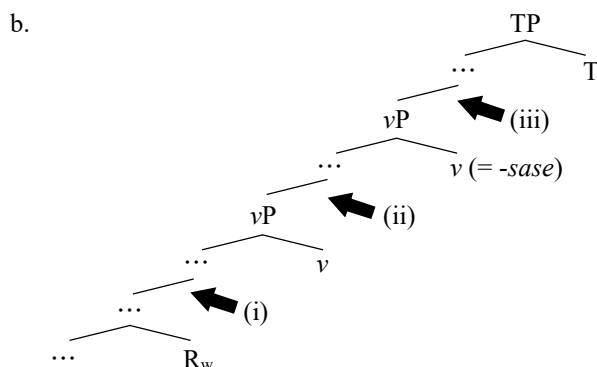


In (13b), all the Th-heads are associated with the R corresponding to the VN and the verb *su-* ‘do’ in the LVC of the (12b)-type is an “expletive” verb in the sense of Saito (2006) (*pace* Takita 2010). In fact, the absence of the accusative Case-maker on the VN in (13a), unlike (12a), is compatible with the idea that the “VNP” is not an argument of the verb *su-* ‘do’ so that there is no DP-layer above *nP* in (13b).

Before closing this section, let us confirm that the proposed analysis does not allow “too flexible” theta-marking. As shown in (14b), it is well-known that causative constructions such as (14a) involve *vP*-complementation (see Murasugi and Hashimoto 2004, a.o.). Now, if an argument is introduced by a Th-head occurring in (i) or (ii) (i.e. below *-sase* ‘cause’), it counts as an argument of the R-*v* combination (i.e. *home-* ‘praise’). On the other hand, if

a Th-head appears in (iii) (i.e. above *-sase* ‘cause’), its argument is interpreted as that of *-sase* ‘cause’. Hence, the causer argument *Miku* must be introduced at the position (iii), while the causee and the theme arguments (*Tenma* and *Ichi*, respectively) must be introduced at the positions (i) or (ii).

- (14) a. [_{vP} Miku-ga [_{vP} Tenma-ni Ichi-o home]-sase(-ta)]
 M.-Nom T.-Dat I.-Acc praise-cause-Past
 ‘Miku made Tenma praise Ichi.’



In this way, illicit “long-distance theta-marking” (e.g. theta-marking of *Miku* by *home-* ‘praise’) is excluded while the desirable flexibility is retained.

The gist of the proposal can be summarized as follows. In languages with K, arguments are invisible to labeling when they come with K.⁶ Then, the argument-introducing head Th, which is assumed to be universally weak, can appear in the structure relatively freely to the extent that the argument structure it creates is compatible with the R with which it is associated. On the other hand, in languages without K, the possible position of Th is limited. Put this way, the “non-configurational” character of the Japanese-type languages comes from the fact that neither arguments nor predicates can provide labels in the thematic domain, yielding a number of “?”-marked SOs.

4 Conclusion

This paper has proposed that the flexibility of theta-marking in the Japanese-type languages results from the anti-labeling nature of the Case-makers K, extending Saito’s (2016, 2018, 2020) idea. Although the universal weakness of the Th-heads may create many unlabeled SOs in the thematic domain in languages with and without K, they cause no problem under Takita’s (2020) linearization mechanism based on the Labeling-for-Linearization hypothesis.

⁶See Takita (in prep.) for how arguments lacking K behave in the Japanese-type language.

This paper also has certain typological implications. Building on Hale (1980) and Kuroda (1988), Saito (2016, 2018, 2020) argues that the presence of K allows a language such as Japanese to have i) free word order (i.e. scrambling), ii) wide distribution of null arguments (i.e. radical *pro*-drop), iii) extensive employment of complex verb-words (e.g. V-V compounds), iv) multiple occurrences of Case markers (e.g. multiple nominative constructions), and v) flexible prenominal sentential modifiers (e.g. gap-less relative clauses). This paper adds one more property to this typological clustering of properties: flexible theta-marking typically exemplified by the light verb constructions.

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