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FUNCTIONAL CATEGORIES AND CONFIGURATIONALITY[1]

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1. Introduction

Under VP-internal Subject Hypothesis (Kuroda 1986b, 1988, Fukui 1986, among others) and Configurational Theta Theory (Chomsky 1995, 2000, 2001, 2004, 2005, etc.), to be interpreted properly, arguments selected by *v*/V must be base-generated in structurally FIXED positions IRRESPECTIVE OF STRUCTURAL ENVIRONMENTS, as illustrated in (1a-b).

"ENVIRONMENT INDEPENDENT" HYPOTHESIS

(1)a. [$_{VP}$ WP [$_{V'}$ ZP V]] (*VP-internal Subject Hypothesis*)

b. [$_{vP}$ WP [$_{VP}$ ZP V]*v*] (*Configurational Theta Theory*)[2]

VP-internal Subject Hypothesis and Configurational Theta Theory are, therefore, "ENVIRONMENT-INDEPENDENT" hypotheses concerning structure building and θ-marking.

In this paper, I aim to show that θ-marking and structure building are indeed "FLEXIBLE" and "ENVIRONMENT-DEPENDENT." In particular, I argue that FUNCTIONAL categories affect both θ-marking and structure building in significant ways.

To attain this aim, I propose (2a-b), which concerns the nature of θ-marking.

"**ENVIRONMENT-DEPENDENT" HYPOTHESIS FOR THETA MARKING**

(2) As far as it provides "PROPER INSTRUCTIONS" for the conceptual-intentional system CI, a predicate can carry out θ-marking FREELY in accordance with STRUCTURAL ENVIRONMENTS. This is so, because

a. to carry out θ-marking, a predicate can FREELY EXPAND its θ-domain, i.e. its OWN projection, by means of "THETA-FEATURE PERCOLATION/TRANSMISSION;"

b. FUNCTIONAL categories, however, block θ-marking, i.e. the EXPANSION of a θ-domain, because FUNCTIONAL categories are "INCOMPATIBLE" with LEXICAL features such as θ-features. (cf. Chomsky 2000)

Thus, under proposal (2a-b), if X^0 is a two-place predicate selecting WP and ZP, and if Y^0 is a LEXICAL head, X^0 can θ-mark WP and ZP in a flexible way, as shown in (3).

(3)a. [$_{YP}$ ..... [$_{XP}$ WP ZP X^0] Y^0] b. [$_{YP}$ WP [$_{XP}$ ZP X^0] Y^0]

c. [$_{YP}$ WP ZP [$_{XP}$ X^0] Y^0] d. [$_{YP}$ WP ZP [$_{Y0}$ X^0 Y^0]] etc.

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[1] This paper is a development of Hoshi (2001, 2002a-b, 2004), and earlier versions of this paper were presented at Nanzan University (11th March, 2005), Tohoku Gakuin University (28th Mary and 23rd July, 2005), Kwansei Gakuin University (16th July, 2005), and Tohoku English Literary Society at Iwate University (30th October, 2005). I am very grateful to Jun Abe, Koichi Abe, Kazuhiko Fukushima, Taro Kageyama, Masatoshi Koizumi, Hiroshi Mito, Tomohiro Miyake, Kentaro Nakatani, Masao Ochi, Masaki Sano, Yoko Sugioka, Daiko Takahashi, Yoko Yumoto, and especially Yoshiki Ogawa for invaluable comments on the earlier versions of this paper.

[2] In (1a-b), WP is an external argument and YP is an internal argument. (1b) is a version of Split VP Hypothesis (cf. Larson 1988, Hale and Keyser 1993, Koizumi 1995, among others).

In (3a), X^0 assigns θ-roles to WP and ZP within its own projection. In (3b), X^0 θ-marks ZP within its projection, and θ-marks WP within the projection of Y^0, a LEXICAL head, by means of X^0's θ-feature percolation/transmission into the domain of Y^0. In (3c), X^0 does not θ-mark any of its arguments within its own projection, but it θ-marks WP and ZP within the projection of the LEXICAL HEAD, Y^0, by X^0's θ-feature percolation into the domain of Y^0. In (3d), X^0head-adjoins to Y^0, assigning θ-roles to WP and ZP within the projection of Y^0 by means of X^0's θ-feature percolation into the domain of Y^0.

If instead, Y^0 is a FUNCTIONAL head in (3), X^0 is required to θ-mark both WP and ZP within its own projection as in (3a), because FUNCTIONAL heads are in principle INCOMPATIBLE with LEXICAL features such as θ-roles and thus, BLOCK θ-marking.

To capture some unique properties of Japanese with respect to θ-marking, I set forth hypothesis (4).

(4) FUNCTIONAL HEADS IN JAPANESE do NOT block θ-marking, i.e. the EXPANSION of a θ-domain. This is because JAPANESE FUNCTIONAL CATEGORIES are "COMPATIBLE" with the features of LEXICAL/SUBSTANTIVE categories, i.e. "L-COMPATIBLE." (cf. Fukui 1986, Fukui and Speas 1986; cf. Kuroda 1986b, 1988)[3]

Concerning the nature of structure building, I propose (5a-b).

"ENVIRONMENT-DEPENDENT" HYPOTHESIS FOR STRUCTURE BUILDING

(5) Structure building is also ENVIRONMENT-DEPENDENT. Namely, C_{HL} must license every part of phrase structure as X^0 or XP in accordance with STRUCTURAL ENVIRONMENTS, as below:[4]

a) ON ITS OWN, a LEXICAL head may license only "MORPHOLOGICAL" structure (6a);
b) A FUNCTIONAL head, on the other hand, necessarily licenses only "SYNTACTIC" structure (6b).

(6)a. $[_{X0}\ Y^0\ X^0]$ (X^0 = LEXICAL head) b. $[_{XP}\ YP\ X^0]$ (X^0 = FUNCTIONAL head)

Environment-dependent hypothesis (5a-b), if it is correct, implies that categorial labels, X^0 and XP, should be eliminated from the computation C_{HL}, because such labels are made superfluous under the proposed hypothesis (cf. Chomsky 1994, 1995, among others).

In this paper, after motivating (4) and (5a-b), I discuss the nature of causatives, idioms, light/heavy verb constructions, negative polarity items, nominative-genitive conversion, predicate fronting, scope fact, among others. In so doing, I argue that the configurationality of a given language, i.e. θ-marking and structure building, is significantly affected by FUNCTIONAL categories, as predicted by the proposed ENVIRONMENT-DEPENDENT hypotheses based on (2a-b), (4) and (5a-b).

More specifically, I claim that with respect to the treatment of Japanese causatives, "lexicalist" account (7a) and "transformationalist" analysis (7b) are both correct in one respect or another (cf. Kuroda 1965a, 1965b/75, 1981, 1986a, 2003, Kuno 1973, Shibatani 1973, Inoue 1976, Farmer 1980, Miyagawa 1980, Manning, et. al 1999, among others).

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[3] Kuroda (1986b, 1988) proposes that agreement is forced in English, but is not forced in Japanese. Fukui (1986) and Fukui and Speas (1986), on the other hand, propose that English has specifiers, but Japanese lacks them. This is because English has functional categories, which license specifiers by agreement, but Japanese simply lacks such functional categories. More specifically, Japanese lacks functional categories such as D and C, and has only a defective T, which does not license a specifier by agreement. Proposal (4) is different from these proposals. However, it captures some intuitions behind these two previous proposals concerning the nature of agreement and functional categories in Japanese. First, (4) implies that because functional categories in Japanese are L-compatible, they can tolerate θ-marking by lexical categories within their projections as in (3b-d). Hence, it could appear that Japanese lacks functional categories under certain structural environments (cf. Fukui 1986, Fukui and Speas 1986; see section 5). Secondly, hypothesis (4) implies that due to the L-compatibility of functional categories, the nature of feature checking/agreement in Japanese could be significantly different from that in English. In particular, I maintain in section 5 that T in Japanese does not have to induce movement for Nominative Case feature checking due to its L-compatibility, whereas T in English has to do so due to its L-incompatibility (cf. Kuroda 1986b, 1988).

[4] Under Chomsky's (1994, 1995) Bare Phrase Structure Theory, I have attempted to incorporate into (5a-b) Kageyama's (1993) insight that "functional categories divide syntax from morphology," and Sells (1996, 2002) insightful claim that "Case markers force the word that they are part of to project to a phrase."

(7)a. ..... [$_{v0Cause}$ V^0-$V^0{}_{Cause}$] ..... (*"lexicalist" hypothesis*)
b. ..... [$_{VP}$ ..... [$_{VP}$ ..... V^0] $V^0{}_{Cause}$] ..... (*"transformationalist" hypothesis*)

This is because for causatives, C_{HL} projects structure (7a) or configuration (7b) DEPENDING ON STRUCTURAL ENVIRONMENTS precisely because of (5a-b).

Furthermore, I maintain that because JAPANESE FUNCTIONAL CATEGORIES such as T are L-COMPATIBLE (see 4), T does not force *v*/V to complete its θ-marking within *v*P/VP, as shown in (8a-b).

(8)a. [$_{TP}$ *Subject* [$_{vP/VP}$ *Object* V] T] (= 3b) b. [$_{TP}$ *Subject Object* [$_{vP/VP}$ V] T] (= 3c) etc.

(8a-b) indicate that *v*P/VP in Japanese is flexible in that all the arguments selected by *v*/V do not have to be base-generated within *v*P/VP (contra VP-internal Subject Hypothesis 1a; Configurational Theta Theory 1b). If this conclusion is correct, it follows that with respect to the configurationality of Japanese, Hale (1980, 1982) and Saito (1985) are both correct in one respect or another. That is, Japanese has "VP"(cf. Saito 1985), but its "VP" is NOT as RIGID as "VP" in languages such as English due to L-COMPATIBLE FUNCTIONAL CATEGORIES in the Japanese language (cf. Hale 1980, 1982). Unlike in Japanese, all the arguments selected by *v*/V are forced to be base-generated within *v*P/VP in English as in (1a-b) and (3a), due to L-INCOMPATIBLE FUNCTIONAL CATEGORIES in the English language. (Later in this paper, I claim that θ-marking cannot go over strong PHASES such as CP and DP in Japanese, but that as shown in (8a-b), θ-marking can go over a strong PHASE, *v*P, in Japanese. There, I suggest that Japanese may indeed lack a strong phase head, *v*, or *v* in Japanese is not functional but lexical.)

I motivate hypothesis (4) in section 2 and hypothesis (5a-b) in section 3. Then, in section 4, I show that DEPENDING ON STRUCTURAL ENVIRONMENTS, causatives in Japanese project structure (7a) or configuration (7b) as predicted by (5a-b), and argue that the properties of causatives should be captured in the core computation. In section 5, I demonstrate that as proposed in (4), FUNCTIONAL CATEGORIES IN JAPANESE, K, Neg, T, and C, are indeed L-COMPATIBLE, and thus, they do NOT block θ-marking. There, I also show that θ-marking cannot go beyond CP and DP in Japanese, and I suggest that this is presumably because as strong PHASES, CP and DP necessarily break "A" relations such as θ-relations (cf. improper movement). In section 6, I conclude the discussions of this paper. In the appendix, I discuss timing of θ-marking, and suggest that θ-marking can be delayed for legitimate reasons such as "COMPLEX PREDICATE" formation or "COMPLEX ARGUMENT" formation. There, I speculate that C_{HL} allows complex argument formation, and it is indeed the MIRROR IMAGE computation of complex predicate formation.

2. Motivation for Hypothesis (4): the Lexicon in Japanese

"MIXED" categories in (9) constitute suggestive evidence for hypothesis (4).

(9)a. [$_{Modal/N}$ hazu] b. [$_{Modal/N}$ wake] c. -[$_{Aspect/N}$ tyuu]
should should middle
'should' 'should' 'be in the middle of Ving ...'

d. -[$_{Neg/A}$ na] e. -[$_{C/N}$ ori] f. -[$_{C/N}$ mae]
not 'not' occasion 'when' before 'before'

g. -[$_{C/N}$ akatuki] h. -[$_{C/N}$ sai] i. -[$_{C/N}$ tyokugo]
time 'when' case 'when' right after 'right after'
j. -[$_{C/N}$ go] k. -[$_{C/N}$ sidai] l. -[$_{C[+Q]/N}$ ka(dooka)]
after as soon as if/whether
'after' 'as soon as' 'if/whether'

m. [$_{K/V/T}$ da] (= [$_{K}$ *de*] + [$_{V}$ *ar*] + [$_{T}$ *u*]) n. -[$_{P/N}$ e][5] etc.
be 'be' to 'to'
(cf. Saito 1985, Fukui 1986/1996, Shibatani and Kageyama 1988, Tada 2002, among others)

Notice that given (4), we can explain why mixed categories such as the ones above are abundant in Japanese, whereas languages such as English lack them. (9a-b) suggest that in Japanese, modal features are compatible with N features,

[5] I am very grateful to Tomohiro Miyake, who brought (9n) to my attention in personal communication in July, 2005.

and thus, they can be assembled within one lexical item. (9c) implies that aspectual features in Japanese are compatible with N features, and hence, they can be assembled within one word. (9d) suggests that in Japanese, Neg features are compatible with A features, and thus, they may be assembled in a single lexical item. For the same reason, (9e-l) implies that C features are compatible with N features in Japanese. (9m) suggests that functional heads such as K and T are compatible with V features in Japanese. (9n) implies that P is compatible with N features in Japanese. Consequently, the data in (9) hint at the possibility that functional categories in Japanese are indeed L-compatible unlike those in languages such as English.

3. Motivation for Hypothesis (5)

Kageyama (1993), Ito and Sugioka (2002), among others, discover data such as (10a-b) and (11a-b), and suggest a generalization that a functional head cannot be contained within a X^0 level category. Hence, (10a) and (11a) are well-formed X^0 level categories, whereas (10b) and (11b) are not well-formed words. I take these data as direct evidence for hypothesis (5a-b) as follows:

(10)a. yaki-zakana
grill-fish
'grilled fish'

b. *yai -ta -zakana
grill-Pst-fish

(11)a. gomi -hiroi
rubbish-collect
'rubbish collecting'

b. *gomi -o -hiroi
rubbish-Acc-collect

(Kageyama 1993, Ito and Sugioka 2002, p. 6, etc.)

As illustrated in (12),

(12) $[_{N0}\ [_{V0}$ yaki$]\ [_{N0}$ zakana$]]$ ($\surd$ 5a/6a)

(10a) can be a well-formed X^0 level category. This is so, because under environment-dependent hypothesis (5a-b), $[_{N0}$ *zakaka*$]$ can license a X^0-level category with $[_{V0}$ *yaki*$]$ in accordance with (6a), as in (12). [*yaki*] in (12), however, can never be licensed as a phrasal category, VP, because there is no functional head which selects [*yaki*] in accordance with (6b) (cf. 11a).

As shown in (13a-b), however,

(13)a. $[_{TP}\ [_{VP}$ yai$]\ [_{T0}$ ta$]]$ ($\surd$ 5b/6b)

b. *$[_{N0}\ [_{TP}\ [_{VP}$ yai$]\ [_{T0}$ ta$]]\ [_{N0}$ zakana$]]$ (*5a/6a)

$[_{N0}$ *zakana*$]$ in (10b) cannot license a well-formed N^0 category together with $[_{V}$ *yai*$]$-$[_{T}$ *ta*$]$. This is because $[_{T0}$ *ta*$]$, being a functional head, necessarily licenses syntactic structure (13a) in accordance with (6b), at the time when it merges $[_{V0}$ *yai*$]$. As in (13b), $[_{N0}$ *zakana*$]$ then cannot merge with $[_{TP}\ [_{VP}$ *yai*$]\ [_{T0}$ ta$]]$ to form a N^0 category, because "MORPHOLOGICAL" structure building (5a/6a) must precede "SYNTACTIC" structure building (5b/6b) (Kageyama 1993, Ito and Sugioka 2002, among others; cf. *11b).

By adopting environment-dependent hypothesis (5a-b), we can assign well-formed structure (15) to (14).

(14) yaki-zakana-ga (oisi -i).
grill-fish -Nom (delicious-Prs) 'Grilled fish (is delicious)'

(15) $[_{KP}\ [_{N0/NP}\ [_{V0}$ yaki$]\ [_{N0}$ zakana$]]$ ga$]$ ($\surd$ 5a/6a & 5b/6b)

[$[_{V0}$ *yaki*$]\ [_{N0}$ *zakana*$]]$ is licensed as N^0 first by means of (5a/6a), as seen in (12). In (15), the Case head $[_{K0}$ *ga*$]$ then merges with [$[_{V0}$ *yaki*$]\ [_{N0}$ *zakana*$]]$, and further, necessarily licenses [$[_{V0}$ *yaki*$]\ [_{N0}$ *zakana*$]]$ as NP due to (5b/6b). Hence, as illustrated in (15), [$[_{V0}$ *yaki*$]\ [_{N0}$ *zakana*$]]$ in (14) is interpreted as N^0 and NP at the same time, as desired.

The environment-dependent hypothesis for structure building in (5a-b) also assigns well-formed structure (17) to relative clause (16), as is desired.

(16) yai -ta sakana-ga (oisi -i)
grill-Pst fish -Nom (delicious-Prs) 'Fish that pro grilled (is delicious)'

(17) $[_{KP}\ [_{NP}\ [_{TP}\ [_{VP}$ yai] ta] sakana] ga] ..... ($\surd$ 5b/6b)

First, $[_{T}$ *ta*] merges $[_{V}$ *yai*], necessarily forming syntactic structure $[_{TP}\ [_{VP}$ *yai*] ta] due to (5b/6b), as in (13a). After $[_{N}$ *sakana*] merges $[_{TP}\ [_{VP}$ *yai*] *ta*], the Case head $[_{K}$ *ga*] merges with [$[_{TP}\ [_{VP}$ *yai*] *ta*] *sakana*], creating structure (17). Crucially, [$[_{TP}\ [_{VP}$ *yai*] *ta*] *sakana*] cannot be a X^0 level category because morphological structure building (5a/6a) cannot follow syntactic structure building (5b/6b) as in (13b). However, in (17), the functional head $[_{K}$ *ga*] necessarily licenses [$[_{TP}\ [_{VP}$ *yai*] *ta*] *sakana*] as NP in accordance with (5b/6b). Consequently, [$[_{TP}\ [_{VP}$ *yai*] *ta*] *sakana*] in (16) is regarded as NP unambiguously, as indicated in (17) (cf. 15).

Hypothesis (5a-b) assigns exactly the same relative clause structure (19) to (18), but (19) is ruled out for phonological reasons, as desired.

(18) *yai -ta zakana-ga (oisi-i)
Grill-Pst fish -Nom (delicious-Prs) 'Fish that pro grilled (is delicious)'

(19) *$[_{KP}\ [_{NP}\ [_{TP}\ [_{VP}$ yai] ta] zakana] ga] ..... ($\surd$ 6b)

As in (17), [$[_{TP}\ [_{VP}$ *yai*] *ta*] *zakana*] in (19) as a whole cannot be licensed as a X^0 level category because morphology must precede syntax. However, the Case head $[_{K0}$ *ga*] necessarily licenses [$[_{TP}\ [_{VP}$ *yai*] *ta*] *zakana*] as NP in accordance with (5b/6b). Unlike (17), however, (19) is ill-formed, because the phonological change from [*sakana*] to [*zakana*] called *rendaku* can be triggered only by a preceding X^0 level modifier within a X^0 level category as shown in (12) (cf. Sugioka 1984, Ito and Sugioka 2002, among others).

Hence, hypothesis (5a-b), if it is correct, implies that structure building is dependent upon STRUCTURAL ENVIRONMENTS. Only a lexical head may carry out morphological structure building (see 5a/6a), whereas a functional head necessarily carries out syntactic structure building in the computation C_{HL} (see 5b/6b). Hence, (5a-b) suggests that categorial labels such as X^0 and XP should be eliminated from C_{HL}, because they are made redundant under the proposed hypothesis. Consequently, (5a-b) provides substantial support for Chomsky's (1994, 1995, etc.) claim that categorial labels such as X^0 and XP are eliminable.

4. Causatives

In this section, through an examination of causatives, I attempt to provide further evidence for the claim that structure building is environment-dependent as proposed in (5a-b), and that θ-marking is also environment-dependent as hypothesized in (2a-b). In so doing, I try to show that θ-marking can be freely done within the projections of lexical categories, as predicted by (2a-b).

Compare (20) with (21a-b).

(20) John-ga Mary-ni hon-o yom-ase -ta.
John-Nom Mary-Dat book-Acc read-Cause-Pst
'John made Mary read books.'

(21)a. John-no Mary-e-no hon-no yom -ase -$[_{N}$ kata][6](-ga kyoomibuka-i.)
John-Gen Mary-to-Gen book-Gen read -Cause- way (-Nom interesting -Prs)
'John's way of making Mary read books (is interesting.)'

b. *John-ga Mary-ni hon-o yom-ase -$[_{N}$ kata](-ga kyoomibuka-i)
John-Nom Mary-Dat book-Acc read-Cause- way (-Nom interesting -Prs)

(20) is an instance of regular Japanese causative, where the agent *John* is marked by Nominative Case *-ga*, the patient *Mary* is marked by Dative Case *-ni*, and the theme argument *hon* 'book' is marked by Accusative Case *-o*. (21a) is an instance of Japanese causative nominalized by the suffix $[_{N0}$ *-kata*] 'way,' and there, all the arguments, *John*, *Mary*, and *hon* are marked by Genitive Case *-no* (cf. 20). (21a) together with (21b) shows that if Japanese causatives are nominalized by $[_{N0}$ *-kata*], arguments cannot be marked by Nominative Case, Dative Case or Accusative Case, but they must be

[6] See Saiki (1987), Sugioka (1992), Fukui and Nishigauchi (1993), Kageyama (1993), Yatabe (1993), Hoshi (1999, 2001, 2002a-b, 2004), Ito and Sugioka (2002), Sells (2002), Fujimaki (2003, 2004), among others, for more discussion of *-kata* 'way' nominalization in Japanese.

marked by Genitive Case.

Given the observation concerning (20) and (21a-b), a question arises as to why all the arguments in nominalized causatives have to be attached by Genitive Case *-no*. The proposed environment-dependent hypothesis for structure building and θ-marking provides a straightforward answer to this question.

Notice first that under hypothesis (5a-b), nominalized causative (21a) cannot project "biclausal" structure (22):

ENVIRONMENT-DEPENDENT STRUCTURE BUILDING
(22) *[$_{KP}$ [$_{NP}$ [$_{*VP}$ John-... Mary-... [$_{*VP}$ (PRO) hon-... yom] ase] kata] ga] ... (*5b/6b)

This is because in (22), neither the upper VP projected by the causative verb *(s)ase* nor the lower VP projected by *yom* 'read' can be licensed by a functional head in accordance with (5b/6b). That is, (22) crucially lacks T or v, which necessarily licenses those phrasal projections, VPs, through selection.

Under environment-dependent hypothesis (5a-b), C_{HL} is therefore forced to build the following structures for nominalized causative (21a) step by step in the course of the computation:

ENVIRONMENT-DEPENDENT STRUCTURE BUILDING
(23)a. [$_{V0}$ [$_{V0}$ yom] [$_{V0}$ ase]] ($\sqrt{}$ 6a)
b. [$_{N0}$ [$_{V0}$ [$_{V0}$ yom] [$_{V0}$ ase]] [$_{N0}$ kata]] ($\sqrt{}$ 6a)
c. [$_{?}$ [$_{KP}$ hon-no] [$_{N0}$ [$_{V0}$ [$_{V0}$ yom] [$_{V0}$ ase]] [$_{N0}$ kata]]] (*6a/*6b)
d. [$_{?}$ [$_{KP}$ Mary-e-no] [$_{?}$ [$_{KP}$ hon-no] [$_{N0}$ [$_{V0}$ [$_{V0}$ yom] [$_{V0}$ ase]] [$_{N0}$ kata]]]] (*6a/*6b)
e. [$_{?}$ [$_{KP}$ John-no] [$_{?}$ [$_{KP}$ Mary-e-no] [$_{?}$ [$_{KP}$ hon-no] [$_{N0}$ [$_{V0}$ [$_{V0}$ yom] [$_{V0}$ ase]] [$_{N0}$ kata]]]]] (*6a/*6b)
f. [$_{KP}$ [$_{NP}$ [$_{KP}$ John-no] [$_{N'}$ [$_{KP}$ Mary-e-no] [$_{N'}$ [$_{KP}$ hon-no] [$_{N0/N'}$ [$_{V0}$ [$_{V0}$ yom] [$_{V0}$ ase]] [$_{N0}$ kata]]]]] [$_{K0}$ ga]] (6b)

First, as seen in (23a), [$_{V0}$ *ase*] merges [$_{V0}$ *yom*], creating V^0 properly in accordance with (5a/6a). Second, as in (23b), [$_{N0}$ *kata*] merges [$_{V0}$ [$_{V0}$ *yom*] [$_{V0}$ *ase*]] to form N^0, which is consistent with (5a/6a). Third, as shown in (23c), [$_{N0}$ [$_{V0}$ [$_{V0}$ *yom*] [$_{V0}$ *ase*]] [$_{N0}$ *kata*]] merges the phrasal category [$_{KP}$ *hon-no*]. In this case, however, the newly created projection by [$_{N0}$ *kata*] cannot be licensed as N^0, because morphological structure building (5a/6a) cannot follow syntactic structure building (5b/6b). The newly created projection by [$_{N0}$ *kata*] cannot be licensed as NP, either, because [$_{N0}$ *kata*] is not functional but lexical (see 5b/6b). Fourth, in (23d), the whole configuration in (23c) merges [$_{KP}$ *Mary-e-no*]. Exactly as in (23c), the newly constructed projection by [$_{N0}$ *kata*] in (23d) cannot be licensed as N^0 or NP. Fifth, in (23e), the entire structure in (23d) merges [$_{KP}$ *John-no*]. In (23e) as well, the newly created projection based on [$_{N0}$ *kata*] cannot be N^0, because morphological structure building cannot follow syntactic structure building. The newly constructed projection by [$_{N0}$ *kata*] is not licensed as NP, because [$_{N0}$ *kata*] is not functional but lexical (see 5b/6b). However, as shown in (23f), once the functional head [$_{K}$ *ga*] merges the whole configuration in (23e), the Case head simultaneously licenses all the N projections by [$_{N0}$ *kata*] as the phrasal category NP in accordance with (5b/6b). (21a) is, therefore, assigned well-formed structure (23f), and all the arguments selected by [$_{V0}$ *yom*] and [$_{V0}$ *ase*] are base-generated in the N projections of [$_{N0}$ *kata*], as illustrated in (23f). Consequently, Genitive Case features attached to all the arguments in (23f) are properly checked within NP, as desired.[7]

Importantly, because θ-marking can be freely done within the projections of lexical categories due to (2a-b) (cf. 3a-d),

ENVIRONMENT-DEPENDENT THETA MARKING
(24) [$_{KP}$ [$_{NP}$ John-no^4 Mary-e-no^3 hon-no^1 [$_{N0/N'}$ [$_{V0}$ [$_{V0}$ yom]^2 [$_{V0}$ ase]] [$_{N0}$ kata]]] [$_{K0}$ ga]] ... (cf. 7a)
(~~agent~~(theme^1)) (agent^4(patient^3(theme^2))) ($\sqrt{}$ 2a-b; cf. 3d)

there is no problem for [$_{V0}$ *yom*] and [$_{V0}$ *ase*] to carry out their θ-role assignment as indicated in (24)[8]. To provide proper instructioins for the CI system, these two predicates assign their θ-roles to arguments from bottom up in accordance with their lexical conceptual structures or thematic structures (see 2a; cf. Larson 1988, Saito and Hoshi 1994/2000, among others). More precisely, [$_{V0}$ *yom*] assigns a theme θ-role to [$_{KP}$ *hon-no*] within NP projected by [$_{N0}$ *kata*]. The patient argument of the causative verb [$_{V0}$ *ase*] licenses the agent argument of [$_{V0}$ *yom*] in terms of semantic control (cf. Pol-

[7] In this paper, I assume that Genitive Case features are checked within NP in Japanese (Saito 1985, Murasugi 1991, among others).

[8] In this paper, θ-marking relations between arguments and argument slots in lexical conceptual structure or thematic structure are indicated by superscripts, as illustrated in (24).

lard and Sag 1994, Jackendoff 1997, among others). The causative verb [$_{V0}$ *ase*] assigns theme θ-role to [$_{V0}$ *yom*], a patient θ-role to [$_{KP}$ *Mary-e-no*] and an agent θ-role to [$_{KP}$ *John-no*] within the projection of [$_{N0}$ *kata*].

However, the environment-independent hypotheses such as (1a) and (1b) appear to be able to account for the Cast fact in (21a) properly as well, as shown in (25a-b).

ENVIRONMENT-INDEPENDENT STRUCTURE BUILDING & THETA MARKING

(25)a. [$_{KP}$ [$_{NP}$ John-no$_1$ Mary-e-no$_2$ hon-no$_3$ [$_{VP}$ t_1 t_2 [$_{VP}$ t_3 yom] ase] kata] [$_{K}$ ga]] ...

b. [$_{KP}$ [$_{NP}$ [$_{VP}$ John-no Mary-e-no [$_{VP}$ hon-no yom] ase] kata] [$_{K}$ ga]] ...

Under environment-independent hypothesis (25a-b), REGARDLESS OF STRUCTURAL ENVIRONMENTS, the lower predicate [$_{V0}$ *yom*] is always required to θ-mark *hon-no* in a structurally fixed position within its own V projection. The causative predicate [$_{V0}$ *ase*] is always forced to θ-mark the patient *Mary-e-no* and the agent *John-no* in structurally fixed positions within its own V projection, as illustrated in (25a-b). Presumably because there is no functional head which checks Nominative Case, Dative Case, or Accusative Case in nominalized causative in (25a-b), all the arguments must undergo movement into the N projection of [$_{N0}$ *kata*] for Genitive Case feature checking as in (25a) or have their Genitive Case features checked off in situ through Agree as in (25b).

A question, therefore, immediately arises as to which is correct, environment-dependent hypothesis (24) or environment-independent hypothesis (25a-b), concerning the treatment of nominalized causative (21a). Significantly, the contrast between (26a) and (26b) provides substantial support for the proposed environment-dependent hypothesis with respect to structure building and θ-marking. Observe, now, that in nominalized causative (26a), [$_{V0}$ *yom*] cannot be attached by the adverbial particle, *sae* 'even.' In non-nominalized causative (26b), on the other hand, [$_{V0}$ *yom*] can be attached by *sae*.

(26)a. *John-no Mary-e-no hon-no yom-i-sae s-ase -kata-ga[9] ...
John-Gen Mary-to-Gen book-Gen read -even do-Cause-way-Nom
'John's way of making Mary even read books'

b. John-ga Mary-ni hon-o yom-i-sae s -ase -ta.
John-Nom Mary-Dat book-Acc read- -even do-Cause-Pst
'John made Mary even read books.' (Hoshi 2004)

Under environment-dependent hypothesis (5a-b), (26a) can never project biclausal structure (27a).

ENVIRONMENT-DEPENDENT STRUCTURE BUIDING & THETA MARKING

(27)a. *[$_{KP}$ [$_{NP}$ [$_{*VP}$ John-no Mary-e-no [$_{*VP}$ (PRO) hon-no [$_{V0}$ yom]]-i-sae [$_{V0}$ s-ase]] kata] ga] ...

b. *[$_{KP}$ [$_{NP}$ John-no Mary-e-no hon-no [$_{N0/N'}$ [$_{V0}$ [$_{V0}$ yom]-i-sae [$_{V0}$ s-ase]] [$_{N0}$ kata]]] [$_{K0}$ ga]] (cf. 7a)

This is so, because in (27a), neither the upper VP nor the lower VP can be licensed in accordance with (5b/6b), due to the lack of T or v selecting these VPs (cf. *22).

Hence, (26a) is forced to project configuration (27b) step by step exactly in the same way as (21a) is in (23a-f). Unlike (23f), however, (27b) is ruled out, as desired, because adverbial particles such as *sae* cannot be contained inside a X^0 level category (Kuroda 1981, Kageyama 1993, Yumoto 2001, Ito and Sugioka 2002, among others).[10]

The proposed environment-dependent hypothesis in (5a-b) nicely accounts for the well-formedness of (26b) as well, given a natural assumption in (28b).

(28)a. [$_{TP}$ ... [$_{VP}$ ... [$_{VP}$ ... V] V_{Cause}] T] ($\surd$ 6b)

[9] In (26a-b), the dummy verb *su* 'do' is inserted, because the causative morpheme *(s)*ase is a bound morpheme, requiring V^0, but is separated by the lexical verb *yom* 'read' due to the intervening adverbial particle sae (Kuroda 1965b/75, 1981, Kishimoto 2001, among others).

[10] It is highly likely that the adverbial particle is a functional head, and that the morphological generalization follows from (5) directly. However, I put this claim aside here, simply for ease of exposition.

b. $[_{TP} \ldots [_{VP} \ldots [_{VP} \ldots V] \ V_{Cause}/T] \ T]$ ($\surd$ 6b)

As seen in (28a), if T merges the projection by the causative verb *(s)ase*, T necessarily licenses the upper VP in accordance with (6b). Notice that in such causatives, T determines the tense value of V_{Cause}, and V_{Cause} inherits T features, turning into a V/T category. With the inherited T features, V_{Cause} then determines the tense value of the lower V. Then, it is reasonable to assume that V_{Cause} necessarily licenses the lower VP with the inherited T features in accordance with (6b), as illustrated in (28b). In short, given T which selects the projection by V_{Cause}, C_{HL} necessarily projects "biclausal" structure like (28b), which was originally proposed by Kuroda (1965a, 1965b/75).[11]

Given this, consider computation (29a-f) for non-nominalized causative (26b) without *sae* step by step under the proposed environment-dependent hypothesis.

ENVIRONMENT-DEPENDENT STRUCTURE BUILDING

(29)a. [? [KP hon-o] [v0 yom]] (*6a)
b. [? [DP PRO] [? [KP hon-o] [v0 yom]]] (*6a)
c. [? [DP PRO] [? [KP hon-o] [v0 yom]]] [v0 ase]] (*6a)
d. [? [KP Mary-ni] [? [DP PRO] [? [KP hon-o] [v0 yom]]] [v0 ase]]] (*6a)
e. [? [KP John-ga] [? [KP Mary-ni] [? [DP PRO] [? [KP hon-o] [v0 yom]]] [v0 ase]]]] (*6a)
f. [TP [VP [KP John-ga] [v' [KP Mary-ni] [VP [DP PRO] [v' [KP hon-o] [v0 yom]]] [v0 ase]]]] ta]

V^0/T^0 ($\surd$ 6b) (cf. 7b)

First, [v0 *yom*] merges [KP *hon-o*] as in (29a). However, C_{HL} cannot license the newly created structure as V^0, because morphology cannot follow syntax. The newly created structure cannot be licensed as VP, either, because [v0 *yom*] is not functional but lexical (see 5a-b, 6a-b). Second, as in (29b), [? [KP *hon-o*] [v0 *yom*]] merges [DP PRO], but again, C_{HL} cannot license the newly created structure as V^0 or VP for the same reasons. Third, as seen in (29c), the causative verb [v0 *ase*] merges [? [DP PRO] [? [KP *hon-o*] [v0 *yom*]]]. Exactly for the same reasons, the newly formed configuration cannot be licensed as V^0 or VP. Then, as shown in (29d-e), the projections by [v0 *ase*] merge [KP *Mary-ni*] and [KP *John-ga*] step by step, and the situation is the same. The newly constructed structures by means of merge cannot be licensed as V^0, because morphological structure building (5a/6a) cannot follow syntactic structure building (5b/6b). The newly constructed structures cannot be licensed as VP, either, because [v0 *ase*] is not functional but lexical. Importantly, however, as illustrated in (29f), once T merges the entire configuration in (29e), it directly licenses every projection formed by [v0 *ase*] as the phrasal category VP in accordance with (5b/6b). Furthermore, given the natural assumption in (28b), [v0 *ase*] indirectly licenses every V projection by [v0 *yom*] as the phrasal category VP with the features inherited from T through selection. As a consequence, non-nominalized causative like (26b) is assigned well-formed structure (29f).

Because θ-marking can be freely done in the projections of lexical categories due to the proposed environment-dependent hypothesis in (2a-b), θ-role assignment in (30) is certainly licit (cf. 1a-b).

ENVIRONMENT-DEPENDENT THETA MARKING

(30) [TP [VP John-ga^5 Mary-ni^4 [VP (PRO)^2 hon-o^1 [v0 yom]]^3 [v0 s-ase]]-[T ta]]
(agent^2(theme^1)) (agent^5(patient^4(theme^3))) ($\surd$ 2a-b, cf. 3a)

In (30), the embedded predicate [v0 *yom*] assigns a theme θ-role to *hon-o* and an agent θ-role to PRO within its own V projection. The causative predicate [v0 *ase*] assigns a theme/event θ-role to the lower VP projected by [v0 *yom*]. [v0 *ase*] also assigns a patient θ -role to *Mary-ni* and an agent θ-role to *John-ga* within its own V projection. Structure (30) is, therefore, well-formed, as desired.[12]

[11] There is a possibility that in Japanese causatives such as (26b), both the lower VP and the higher VP are licensed by v. Here, I put aside this possibility.

[12] In section 5.2, I argue that every Nominative Case marked NP in Japanese is base-generated within the projection of T (see Hoshi 2001, 2002a-b, 2004). However, because this claim is not relevant to the discussion here, I put it aside just for ease of exposition.

Consequently, as illustrated in (31), there is no problem for the adverbial particle *sae* to attach to [$_{v0}$ *yom*] in structure (30).

ENVIRONMENT-DEPENDENT THETA MARKING

(31) [$_{TP}$ John-ga [$_{vP}$ Mary-ni [$_{vP}$ (PRO) hon-o [$_{v0}$ yom]]-i-sae [$_{v0}$ s-ase]]-[$_{T}$ ta]] (for 26b, cf. *27b)
(cf. Kuroda 1965a, 1965b/75, 1981, etc.)

Notice, here, that the adverbial particle *sae* is attached to [$_{v0}$ *yom*] as in (27b). Importantly, however, the particle in (31) is not contained within a X^0 level category unlike that in (27b), thanks to the biclausal structure projected by T in (31) (see 29f/30). In (31), [$_{v0}$ *yom*] and [$_{v0}$ *ase*] form their V projections independently thanks to the presence of T (cf. 27b). Hence, under the proposed environment-dependent hypothesis, we can successfully account for the contrast between (26a) and (26b) (cf. 27a-b vs. 31).

Furthermore, given the assumption in (28b), the environment-dependent hypothesis accounts for Kuroda's (1986, 2003) observation in (32) in line with his original proposal.

(32) Hanako-ga Masao-ni uti -o soozisu-ru-ka heyadai-o haraw-ase -ru[13]
Hanako-Nom Masao-Dat house-Acc clean - -OR rent -Acc pay -Cause-Prs

(koto-ni sita) (OR < Cause)
(that did)
'Hanako (decided to) make Masao clean the house or pay the rent.' (Kuroda 1986a; 2003)

In (32), the causative verb [$_{v0}$ *ase*] takes wide scope over the disjunction marker *ka* 'or.' Based on this, Kuroda convincingly argues that the scope fact in (32) cannot be accounted for under "lexicalist" hypothesis (7a), but can be elegantly accounted for under his type of "transformationalist/biclausal" hypothesis in (7b), as illustrated in (33).

(33) [$_{TP}$ Hanako-ga [$_{vP1}$ Masao-ni [$_{vP2}$ [$_{vP}$ (PRO) uti-o soozisu-ru] (for 32)
ka [$_{vP}$ (PRO) heyadai-o haraw]] ase] [$_{T}$ ru]] (cf. 7b)

Under his theory of Japanese causatives, which incorporates VP-internal Subject Hypothesis, the causative verb [$_{v0}$*ase*] and an embedded predicate are always forced to project their own V projections independently, IRRESPECTIVE OF STRUCTURAL ENVIRONMENTS. Hence, causative (32) is necessarily assigned biclausal structure (33), where [$_{v0}$ *ase*] asymmetrically c-commands the disjunction marker *ka* 'or.' Thus, given configuration (33), we can elegantly account for why the causative verb takes wide scope over the disjunction marker in (32). For "lexicalists," there does not seem to be any obvious way to account for the scope fact in (32), because under their hypothesis, the causative verb in Japanese must undergo complex predicate formation in the lexicon, forming a single lexical item for the core computation (cf. 33).

Although I believe that Kuroda's account for (32) in (33) is correct, his theory seems to be too rigid precisely because of VP-internal Subject Hypothesis (1a). This is so, because Kuroda's theory does not have sufficient flexibility to capture the properties of nominalized causatives such as (26a), which as we saw, never project biclausal structure such as (33) (cf. *26a vs. √26b). As I have argued above, nominalized causative (26a) is forced to project configuration (27b), as proposed by "lexicalists" (cf. Manning, et. al. 1999, among others). Causatives such as (32) are, however, forced to project structure (33), as argued for by Kuroda (1986, 1993, 2003), among others. Neither "lexicalists" nor "transformationlists" can, however, account for the nature of both (26a) and (32). Significantly, however, the proposed environment-dependent hypothesis based on (5a-b) and (2a-b) can provide an elegant way to account for the properties of both nominalized causative (26a) and Kuroda's scope fact (32). To repeat, due to the lack of T or v in (26a), nominalized causative must project configuration (27b) in accordance with (5a-b). Crucially, thanks to the presence of the present tense marker [$_{T0}$ *ru*] in (32), non-nominalized causative (32) necessarily projects biclausal structure (33) in accordance with (5a-b) (cf. 29f & 30). I, therefore, conclude that the proposed environment-dependent hypothesis for structure building and θ-marking is superior to lexialist hypothesis (7a) and transformationalist hypothesis (7b).

Finally, notice also that it is not obvious at all how environment-independent hypotheses for structure-building and theta

[13] For more discussion of causatives in Japanese, see Kuroda (1965a, 1965b/75, 1986a, 1993, 2003), Inoue (1969, 1976), Kuno (1973), Shibatani (1973), Farmer (1980, 1984), Miyagawa (1980, 1989, 1999), Kitagawa (1986), Terada (1990), Manning, et. al (1999), Hoshi (2001, 2002a-b, 2004), Ito and Sugioka (2002), among others.

marking such as (1a-b) can account for the contrast between (26a) and (26b). This is illustrated in (34a-b) below:

ENVIRONMENT-INDEPENDENT STRUCTURE BUILDING & THETA MARKING
(34)a. [$_{NP}$ ... [$_{VP}$ ... ... [$_{VP}$ (PRO) ... [$_{V0}$ yom]]-i-sae [$_{V0}$ s-ase]] kata] (for 26a)
b. [$_{TP}$ ... [$_{VP}$ ... [$_{VP}$ (PRO) ... [$_{V0}$ yom]]-i-sae [$_{V0}$ s-ase]] ta] (for 26b)

Under environment-independent hypothesis (1a-b), both (26a) and (26b) are always forced to project the same biclausal structures based on [$_{V0}$ *yom*] and [$_{V0}$ *ase*] as in (34a-b). Hence, the adverbial particle *sae* can be attached to [$_{V0}$ *yom*] without being contained within a X^0 level category in both (34a) and (34b). Under the envrironment-independent hypothesis, it is therefore incorrectly predicted that (26a) should be as grammatical as (26b), contrary to fact.

To summarize, I have argued in this section that "lexicalist" type structure (24/27b) and "transformationlist" type structure (30/33) are both correct for Japanese causatives. This is crucially because structure building is environment-dependent as proposed in (5a-b). Furthermore, θ-marking is also environment-dependent, and can be freely done within the domain of lexical categories as proposed in (2a-b) (cf. Kuroda 1986b, 1988, Fukui 1986, Hale and Keyser 1993, Chomsky 1995, among others).

5. L-compatible Functional Categories

In this section, I attempt to provide evidence for not only (2a-b) and (5a-b), but also hypothesis (4). In particular, I argue that functional categories such as K, Neg, T, and C are L-compatible in Japanese (see section 2), and thus, those functional categories do not block θ-marking (see 3b-d).

5.1 Case Heads, Ks, in Japanese

As shown in (35),

(35) [$_{NP}$ John*(-no) Mary-kara*(-no) hooseki*(-no) ryakudatu]-ga ...
John*(-Gen) Mary-from*(-Gen) jewelry*(-Gen) plunderage-Nom ...
'John's plunderage of jewelry from Mary (is ...)'

basically, every phrasal category within NP must be marked by Genitive Case *-no* in Japanese.

Keeping this in mind, consider now (36), which is an instance of the Japanese light verb construction.

(36) John-ga Mary-kara hooseki-o ryakudatu-si -ta. (*light verb construction*)
John-Nom Mary-from jewelry-Acc plunderage-do-Pst
'John stole jewelry from Mary.'

The light verb *su* 'do' in (36) is devoid of meaning, and arguments required by [$_{N0}$ *ryakudatu*] 'plunderage' are all located outside its N projection in the example. This is because the agent, *John*, the source, *Mary-kara*, and the theme, *hooseki*, are not marked by the Genitive Case marker *-no*. The proposed environment-dependent hypothesis provides a straightforward account for this phenomenon, as desired.

First, recall that under the environment-dependent hypothesis, it is impossible for examples such as (36) to project configuration like (37).

ENVIRONMENT-DEPENDENT STRUCTURE BUILDING
(37) *[$_{TP}$ ... [$_{VP}$ ... [*$_{NP}$ John-ga Mary-kara hooseki-o ryakudatu] si] ta] (*6b) (cf. *22)

This is so, because in (37), the phrasal projection NP by [$_{N0}$ *ryakudatu*] cannot be licensed properly in accordance with (5b/6b) due to the lack of K, a Case head, which selects NP.

Hence, C_{HL} is forced to form the following structures in consonance with (5a-b) in the core computation step by step:

ENVIRONMENT-DEPENDENT STRUCTURE BUILDING
(38)a. [$_{V0}$ [$_{N0}$ ryakudatu] [$_{V0}$ si]] ($\surd$ 6a) (cf. 23a-f)
b. [$_{?}$ [$_{KP}$ hooseki-o] [$_{V0}$ [$_{N0}$ ryakudatu] [$_{V0}$ si]]] (*6a)
c. [$_{?}$ [$_{PP}$ Mary-kara] [$_{?}$ [$_{KP}$ hooseki-o] [$_{V0}$ [$_{N0}$ ryakudatu] [$_{V0}$ si]]]] (*6a)

d. [? [KP John-ga] [? [PP Mary-kara] [? [KP hooseki-o] [V0 [N0 ryakudatu] [V0 si]]]]] (*6a)
e. [TP [VP [KP John-ga] [V' [PP Mary-kara] [V' [KP hooseki-o] [V0/V' [N0 ryakudatu] [V0 si]]]]] ta] (√6b)

First, as seen in (38a), the light verb [V0 *si*] merges [N0 *ryakudatu*], forming V^0 in accordance with (5a/6a). [*ryakudatu*] in (38a) cannot be licensed as NP, because [*si*] is a lexical category, V^0 (see 5b/6b). Second, as in (38b), [V0 [N0 ryakudatu] [V0 si]] merges the phrasal category [KP *hooseki-o*]. The newly created projection by [V0 *si*] in (38b), however, cannot be licensed as V^0, because morphological structure building (6a) cannot follow syntactic structure building (6b). The newly created projection based on [V0 *si*] cannot be licensed as VP, either, because [V0 *si*] is not functional but lexical (see 5b/6b). Then, the unlicensed V projection in (38b) merges [KP *Mary-kara*] and then, merges [KP *John-ga*]. As shown in (38c-d), the configurations newly formed by the consecutive merge cannot be licensed as V^0 or VP, as in (38b). However, as illustrated in (38e), once the functional head [T0 *ta*] merges the configuration in (38d), [T0 *ta*] licenses every V projection based on [V0 *si*] as the phrasal projection VP through selection in accordance with (5b/6b) (cf. 23f & 29f).

As shown below, under the proposed environment-dependent hypothesis, there is no problem for (38e) in relation to θ-marking:

ENVIRONMENT-DEPENDENT THETA MARKING
(39)[TP [VP John-ga^3 Mary-kara^2 hooseki-o^1 [V0/V' [N0/*NP ryakudatu] [V0 si]] ta] (√2a-b; cf. 3d, 24)
(agent^3(source^2(theme^1)))

Given hypothesis (2a-b), θ-marking can be freely done within the domain of lexical categories (cf. 3a-d). In (39), the nominal predicate [N0 *ryakudatu*] assigns a theme θ-role to *hooseki-o*, a source θ-role to *Mary-kara*, and an agent θ-role to *John-ga* within the V projection of [*si*], to provide proper instructions for the CI system. This type of θ-marking is possible, because there is no barrier for θ-marking, a functional category, intervening between [N0 *ryakudatu*] and [V0 *si*]. Consequently, configuration (39) is regarded as a well-formed structure for light verb construction (36). Notice that crucially, due to the lack of K which selects *ryakudatu*, [N0 *ryakudatu*] cannot project, and thus, all of its arguments are forced to be base-generated outside the N projection of *ryakudatu* in (39). Given configuration (39), we can therefore account for why all the arguments selected by [N0 *ryakudatu*] appear outside of its N projection in (36) in a straightforward fashion.[14]

The proposed environment-dependent account for (36) receive support from the ill-formedness of (40a), which is observed by Kageyama (1993) and others.

(40)a. *John-ga Mary-kara hooseki-no ryakudatu-si -ta.
John-Nom Mary-from jewelry-Gen plunderage-do-Pst
'John stole jewelry from Mary.' (Kageyama 1993, among others)

There is only a single difference between grammatical example (36) and ungrammatical example (40a). That is, the theme argument of [N0 *ryakudatu*] is marked by Accusative Case *-o* in (36), whereas it is marked by Genitive Case *-no* in (40a).

As in (36), there is no K head which selects [N0 *ryakudatu*] in (40a) (see *37). Hence, under the environment-dependent hypothesis, (40a) is forced to construct configuration (40b) step by step exactly in the same way as (36) is in (38a-e).

ENVIRONMENT-DEPENDENT STRUCTURE BUILDING
(40)b. *[TP [VP [KP John-ga] [V' [PP Mary-kara] [V' [KP hooseki-no] [V0/V' [N0 ryakudatu] [V0 si]]]]] ta](cf. 38e))
↑
*

Every part of phrase structure in (40b) is licensed properly in accordance with hypothesis (5a-b), exactly as in (38e). Furthermore, exactly as in (38e), all the arguments are required to appear outside the N projection of [N0 *ryakudatu*] in (40b) due to (5a-b). Notice, however, that Genitive Case *-no* of the theme argument [KP *hooseki-no*] 'jewelry' cannot be checked properly in configuration (40b). This is because Genitive Case features in Japanese must be checked within NP

[14] Through an examination of examples such as (36), Sells (1996) claims that "Case markers force the word that they are part of to project to a phrase." Based on the claim, he proposes an LFG analysis for such examples, and sets forth structure similar to (38e). As I mentioned in note 3, I have attempted to incorporate his insightful claim above into hypothesis (5a-b) under Chomsky's (1994, 1995) Bare Phrase Structure Theory.

(cf. Saito 1985, Murasugi 1991, among others). The contrast between (36) and (40a) is thus elegantly accounted for under the proposed environment-dependent hypothesis, as desired.

Here, notice also that under environment-independent hypotheses such as (1a-b), it is not entirely clear how the ill-formedness of (40a) is accounted for. This is so, because under (1a-b), REGARDLESS OF STRUCTURAL ENVIRONMENTS, the nominal predicate [$_{N^0}$ *ryakudatu*] is always forced to project its own N projection as in (37). If this is indeed the case, there is no obvious reason why the Genitive Case feature of the theme argument *hon-no* cannot be properly checked within the NP in (40a). In other words, the ungrammaticality of (40a) strongly implies that the nominal predicate [$_{N^0}$ *ryakudatu*] cannot project to NP, because [$_{N^0}$ *ryakudatu*] is not selected by K.

To the extent that the proposed account for (36) and (40a) is correct, it provides further evidence that both structure building and θ-marking are environment-dependent as predicted by hypotheses (2a-b) and (5a-b). It also reinforces the claim that K in Japanese is a functional head (see also 23f), and that if nominal predicates such as [$_{N^0}$ *ryakudatu*] are selected by K, K necessarily licenses the projection of [$_{N^0}$ *ryakudatu*] as NP, as illustrated in (41a).

(41)a. [$_{KP}$ [$_{NP}$ WP-*Gen* ZP-*Gen* N^0] K^0] (cf. 3a)
b. [$_{KP}$ WP [$_{NP}$ ZP-*Gen* N^0] K^0] (cf. 3b)
c. [$_{TP}$ [$_{VP}$ WP [$_{KP}$ [$_{NP}$ ZP-*Gen* N^0] K^0] V^0] T^0] (cf. 3b)
d. [$_{KP}$ WP ZP[$_{NP}$ N^0] K^0] (cf. 3c)
e. [$_{TP}$ [$_{VP}$ WP ZP [$_{KP}$ [$_{NP}$ N^0] K^0] V^0] T^0] (cf. 3c)
etc.

If the nominal predicate N^0 is a two-place predicate requiring WP and ZP, and if K, a Case head, is L-incompatible in Japanese, it is predicted that the N^0 has to complete its θ-marking within its own projection, as in (41a) (cf. 3a). If instead, K in Japanese is L-compatible as proposed in (4), it is predicted that N^0 can θ-mark WP and/or ZP outside the projection of the N^0 as in (41b-e). Observe that in (41b), N^0 θ-marks ZP within its own projection, but θ-marks WP within KP (cf. 3b). In (41c), N^0 also θ-marks ZP within its own N projection, but θ-marks WP within VP above KP (cf. 3b). In (41d), N^0 does not θ-mark any of these arguments within its own N projection, but θ-marks both ZP and WP within KP (cf. 3c). In (41e), N^0 θ-marks both WP and ZP within VP above KP. All these possibilities should be allowed, if functional categories such as K in Japanese are L-compatible, because such functional categories do not constitute a barrier for θ-marking under environment-dependent hypothesis (4).

Importantly, the data in (42a-c) imply that this prediction made by hypothesis (4) is borne out, indicating that K in Japanese is indeed a L-compatible functional category.

(42)a. John-ga [$_{NP}$ (PRO) Mary-kara-no hooseki-no ryakudatu] -o sita. (subject control)[15]
John-Nom Mary-from-Gen jewelry-Gen plunderage-Acc did
'John stole jewelry from Mary.'
b. John-ga *Mary-kara* [$_{NP}$ hooseki-no ryakudatu]-o sita.
John-Nom Mary-from [jewelry-Gen plunderage]-Acc did

c. ?John-ga *Mary-kara hooseki-o* [$_{NP}$ ryakudatu]-o sita.
John-Nom Mary-from jewelry-Acc plunderage-Acc did
(Grimshaw and Mester 1988, Saito and Hoshi 1994/2000[16])

In (42a-c), the nominal θ-marker *ryakudatu* is selected by the Accusative K head *-o* (cf. 36 & 40a). In (42a), both the source argument *Mary-kara* and the theme argument *hooseki* are inside the projection of [$_{N^0}$ *ryakudatu*], because both of the arguments are attached by Genitive Case *-no*. This Case fact, of course, implies that as predicted, the K head, as a functional head, necessarily licenses the projection of [$_{N^0}$ *ryakudatu*] as NP in accordance with (5a-b) in (42a-c) (cf. 36 & 40a). Thanks to the presence of NP, the Genitive Case features of *Mary-kara-no* and *hooseki-no* are properly checked within the phrasal projection in (42a). Significantly, in (42b), the source argument is outside the projection of [$_{N^0}$ *ryakudatu*], but the theme argument is inside the N projection. This is so because only the theme argument is at-

[15] For ease of exposition, in this paper, I assume that [$_{V^0}$ *su*] which checks Accusative Case feature as in (42a-c) is a subject control predicate, requiring an agent argument and a theme/event argument (cf. Grimshaw and Mester 1988, Saito and Hoshi 1994/2000, among others).

[16] For various types of analysis of "light/heavy" verb constructions in Japanese, the reader is referred to Saito and Hoshi (1994/2000) and references cited therein.

tached by *-no* in (42b). Significantly also, in (42c), both the source and the theme are outside the projection of [$_{No}$ *ryakudatu*], and neither of the arguments is marked by the Genitive Case marker *-no*.[17]

The data in (43a-c) also imply that hypothesis (4) is indeed correct exactly in the same manner.

(43)a. John-ga [$_{NP}$ (PRO) Mary-kara-no hooseki-no ryakudatu]-ga dekiru.(subject control)
John-Nom Mary-from-Gen jewelry-Gen plunderage-Nom can
'John stole jewelry from Mary.'

b. John-ga *Mary-kara* [$_{NP}$ hooseki-no ryakudatu]-ga dekiru.
John-Nom Mary-from [jewelry-Gen plunderage]-Nom can

c. John-ga *Mary-kara hooseki-o* [$_{NP}$ ryakudatu]-ga dekiru.
John-Nom Mary-from jewelry-Acc plunderage-Nom can (cf. Matsumoto 1996, etc.)

Unlike in (42a-c), in (43a-c), the nominal θ-marker *ryakudatu* is selected by the Nominative K head *-ga*, not by the Accusative K head *-o* (cf. 36 & 40a). In (43a), both the source and the theme are inside the projection of [$_{No}$ *ryakudatu*] as in (42a). Importantly, in (43b), only the theme is inside the NP by [$_{No}$ *ryakudatu*], as in (42b). Importantly also, in (43c), both the source and the theme are outside the projection of [$_{No}$ *ryakudatu*], as in (42c).

The proposed environment-dependent hypothesis incorporating (4) provides the following straightforward solution to the phenomena in (42b-c) and (43b-c). Simplified structures (44a-b) are assigned to (42b/43b) (cf. 41b & 41c).

ENVIRONMENT-DEPENDENT THETA MARKING
(44)a. [$_{TP}$ John-ga [$_{VP}$ [$_{KP}$ *Mary-kara*^{2} [$_{NP}$ hooseki-no^1 ryakudatu] K] V] T] (for 42b/43b)
(~~agent~~(source^2(theme^1))) (= 41b)

b. [$_{TP}$ John-ga [$_{VP}$ *Mary-kara*^{2} [$_{KP}$ [$_{NP}$ hooseki-no^1 ryakudatu] K] V] T] (for 42b/43b)
(~~agent~~(source^2(theme^1))) (= 41c)

In (44a), the nominal predicate [$_{No}$ *ryakudatu*] θ-marks the source argument *Mary-kara* within KP (see 41b). This type of θ-marking is legitimate, because as proposed in (4), K in Japanese is L-compatible, and thus, does not block θ-marking. In (44b), [$_{No}$ *ryakudatu*] θ-marks the source argument within VP above KP, because K does not block θ-marking (see 41c). (In (44a-b), the theme argument of [$_{No}$ *ryakudatu*] is θ-marked within NP, and the agent argument of [$_{No}$ *ryakudatu*] is licensed by semantic control.)

Similarly, the proposed account based on (4) assigns configurations (45a-b) to (42c/43c).

ENVIRONMENT-DEPENDENT THETA MARKING
(45)a. [$_{TP}$ John-ga [$_{VP}$ [$_{KP}$ *Mary-kara*^{2} *hooseki-no*^{1} [$_{NP}$ ryakudatu] K] V] T] (for 42c/43c)
((~~agent~~(source^2(theme^1))) (= 41d)

b. [$_{TP}$ John-ga [$_{VP}$ *Mary-kara*^{2} *hooseki-no*^{1} [$_{KP}$ [$_{NP}$ ryakudatu] K] V] T] (for 42c/43c)
((~~agent~~(source^2(theme^1))) (= 41e)

Due to hypothesis (4), K in Japanese is L-compatible, and thus, does not block θ-marking. Hence, the nominal predicate [$_{No}$ *ryakudatu*] can assign θ-roles to both the source and the theme inside KP above NP as in (45a) or inside VP above KP as in (45b) (see 41d-e). If the account in (44a-b) and (45a-b) is successful, it implies that θ-marking is crucially environment-dependent, as predicted by (2a-b) and (4). In particular, the nature of functional categories affects θ-marking in significant ways (contra environment-independent hypotheses 1a-b).

If instead, we assume that θ-marking is not dependent upon structural environments in line with (1a-b), and that a predicate must always complete its θ-marking within its own projection IRRESPECTIVE OF STRUCTURAL ENVIRONMENTS, we may have to assume the movement operation as in (46a) for (42b/43b), and the movement operations as in (46b) for (42c/43c).

[17] (42c) is marginally ungrammatical, due to the "surface double-o" constraint (Harada 1973, Kuroda 1978, Saito 1985, among others).

ENVIRONMENT-INDEPENDENT THETA MARKING

(46)a. *[$_{TP}$ John-ga [$_{VP}$ *Mary-kara*^{2} [$_{KP}$ [$_{NP}$ *t* hooseki-no^1 ryakudatu] K] V] T] (for 42b/43b)
(cf. 41c)

b. *[$_{TP}$ John-ga [$_{VP}$ *Mary-kara*^{2} *hooseki-o*^{1} [$_{KP}$ [$_{NP}$ *t* *t* ryakudatu] K] V] T] (for 42c/43c)
(cf. 41e)

In (46a-b), both the source argument and the theme argument are θ-marked in structurally fixed positions within the projection of [$_{No}$ *ryakudatu*] due to (1a-b). In (46a), the source argument is dislocated from the phrasal category NP based on [$_{No}$ *ryakudatu*] by movement. In (46a-b), both the source and the theme are extracted out of NP by means of movement.

The movement analysis in (46a-b) is, however, problematic. First, it appears to be in violation of the Chain Condition or the Principle of Last Resort (Chomsky 1986, 1993, 1995, among others). Observe that *Mary-kara* and *hooseki-o* undergo movement from (Genitive) Case checking positions in (46a-b).

Second, it is not clear if Japanese has movement operations by which word order is not changed as illustrated in (46b).

Third, the ill-formedness of (47a-b) poses a potential problem for the movement analysis based on the environment-independent hypothesis like (46a-b).

(47)a. *John-ga *hooseki-o* [$_{NP}$ Mary-kara-no ryakudatu]-o sita. (cf. 42b)
John-Nom jewelry-Acc Mary-from-Gen plunderage-Acc did
'John stole jewelry from Mary.'

b. ?*John-ga *hooseki-o* [$_{NP}$ Mary-kara-no ryakudatu]-ga dekiru (cf. 43b)
John-Nom jewelry-Acc Mary-from-Gen plunderage-Nom can
'John can steal jewelry from Mary.' (cf. Grimshaw and Mester 1988)

The difference between (42b/43b) on the one hand and (47a-b) on the other is minimal. In (42b) and (43b), the theme *hooseki* is inside and the source *Mary-kara* is outside the N projection of [$_{No}$ *ryakudatu*]. However, in (47a-b), the theme argument *hooseki* is outside the phrasal projection of [$_{No}$ *ryakudatu*], whereas the source argument *Mary-kara* is inside the phrasal projection of [$_{No}$ *ryakudatu*]. As Grimshaw and Mester (1988) discover, examples such as (47a) and (47b) are worse than examples such as (42b) and (43b). Under the movement approach in (46a-b), however, it is not entirely obvious why the theme argument *hooseki-o* cannot move across the source argument *Mary-kara-no* to derive (47a-b) (cf. 46a-b). Namely, there does not seem to be any well-established principle which blocks such a movement operation for (47a-b), but rules in the movement operations illustrated in (46a-b).

The proposed environment-dependent hypothesis for θ-marking, on the other hand, assigns configurations (48a-b) to (47a-b), respectively, and accounts for the ill-formedness of (47a-b) naturally in line with Saito and Hoshi's (1994/2000) proposal.

ENVIRONMENT-DEPENDENT THETA MARKING

(48)a. *[$_{TP}$ John-ga [$_{VP}$ *hooseki-o*^{1} [$_{KP}$ [$_{NP}$ Mary-kara-no^2 ryakudatu] K] V] T] (for 47a)
(~~agent~~(source^2(theme^1)))

b. ?*[$_{TP}$ John-ga [$_{VP}$ *hooseki-o*^{1} [$_{KP}$ [$_{NP}$ Mary-kara-no^2 ryakudatu] K] V] T] (for 47b)
(~~agent~~(source^2(theme^1)))

In (48a-b), [$_{No}$ *ryakudatu*] first θ-marks the source argument *Mary-kara* within its NP which is licensed by K due to (5b). The nominal predicate then θ-marks the theme argument *hooseki* within VP above KP. This subsequent θ-marking is legitimate, because as proposed in (4), K in Japanese is L-compatible, and thus, it does not block θ-marking. As Saito and Hoshi (1994/2000) propose, however, a predicate, in principle, has to θ-marks its arguments in accordance with its lexical conceptual structure or argument structure. This is because a predicate must provide proper instructions for the CI system by means of θ-marking, as proposed in (2a). In (48a-b), however, the source is higher than the theme at the level of lexical conceptual structure, and importantly, the theme *hooseki* is θ-marked in a structurally higher position than the source *Mary-kara* in syntax. This constitutes an illegitimate instruction for the conceptual-intentional system

CI. Consequently, configurations such as (48a-b) are naturally ruled out, as desired.

To the extent that the proposed environment-dependent account for the data in this subsection is successful, it provides evidence that Case heads, Ks, in Japanese are functional heads which license a phrasal category in accordance with (5b), but significantly, Ks in Japanese do not block θ-marking, as proposed in (4). Because Japanese has an L-compatible K, constructions such as (42) and (43), light verb constructions and heavy verb constructions, are abundant (cf. English). By means of θ -marking, a predicate can flexibly relate syntactically realized arguments with argument slots in the lexical conceptual or argument structure, depending upon STRUCTURAL ENVIRONMENTS (cf. Saito and Hoshi 1994/2000, 1998[18]).

5.2 υ, Neg & T in Japanese

Given that K in Japanese is a functional head, but it does not block θ-marking as proposed in hypothesis (4), there arises a question as to whether other functional heads in Japanese block θ-marking. In this subsection, I argue for hypothesis (4), and attempt to provide evidence for the claim that exactly like K, υ, Neg and T in Japanese do not block θ-marking.

5.2.1 Scope: υ, Neg & T

First, consider the scope fact with respect to *-dake* 'only' and negation in (49).

(49) John-ga Mary-ni chocolate-dake-o age-nakat-ta. (only > Neg, Neg > only)
John-Nom Mary-Dat chocolate-only-Acc give-Neg-Pst
'John did not give only chocolate to Mary.' (cf. English)

As shown above, the adverbial particle *-dake* can take narrow scope with respect to negation. Unlike in English, however, *-dake* can also take wide scope over negation extremely easily in Japanese. A question thus arises as to how we should account for these two readings in Japanese example (49).

If we adopt environment-independent hypothesis like (1a-b), and if we assume that all the arguments required by [$_{V0}$*age*] 'give' must be base-generated in structurally fixed positions within its own VP IRRESPECTIVE OF STRUCTURAL ENVIRONMENTS, we are forced to have configuration like (50a) at the initial point of the computation.[19]

ENVIRONMENT-INDEPENDENT THETA MARKING

(50)a. [$_{TP}$ John-ga [$_{NegP}$ [$_{\upsilon P/VP}$ Mary-ni chocolate-dake-o age] nakat] ta] (Neg > only)

b. [$_{TP}$ John-ga Mary-ni chocolate-dake-o [$_{NegP}$ [$_{\upsilon P/VP}$ *t* *t* age] nakat] ta] (only > Neg)

Given structure (50a), we can straightforwardly account for the narrow scope interpretation of *-dake* below negation, as desired, because *nakat* 'not' asymmetrically c-commands *dake* 'even' in (50a). To account for the wide scope interpretation of *-dake* over negation in (49), we then apply a multiple movement operation concerning the two internal arguments, *Mary-ni* and *chocolate-o*, as illustrated in (50b). If both of the internal arguments can undergo movement as shown in (50b), *-dake* asymmetrically c-commands negation, taking wide scope over negation. Consequently, it appears that under the movement analysis based on the environment-independent hypothesis, the two scope interpretations for (49) are naturally accounted for, as shown in (50a-b).

This type of movement analysis based on environment-independent hypothesis, however, cannot be maintained, given Yatabe's (1990) observation in (51a-b). Yatabe (1990) observes that (51a) is well-formed, while (51b) is ill-formed.

(51)a. pro Tomodati-ni (moo) sanzyuu-nin-mo tegami-o dasita.
friend -Dat (already) thirty -Cl -as many as letter -Acc mailed

[18] Ken Hale pointed out to Mamoru Saito in personal communication in 1999 that the nature of the light/heavy verb construction in Japanese implies that Japanese is considered to be a "NONCONFIGURATIONAL" language in Hale's (1980) sense. Independently, Jun Abe made basically the same comment to me in personal communication at around the same time. In Hoshi (2001, 2002a-b, 2004) and this paper, in a sense, I am claiming that this interpretation is basically correct, and in particular, I am arguing that θ-marking is flexible, therefore NONCONFIGURATIONAL, in the domain of lexical categories universally, and due to "L-COMPATIBLE" functional categories, Japanese displays its NONCONFIGURATIONALITY in a wide range of constructions in a principled way (see 2a-b & 4).

[19] Just for ease of exposition, the agent argument of [$_{V0}$ *age*] is base-generated within TP in (50a), and subject raising of the agent *John* is suppressed in structure (50b).

'(I) have already mailed letters to as many as thirty of (my) friends.'

b. ?*pro Tomodati-ni tegami-o sanzyuu-nin-mo dasita.
friend -Dat letter-Acc thirty -Cl -as many as mailed (Yatabe 1990)

(51a) shows that the indierct object *Tomodati-ni* 'to friends' can be properly associated with the numeral quantifier *sanzyuu-nin-mo* 'as many as thirty of (my) friends' in the example. However, in (51b), the indirect object cannot be linked with the numeral quantifier properly.

If as in (50b), two internal arguments can undergo movement without changing the word order between them, structure (52) can be assigned to (51b).

ENVIRONMENT-INDEPENDENT THETA MARKING

(52) ?* [$_{TP}$ pro tomodati-ni tegami-o [$_{\upsilon P/VP}$ $t_{tomodati\text{-}ni}$ [sanzyuu-nin-mo] $t_{tegami\text{-}o}$ dasi] ta]

(cf. 50b)

Notice that after the movement of the Dative argument *tomodati-ni*, its trace/copy should be able to maintain a proper structural relationship with the numeral quantifier *sanzyuu-nin-mo* in configuration (52) (cf. Miyagawa 1989, Yatabe 1990, among others). This is so, because the indirect object and the numeral quantifier in (51a) hold exactly the same structural relationship with the trace/copy of the indirect object and the numeral quantifier in (52). Hence, there should not be anything wrong about the representation in (52), but (51b) is ungrammatical in sharp contrast with (51a). Consequently, this implies that in fact, Japanese lacks the multiple movement operation illustrated in (50b) and (52), which does not change word order of arguments. And (51b) is ill-formed in contrast with (51a), because the indirect object *tomotati-ni* can never hold a proper structural relation with the numeral quantifier *sanzyuu-nin-mo* in (51b) as it can in (51a) (cf. Miyagawa's 1989 mutual c-command condition).

This conclusion based on Yatabe's contrast between (51a) and (51b), in turn, implies that we cannot account for the wide scope interpretation of *-dake* over negation in (49) in terms of movement operations based on the environment-independent hypothesis like (1a-b). Importantly, the proposed environment-dependent hypothesis for θ-marking based on (4) provides a straightforward solution to this apparent puzzle with respect to (49) and (51b).

As shown in (53a-c),

ENVIRONMENT-DEPENDENT THETA MARKING

(53)a. [$_{TP}$ John-ga^3 [$_{NegP}$ [$_{\upsilon P/VP}$ Mary-ni^2 chocolate-dake-o^1 age] nakat] ta] (Neg > only) (for 49)
(agent^3(goal^2(theme^1)))
Dat Acc

b. [$_{TP}$ John-ga^3 [$_{NegP}$ Mary-ni^2 chocolate-dake-o^1 [$_{\upsilon P/VP}$ age] nakat] ta] (only > Neg) (for 49)
(agent^3(goal^2(theme^1)))
Dat Acc

c. [$_{TP}$ John-ga^3 Mary-ni^2 chocolate-dake-o^1 [$_{NegP}$ [$_{\upsilon P/VP}$ age] nakat] ta] (only > Neg) (for 49)
(agent^3(goal^2(theme^1)))
Dat Acc

etc.

given (2a-b) and (4), the predicate [$_{V0}$ *age*] can freely assign θ-roles within its V/υ projection, NegP or TP (cf. 3a-d). This is so, because functional categories such as υ, Neg and T in Japanese are L-compatible, and thus, they do not block θ-marking. (As I will suggest later in this paper, Japanese may indeed lack υ, or υ in Japanese may not be functional but lexical. Consequently, Japanese may lack υP as a strong PHASE.) In (53a), [$_{V0}$ *age*] θ-marks the indirect object *Mary-ni* and the direct object *chocolate-dake-o* within its own V/υ projection. Given this configuration, the narrow scope interpretation of *-dake* below negation in (49) is accounted for, because negation asymmetrically c-commands *-dake* in (53a). In (53b), [$_{V0}$ *age*] θ-marks *Mary-ni* and *chocolate-dake-o* within NegP, a possibility permitted by (2a-b) and (4). In (53c), the two-place predicate [$_{V0}$ *age*] assigns θ-roles to *Mary-ni* and *chocolate-dake-o* within the projection of T, another possibility allowed by (2a-b) and (4). Given representations (53b-c), as a consequence, the wide scope

reading of *-dake* over negation is naturally accounted for. This is because in (53b-c), *-dake* asymmetrically c-commands negation (cf. 53a). Here, crucially, under the proposed environment-dependent hypothesis, no multiple movement operation which does not change word order is made use of (cf. 50b & 52), and the fact that Japanese example (49) is fully ambiguous with respect to the two scope readings is straightforwardly accounted for in terms of L-compatibility of v, Neg and T (cf. English).

The proposed environment-dependent hypothesis based on (2a-b) and (4), on the other hand, assigns the following structures to example (51b) in a flexible manner (under the assumption that Japanese lacks multiple movement without changing word order as in (50b/52)):

ENVIRONMENT-DEPENDENT THETA MARKING

(54)a. *[$_{TP}$ pro [$_{vP/VP}$ tomodati-ni tegami-o sanzyuu-nin-mo dasi] ta] (for 51b)

b. *[$_{TP}$ pro tomodati-ni [$_{vP/VP}$ tegami-o sanzyuu-nin-mo dasi] ta] (for 51b)

c. *[$_{TP}$ pro tomodati-ni tegami-o [$_{vP/VP}$ sanzyuu-nin-mo dasi] ta] (for 51b)

In none of the structures in (54a-c), however, the indirect object *tomodati-ni* can hold a proper structural relationship, presumably a mutual c-command relationship, with the numeral quantifier *sanzyuu-nin-mo* (cf. 52 ; see Miyagawa 1989, Yatabe 1990). Hence, all of the configurations are regarded as ill-formed, and the ungrammaticality of (51b) is accounted for.

To summarize, functional categories such as v, Neg and T in Japanese appear to be also compatible with θ-marking, because they are "L-COMPATIBLE" functional categories. Significantly, then, v, Neg and T appear to parallel K in that all these functional categories in Japanese are L-compatible, and L-compatibility may be a deep unifying aspect of functional categories in Japanese (cf. Hale 1980, Chomsky 1981, Kuroda 1986b, 1988, Fukui 1986, among others). Consequently, in Japanese, all arguments selected by v/V do not have to be base-generated inside vP/VP below NegP and/or TP. Namely, due to these "L-COMPATIBLE" functional categories, Japanese has a "flexible" VP (cf. Hale 1980, Saito 1985, Hoji 1985, among others).

Importantly, given configurations such as (53b-c), it is highly likely that Dative Case and Accusative Case in Japanese are "inherent Cases," which are linked with θ-marking (cf. Hale 1980, Ostler 1980, etc; cf. *Agree).[20] This is because at no point of the computation, the two internal arguments are c-commanded by [$_{v/V0}$ *age*] or are within the projection of the predicate [$_{v/V0}$ age]. In the following subsection, I will try to reinforce the claim that v, Neg and T in Japanese are indeed L-compatible functional categories.

5.2.2 Negative Polarity Items & Fixed Idioms: v, Neg & T in Japanese

Consider next the following data from Kishimoto (2001):

(55)a. Taroo-ga nani -o wakar-i -mo si-nakat-ta.
Taro -Nom anything-Acc understand-Q do-Neg-Pst
'Taroo did not understand anything.'

b. *Dare-ga warai-mo si-nakat-ta.
Anyone-Nom laugh -Q do-Neg-Pst
'Anyone did not laugh.'

c. *Nani-ga yom-are-mo si-nakat-ta.
Anything-Nom read -Pass-Q do-Neg-Pst
'Anything was not read.'

d. *Taroo-ga nani -ga wakar -i-mo si-nakat-ta.
Taro -Nom anything-Nom understand- -Q do-Neg-Pst
'Taro did not understand anything.' (Kishimoto 2001)

As Kishimoto observes, there is a sharp contrast between (55a) and (55b-d). (55a) is fully grammatical, whereas (55b-d) are ungrammatical.

[20] I am very grateful to Masatoshi Koizumi, who brought this implication to my attention in personal communication in August, 2002.

To account for this contrast, Kishimoto (2001) takes natural assumptions (56a-b) and (57),

(56)a. Indeterminate pronouns such as *nani* 'anything' and *dare* 'anyone' which serve as negative polarity items can be bound by [$_{Q}$ *mo*], if they fall within the scope of [$_{Q}$ *mo*].
b. Y is in the domain of a head X if it is contained in Max(X), where Max(X) is the least full-category maximal projection dominating X. (Kishimoto 2001)

(57) Nominative Case must be checked in the projection of T.
(Koizumi 1994, 1995, Kishimoto 2001, among others)

and proposes structures (58a-d) for (55a-d) under environment-independent hypothesis (1a-b).[21]

STRUCTURE-INDEPENDENT THETA MARKING
(58)a. [$_{TP}$ Taro-ga$_{1}$ [$_{vP/VP}$ t_{1} nani-o wakar]-i-mo si-nakat-ta] (for 55a)
b. *[$_{TP}$ dare-ga$_{1}$ [$_{vP/VP}$ t_{1} wara]-i-mo si-nakat-ta] (for 55b)
c. *[$_{TP}$ nani-ga$_{1}$ [$_{vP/VP}$ ... t_{1} yom-are]-mo si-nakat-ta] (for 55c)
d. *[$_{TP}$ Taro-ga$_{1}$ nani-ga$_{2}$ [$_{vP/VP}$ t_{1} t_{2} wakar]-i-mo si-nakat-ta] (for 55d) (Kishimoto 2001)

In all the representations in (58a-d), all the arguments selected by predicates are forced to be base-generated in structurally fixed positions within the projections of the predicates at the initial point of the computation, in consonance with (1a-b). The scope of [$_{Q}$ *mo*] in (58a) is VP projected by [$_{V0}$ *wakar*], because [$_{Q}$ *mo*] is attached to the verb [$_{V0}$ *wakar*] (see 56a-b). Under Kishimoto's account, because the Accusative Case marked negative polarity item *nani-o* in (58a) stays within the V projection by [$_{V0}$ *wakar*] for Accusative Case feature checking, it falls within the scope of [$_{Q}$ *mo*]. Hence, (55a) is correctly ruled in. In (58b), the scope of [$_{Q}$ *mo*] is VP projected by [$_{V0}$ *waraw*], because [$_{Q}$ *mo*] is attached to the verb [$_{V0}$ *waraw*] (see 56a-b). Unlike Accusative Case marked NPs, Nominative Case marked NPs in Japanese have to be located inside TP to satisfy (57). However, once the negative polarity item *dare-ga* in (58b) undergoes movement into TP, it is necessarily outside the scope of [$_{Q}$ *mo*] (see 56a-b). Hence, (58b) is ruled out in a principled manner. (58c-d) are ruled out exactly in the same way under Kishimoto's account. [$_{Q}$ *mo*] is attached to the passive verb [$_{V0}$ *yom-are*] in (58c), and [$_{Q}$ *mo*] is attached to the stative predicate [$_{V0}$ *wakar*] in (58d). Hence, the scope of [$_{Q}$ *mo*] in (58c) is VP projected by the passive verb [$_{V0}$ *yom-are*], and the scope of [$_{Q}$ *mo*] in (58d) is VP projected by [$_{V0}$ *wakar*] (see 56a-b). However, the passive subject *nani-ga* in (58c) and the nominative object *nani-ga* in (58d) are forced to undergo movement into the T projection for Nominative Case feature checking due to (57). Consequently, the negative polarity item *nani-ga* in (58c) and the negative polarity item *nani-ga* in (58d) are both necessarily outside the scope of [$_{Q}$ *mo*]. And (58c-d) are ruled out in the same way as (58b) is. Kishimoto's account for (55a-d) in (58a-d) is an elegant one. Significantly, however, it cannot be entirely correct, as I will show below.

As is well-known, *kick the bucket* 'die' in English is a fixed idiom. Hence, no part of the idiom can undergo movement as illustrated in (59b-c).

FIXED IDIOM
(59)a. John kicked the bucket. (idiom)
b. [The bucket]$_{1}$ was kicked t_{1} by John. (*idiom)
c. [The bucket]$_{1}$, John kicked t_{1}. (*idiom)

(59b) shows that the fixed idiom resists passive NP movement, and (59c) implies that the fixed idiom cannot tolerate topicalization.

Miyagawa and Tsujioka (2004) observe that *te-o ire* 'revise' in (60a-b) is a fixed idiom in Japanese.

FIXED IDIOM
(60)a. Taroo-ga genkoo-ni te -o ire-ta. (idiom)
Taro-Nom draft -to hand-Acc put in-Pst
'Taro revised the draft.'

b. *Taroo-ga [te -o]$_{1}$ genkoo-ni t_{1} ire -ta. (*idiom)

[21] Kishimoto's (2001) account is slightly simplified here, just for ease of exposition.

Taro -Nom hand-Acc draft -to put in-Pst (Miyagawa and Tsujioka 2004)

Hence, the idiom resists a movement operation as illustrated in (60b) in the same way as (59b-c) do.

Importantly, Fujimaki (2005) observes that the passive counterpart of (60a) is fully grammatical unlike the passive counterpart of (59a) (see *59b). This is shown in (61a).

FIXED IDIOM

(61)a. (Taroo-niyotte) genkoo-ni te -ga ire -rare-ta. (ok idiom)
(Taro -by) draft -to hand-Nom put in-Pass-Pst
'The draft was revised (by Taro).'

b. Te -gai (Taroo-niyotte) genkoo-ni *ti* ire -rare-ta. (*idiom)
hand-Nom (Taro-by) draft -to put in-Pass-Pst (Fujimaki 2005)

Observe that Japanese passive (61a) clearly retains the idiomatic interpretation of *te-o ire* 'revise' in sharp contrast with (59b). The ungrammaticality of Japanese passive (61b) is not surprising, because the passive subject [KP *te-ga*] in (61b), being part of a fixed idiom, cannot undergo movement (see *60b & *59b-c). Given the data in (60a-b) and (61a-b), Fujimaki draws a plausible conclusion. Namely, English passives such as (59b) necessarily involve NP movement for feature checking, but Japanese passives such as (61a) do not. For this reason, (59b) is ruled out, and (61a) is correctly ruled in. More specifically, Fujimaki (2005) claims that the Nominative Case feature of [KP *te-ga*] in (61a) is checked in situ without undergoing movement.

Given Kishimoto's account and Fujimaki's conclusion with respect to the nature of Nominative Case feature checking in Japanese, it appears that we have a very interesting puzzle. This is so, because Kishimoto' account and Fujimaki's account appear to be incompatible with each other. Given the ungrammaticality of (55b-d), Kishimoto's account in (58b-d) based on "SUBJECT RAISING" appears to be correct. Importantly, however, the grammaticality of (61a) implies that Nominative Case marked NPs in Japanese have their Case features checked off "IN SITU" (cf. Fujimaki 2005). Significantly, the proposed environment-dependent hypothesis based on (2a-b) and (4) provides a principled solution to this puzzle.

The proposed environment-dependent hypothesis for θ-marking assigns representations (62a-d) to (55a-d), and structure (63) to (61a), respectively. Under this hypothesis, crucially, v, Neg and T are L-compatible functional heads. Thus, the predicates in (62a-d) and (63) can carry out θ-marking freely within VP, vP, NegP, and TP, as shown below:

ENVIRONMENT-DEPENDENT THETA MARKING

(62)a. [TP Taro-ga^2 [NegP [vP/VP nani-o^1 wakar]-i-mo si-nakat] ta] (for 55a)
(experiencer^2(theme^1))

b. *[TP dare-ga^1 [NegP [vP/VP wara]-i-mo si-nakat] ta] (*subject*) (for 55b)
(experiencer^1)

c. *[TP nani-ga^1 [NegP [vP/VP yom-are]-mo si-nakat] ta] (*passive subject*) (for 55c)
(~~agent~~(theme^1))

d. *[TP Taro-ga^2 nani-ga^1 [NegP [vP/VP wakar]-i-mo si-nakat] ta] (*nominative subject*)(for 55d)
(experiencer^2(theme^1))

(63) [TP (Taroo-niyotte)^3 genkoo-ni^2 te-ga^1 [vP/VP ire-rare] ta] (*passive subject*) (for 61a)
(~~agent~~^{3}(theme^2(idiom^1)))

In (62a), the internal argument of [V0 *wakar*], nani-o, is base-generated within the projection of [V0 *wakar*] and can be θ-marked within the VP legitimately. If so, the negative polarity item *nani-o* in (62a) falls within the scope of [Q *mo*], vP/VP (see 56a-b; cf. 58a). Hence, (62a) is ruled in. In (62b), the external argument of *waraw*, *dare-ga*, is base-generated directly in the T projection, and is θ-marked by [v/V0 *waraw*] within TP. This type of θ-marking is licit crucially under (2a-b) and (4) (cf. 1a-b), because θ-marking is environment-dependent, and v, Neg and T in Japanese, being L-compatible functional heads, do not block θ-marking. The negative polarity item *dare-ga* in (62b) has its Nominative Case feature checked off in situ (see 57), because it is base-generated directly in the T projection. The negative polarity item *dare-ga* in (62b) is, however, outside the scope domain of [Q *mo*], vP/VP, because [Q *mo*] is attached to [v/V0 *waraw*] (see 56a-b). Hence, (62b) is correctly ruled out (cf. 58b). Notice here that crucially in contrast with Kishimoto's (2001)

structure (58b), the structure proposed for (55b) in (62b) does not involve SUBJECT RAISING of *dare-ga*. This is so, because functional categories in Japanese are L-compatible, and T does not have to induce movement for Nominative Case feature checking (cf. Kuroda 1986b, 1988). Hence, T in Japanese does not induce movement due to some version of economy condition (cf. Chomsky's 1995, 1999, etc. Last Resort Principle & Maximization Principle). As a consequence, every Nominative Case marked NP in Japanese is required to be base-generated in the projection of T under the proposed environment-dependent hypothesis, as shown in (62b).

Representations (62c-d) are ruled out exactly in the same way, as desired. In (62c), the passive subject *nani-ga* is base-generated directly in the T projection, and in (62d), the nominative object *nani-ga* is also base-generated directly in the T projection. This is so, because functional categories in Japanese are L-compatible, and T never induces movement for Nominative Case feature checking for economy reasons, as I have claimed above. The passive subject in (62c) and the nominative object in (62d) are properly θ-marked within TP above NegP, vP and VP due to (2a-b) and (4), and they have their Nominative Case features checked off in situ within TP. However, the negative polarity item *nani-ga* in (62c-d) both fall outside the scope of [$_{Q}$ *mo*], VP (see 56a-b; cf. 58c-d). Hence, (62c-d) are correctly ruled out.

Fujimaki's example (61a) is assigned well-formed configuration (63) under the proposed environment-dependent hypothesis based on (2a-b) and (4). Because T never induces movement for Nominative Case feature checking in Japanese, the passive subject [$_{KP}$ *te-ga*] is required to be base-generated directly in the T projection as shown in (63). A part of the fixed idiom [$_{KP}$ *te-ga*] is assigned an "idiom" θ-role properly within TP, because v and T are L-compatible functional categories, which do not block θ-role assignment. Furthermore, being directly base-generated inside the T projection, the Nominative Case feature of [$_{KP}$ *te-ga*] is successfully checked off in situ in line with Fujimaki's conclusion. Configuration (63) is thus correctly ruled in, and the proposed analysis of (61a) here also provides a principled account for the contrast between (*59b) and ($\surd$61a). In short, because functional categories in Japanese are L-compatible, fixed idioms can be passivized as shown in (61a) (see 63). On the other hand, functional categories in English are L-incompatible, and thus, subject raising for Nominative Case feature checking is obligatory in English. Hence, passivizatioin of fixed idioms is disallowed in English as seen in (59b). Namely, the significant difference between Japanese passive and English passive is now captured in terms of L-(in)compatibility under the proposed environment-dependent hypothesis, as desired.

In this subsection, I have shown that the proposed environment-dependent hypothesis can account for both (55a-d) and (61a) in an elegant way. If the proposed analysis in (62a-d) and (63) is indeed correct, it reinforces hypothesis (4). That is, in addition to K, v, Neg and T are also L-compatible functional categories in Japanese, which do not block θ-marking. In the following subsection, I discuss some properties of predicate fronting in Japanese and English. In so doing, I attempt to reinforce the claim further that v and T in Japanese are L-compatible, whereas functional categories such as v and T in English are L-incompatible. Consequently, Japanese vP/VP is "FLEXIBLE," whereas vP/VP in English is "RIGID" (cf. Hale 1980, 1982, 1983, Saito 1985, Hoji 1985, among others).

5.2.3 Predicate Fronting in Japanese and English: v & T

Examples (42a-c) are repeated as (64a-c), respectively, below:

(64)a. John-ga [$_{KP}$ [$_{NP}$ Mary-kara-no hooseki-no ryakudatu]-o] sita. (= 42a)
John-Nom Mary-from-Gen jewelry-Gen plunderage-Acc did
'John stole jewelry from Mary.'

b. John-ga *Mary-kara* [$_{KP}$ [$_{NP}$ hooseki-no ryakudatu]-o] sita. (= 42b)
John-Nom Mary-from jewelry-Gen plunderage]-Acc did

c. ?John-ga *Mary-kara hooseki-o* [$_{KP}$ [$_{NP}$ ryakudatu]-o] sita. (= 42c)
John-Nom Mary-from jewelry-Acc plunderage-Acc did

Recall that in (64a), both the source argument and the theme argument of [$_{N0}$ *ryakudatu*] are inside the N projection of [*ryakudatu*] (cf. Saito 1985, Murasugi 1991, among others). Hence, both *Mary-kara* and *hooseki* are marked by Genitive Case *-no*. In (64b), the source *Mary-kara* is outside NP, and thus, it is not attached by the Genitive Case marker. In (64c), both the source and the theme are outside of NP. Hence, neither *Mary-kara* nor *hooseki* is marked by the Genitive Case marker *-no*.

Consider now instances of predicate fronting based on (64a-c) below:

(65)a. [$_{KP}$ [$_{NP}$ Mary-kara-no hooseki-no ryakudatu]-o]$_1$ John-ga t_1 sita. (*subj. control*)
Mary-from-Gen jewelry-Gen plunderage-Acc John-Nom did
'[Steal jewelry from Mary], John did.

b. *[$_{KP}$ [$_{NP}$ hooseki-no ryakudatu]-o$_1$] John-ga *Mary-kara* t_1 sita.
[jewelry-Gen plunderage]-Acc John-Nom Mary-from did

c. *[$_{KP}$ [$_{NP}$ Ryakudatu]-o$_1$] John-ga *Mary-kara hooseki-o* t_1 sita.[22]
Plunderage-Acc John-Nom Mary-from jewelry-Acc did
(Sato 1993, Saito and Hoshi 1994/2000, etc., cf. Grimshaw and Mester 1988)

There is a sharp contrast between (65a) and (65b-c). (65a) is grammatical, while (65b-c) are ungrammatical. (65a) shows that the predicate phrase KP in (64a) can be preposed to the sentence initial position. (65b-c) shows that the predicate phrases KPs in (64b-c) cannot be preposed as such.

The proposed environment-dependent hypothesis provides a natural account for the contrast between (65a) and (65b-c) by means of (66) ,[23] which seems to follow from Chomsky's (2001) theory of PHASE:

(66) A θ-theoretically incomplete constituent cannot undergo movement.

This is so, because under the environment-dependent hypothesis, the nominal predicate [$_{N0}$ *ryakudatu*] in (64a) completes its θ-marking within its own projection NP, as shown in (67a).

ENVIRONMENT-DEPENDENT THETA MARKING (*subject control*)

(67)a. [$_{TP}$ John-ga [$_{KP}$ [$_{NP}$ Mary-kara-no^2 hooseki-no^1 [$_{N0}$ ryakudatu]] o] si] ta] (for 64a)
(~~agent~~(source^2(theme^1)))

b. [$_{TP}$ John-ga [$_{vP/VP}$ *Mary-kara*^{2} [$_{KP}$ [$_{NP}$ hooseki-no^1 ryakudatu] o] si] ta] (for 64b; = 44b)
(~~agent~~(source^2(theme^1)))

c. [$_{TP}$ John-ga [$_{vP/VP}$ *Mary-kara*^{2} *hooseki-no*^{1} [$_{KP}$ [$_{NP}$ ryakudatu] o] si] ta] (for 64c; = 45b)
(~~agent~~(source^2(theme^1)))

More precisely, in (67a), [$_{N0}$ *ryakudatu*] assigns a theme θ-role to *hooseki*, and a source θ-role to *Mary-kara* within its own NP. (The agent argument of [$_{N0}$ *ryakudatu*] is licensed by means of semantic control, because [$_{V0}$ *si*] in (65/67a-c) is a subject control predicate.) Hence, as exemplified in (65a), KP containing NP in (67a) can undergo movement without violating condition (66), as desired. As illustrated in (67b), the source *Mary-kara* in (64b) is θ-marked by [$_{N0}$ *ryakudatu*] outside of KP under (4), and thus, KP in (67b) is necessarily a θ-incomplete constituent. As a result, as exemplified in (65b), KP in (67b) cannot undergo movement without violating condition (66), as desired. As exemplified in (67c), both the source and the theme are assigned θ-roles by the nominal predicate [$_{N0}$ *ryakudatu*] outside the K projection due

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[22] Examples (65b-c) pose a potential problem for Boškobić and Takahashi's (1998) theory. This is because under their theory, the following structure can be constructed for (65c) at the initial point of the computation due to "free" merge:

(i) [$_{TP}$ [$_{KP}$ ryakudatu-o] John-ga Mary-kara hooseki-o sita].
Plunderage-Acc John-Nom Mary-from jewelry-Acc did.
'John stole jewelry from Mary.'

Then, given their proposal that θ-features in Japanese are "weak," [$_{KP}$ *ryakudatu-o*] 'plunderage,' can lower to the complement position of [$_{v}$ *si*] 'do' to assign its θ-roles in LF, as illustrated in (ii).

(ii) [$_{TP}$ John-ga Mary-kara^2 hooseki-o^1 [$_{KP}$ ryakudatu-o] sita]. (for 65c; cf. 64c)
(~~agent~~(source^2(theme^1)))

Hence, under Boškobić and Takahashi's theory, (65c) should be incorrectly predicted to be as grammatical as (64c), contrary to fact. Similarly, (65b) is incorrectly predicted to be as grammatical as (64b). This might, in turn, imply that "free" merge is prohibited, and that θ-marking cannot be delayed freely (see the appendix for much relevant discussion).

[23] I am very grateful to Masatoshi Koizumi, who brought Chomsky's (2001) theory of PHASE to my attention in relation to (66) in personal communication in June, 2004.

to hypothesis (4). Hence, KP in (67c) is also necessarily a θ-incomplete constituent. Consequently, C_{HL} disallows KP in (67c) to move due to condition (66), as shown in (65c), as desired. The environment-dependent account for (65a-c) in (67a-c), if successful, thus reinforces the claim that K in Japanese is L-compatible, and thus, it does not block θ-marking (see 67b-c).

Furthermore, the environment-dependent hypothesis for θ-marking provides an elegant way to account for the nature of predicate preposing in Japanese by means of condition (66). Consider an instance of predicate fronting in Japanese below:

PREDICATE FRONTING IN JAPANESE

(68)a. John-ga LI-o yom-i-sae si-ta.
John-Nom LI-Acc read- -even do-Pst
(i) 'John did even read LI.' (*light verb*)
(ii) 'John DID even read LI.' (*heavy verb*)

b. [$_{\upsilon P/VP}$ LI-o yom]$_1$-i-sae John-ga t_1 si-ta.
LI-Acc read- -even John-Nom do-Pst
(i) '*[Even read LI], John did.' (**light verb*)
(ii) '[Even read LI], John DID.' (*heavy verb*)

As is well-known, example (68a) is ambiguous (see Hoshi 1994, among others). That is, [$_{V0}$ *si*] in (68a) can be interpreted as a light/dummy verb or as a heavy verb. The light verb [$_{V0}$ *si*] has no θ-roles, and thus, it is semantically vacuous. The heavy verb [$_{V0}$ *si*], on the other hand, is a subject control predicate with an agent θ-role and a theme/event θ-role (Grimshaw and Mester 1988, Matsumoto 1996, among others). Significantly, however, once predicate fronting is applied as in (68b), the resulting sentence is semantically unambiguous. Namely, [$_{V0}$ *si*] in (68b) is forced to have the heavy verb interpretation only, and crucially, it loses the light verb interpretation.

An account for the lack of the light verb interpretation in (68b) is in fact immediately given under the environment-dependent hypothesis as shown below:

ENVIRONMENT-DEPENDENT THEME MARKING

θ-incomplete constituent
↓
(69)a. [$_{TP}$ *John-ga*^{2} [$_{\upsilon P/VP}$ LI-o^1 yom]-i-sae si-ta] (*light verb*) (for 68a)
(agent^2(theme^1))

θ-complete constituent
↓ (agent^4(theme^3))
b. [$_{TP}$ John-ga^4 [$_{\upsilon P/VP}$ [$_{\upsilon P/VP}$ LI-o^1 yom]^3-i-sae si] ta] (*heavy verb*) (for 68a)
(~~agent~~(theme^1))

In light verb configuration (69a), [$_{KP}$ *LI-o*] is the theme argument of the two-place predicate [$_{V0}$ *yom*], and [$_{KP}$ *John-ga*] is the agent argument of [$_{V0}$ *yom*]. [$_{KP}$ *LI-o*] can be base-generated, and be θ-marked within VP without a problem. In (69a), however, the agent argument [$_{KP}$ *John-ga*] cannot be base-generated inside υP, but must be base-generated within the T projection. This is crucially because functional categories in Japanese are L-compatible, and do not block θ-marking. Hence, Japanese T does not have to induce movement for Nominative Case feature checking, and indeed, T in Japanese does not trigger movement based on economy considerations (cf. Chomsky 1995, 2001). For this reason, all types of Nominative Case marked NP in Japanese are required to be base-generated in the projection of T, where it is assigned a θ-role and has its Nominative Case feature checked off (see 62a-d & 63). Consequently, the agent [$_{KP}$ *John-ga*] is forced to be base-generated directly in the T projection, and has its Nominative Case feature checked off in situ. υP/VP in (69a) is therefore necessarily a Θ-INCOMPLETE constituent, a NON-PHASE, which does not contain the agent argument at any point of the computation.

In heavy verb configuration (69b), on the other hand, [$_{KP}$ *LI-o*] is also the theme argument of the transitive verb [$_{V0}$ *yom*], and the theme can be base-generated inside the lower VP without any problem. The agent argument of [$_{V0}$ *yom*] is not syntactically realized in (69b), because it is licensed by means of semantic control (cf. Pollard and Sag 1994, Jackendoff 1997, among others). As a consequence, the lower υP/VP in (69b) is a Θ-COMPLETE constituent, i.e. a PHASE, in con-

trast with υP/VP in (69a). (The heavy verb [$_{V0}$ *si*] assigns a theme/event θ-role to [$_{VP}$ *LI-o yom*]*-i-sae* and an agent θ-role to [$_{KP}$ *John-ga*] in (69b).)

Based on this minimal difference between light verb configuration (69a) and heavy verb configuration (69b),

ENVIRONMENT-DEPENDENT THEME MARKING

(70)a. *[$_{\upsilon P/VP}$ LI-o[1] yom]-i-sae [$_{TP}$ John-ga[2] *t* si-ta] (*light verb*) (for 68b)
(agent[2](theme[1])) (*phase fronting*)
*

b. (agent[4](theme[3]))
[$_{\upsilon P/VP}$ LI-o[1] yom]-i-sae[3] [$_{TP}$ John-ga[4] [$_{VP}$ *t* si] ta] (*heavy verb*) (for 68b)
(~~agent~~(theme[1])) ($\surd$ *phrase fronting*)
ok

the proposed environment-dependent hypothesis based on (2a-b) and (4) successfully rules out the predicate fronting in light verb structure (70a), and rules in υP/VP fronting in heavy verb structure (70b). This is so, because the fronted υ/VP in (70a) contains the theme argument, but does not contain the agent argument at any point of the computation. The agent argument *John* is base-generated outside of υP/VP, and inside TP. Hence, υP/VP in (70a) is a Θ-INCOMPLETE constituent, and thus, the movement in (70a) necessarily violates condition (66). On the other hand, the predicate fronting in (70b) is legitimate, because the fronted υP/VP is a Θ-COMPLETE constituent.

In addition, given the assumption that functional categories such as T in English are L-incompatible and thus, necessarily block θ-marking, we can straightforwardly explain why predicate fronting can freely apply in English without requiring control as in Japanese.

As shown in (71a-d),

ENVIRONMENT-DEPENDENT THETA MARKING

(71)a. [$_{\alpha P/AP}$ t_1 How proud of Bill] is John$_1$ *t*? ($\surd$ *phase fronting*)

b. [$_{\upsilon P/VP}$ t'_1 Fired t_1 by the company], John$_1$ indeed was *t*. ($\surd$ *phase fronting*)

c. [$_{\alpha P/AP}$ t'_1 How likely t_1 to win] is John$_1$ *t*? ($\surd$ *phase fronting*)

d. [$_{\upsilon P/VP}$ t_1 Eat the apple], John$_1$ did *t*. ($\surd$ *phase fronting*)
(Takano 1995, 2000, among others, cf. Lasnik and Saito 1992)

due to L-incompatible functional categories in English (see 2a-b & 4), a predicate is forced to complete its θ-marking within its own projection in English. Namely, unlike in Japanese, VP-internal Subject Hypothesis always holds within υP in English. In (71a), therefore, the subject *John* is θ-marked by [$_{A0}$ *proud*] within αP at the initial point of the computation. Then, *John* undergoes subject raising into TP for feature checking, and predicate fronting applies to αP. The predicate fronting in (71a) is well-formed, because αP in (71a) is a Θ-COMPLETE constituent (see 66). Thanks to L-incompatible functional categories such as α, in other words, predicate fronting does not require control in English unlike in Japanese, and indeed, [$_{V0}$ *is*] is not a control predicate (cf. [$_{V0}$ *si*] in 68b). Exactly in the same way, the subject *John* is forced to be θ-marked within υP in (71b/71d) and within αP in (71c), due to L-incompatibe functional categories in English. Hence, υP in (71b/71d) and αP in (71c) are Θ-COMPLETE constituents, PHASES. After J*ohn* undergoes subject raising for feature checking, those predicate phrases can be successfully fronted to the sentence initial position without violating condition (66), as desired. The fact that non-control predicates such as [$_{V0}$ *was*] in (71b), [$_{V0}$ *is*] in (71c), and the dummy verb [$_{V0}$ *do*] are compatible with predicate fronting in English implies that predicate fronting in English and that in Japanese are fundamentally different (see [$_{V0}$ *si*] in 68b), as I have argued in this section.

Notice here that it is not entirely clear how we can account for the contrast between Japanese example (68b) and English examples (71a-d), if we adopt environment-independent hypothesis like (1a-b). This is so, because the environment-independent hypothesis forces a predicate to θ-mark all of its arguments in structurally fixed positions within its own pro-

jection IRRESPECTIVE OF STRUCTURAL ENVIRONMENTS universally. Under this hypothesis, condition (66) becomes irrelevant, because every predicate phrase like vP is always Θ-COMPLETE in both English and Japanese. Under the environment-independent hypothesis, we must therefore search for a totally different account for both (68b) and (70a-d), and whether such an attempt could be successful remains to be seen.

In conclusion, I have attempted to argue above that besides K, functional categories such as v, Neg and T in Japanese are L-compatible, and thus, do not block θ-marking (see 2a-b & 4). On the other hand, functional categories such as v in English are L-incompatible, and thus, block θ-role assignment. As a consequence, v/V must contain all its arguments inside its own projection vP/VP below TP at the initial point of the computation in English. However, v/V does not have to contain all its arguments within vP/VP below TP at the beginning of the derivation in Japanese. Significantly, this account implies that whether VP-internal Subject Hypothesis (1a) holds or not depends upon STRUCTURAL ENVIRONMENTS as proposed by (2a-b) and (4). Furthermore, I have maintained that because functional categories in Japanese are L-compatible, Japanese T does not have to induce movement for Nominative Case feature checking. Hence, it doesn't for economy considerations. Consequently, every type of Nominative Case marked NP is required to be base-generated directly inside TP in Japanese. Finally, compare (70a) and (71d). In both of these structures, vP fronted to the sentence initial position does not contain a "visible/audible" semantic subject, *John*. Under the proposed account, however, vP in (71d) crucially contains a trace/copy of the semantic subject created by NP movement. vP in (70a), on the other hand, doesn't contain such a trace/copy due to environment-dependent θ-marking. This analysis, if successful, implies necessity of differentiating environment-dependent θ-marking as in (70a) from NP movement as in (71d).[24] That is, environment-dependent θ-marking as in (70a) and NP movement as in (71d) are two distinct computational operations.

In the following subsection, I suggest that C in Japanese may also be an L-compatible functional category as proposed in (4).

5.3 C in Japanese

Based on the example below,

(72) Taroo-ga [titi-oya-ga keikan -de ar-i-nagara] taima-o ut-te iru
Taro -Nom father -Nom policeman be- -though marijuana selling is
'Taro sells marijuana, even though his father is a policeman.' (Kuroda 1983)

Kuroda (1983) observes that even in tenseless clauses, subject is marked by Nominative Case *-ga* in Japanese. Ueda (2002, 2003) argues that it is indeed the C head [$_C$ *-nagara*] 'while' that checks the Nominative Case feature of [$_{KP}$ *titi-oya-ga*] in (72)[25] (cf. 57).

Example (73) provides evidence for Ueda's claim.

(73) [$_{CP}$ pro suugaku -dake-ga deki-na -i -[$_C$ nagara]] .....
math -only -Nom can-Neg- - though
'Even though pro is not good at math, ...' (only>Neg, *Neg>only)

In (73), [$_Q$ *dake*] attached to the nominative object necessarily takes wide scope over negation. By adopting Ueda's hypothesis, if we assume the Nominative Case feature of the nominative object [$_{KP}$ *suugaku-dake-ga*] in (73) is checked in the projection of C (cf. 57), the wide scope reading of [$_Q$ *dake*] with respect to negation is immediately accounted for. This is because [$_Q$ *dake*] asymmetrically c-commands negation in (73).

Importantly, like (61a), the following passive example implies that the Nominative Case feature of [$_{KP}$ *te-ga*] is checked in situ.

(74) [$_{CP}$ (Taroo-niyotte) genkoo-ni te -ga ire -rare -[$_C$ nagara]] ..... (*idiom)
(Taro -by) draft -to hand-Nom put in-Pass- though
'Even though the draft was revised by Taro, ...'

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[24] In my view, Grimshaw and Mester's (1988) "Argument Transfer" and Hinrichs and Nakazawa's (1989) "Argument Attraction" should be reanalyzed as environment-dependent θ-marking proposed in this paper, not as NP movement.

[25] I leave for future research a question as to why not only T but also C heads such as [$_C$ *nagara*] check Nominative Case features in Japanese.

The passive subject [$_{KP}$ [$_{NP}$ *te*]-ga] is a part of the fixed idiom, *te-... ire* 'revise.' Recall that being a part of the fixed idiom, [$_{KP}$ *te-ga*] cannot undergo movement for Nominative Case feature checking to satisfy condition (57), as shown in (60b) and (61b). The well-formedness of (74) thus implies clearly that [$_{KP}$ *te-ga*] has its Nominative Case feature checked off in situ (cf. 61a).

The proposed environment-dependent hypothesis incorporating (2a-b) and (4) provides a uniform treatment of (73) and (74), as desired. Consider the structures for (73) and (74) below:

ENVIRONMENT-DEPENDENT THETA MARKING

(75)a. [$_{CP}$ pro^2 suugaku -dake-ga^1 [$_{NegP}$ [$_{vP/VP}$ deki]-na] -i -[$_{C}$ nagara]] ..... (for 73)
(experiencer^2(theme^1))

b. [$_{CP}$ (Taroo-niyotte)^3 genkoo-ni^2 te -ga^1 [$_{vP/VP}$ ire -rare] -[$_{C}$ nagara]] ..... (for 74)
(~~agent~~^{3}(theme^2(idiom^1)))

In structure (75a) for (73), the nominative object [$_{KP}$ *suugaku-dake-ga*] is base-generated directly in CP. In this structure, the nominative object is θ-marked by the stative predicate [$_{V0}$ *deki*] without a problem. This is crucially because v, Neg and C in Japanese are L-compatible functional categories, and thus, they do not block θ-role assignment, as proposed in (4). Consequently, the Nominative Case feature of [$_{KP}$ *suugaku-dake-ga*] is checked by [$_{C}$ *nagara*] in situ. In configuration (75b) for (74), [$_{KP}$ *te-ga*] is also base-generated directly in the C projection, and it receives an idiom θ-role from the passive verb [$_{V0}$ *ire-rare*] in situ. This θ-marking is also legitimate, because v and C in Japanese are L-compatible functional categories as proposed in (4). In (75b), [$_{KP}$ *te-ga*] has its Nominative Case feature checked off in situ. Note that in fact, because functional categories in Japanese do not block θ-marking, T and C in Japanese do not have to induce movement for feature checking. Hence, T and C do not trigger movement based on economy considerations. Consequently, the Nominative Case marked NPs in (75a-b) are forced to be base-generated directly in the C projection.

Consequently, in (75a), *dake* asymmetrically c-commands [$_{Neg}$ *na*], and thus, we can account for the scope fact concerning (73). In (75b), [$_{KP}$ *te-ga*] has not undergone any movement for Nominative Case feature checking, and thus, (75b) is correctly predicted to be a well-formed configuration for (74), as desired.

To the extent that the proposed account is correct, it implies that in Japanese, not only K, v, Neg, and T, but also C is a L-compatible functional category. Hence, all these functional categories in Japanese do not block θ-marking as proposed in (4).

In the following section, I will discuss some properties of Nominative-Genitive Conversion in Japanese. In so doing, I try to show again that Japanese functional categories such as v and T are indeed L-compatible. I also attempt to show that being a strong PHASE, CP necessarily breaks θ-relations, whereas vP does not break θ-relations in Japanese. This is presumably because v in Japanese may not be functional but lexical, or Japanese may, in fact, lack v.

5.4 v, T & C in Japanese: the Case of Nominative-Genitive Conversion[26]

5.4.1 T and Nominative-Genitive Conversion

As shown in (76a-b),

(76)a. kinoo John-ga kat-ta hon(-ga omosiro -i.)
Yesterday John-Nom buy-Pst book(-Nom interesting-Prs)
'the book that John bought yesterday (is interesting)'

[26] For more discussion of Nominative-Genitive Conversion in Japanese, the reader is referred to Harada (1971, 1976), Bedell (1972), Inoue (1976), Shibatani (1977, 1978), Nakai (1980), Saito (1982, 2001), Fukui (1986), Terada (1990), Miyagawa (1993), Sakai (1994), Watanabe (1996), Ochi (2001), Hiraiwa (2001), Hoshi (2002b), among others.

b. kinoo John-no kat-ta hon(-ga omosiro-i.)[27]
Yesterday John-Gen buy-Pst book(-Nom interesting-Prs) (Nakai 1980)

the Nominative Case marker *-ga* can be "replaced" with the Genitive Case marker *-no* in prenominal sentential modifiers in Japanese. Importantly, however, languages such as English lack this type of Case conversion phenomenon. Thus, a question immediately arises as to why Japanese has this type of Case conversion phenomenon, while languages such as English lack it. Given (77) proposed by Saito (1985) and Murasugi (1991),

(77) A relative clause in Japanese is not CP, but TP. (Saito 1985, Murasugi 1991)

the proposed environment-dependent hypothesis based on (2a-b) and (4) could shed a new light on this long standing issue in Japanese syntax in a natural way.[28]

Consider structures (78a) and (78b) for examples (76a) and (76b), respectively, under the environment-dependent approach.

ENVIRONMENT-DEPENDENT THETA MARKING
(78)a. [$_{KP}$ [$_{NP}$ [$_{TP}$ kinoo John-ga^{1} [$_{vP/VP}$ kat] ta] [$_{N0}$ hon]] ga] (for 76a)
(agent^{1}(theme))
b. [$_{KP}$ [$_{NP}$ kinoo John-no^{1} [$_{TP}$ [$_{vP/VP}$ kat] ta] [$_{N0}$ hon]] ga] (for 76b)
(agent^{1}(theme))

In (78a), the subject of [$_{V0}$ *kat*], [$_{KP}$ *John-ga*], is base-generated in the T projection, and [$_{V0}$ *kat*] 'buy' assigns an agent θ-role to [$_{KP}$ *John-ga*]. This θ-marking is licit, because v and T in Japanese are L-compatible and thus, do not block θ-marking, as proposed in (4). Consequently, the agent argument [$_{KP}$ *John-ga*] in (78a) has its Nominative Case feature checked off by T in situ (cf. 62a-d, 75a-b, etc).

In configuration (78b), the subject [$_{KP}$ *John-no*] is base-generated directly in the N projection based on [$_{N0}$ *hon*] 'book.' The predicate [$_{V0}$ *yom*] assigns an agent θ-role to [$_{KP}$ *John-no*] "non-locally" in (78b). This type of non-local θ-marking is also licit, crucially because v and T in Japanese, being L-compatible functional categories, do not block θ-marking as proposed in (4). Subsequently, [$_{KP}$ *John-no*] has its Genitive Case feature checked off in situ within the N projection of [$_{N0}$ *hon*] in (78b), as desired. As for [$_{ADV}$ *kinoo*] in (78b), I assume that it can be licensed by T properly, because T, being a L-compatible functional head, can percolate up its features into the domain of N, a lexical category, in (78b). Because of this type of feature percolation, C_{HL} thus creates a "MIXED PROJECTION" based on V, T and N in (78b) in the core computation in a principled manner (cf. "MIXED CATEGORIES" in section 2).

In a nutshell, Japanese displays Nominative-Genitive Conversion as in (76a-b), precisely because v and T in Japanese do not block θ-marking as L-compatible functional heads (see 78b). Languages such as English lack such Case conversion phenomenon, because v and T in such languages necessarily block θ-role assignment as L-incompatible functional

[27] (ib) shows that the adnominal morpheme, *na*, does not trigger Nominative-Genitive Conversion.

(i)a. John-ga suugaku-ga suki-na hazu da.
John-Nom math -Nom fond-ADN should be
'John should be fond of math.'
b. *John-no suugaku-ga suki-na hazu da.
John-Gen math -Nom fond-ADN should be (Tada 2002; cf. Hiraiwa 2001)

(iib) together with (ib) implies that not the adnominal morpheme but nouns such as [$_{N}$ *kamoku*] trigger Nominative-Genitive Conversion in Japanese (Harada 1971, 1976, Inoue 1976, Shibatani 1977, 1978, etc).

(ii)a. John-ga suki-na [$_{N}$ kamoku]
John-Nom fond-ADN subject 'the subject which John is fond of'
b. John-no suki-na [$_{N}$ kamoku]
John-Gen fond-ADN subject

[28] I am very grateful to Jun Abe for encouraging me to extend Hoshi (1999) analysis of *-kata* nominalization to Nominative-Genitive Conversion in Japanese in personal communication in December, 1999.

categories. Hence, it is impossible for languages such as English to project configuration like (78b). (It is highly likely that in languages such as English, not only υ and T but also functional categories such as C are L-incompatible and thus, all those functional categories block θ-marking.)

Now, the proposed environment-dependent hypothesis based on (2a-b) and (4) can account for a wide range of data in (79a-c) and (80a-b) in a principled manner. Given (56a-b),

(79)a. nani -o wakar -i-mo si -na -i [$_N$ hito] (-ga .....) (*accusative object*)
anything-Acc understand- -Q do-Neg-Prs person (-Nom .....)
'the person who does not understand anything'

b. *nani -ga wakar -i-mo si -na -i [$_N$ hito] (-ga .....) (*nominative object*)
anything-Nom understand- -Q do-Neg-Prs person(-Nom .....)

c. *nan -no wakar -i-mo si-na -i [$_N$ hito][29](-ga .....) (*genitive object*)
anything-Gen understand- -Q do-Neg-Prs person(-Nom .....)

the grammaticality of (79a) implies that the negative polarity item [$_{KP}$ *nani-o*] falls within the scope of [$_Q$ *mo*], i.e. υP/VP projected by [$_{V0}$ *wakar*]. The ungrammaticality of (79b) and (79c) implies that [$_{KP}$ *nani-ga*] in (79b) and [$_{KP}$ *nan-no*] in (79c) are outside the scope of [$_Q$ *mo*]. Given that T checks Nominative Case and N checks Genitive Case in Japanese, it is natural to assume that [$_{KP}$ *nani-ga*] in (79b) is located inside TP for Nominative Case feature checking, and that [$_{KP}$ *nan-no*] is inside NP projected by [$_{N0}$ *hito*] for Genitive Case feature checking.

(80a-b) illustrate another instance of Nominative-Genitive Conversion in Japanese.

(80)a. (Taroo-niyotte) genkoo-ni te -ga ire -rare -ta [$_N$ koto](-ga .....) (^{ok}idiom)
(Taro -by) draft -to hand-Nom put in-Pass-Pst fact (see 61a)
'the fact that the draft was revised by Taro' (*passive nominative subject*)

b. (Taroo-niyotte) genkoo-ni te -no ire -rare-ta [$_N$ koto](-ga .....) (^{ok}idiom)
(Taro -by) draft -to hand-Gen put in-Pass-Pst fact (-Nom .....) (cf. 61a)
(*passive genitive subject*)(Fujimaki 2005)

(80a-b) involve the fixed idiom, *te-o ire* 'revise,' as in (60a-b) and (61a-b). Due to passivization, a part of the idiom, [$_{KP}$ *te-o*], is turned into [$_{KP}$ *te-ga*] in (80a). Due to Nominative-Genitive Conversion, the part of the idiom is converted into [$_{KP}$ *te-no*] in (80b). Observing the grammaticality of (80a-b), Fujimaki (2005) argues that because a part of a fixed idiom can never udergo movement, both the Nominative Case feature of [$_{KP}$ t*e-ga*] in (80a) and the Genitive Case feature of [$_{KP}$ *te-no*] in (80b) must be checked in situ.

The proposed environment-dependent hypothesis assigns configurations (81a-c) to (79a-c), respectively.

ENVIRONMENT-DEPENDENT THETA MARKING

(81)a. [$_{KP}$ [$_{NP}$ [$_{TP}$ [$_{NegP}$ [$_{\upsilon P/VP}$ nani-o^1 wakar]-i-mo si-na] i] [$_{N0}$ hito]] ga] (*accusative object*)
(agent(theme^1)) (for 79a)

b. *[$_{KP}$ [$_{NP}$ [$_{TP}$ nani-ga^1 [$_{NegP}$ [$_{\upsilon P/VP}$ wakar]-i-mo si-na] i] [$_{N0}$ hito]] ga] (*nominative object*)
(agent(theme^1)) (for 79b)

c. *[$_{KP}$ [$_{NP}$ nan-no^1 [$_{TP}$ [$_{NegP}$ [$_{\upsilon P/VP}$ wakar]-i-mo si-na] i] [$_{N0}$ hito]] ga] (*genitive object*)

---

[29] There is a sharp contrast between (79c) and the well-formed example below:

(i) John-kara [$_{NP}$ nan -no [$_N$ otosata]]-mo na -i.
John-from anything-Gen news -Q Neg-Prs
'There is no news from John.'

The grammaticality of (i) implies that [$_{KP}$ *nan-no*] 'anything' is inside the projection of [$_N$ *otosata*] 'news' attached by [$_Q$ *mo*] in (i).

(agent(theme^1)) (for 79c)

In (81a), the accusative object [$_{KP}$ *nani-o*] 'anything' can be base-generated and θ-marked within VP, and falls inside the scope of [$_{V0}$ *wakar*] 'understand' attached by [$_{Q}$ *mo*] (see 56a-b). Hence, (81a) is ruled in. In (81b), due to the L-compatibility of v and T, the nominative object [$_{KP}$ *nani-ga*] 'anything' is required to be base-generated directly in the T projection (see sections 5.2.2 and 5.2.3). The two-place predicate [$_{V0}$ *wakar*] assigns a theme θ-role to the nominative object within TP. This type of *θ-marking* is legitimate, because v and T in Japanese, being L-compatible functional heads, do not block θ-marking as proposed in (4). The nominative object has its Nominative Case feature checked off in situ within TP. However, the nominative object in (81b) does not fall inside the projection of [$_{v/V0}$ *wakar*] attached by [$_{Q}$ *mo*]. Hence, (81b) is ruled out. Under the assumption that exactly like T, N, being a lexical head, does not have to trigger movement for Genitive Case feature checking, the genitive object [$_{KP}$ *nani-no*] 'anything' in (81c) is base-generated and θ-marked directly inside the N projection. This kind of "non-local" θ-marking is legitimate, given (4), because v and T in Japanese do not block θ-marking as L-compatible functional categories. However, (81c) is ruled out, because the genitive object falls outside the projection of [$_{v/V0}$ wakar] attached by [$_{Q}$ *mo*], as desired.

Structures (82a-b) are assigned to (80a-b), respectively, under the proposed environment-dependent hypothesis.

ENVIRONMENT-DEPENDENT THETA MARKING

(82)a. [$_{KP}$ [$_{NP}$ [$_{TP}$ (Taroo-niyotte^3) genkoo-ni^2 te-ga^1 [$_{vP/VP}$ ire-rare] ta] [$_{N0}$ koto]] ga](*nominative subj.*)
(~~agent~~^{3}(theme^2(idiom^1))) (for 80a)

b. [$_{KP}$ [$_{NP}$ (Taroo-niyotte^3) genkoo-ni^2 te-no^1 [$_{TP}$ [$_{vP/VP}$ ire-rare] ta] [$_{N0}$ koto]] ga] (*genitive subject*)
(~~agent~~^{3}(theme^2(idiom^1))) (for 80b)

T in Japanese is L-compatible and thus, it does not trigger movement for Nominative Case feature checking. Hence, as in (82a), the passive nominative subject [$_{KP}$ *te-ga*] is required to be base-generated and θ-marked by the passive verb [$_{v/V0}$ *ire-rare*] directly inside the T projection. This type of θ-marking is of course licit, because v and T in Japanese do not block θ-marking. Thanks to this "non-local" θ-marking, [$_{KP}$ *te-ga*] has its Nominative Case feature checked off in situ within TP, and (82a) is ruled in. N is a lexical category, and like T, it does not trigger movement for Genitive Case feature checking (see 81c). Hence, as in (82b), the passive genitive subject [$_{KP}$ *te-no*] is base-generated and θ-marked by the passive verb [$_{v/V0}$ *ire-rare*] directly within the N projection based on [$_{N0}$ *koto*]. The "non-local" θ-marking in (82b) is legitimate, crucially because v and T in Japanese do not block θ-marking as proposed in (4). Thanks to this non-local θ-marking permitted by (4), the passive genitive subject [$_{KP}$ *te-no*] has its Genitive Case feature checked off in situ within NP in (82b). Hence, (82b) is also correctly ruled in, as desired. As for [$_{PP}$ *Taroo-niyotte*] and [$_{KP}$ *genkoo-ni*] in (82b), they are properly licensed within the MIXED PROJECTION formed by feature percolation of V, T and N (see also 78b). This kind of feature percolation is possible, precisely because v and T in Japanese are L-compatible (see MIXED CATEGORIES in section 2).

Significantly, above, the ill-formedness of Nominative-Genitive Conversion (79c) and the well-formedness of Nominative-Genitive Conversion (80b) are uniformly accounted for in terms of a base-generation analysis under the proposed environment-dependent hypothesis (see 2a-b & 4). Furthermore, Nominative Case feature checking and Genitive Case feature checking in Japanese are uniformly treated as shown in (81b-c) and (82a-b). This is because T in Japanese is a L-compatible functional category and N is a lexical category.[30]

5.4.2 CP and *Nominative Genitive Conversion

As is well-known, Japanese and Korean have a number of syntactic properties in common, and it is likely that functional categories such as v and T in Korean are also L-compatible like those in Japanese. Importantly, however, Korean lacks Nominative-Genitive Conversion (Hiraiwa 2001, among others). Given a number of similarities between these two languages, it is the best to derive this difference between Japanese and Korean from a single minimal difference. Here, I attempt to suggest that this could indeed be possible under the proposed environment-dependent hypothesis.

With (83) in mind,

[30] As Mamoru Saito pointed out to me in personal communication in February, 2001, a predicate might not have to license all of its arguments in syntax in Japanese (see note 33 of Hosh 2001). This is so, because in (78b), if [$_{v}$ *kat*] assigns a theme θ-role to pro in the projection of [$_{v}$ *kat*] or T, it may induce a Condition B violation. If instead, [$_{v}$ *kat*] assign its theme θ-role to pro in the N projection, it may violate Condition C.

(83) "Relative clauses in Japanese and Korean appear to represent a minimal contrast: modern Japanese lacks the affixal complementizers characteristic of adnominal clauses in Korean."

(Kaplan and Whitman 1995, p. 29)

observe the affixal complementizer [$_{C0}$ *n*] in Korean adnominal clause (84a).

(84)a. [$_{NP}$ [ecey pro manna-ass-te -n] salam]
yesterday meet -Pst-Ret-Comp person]
'the person pro met yesterday'

b. Ecey pro ku salam-ul manna-ass-ta.
yesterday that person-Acc meet -Pst-Ind
'Yesterday pro met that person.' (Kaplan and Whitman 1995, p. 30)

In contrast with (84a), however, Japanese adnominal clauses (76a-b) clearly lack a corresponding complementizer.

Given this, it is natural to hypothesize that Nominative-Genitive Conversion is blocked by C. Namely, a Japanese relative clause, being TP, lacks C (see 77) and thus, Japanese can display Nominative-Genitive Conversion in a relative clause. A Korean relative clause, on the other hand, is necessarily headed by C as in (84a). Hence, Korean cannot display the Case conversion phenomenon.

The following Japanese example, in fact, reinforces this generalization:

(85)a. [[Mary-ga [$_{CP}$ John-ga kat-ta [$_{C}$ to]] omot-te iru] hon] (-ga ...)
Mary-Nom John-Nom buy-Pst that thinking is book (-Nom ...)
'the book which Mary thinks that John bought'

b. *Mary-ga John-no kat-ta [$_{C}$ to] omot-te iru hon(-ga ...)
Mary-Nom John-Gen buy-Pst that thinking is book(-Nom ...)

(Inoue, 1976, Watanabe 1996, among others)

The relative clause in (85a) has a complement clause headed by [$_{C0}$ *to*], and the subject of the complement clause is [$_{KP}$ *John-ga*]. In (85b), the embedded subject [$_{KP}$ *John-ga*] cannot be converted into the genitive subject [$_{KP}$ *John-no*] through Nominative-Genitive Conversion. (85b) is thus in sharp contrast with examples (76b/80b), and the ungrammaticality of (85b) implies that Nominative-Genitive Conversion is indeed blocked by C also in Japanese.

To account for why the above mentioned generalization holds in Nominative-Genitive Conversion, here, I speculate that this is because CP, being a strong PHASE, necessarily breaks A type relations such as θ-relations as illustrated in (86) (cf. improper movement).

barrier for θ-marking as a strong PHASE
↓
(86) [$_{KP}$ [$_{NP}$ Mary-ga John-no [$_{TP}$ [$_{VP}$ [$_{VP}$ [$_{CP}$ [$_{TP}$ [$_{VP}$ kat] ta] to] omot]-te i] ta] [$_{N0}$ hon]] ga]
↑
*argument without a θ-role (for 85b)

In (86), if CP necessarily breaks θ-relations as a strong PHASE, it is impossible for the predicate [$_{V0}$ *kat*] to assign an agent θ-role to the genitive subject [$_{KP}$ *John-no*]. Consequently, the genitive subject cannot be interpreted by the CI system properly. Given (86), the ill-formedness of (85b) is now naturally accounted for, as desired.

In this subsection, I have tried to show that the proposed enrivonment-dependent approach to θ-marking based on (2a-b) and (4) could provide a new insight into the nature of Nominative-Genitive Conversion in Japanese. More specifically, I have attempted to demonstrate that it is the L-compatibility of Japanese functional categories that allows the Japanese language to display Nominative-Genitive Conversion of its type. Because functional categories in English are L-incompatible, English cannot display the Case conversion phenomenon of a Japanese type (cf. Turkish; Hiraiwa 2001). Given a number of similarities between Japanese and Korean, it is likely that functional categories such as v and T in Korean are also L-compatible. Importantly, however, Korean lacks Nominative-Genitive Conversion. I have claimed

above that this is in fact not surprising, because Korean relative clauses are necessarily CP (see 83/84a), whereas Japanese relatives clauses are TP (see 77). Since CP, being a strong PHASE, breaks A type relations such as θ-relations (see 86), the presence of Nominative-Genitive Conversion in Japanese and the lack of the Case conversion in Korean are naturally accounted for. To the extent that the proposed account for the Case conversion phenomenon is valid, it reinforces hypothesis (4). That is, functional categories in Japanese are L-compatible. It also implies that CP, as a strong PHASE, necessarily breaks θ-relations.

As I have shown in many parts in section 5, however, unlike CP, vP in Japanese does not break θ-relations. This may be because v n Japanese might not be functional but lexical, or Japanese may simply lack v. For this reason, Japanese may lack vP as a strong PHASE (cf. Hale 1980 vs. Saito 1985). In the next subsection, I show that in addition to a CP strong PHASE, DP, as a strong PHASE, necessarily breaks A type relations such as θ-relations.[31]

Given that K, v, Neg, T and C are all L-compatible in Japanese, I suppose that L-compatibility reflects a deep property of functional categories in Japanese as proposed in (4), and I regard D in Japanese as another L-compatible functional category. Below, I show that DP breaks θ-relations exactly in the same way as CP does.

5.4.3 DP

Consider instances of the [$_{No}$ *kata*] nominalization construction in (87a) and (87b).[32]

(87)a. Taroo-ga Masao-to [$_{KP}$ [$_{NP}$ Mary-kara-no hooseki-no nusum-i-kata] o]
Taro -Nom Masao-with Mary-from-Gen jewelry-Gen steal - -way -Acc

hanasi -at -ta.
Discuss-each other-Pst
'Taro discussed with Masao how to steal jewelry from Mary.'

b. *Taroo-ga Masao-to *Mary-kara* [$_{KP}$ [$_{NP}$ hooseki-no nusum-i-kata] o]
Taro -Nom Masao-with Mary-from jewelry-Gen steal - -way -Acc

hanasi -at -ta.
discuss-each other-Pst

There is a clear contrast between (87a) and (87b). (87a) is fully grammatical, whereas (87b) is ungrammatical. The well-formedness of (87a) shows that the predicate [$_{Vo}$ *nusum*] 'steal' can θ-mark the source *Mary-kara* and the theme *hooseki* inside the N projection formed by [$_{No}$ *kata*] (see section 4). If the predicate [$_{Vo}$ *nusum*] in (87b) can also θ-mark the source argument *Mary-kara* "non-locally," (87b) should be well-formed. However, it is not. The ungrammaticality of (87b) thus implies that there is a barrier for θ-marking intervening between [$_{Vo}$ *nusum*] and the source argument *Mary-kara*. Given the discussions in section 5, it cannot be KP that breaks θ-relations in (87b).

Here, I suppose that [$_{No}$ *kata*] is a referring expression with R (cf. Grimshaw 1990, etc), and thus, its projection is headed by D binding R. Given this, I suggest that it is DP that breaks the θ-relation between [$_{Vo}$ *nusum*] and the source argument in (87b) (cf. 87a), and I speculate that like CP, DP, being a strong PHASE, constitutes a barrier for θ-marking as shown in (88) .

*argument without a θ-role
↓

[31] Miyagawa's (1993) scope fact concerning Nominative-Genitive Conversion in Japanese is well-known. Ochi (2001), however, raises an objection to some of Miyagawa's (1993) grammaticality judgments, and motivates his theory based on Move F (cf. Lasnik 1999). Hiraiwa (2001), on the other hand, proposes an Agree-based analysis of Nominative-Genitive conversion, and rejects some of Miyagawa's (1993) and Ochi's (2001) core data. Both Watanabe (1996) and Saito (2001) propose different analyses of Japanese Nominative-Genitive Conversion, and thus, their accounts should predict different scope fact in relation to the Case conversion. However, neither Watanabe (1996) nor Saito (2001) comments on such predictions. At the moment, it is thus not entirely clear which set of data are indeed real, and in fact, constructing proper examples and judging the grammaticality of such examples are hard to make, as the current situation implies. I, therefore, leave it for future research to find out what is real scope data concerning Japanese Nominative-Genitive Conversion and to examine in detail whether the proposed environment-dependent hypothesis can account for it properly.

[32] See section 4 for a detailed discussion of the proposed analysis of [$_{No}$ *kata*] nominalization in Japanese.

88) [TP Taroo-ga Masao-to *Mary-kara*^{2} (R)
[KP [DP [NP hooseki-no^1 [N [V nusum] [N kata]] D] o] hanas-i-at-ta]
↑ (~~agent~~(source^2(theme^1)))
DP is a barrier for θ-marking as a strong PHASE (for 87b)

In (88), DP constitutes a barrier for θ-marking and thus, the predicate [V0 *nusum*] cannot assign a source θ-role to [KP *Mary-kara*]. Hence, the source argument is regarded as an illegitimate object by CHL, and (88) is ruled out, as desired.

Given the hypothesis that not only CP but also DP breaks A type relations such as θ-relations, the proposed environmt-dependent hypothesis based on (2a-b) and (4) could provide a natural account for the contrast between (89b) and (90b) as well.

89)a. Kyoo-kara John-wa [NP Tokyo-e -no syuttyoo] [K/VT da].
Today-from John-Top Tokyo-to-Gen business trip is
'John will be on a business trip to Tokyo from today on.'

(experiencer^2(goal^1))
b. Kyoo -kara John-wa^2 *Tokyo-e*^{1} [NP syuttyoo] [K/VT da]. (cf. Matsumoto 1996)
Today-from John-Top Tokyo-to business trip is

90)a. John-wa [DP [NP London-kara -no gakusei] D] [K/VT da].
Juan-Top London-from-Gen student is
'John is a student from London.'
(R(source^1))
b. *John-wa *London-kara*^{1} [DP [NP gakusei] D] [K/VT da]. (cf. Hoshi 2001)
John-Top London-from student is

The grammaticality of (89a-b) shows that the goal argument of the nominal predicate [N0 *syuttyoo*] can be located inside or outside of NP. The contrast between (90a) and (90b) implies that the source argument of the referring expression [N0 *gakusei*] 'student' cannot be outside of its N projection, and must be inside its NP.

The crucial contrast between (89b) and (90b) is accounted for naturally as follows: The nominal predicate [N0 *syuttyoo*] in (89a) is not a referring expression and thus, its N projection is not headed by D. Hence, the nominal predicate can assign a goal θ-role to [PP *Tokyo-e*] without a problem in (89b) (see 2a-b). More precisely, there is no barrier for θ-marking intervening [PP *Tokyo-e*] and [N0 *syuttyoo*] in (89b). On the other hand, [N0 *gakusei*] in (90b) is a referring expression, and hence, its N projection is necessarily headed by D. Consequently, the nominal predicate [N0 *gakusei*] cannot θ-mark the source argument [PP *London-kara*] in (90b), because DP constitutes a barrier for θ-marking as in (88). Hence, the source argument [PP *London-kara*] cannot receive a θ-role from [N0 *gakusei*], and cannot be interpreted properly by the CI system.

The grammaticality of (89a) constitutes evidence that the copula verb *da* is a MIXED CATEGORY incorporating K features (cf. 40a-b). If there is no K which licenses the projection of [N0 *syuttyoo*] as NP in accordance with (5b), the Genitive Case feature of [KP *Tokyo-e* no] in (89a) cannot be checked off (cf. 40a).

5. Concluding Remarks

In this paper, I have attempted to argue against VP-internal Subject Hypothesis (1a) and Configurational Theta Theory (1b), and have proposed that θ-marking and structure building are both dependent upon STRUCTURAL ENVIRONMENTS, as proposed in (2a-b) and (5a-b). (2a-b) and (5a-b) are repeated here as (91a-b) and (92a-b), respectively.

ENVIRONMENT-DEPENDENT" HYPOTHESIS FOR THETA MARKING

91) As far as it provides "PROPER INSTRUCTIONS" for the conceptual-intentional system CI, a predicate can carry out θ-marking FREELY in accordance with STRUCTURAL ENVIRONMENTS. This is so, because

to carry out θ-marking, a predicate can FREELY EXPAND its θ-domain, i.e. its OWN projection, by means of "THETA-FEATURE PERCOLATION/TRANSMISSION;"
FUNCTIONAL categories, however, block θ-marking, i.e. the EXPANSION of a θ-domain, because FUNCTIONAL categories are "INCOMPATIBLE" with LEXICAL features such as θ-features. (cf. Chomsky 2000)

"ENVIRONMENT-DEPENDENT" HYPOTHESIS FOR STRUCTURE BUILDING

(92) Structure building is also ENVIRONMENT-DEPENDENT. Namely, C_{HL} must license every part of phrase structure as X^0 or XP in accordance with STRUCTURAL ENVIRONMENTS, as below:

a) ON ITS OWN, a LEXICAL head may license only "MORPHOLOGICAL" structure (93a);
b) A FUNCTIONAL head, on the other hand, necessarily licenses only "SYNTACTIC" structure (93b).

(93)a. $[_{X0}\ Y^0\ X^0]$ (X^0 = LEXICAL head) b. $[_{XP}\ YP\ X^0]$ (X^0 = FUNCTIONAL head)

As a desirable consequence, I have shown that the proposed ENVIRONMENT-DEPENDENT hypothesis based on (91a-b) and (92a-b) can capture insights provided by both LEXICALIST hypothesis (7a) and TRANSFORMATIONLIST hypothesis (7b) in an elegant way. (7a) and (7b) are repeated here as (94a) and (94b), respectively.

(94)a. ..... $[_{V0Cause}\ V^0\text{-}V^0{}_{Cause}]$ ..... (*"lexicalist" hypothesis*)
b. ..... $[_{VP}$ ..... $[_{VP}$ ..... $V^0]\ V^0{}_{Cause}]$ ..... (*"transformationalist" hypothesis*)

Namely, I have maintained that precisely as predicted by (91a-b) and (92a-b), whether Japanese causatives project LEXICALIST configuration (94a) or TRANSFORMATIONALIST configuration (94b) is dependent upon STRUCTURAL ENVIRONMENTS.

To capture some unique properties of FUNCTIONAL CATEGORIES IN JAPANESE, I have proposed (4), repeated here as (95).

(95) FUNCTIONAL HEADS IN JAPANESE do NOT block θ-marking, i.e. the EXPANSION of a θ-domain. This is because JAPANESE FUNCTIONAL CATEGORIES are "COMPATIBLE" with the features of LEXICAL/SUBSTANTIVE categories, i.e. "L-COMPATIBLE." (cf. Fukui 1986, Fukui and Speas 1986; cf. Kuroda 1986b, 1988)

In particular, I have argued that because functional categories in Japanese are consistently L-COMPATIBLE, predicates do not have to contain all their arguments within their own projections at the initial point of the computation. On the other hand, because languages such as English have L-INCOMPATIBLE functional categories, predicates are forced to contain all their arguments within their own projections below such L-INCOMPATIBLE functional categories at the beginning of the computation (cf. 1a-b). Hence, if the proposed ENVIRONMENT-DEPENDENT hypothesis incorporating (95) is successful, it implies that with respect to the CONFIGURATIONALITY of Japanese, Hale (1980, 1982, among others) and Saito (1985) are both correct in one respect or another. That is, Japanese has vP/VP (cf. Saito 1985), but vP/VP in Japanese is not as "RIGID" as vP/VP in languages such as English (cf. Hale 1980, 1982, among others).

Furthermore, I have argued that strong phases such as CP and DP necessarily break A-relations such as θ-relations, whereas vP in Japanese does not. I have suggested that this might be because v in Japanese may not be functional but lexical, or Japanese may simply lack v (cf. Fukui 1986, Fukui and Speas 1986, among others).

The proposed ENVIRONMENT-DEPENDENT hypothesis for θ-marking and structure building crucially assumes that lexical conceptual structure and/or thematic structure exist(s) INDEPENDENTLY OF syntactic configuration. If the proposed hypothesis is correct, it in turn provides substantial support for multiple representational linguistic theories argued for by Chomsky (1981), Bresnan (1982, 2001), Kageyama (1993), Pollard and Sag (1994), Jackendoff (1997), Yumoto (2001), Ito and Sugioka (2002), among others.

Appendix: TIMING of Theta Marking: "COMPLEX PREDICATES" & "COMPLEX ARGUMENTS"

In this appendix, through a further examination of $[_{No}$ *kata*] nominalization in Japanese, I consider another important aspect of θ-marking. In so doing, I try to shed a new light onto the nature of "surprising constituents" in Japanese (Koizumi 1995, 2000, Kuwabara 1996, Takano 2002, Fukui and Sakai 2003, Fukushima 2003, among others).

As discussed in detail in section 4, the Japanese causative nominalized by $[_{No}$ *kata*] in (96) is assigned structure (97) under the proposed environment-dependent hypothesis.

(96) John-no Mary-e-no hon-no yom -ase -[$_N$ kata]-ga (= 21a)
John-Gen Mary-to-Gen book-Gen read -Cause- way -Nom
'John's way of making Mary read books'

(97) [KP [NP John-no⁴ Mary-e-no³ hon-no¹ [N0/N· [V0 [V0 yom]² [V0 ase]] [N0 kata]]] [K0 ga]] ... (= 24)
(~~agent~~(theme¹)) (agent⁴(patient³(theme²)))

"Lexicalist" configuration (97) is forced to project for (96) in the core computation, because the nominalized causative in (96) lacks v or T which necessarily license the projection of V as VP in accordance with (5/92) (see *22).

Given this background assumption, let us now consider how each part of configuration (97) is Θ-THEORETICALLY licensed step by step in the course of the computation. Due to the lack of v and T, first, the causative verb [V0 *ase*] is forced to merge the embedded verb [V0 *yom*] as in (98a).

COMPLEX PREDICATE FORMATION
(98)a. [V0 [V0 yom]² [V0 ase]] (√ 2a-b/91a-b)
(agent(theme¹)) (agent⁴(patient³(theme²)))

By means of this merge, the causative verb assigns a theme/event θ-role to [V0 *yom*] in accordance with (2a-b/91a-b).

Second, due to the lack of v and T, the nominalizing suffix [N0 *kata*] merges structure (98a) as shown below.

(98)b. [N0 [V0 [V0 yom]² [V0 ase]]Modifier [N0 kata]Modifiee]
(agent(theme¹)) (agent⁴(patient³(theme₂)))

By this merge, [N0 *kata*] and [V0 [V0 yom]² [V0 ase]] establish a modifier-modifiee relationship properly.

Third, as in (98c),

(98)c. [? [KP hon-no]¹ [N0 [V0 [V0 yom]² [V0 ase]]Mod [N0 kata]]] (√ 2a-b/91a-b)
(agent(theme¹)) (agent⁴(patient³(theme²)))

the whole configuration in (98b) merges the theme argument [KP *hon-no*]. Given this structure, the most deeply embedded predicate [V0 *yom*] assigns a theme θ-role to [KP *hon-no*] in accordance with (2a-b/91a-b).

Fourth, as illustrated below,

(98)d. [? [KP hon-no]¹ [N0 [V0 [V0 yom]² [V0 ase]]Mod [N0 kata]]]
(~~agent~~(theme¹)) (agent⁴(patient³(theme²)))
↑ SEMANTIC CONTROL

the patient argument of the causative verb licenses the agent argument of [V0 *yom*] through semantic control.

Fifth, the entire configuration in (98d) merges the patient argument of the causative verb [V0 *ase*].

(98)e. [? [KP Mary-e-no]³ [? [KP hon-no]¹ [N0 [V0 [V0 yom]² [V0 ase]]Mod [N0 kata]]]] (√ 2a-b/91a-b)
(~~agent~~(theme¹)) (agent⁴(patient³(theme²)))

In (98e), the causative verb assigns a patient θ-role to the patient [KP *Mary-e-no*] in consonance with (2a-b/91a-b).

Sixth, the whole structure in (98e) merges the agent argument of [V0 *ase*] as illustrated below:
(98)f. [? [KP John-no]⁴ [? [KP Mary-e-no]³ [? [KP hon-no]¹ (√ 2a-b/91a-b)
[N0 [V0 [V0 yom]² [V0 ase]]Mod [N0 kata]]]]]
(~~agent~~(theme¹)) (agent⁴(patient³(theme²)))

Here as well, the causative verb assigns an agent θ-role to [KP *John-no*] properly in accordance with (2a-b/91a-b).

Finally, as in (98g),

(98)g. [KP [NP [KP John-no]⁴ [N· [KP Mary-e-no]³ [N· [KP hon-no]¹ (√ 5/92)
[N0/N· [V0 [V0 yom]² [V0 ase]]Mod [N0 kata]]]]] [K0 ga]]

(~~agent~~(theme[1])) (agent[4](patient[3](theme[2])))

the Case head, [KO *ga*] merges the entire configuration in (98f), licensing every projection of [NO *kata*] as NP in accordance with (5a-b/92a-b).

Observe here that every merge in (98a-g) is motivated by selectional requirements such as θ-role assignment, and significantly that "COMPLEX PREDICATE FORMATION" like the one in (98a-b) allows C_{HL} to legitimately DELAY timing of θ-role assignment by predicates (cf. Saito and Hoshi 1994/2000, 1998, Boškobić and Takahashi 1998, among others). That is, the embedded verb [VO *yom*] delays its θ-marking of the theme argument [KP *hon-no*] until (98c). The causative verb [VO *ase*] delays its θ-marking of the patient argument [KP *Mary-e-no*] until (98e), and delays its θ-marking of the agent argument [KP *John-no*] until (98f).

Given this observation, it is naturally predicted that C_{HL} should also be able to allow "COMPLEX ARGUMENT FORMATION" (100), i.e. concatenation of arguments, to "DELAY" timing of θ-role RECEPTION by arguments, as far as it can provide proper "instructions" for the CI system. In a sense, "COMPLEX ARGUMENT FORMATION" (100) is the MIRROR IMAGE COMPUTATION of "COMPLEX PREDICATE FORMATION" (99), i.e. concatenation of predicates, as shown below.

COMPLEX PREDICATE
(99) [[[predicate] [predicate]] predicate] => DELAYING Θ-ROLE ASSIGNMENT BY PREDICATES

COMPLEX ARGUMENT
(100) [[argument] [[argument][argument]]] => DELAYING Θ-ROLE RECEPTION BY ARGUMENTS

Importantly, the proposed environment-dependent hypothesis based on (2a-b/91a-b) apparently predicts that C_{HL} should permit both of these two computational operations in (99) and (100). I suggest below that this prediction seems to be borne out, and that Japanese may be able to construct COMPLEX ARGUMENTS rather productively thanks to its inherent Case system (see section 5.2.1).

Consider now an instance of COMPLEX ARGUMENT FORMATION in Japanese in (101). Given possibility (100), the theme argument [KP *hon-o*] should be able to merge the patient argument [KP *John-ni*], creating a complex argument, as illustrated in (101).

COMPLEX ARGUMENT FORMATION => DELAYING Θ-ROLE RECEPTION BY ARGUMENTS
(101) [KP [KP John-Dat] [KP hon-Acc]]
goal theme (cf. Kuroda 1978, 1986b, Saito 1994, Sohn 1994)

Here, both the Dative marker and the Accusative marker are linked to thematic information. More precisely, the Dative marker is linked to "goal," and the Accusative marker is linked to "theme," because Dative Case and Accusative Case in Japanese are both inherent Cases (see section 5.2.1). I suppose that by means of merge in (101), [KP *John-Dat*] and [KP *hon-Acc*] are licensed as "co-participants" in a certain event. This hypothesis is plausible under Kuroda's (1978, 1986b, 1988) proposal that Chomsky adjunction structure like (101) can be interpreted as a type of coordinate structure by C_{HL}, and importantly, this COMPLEX ARGUMENT FORMATION allows both of these two arguments to "DELAY" timing of their θ-role reception (cf. 98a-g).

Then, as in (102), the complex argument in (101) merges predicates such as [V *age*] 'give' to receive θ-roles.[33]

THETA MARKING OF COMPLEX ARGUMENTS
(102) [? [KP [KP John-Dat][2] [KP hon-Acc][1]] age] (agent(goal[2](theme[1])))
goal theme Dat Acc (cf. Hale 1980, etc.)

Here, it appears that there is a rather serious problem for θ-marking of the COMPLEX ARGUMENT. This is so, because apparently, [VO *age*] cannot assign its θ-roles to [KP *hon-o*] and [KP *John-ni*] strictly from bottom-up in accordance with its lexical-conceptual or thematic structure exactly as in (98a-g). Notice, however, that there is a significant difference be-

[33] In (102) and (103a-b), v is suppressed, because it does not affect the discussion here.

tween (98a-g) and (102). That is, in (98a-g), θ-marking takes place in a domain where structural Case, i.e. Genitive Case, is checked. On the other hand, in (102), θ-marking takes place in a domain where INHERENT CASES, i.e. Dative Case and Accusative Case, are checked/assigned. Basically in line with Hale's (1980, 1982, etc.) proposal, if we hypothesize that INHERENT CASE ASSIGNMENT is, in fact, a kind of "LINKING/EVALUATION" or "MATCHING" between argument slots in lexical conceptual structure/thematic structure and arguments in the core computation (cf. Hale 1980, 1982, etc; cf. Saito 1985, p. 33), there is no problem for INHERENT CASE ASSIGNMENT in (102). Notice also that there is no barrier for θ-marking between [$_{V0}$ *age*] and the "complex argument" in (102). Furthermore, there appears to be no obvious problem for the CI system to read off a proper interpretation from (102), satisfying (2a-b/91a-b).[34]

Hence, the computation proceeds properly as in (103a-b).

MERGE & STANDARD THETA MARKING

(103)a. [$_{TP}$ [$_{VP}$ [$_{KP}$ [$_{KP}$ John-Dat]^2 [$_{KP}$ hon-Acc]^1] age] ta] (agent(goal^2(theme^1))) ($\sqrt{}$5/92)

goal theme Dat Acc

b. [$_{TP}$ [$_{KP}$ Mary-ga]^3 [$_{T'}$ [$_{VP}$ [$_{KP}$ [$_{KP}$ John-Dat]^2 [$_{KP}$ hon-Acc]^1] age] ta] (agent^3(goal^2(theme^1)))

goal theme Dat Acc

As shown in (103a), the past tense marker [$_{T0}$ *ta*] merges the entire configuration in (102), licensing every projection based on [$_{V0}$ *age*] as VP in consonance with (5/92). Then, the whole structure in (103a) merges the agent argument [$_{KP}$ *Mary-ga*] as illustrated in (103b). In (103b), [$_{KP}$ *Mary-ga*] receives an agent θ-role from the three-place predicate [$_{V0}$ *age*] in situ, and has its Nominative Case feature checked off in situ properly.

As a consequence, the proposed environment-dependent hypothesis predicts that Japanese examples such as (104) can be assigned configurations such as (103b), which involves a complex argument.

(104) Mary-ga John-ni hon -o age-ta.
Mary-Nom John-Dat book-Acc give-Pst 'Mary gave books to John.'

This predication appears to be borne out. As Koizumi (1995, 2001) and others observe,

(105)a. Mary-ga age -ta no -wa [John-ni hon -o] da.
Mary-Nom give-Pst Comp-Top [John-Dat book-Acc] is
'It is [to John book] that Mary gave.'

b. Mary-ga [[John-ni hon-o san-satu]-to [Taroo-ni zassi -o ni-satu]] ageta.
Mary-Nom [[John-Dat book-Acc 3 -cl]-& [Taro -Dat magazine-Acc 2-cl]] gave
'Mary gave [[to John three books] & [to Taro two magazines]].'

c. [[John-ni hon-o san-satu]-to [Taroo-ni zassi -o ni-satu]] Mary-ga ageta.
[[John-Dat book-Acc 3 -cl]-& [Taro -Dat magazine-Acc 2-cl]] Mary-Nom gave
'[[to John three books] & [to Taro two magazines]] Mary gave.'
(Koizumi 1995, 2000, Kuwabara 1996, among others)

the complex argument based on the direct object and the indirect object [$_{KP}$ [$_{KP}$ *John-ni*] [$_{KP}$ *hon-o*]] appears as a single constituent in the focus position of Japanese cleft construction (105a). In (105b), such complex arguments are coordinated. In (105c), the coordinate structure of the complex arguments in (105b) is scrambled into the sentence initial position. All these examples imply that in Japanese, at least direct object and indirect object can freely form a single constituent, i.e. a COMPLEX ARGUMENT, in accordance with STRUCTURAL ENVIRONMENTS, as predicted by the proposed envi-

[34] I believe that this is really a Minimalist interpretation of Hale's insight into the nature of the "free word order" phenomenon in Japanese, and this speculation implies that all types of "A" scrambling may/should be eliminated (cf. Kuroda 1986b, 1988, Saito 1985, 1989, 1992, 2003, Gunji 1987, 1988, Tada 1990, Abe 1993, Nemoto 1993, Miyagawa 1997, 2001, Yatabe 1993, Boškobić and Takahashi 1998, Saito and Fukui 1998, Fukui and Sakai 2003, among others). I leave for future research a question as to whether this speculation is indeed on the right track.

ronment-dependent hypothesis.

To summarize, Japanese and Korean may be able to construct complex arguments rather freely, because θ-marking can be delayed for legitimate reasons such as complex argument/predicate formation in a natural language, and because these two languages make use of an inherent Case/particle system at the sentential level. After all, if Accusative Case marked arguments and Dative Case marked arguments in Japanese provide lexical-conceptual or thematic information with their Case properties (cf. Hale 1980, etc), COMPLEX PREDICATE formation and COMPLEX ARGUMENT formation could be considered to be basically the same computational operations. That is, both COMPLEX PREDICATE formation and COMPLEX ARGUMENT formation are construction of partial CONCEPTUAL UNITS by means of merge in the core computation (cf. Koizumi 1995, 2000, Kuwabara 1996, Takano 2002, Fukui and Sakai 2003, Fukushima 2003, among others).

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