

BINDING AND LF CONSTRUAL

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(Abstract)

This article shows, on the basis of indeterminate pronoun binding, that tense-related elements are checked in the checking domain of T, and that other elements are checked in the checking domain of ν . The data pertaining to indeterminate pronoun binding, if coupled with the data on focus particles, reveal that in Japanese, the checking configurations are established in LF. Japanese is also shown to implement phrasal category movement and head movement in LF. The newly attested data from Japanese lead to the conclusion that reordering of constituents after ‘narrow’ syntax can occur, and further, that strict locality is always required for checking to take place, contrary to Chomsky’s (1988, 1999) proposal.

1. INTRODUCTION

In the Minimalist Program, it has been assumed that when Case checking occurs, arguments of a predicate enter the checking domain of the heads which carry the relevant Case features to be checked by them. More recently, however, a different view has been forwarded by Chomsky (1998, 1999) to the effect that Case checking (feature checking) does not require strict locality. Although the issue is motivated mainly by theory-internal considerations, Japanese presents empirical evidence to choose one view over the other. In particular, on the basis of the distribution of indeterminate pronouns whose interpretations are determined by an independent Q particle like *mo*, this article shows that for Case checking to take place, the arguments of a predicate need to go into the checking domain of the heads which bear formal features to be matched by them.

With the help of particles that can attach to verbs, this paper argues that while tense-related arguments (such as subjects and nominative objects) are Case checked in the checking domain of T, other arguments (including dative and accusative objects) are Case checked in the checking domain of the uppermost light verb ν . It is argued that adjuncts are also partitioned into two classes, one which enters the domain of T and the other which enters the domain of the highest ν , for the purpose of checking. The Japanese data also reveal that both phrasal category movement and head movement may occur at the LF level, and further, that Japanese is a language where verbs do not move into T even in LF.

The discussion proceeds as follows. Section 2 reviews the general properties of indeterminate pronoun binding, and shows that the binding relations between indeterminate pronouns and their associated Q elements are established at the LF level. Section 3 shows, on the basis of indeterminate pronoun binding, that both arguments and adjuncts fall into two classes, namely, those licensed by T and those licensed by ν . In Section 4, head movement is shown to occur in LF. The conclusion is presented in Section 5.

2. LICENSING OF INDETERMINATE PRONOUNS

This section first establishes that the clause structure of Japanese may be checked through constructions in which a Q element is set apart from its host indeterminate pronoun. It is argued then that the legitimacy of indeterminate pronoun binding is determined on the basis of LF configurations.

2.1. General Properties of Indeterminate Pronoun Binding

Prior to entering into the main issue, I will, first of all, take a look at some of the general properties of indeterminate pronouns bound by a Q particle *mo*. In Japanese, indeterminate pronouns are generally allowed to serve as negative polarity items when they are properly construed with *mo*:¹

- (1) a. Taroo-wa nani-**mo** kawa-nakat-ta.
 Taroo-TOP anything-Q buy-NEG-PAST
 ‘Taroo did not buy anything.’
 b. Dare-**mo** sono-hon-o kawa-nakat-ta.
 anyone-Q that-book-ACC buy-NEG-PAST
 ‘No one bought that book.’

In Japanese, the so-called ‘indeterminate pronouns’ such as *dare* ‘anyone’, *doko* ‘anywhere’, *nani* ‘anything’ and the like are interpreted as universal quantifiers or as negative polarity items if they are bound by *mo*.² When they function as negative polarity items, they need to be embedded under negative contexts, and are excluded in affirmative contexts, as shown in (2):

- (2) a. *Taroo-wa nani-**mo** kat-ta.
 Taroo-TOP anything-Q buy-PAST
 ‘Taroo bought anything.’
 b. *Dare-**mo** sono-hon-o kat-ta.
 anyone-Q that-book-ACC buy-PAST
 ‘Anyone bought that book.’

The same indeterminate pronouns may sometimes act as universal quantifiers, in which case they can appear in either affirmative or negative context:

- (3) a. Dare-**mo**-ga ki-ta.
 anyone-Q-NOM come-PAST.
 ‘Everyone came.’
 b. Dare-**mo**-ga ko-nakat-ta.³
 anyone-Q-NOM come-NEG-PAST
 ‘Everyone did not come.’

The universal quantifier *dare-mo* in (2) has the same spell-out form as the negative polarity item in (1b).⁴ In Japanese, some indeterminate pronouns can function as universal quantifiers as well as negative polarity items.

The Q particle *mo* which is used to assign the interpretation of an indeterminate pronoun is not required to be placed next to its host. The Q particle *mo* can be attached, for instance, to V, C, and the like, as exemplified below:

- (4) a. Taroo-wa doko-o hasiri-**mo** si-nakat-ta.
 Taroo-TOP anywhere-ACC run-Q do-NEG-PAST
 ‘Taroo did not run anywhere.’
 b. Hanako-wa [Taroo-ga nani-o kat-ta to-**mo**] omowa-nakat-ta.⁵
 Hanako-TOP Taroo-NOM anything-ACC buy-PAST that-Q think-NEG-PAST
 ‘Hanako did not think that Taroo bought anything.’

In (4a), *mo* is attached to V, separate from *doko* ‘anywhere’, but still can legitimately bind *doko*, just like (5), where *mo* is directly attached to *doko*:

- (5) Taroo-wa doko-mo hasira-nakat-ta.
 Taroo-TOP anywhere-Q run-NEG-PAST
 ‘Taroo did not run anywhere.’

The sentences in (4a) and (5) express fairly close meanings, asserting that there was nothing that Taroo bought. The two sentences are not totally synonymous, however. Example (4a), where *mo* is associated with the verb, carries the implication that Taroo did something else, but such an implication is missing in (5).

For indeterminate pronouns to be construed as negative polarity items or universal quantifiers, they are required to get bound by *mo*. When no Q element is present to bind an indeterminate pronoun, the indeterminate pronoun cannot be assigned any interpretation:

- (6) *Taroo-wa nani-o kawa-nakat-ta.
 Taroo-TOP anything-ACC buy-NEG-PAST
 ‘Taroo did not buy anything.’

Along a similar line, the following sentences are ruled out, since the Q particle cannot bind the pronoun:

- (7) a. *Taroo-**mo** nani-o kawa-nakat-ta.
 Taroo-Q anything-ACC buy-NEG-PAST
 ‘Even Taroo did not buy anything.’
 b. *Dare-ga sono-hon-**mo** kawa-nakat-ta.
 anyone-NOM that-book-Q buy-NEG-PAST
 ‘Anyone did not buy even that book.’

In both cases in (7), *mo* occupies a position from which it is unable to bind the indeterminate pronoun. The sentences in (7) are rendered unacceptable on the ground that no appropriate interpretations are assigned to the indeterminate pronouns.

In Japanese, the surface position of the Q particle *mo* is relatively free, but it cannot appear to the right of a tensed verb:

- (8) *Hanako-wa [Taroo-ga nani-o kat-ta-**mo** to] omowa-nakat-ta.
 Hanako-TOP Taroo-NOM anything-ACC buy-PAST-Q that think-NEG-PAST
 ‘Hanako did not think that Taroo bought anything.’

This shows that the Q particle *mo* may be separated from its host wh word if it can bind the wh word, but that it cannot be attached to T.

Another constraint imposed on the binding of indeterminate pronouns by the Q particle *mo* is that the NEG element *nai* ‘not’ cannot be separated from *mo* by a clause-boundary:

- (9) *Taroo-wa [Masao-ga nani-o kai-**mo** si-ta to] omowa-nakat-ta.
 Taroo-TOP Masao-NOM anything-ACC buy-Q do-PAST that think-NEG-PAST
 ‘Taroo did not think that Masao bought anything.’

When there is no clausal boundary intervening between the Q element and the NEG element, the sentence is acceptable:

- (10) Taroo-wa [Masao-ga nani-o kat-ta to-**mo**] omowa-nakat-ta.
 Taroo-TOP Masao-NOM anything-ACC buy-PAST that-Q think-NEG-PAST
 ‘Taroo did not say that Masao bought anything.’

Both in (9) and (10), the Q element *mo* is in a position where it can bind the indeterminate pronoun, but (9) is excluded. The crucial difference is that while *mo* is attached to the embedded verb in (9), *mo* is inserted into C in (10). In (10), in opposition to (9), no independent clause-boundary intervenes between *mo* and *nai*, and the sentence is acceptable. This condition, which applies to sentences in which *mo* is detached from its host, also holds in cases where *mo* is directly attached to an indeterminate pronoun (see McGloin 1976, Aoyagi and Ishii 1994):

- (11) ?*Taroo-wa [Hanako-ga nani-mo kat-ta to] omowa-nakat-ta.
 Taroo-TOP Hanako-NOM anything-Q buy-PAT that think-NEG-PAST
 ‘Taroo did not think that Hanako bought anything.’

This shows that the ‘clause-boundary’ constraint is generally in force with negative polarity items which consist of indeterminate pronouns and Q elements.

In addition, when *mo* is separated from its host indeterminate pronoun, the distance between *mo* and the indeterminate pronoun cannot be too long, either:

- (12) ?*Taroo-wa [Hanako-ga nani-o kat-ta to] omoi-**mo** si-nakat-ta.
 Taroo-TOP Hanako-NOM anything-ACC buy-PAST that think-Q do-NEG-PAST
 ‘Taroo did not think that Hanako bought anything.’

In (12), the indeterminate pronoun is in the embedded clause, and the Q element *mo* is located in the matrix clause. In (12), there is a clause-boundary between *mo* and the indeterminate pronoun, and the indeterminate pronoun is not interpretable.

The discussion illustrates that when there is a clause boundary between a NEG element and *mo*, or between *mo* and an indeterminate pronoun, the indeterminate pronoun is not appropriately interpreted.⁶ In the next subsection, I will argue that an indeterminate pronoun can be bound by *mo* only if it falls under the scope of *mo*, and that the scope of *mo* is determined relative to the position of a lexical head to which it is attached at the LF level.

2.2. The Binding of Arguments and Configurationality

In Japanese, *mo* can generally be attached to a lexical element to its left. The status accorded to *mo* is fairly clear when a nominal constituent serves as its host, since it typically appears at the rightmost periphery of the constituent, as illustrated by (13):

- (13) Taroo-wa [hon-**mo**] kat-ta.
 Taroo-TOP book-Q buy-PAST
 ‘Taroo also bought a book.’

When *mo* is associated with a verbal element, its status is less obvious, since it usually appears in the middle of a cluster of verbal elements:

- (14) Taroo-wa [hasiri-**mo** si-ta].
 Taroo-TOP run-Q do-PAST
 ‘Taroo even ran.’

But even in such a case, *mo* is conceived of as being affixed to an element which appears to the left of it, rather than to the right of it. The correctness of the view can be ascertained if we look at sentences like (15), where a verbal constituent undergoes movement:

- (15) a. Hasiri-**mo**_i Taroo-ga t_i si-ta.
 run-Q Taroo-NOM do-PAST
 ‘Taroo even ran.’
 b. *Hasiri_i Taroo-ga t_i-**mo** si-ta.
 run Taroo-NOM Q do-PAST
 ‘Taroo even ran.’

In Japanese, it is possible to move a verbal constituent marked with *mo* to sentence initial position, as in (14a), but it cannot be moved to the front while leaving the Q particle *mo* behind, as in (14b). This fact indicates that when *mo* is embedded within a cluster of verbal elements, it is attached to an element on its left.

Another notable fact is that in a sentence like (16), where *mo* is attached to a verb, the tense is associated with a dummy verb *su(ru)* ‘do’:

- (16) Taroo-ga sono-koto-o hanasi-**mo** si-ta.
 Taroo-NOM that-fact-ACC talk-Q do-PAST
 ‘Taroo even talked about the fact.’

The dummy verb *su(ru)* ‘do’ in Japanese displays a behavior different from the English dummy verb *do*. In English, *do*-support is implemented if tense is not associated with a lexical verb or an auxiliary verb. Its insertion targets I or C, where the ‘tense’ feature is accommodated. In Japanese, by contrast, the dummy verb *su(ru)* is inserted wherever a bound verbal element is separated from a lexical verb, which is a free element, and its insertion has nothing to do with a particular syntactic position:⁷

- (17) a. Kodomo-ga sika-rare-**mo** si-nakat-ta.

- child-NOM scold-PASS-Q do-NEG-PAST
 ‘The child was not even scolded.’
 b. Kodomo-ga sikari-**mo** s-are-nakat-ta.
 child-NOM scold-Q do-PASS-NEG-PAST
 ‘The child was not even scolded.’

In (17a), the dummy verb *su(ru)*, which precedes the bound morpheme *nai* ‘not’, is required because *nai* is discontinuous from the lexical verb *hanasu* ‘speak’. In (17b), the passive morpheme *rare* is set apart from the verb by *mo*, so *su(ru)* must be inserted to the left of it. The dummy verb *su(ru)* is not needed when all verbal affixes are connected to a lexical verb:

- (18) a. *Taroo-wa sono-koto-o hanas-are-si-nakat-ta.
 Taroo-TOP that-fact-ACC talk-PASS-do-NEG-PAST
 ‘Taroo did not get that fact talked about.’
 b. *Taroo-wa sono-koto-o hanas-are-**mo**-nakat-ta.
 Taroo-TOP that-fact-ACC talk-PASS-NEG-PAST
 ‘Taroo did not even get that fact talked about.’

These examples illustrate that the insertion of *su(ru)* into a position where a bound element is not separated from a lexical verb results in ungrammaticality, and also that the failure to insert *su(ru)* results in ungrammaticality when a verbal complex is cut off by a Q particle. The fact shows that the dummy verb is required if and only if a verbal affix is dissociated from its lexical verb.

To account for the distribution of the dummy verb *su(ru)*, one might be tempted to say that *mo* heads a projection intervening between the two verbal elements, and blocks head movement of the verb to a higher position, as a result of which the insertion of *su(ru)* is necessitated. Under this view, *su(ru)* signals the position where the verb fails to raise (due to the presence of *mo*). Plausible as it seems at first blush, there is empirical evidence that *mo* does not block syntactic head movement (which will be discussed in Section 4). Thus, I maintain the view that the dummy verb *su(ru)* is inserted morphologically when a bound element is not connected to a free lexical verb with a failure of adjacency (cf. Bobaljik 1994, Halle and Marrantz 1993).

Notice in this connection that when *mo* occurs with C, the insertion of *su(ru)* is not implemented:

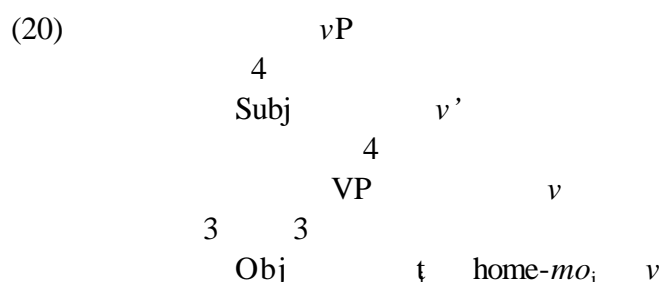
- (19) Hanako-wa [Taroo-ga hasit-ta to-**mo**] it-ta.
 Hanako-TOP Taroo-NOM run-PAST that-Q say-PAST
 ‘Hanako even said that Taroo ran.’

Since the complementizer stands on its own, and is not a dependent verbal element that is linked to a verb, it is not susceptible to the rule of dummy verb insertion.

In essence, the present discussion shows that whenever a verbal affix is separated from the verbal complex containing a main verb by virtue of an intervening particle like *mo*, the dummy verb *su(ru)* must be inserted. This is a morphological rule, since the insertion of *su(ru)* occurs without regard to any particular syntactic positions whenever a bound verbal element is dissociated from its host verb in the presence of an intervening particle. The *su(ru)* insertion rule does not apply if *mo* occurs with a constituent other than verbal elements, however.

Turning now to the discussion on the clause structure of Japanese, note first that the Q particle *mo* may be attached to different kinds of lexical heads, as a consequence of which it can occur in various syntactic positions. For ease of exposition, I assume here that when *mo* is attached to a head, it is merged to the head by way of head adjunction, and those elements form a complex head. Further, I assume that this complex head appears in a head position, and that the entire head may be susceptible to syntactic operations (like head movement) in the course of derivation (see Section 4).⁸

To exemplify, when *mo* is attached to a verb like *home(ru)* ‘admire’, the complex head [_V [_V *home*] *mo*] is formed. Since the verb is transitive, its object is merged to it, as a result of which VP is formed. Under the split VP analysis, this VP is merged to *v*, and V is raised to *v*.⁹ If the subject is further merged (after V-raising), the following structure is yielded:



The light verb *v* at issue does not surface as a separate lexical item in Japanese. Here, it can be assumed that the invisible light verb *v* has a strong V-feature to attract V, so that V is necessarily raised to *v* in overt syntax.

From the present perspective, *mo* can appear in various positions, since different types of heads can comprise *mo* as their part (by way of head adjunction). Significantly, under the view being held here, (21b) is not derivationally related to (21a), in which *mo* occurs next to *nani* ‘anything’, because *mo* in (21b) is directly merged to V (without movement):

- (21) a. Taroo-wa nani-mo tabe-nakat-ta.
 Taroo-wa anything-Q eat-NEG-PAST
 ‘Taroo did not eat anything.’
 b. Taroo-wa nani-o tabe-**mo** si-nakat-ta.
 Taroo-TOP anything-ACC eat-Q do-NEG-PAST
 ‘Taroo did not eat anything.’

Another possibility that readily comes to mind is that *mo* is always merged in a position contiguous with its host indeterminate pronoun. By this account, when *mo* is appended to a verbal element, it should result from overt movement of *mo* (cf. Hagstrom 1998). This analysis implies that *mo* always appears in a position that it c-commands its traces (or copies), but since there are cases in which *mo* cannot originate from a position next to its host indeterminate pronoun (as I will discuss in Section 4), I will not subscribe to this view.

With this discussion in mind, let us proceed to consider when and how indeterminate pronouns are assigned interpretations properly. First of all, when *mo* appears to the right of a verb in a simple clause, arguments are divided into two classes, one which can be bound by *mo* and the other which cannot. The first class of arguments includes direct objects:

- (22) a. Taroo-wa nani-o kai-**mo** si-nakat-ta.

- Taroo-TOP anything-ACC buy-Q do-NEG-PAST
 ‘Taroo did not buy anything.’
 b. Taroo-wa dare-ni ai-**mo** si-nakat-ta.
 Taroo-TOP anyone-DAT meet-Q do-NEG-PAST
 ‘Taroo did not meet anyone.’

In (22a), the direct object is marked with accusative case, and in (22b), with dative case. Both types of direct objects are successfully bound by *mo*. Indirect objects are also included in this class of arguments:

- (23) a. Taroo-wa Hanako-ni nani-o age-**mo** si-nakat-ta.
 Taroo-TOP Hanako-DAT anything-ACC give-Q do-NEG-PAST
 ‘Taroo did not give Hanako anything.’
 b. Taroo-wa dare-ni omi-age-o age-**mo** si-nakat-ta.
 Taroo-TOP anyone-DAT souvenir-ACC give-Q do-NEG-PAST
 ‘Taroo did not give anyone a souvenir.’

It must be stressed that not all arguments can be bound by *mo*. In fact, in Japanese, there is another class of arguments that fail to be bound by *mo*, which includes subjects:

- (24) a. *Dare-ga hasiri-**mo** si-nakat-ta.
 anyone-NOM run-Q do-NEG-PAST
 ‘Anyone did not run.’
 b. *Dare-ga Hanako-o home-**mo** si-nakat-ta.
 anyone-NOM Hanako-ACC admire-Q do-NEG-PAST
 ‘Anyone did not admire Hanako.’

The asymmetry in the possibility of indeterminate pronoun binding observed above demonstrates that when *mo* is attached to a verb, the external argument (i.e. the subject) lies outside the scope of *mo*, but *v*P-internal arguments, whether they are direct or indirect, fall within its scope.

This type of asymmetry obtains not merely for arguments but also for adjuncts. In effect, when *mo* is appended to a verb, it is unable to bind adjuncts taking scope over TP, as illustrated by *itu* ‘anytime’ and *dooyuu-riyuu-de* ‘for any reason’:

- (25) a. *Taroo-wa itu hasiri-**mo** si-nakat-ta.
 Taroo-TOP anytime run-Q do-NEG-PAST
 ‘Taroo did not run anytime.’
 b. *Taroo-wa dooyuu-riyuu-de hasiri-**mo** si-nakat-ta.
 Taroo-TOP any-reason-for run-Q do-NEG-PAST
 ‘Taroo did not run for any reason.’

On the other hand, there are several classes of adjuncts that can be bound by *mo*. These adjuncts include locative phrases, comitative phrases, instrumental phrases, manner adverbs, etc., which are generally construed as residing within *v*P. Some representative examples follow:

- (26) a. Taroo-wa doko-kara/de hasiri-**mo** si-nakat-ta.

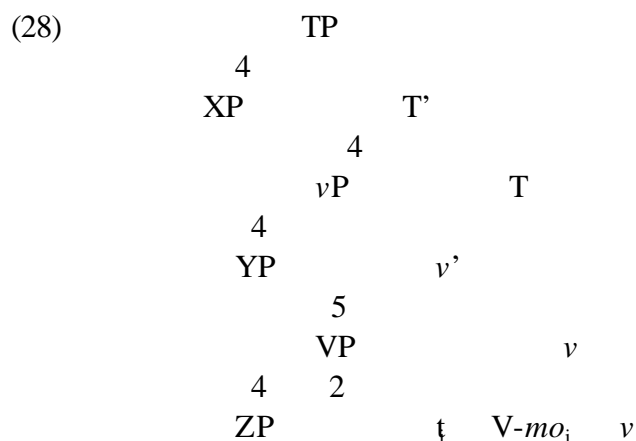
- Taroo-TOP where-from/at run-Q do-NEG-PAST
 ‘Taroo did not run (from) anywhere.’
- b. Taroo-wa doko-ni yuki-**mo** si-nakat-ta.
 Taroo-TOP where-to go-Q do-NEG-PAST
 ‘Taroo did not go anywhere.’
- c. Taroo-wa dare-to Tokyo-e iki-**mo** si-nakat-ta.
 Taroo-TOP anyone-with Tokyo-to go-Q do-NEG-PAST
 ‘Taroo did not go to Tokyo with anyone.’
- d. Taroo-wa dono-naifu-de pan-o kiri-**mo** si-nakat-ta.
 Taroo-TOP any-knife-with bread-ACC cut-Q do-NEG-PAST
 ‘Taroo did not cut the bread with any knife.’
- e. Taroo-wa dono-yoo-ni pan-o kiri-**mo** si-nakat-ta.
 Taroo-TOP any-manner-in bread-ACC cut-Q do-NEG-PAST
 ‘Taroo did not cut the bread in any manner.’

Whereas adjuncts taking scope over TP cannot be bound by the Q particle *mo* which is attached to the verb, adjuncts which we can assume to be related to *vP* internal positions can. Evidently, the possibility of indeterminate pronoun binding observed above is structurally constrained. In the light of this fact, it is reasonable to state that an indeterminate pronoun can legitimately be bound by *mo* if it falls within the scope of *mo*. I propose that the scope of *mo* is defined by the notion of ‘domain’, which is given below:¹⁰

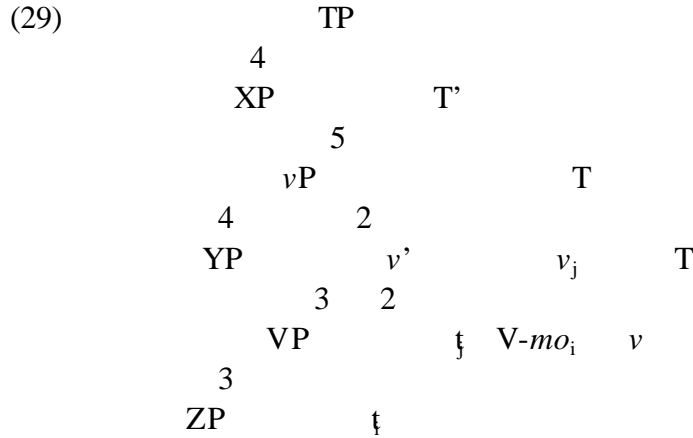
- (27) Y is in the domain of a head X if it is contained in Max (X), where Max (X) is the least full-category maximal projection dominating X.

Specifically, I propose that Max(*mo*) should count as the scope of *mo*. In this proposal, anything falls under the scope of *mo* if it is contained within the first maximal projection which dominates *mo*.

Importantly, given the assumption that V and *mo* constitute a complex head undergoing movement altogether, which is merged into a V head position, the scope of *mo* is fixed relative to the position of V (i.e. Max(*mo*)=Max (V-*mo*)). For example, if the V (comprising *mo*) resides in the head position of *vP*, as in (28), YP, ZP, but not XP, are included in the domain of V. Consequently, YP and ZP, but not XP, fall under the scope of *mo*:



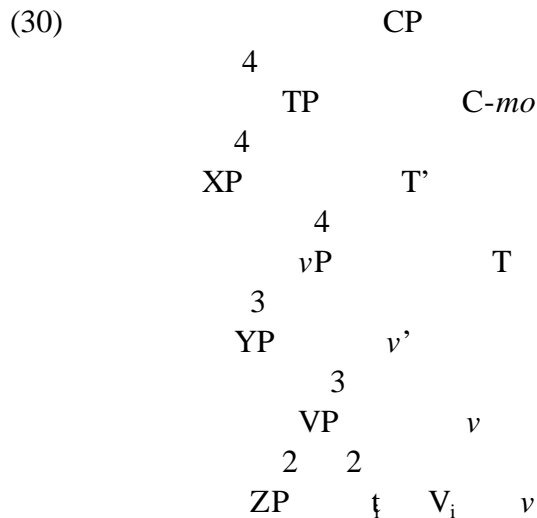
If the V associated with *mo* is raised to T, *mo* extends its scope over TP, which means that YP, ZP, and XP, are included in the scope of *mo*:



The crucial difference between (28) and (29) consists in the possibility of binding XP, which is located in TP. In (28), XP does not fall within the scope of *mo*, but in (29), it does. Notice that in the present analysis, the possibility of indeterminate pronoun binding does not change whether the elements XP, YP, and ZP are in specifier positions or in adjoined positions.

In Japanese, when *mo* occurs with a verb, subjects and TP-related adjuncts are not capable of getting bound by *mo*, but *v*P internal arguments and *v*P internal adjuncts are. Here, since elements corresponding to XP lie outside the scope of *mo*, it is clear that the verb must reside in *v*P, as in (28), at the level where indeterminate pronoun binding applies. (Note that the subject is merged in [Spec, *v*], but raised to [Spec, T] due to the EPP requirement.) If the verb is in *v*, all *v*P-internal arguments and *v*P-internal adjuncts, which are located either in positions equivalent to YP and XP, fall within the scope of *mo*, so that they can be bound by *mo*. By contrast, subjects and other TP-related adjuncts, which we can conceive of as residing in the position designated as XP, are outside the scope of *mo*, and they cannot be bound by *mo*.

In the proposed analysis, according to which the scope of *mo* is determined relative to the position of a lexical item to which it is attached, it is predicted that if *mo* occurs with C, there should be no subject-object asymmetry in regard to indeterminate pronoun binding:



In (30), where *mo* occurs together with C, the scope of *mo* extends over CP. In this case, YP, ZP, and XP are included in its scope, and thereby *mo* should be able to binding both subject and object, which fall under the domain of C. This prediction is, in fact, correct:

- (31) a. Taroo-ni-wa [Hanako-ga dare-o home-ta to-**mo**]
 Taroo-DAT-TOP Hanako-NOM anyone-ACC admire-PAST that-Q
 omo-e-nakat-ta.
 think-can-NEG-PAST
 ‘Taroo could not think that Hanako admired anyone.’
 b. Taroo-ni-wa [dare-ga Masao-o home-ta to-**mo**]
 Taroo-DAT-TOP anyone-NOM Masao-ACC admire-PAST that-Q
 omo-e-nakat-ta.
 think-can-NEG-PAST
 ‘Taroo could not think that anyone admired Masao.’

The examples in (31) show that when *mo* occurs with C, there is no subject-object asymmetry in the binding of indeterminate pronoun, as expected. In the same vein, the present analysis predicts that when *mo* is construed with C, there should be no asymmetry between TP-adjuncts and *v*P-adjuncts as well. This prediction is also correct, as can be ascertained by (32):

- (32) a. Taroo-ni-wa [Hanako-ga itu ason-da to-**mo**]
 Taroo-DAT-TOP Hanako-NOM anytime play-PAST that-Q
 omo-e-nakat-ta.
 think-can-NEG-PAST
 ‘Taroo could not think that Hanako played anytime.’
 b. Taroo-ni-wa [Hanako-ga doko-e ason-da to-**mo**]
 Taroo-DAT-TOP Hanako-NOM anywhere play-PAST that-Q
 omo-e-nakat-ta.
 think-can-NEG-PAST
 ‘Taroo could not think that Hanako played anywhere.’

As shown by (32), the time adjunct *itu* ‘anytime’ as well as the locative adjunct *doko* ‘where’ may be bound by *mo* if *mo* is located in C. The facts show that the scope of *mo* is contingent upon the position of V when it occurs with V, and the position of C when it occurs with C.

Before going any further, notice that indeterminate pronoun binding is not operative on the trace of an argument. Thus, even when an indeterminate pronoun is merged *v*P-internally, it cannot be bound by *mo* if it overtly moves out of the scope of *mo*:

- (33) a. Taroo-wa nani-o yomi-**mo** si-nakat-ta.
 Taroo-TOP anything-ACC read-Q do-NEG-PAST
 ‘Taroo did not read anything.’
 b. *Nani-ga (Taroo-ni) yom-are-**mo** si-nakat-ta.
 anything-NOM Taroo-DAT read-PASS-Q do-NEG-PAST
 ‘Anything was not read (by Taroo).’

In (33b), the surface subject of the passive verb originates as direct object. If the position where it is merged is relevant for indeterminate pronoun binding, (33b) is expected to be well-formed, just like (33a). But the fact is not in keeping with the expectation. This means that the possibility of indeterminate pronoun binding is not determined at the tail of a chain. The adequacy of this view is further confirmed by the unacceptability of (34):

- (34) a. *Nani-ga tuki-**mo** si-nakat-ta.
 anything-NOM arrive-Q do-NEG-PAST
 ‘Anything did not arrive.’
 b. *Nani-ga koware-**mo** si-nakat-ta.
 anything-NOM break-Q do-NEG-PAST
 ‘Anything did not break down.’

The verbs in (34) are unaccusative predicates whose surface subject can be assumed to originate as direct object, but since the subjects do not fall within the scope of *mo*, the sentences are unacceptable. Notice that the transitive counterpart of (34b) is well-formed:

- (35) Taroo-wa nani-o kowasi-**mo** si-nakat-ta.
 Taroo-TOP anything-ACC break-Q do-NEG-PAST
 ‘Taroo did not break anything.’

The subject of the intransitive verb *kowareru* ‘break’ can be assumed to derive from the same position as the direct object of the transitive verb *kowasu* ‘break’. The examples (33) through (35) show that the positions where arguments are merged (*or* theta-marked) have no bearing on the possibility of indeterminate pronoun binding (once they are displaced).

The fact that an indeterminate pronoun cannot be bound if it is located in a position beyond the scope of *mo* gains additional support from (36), where *vP*-internal elements are fronted to the sentence initial position by virtue of scrambling:

- (36) a. ?*Dare-o_i Taroo-wa t_j home-**mo** si-nakat-ta.
 anyone-ACC Taroo-TOP admire-Q do-NEG-PAST
 ‘Anyone, Taroo did not admire.’
 b. ?*Doko-e_i, Taroo-ga t_j iki-**mo** si-nakat-ta (koto)
 anywhere Taroo-NOM go-Q do-NEG-PAST (fact)
 ‘Anywhere, Taroo did not go.’

If scrambling moves an argument only *vP*-internally, their acceptability does not change, as represented by (37):¹¹

- (37) Taroo-wa dare-o_i koko-de t_j home-**mo** si-nakat-ta.
 Taroo-TOP anyone-ACC here admire-Q do-NEG-PAST
 ‘Taroo did not admire anyone here.’

The fact shows that an indeterminate pronoun can be bound by *mo* if the highest point where it reaches in the derivation (i.e. the head of its chain) lies within the scope of *mo*.¹²

Even if the characterization that an indeterminate pronoun can be bound by *mo* if the head of its chain falls under the scope of *mo* is correct, there still remains a question as to whether its binding possibility depends upon a surface configuration or an LF configuration. In Japanese, there is evidence that the legitimacy of indeterminate pronoun binding is determined at LF, where arguments are moved into the checking domain of the relevant heads (in the sense of Chomsky (1993)). In the discussion that follows, I will demonstrate this, making crucial use of ‘ergative’ predicates.

The inventory of ergative predicates in Japanese includes stative predicates like *wakaru* ‘understand’, *aru* ‘be’, *dekiru* ‘can do’ as well as verbs suffixed with *-e* ‘can’. The hallmark of ergative predicates is that the subject is marked with dative case, and the direct object, with nominative case:

- (38) a. Taroo-ni-wa eigo-ga wakaru.
 Taroo-DAT-TOP English-NOM understand-PRES
 ‘Taroo understands English.
 b. Taroo-ni-wa sono-uta-ga uta-e-ru.
 Taroo-DAT-TOP that-song-NOM sing-can-PRES
 ‘Taroo can sing that song.’

Empirical evidence that the binding of indeterminate pronouns by *mo* is fixed by way of LF configurations can be adduced from (39):

- (39) a. *Dare-ni sono-uta-ga uta-e-**mo** si-na-i.
 anyone-DAT that-song-NOM sing-can-Q do-NEG-PRES
 ‘Anyone cannot sing that song.’
 b. *Taroo-ni nani-ga uta-e-**mo** si-na-i.
 Taroo-DAT anything-NOM sing-can-Q do-NEG-PRES
 ‘Taroo cannot sing anything.’

In (39), where *mo* is attached to the verb, neither the nominative object nor the dative subject can be bound by *mo*.¹³ These arguments, however, may be bound when C hosts *mo*:

- (40) a. Hanako-ni-wa [dare-ni sono-uta-ga uta-e-ru to-**mo**]
 Hanako-DAT-TOP anyone-DAT that-song-NOM sing-can-PRES that-Q
 omo-e-nakat-ta.
 think-can-NEG-PAST
 ‘Hanako could not think that anyone could sing that song.’
 b. Hanako-ni-wa [Taroo-ni nani-ga uta-e-ru to-**mo**]
 Hanako-DAT-TOP Taroo-DAT anything-NOM sing-can-PRES that-Q
 omo-e-nakat-ta.
 think-can-NEG-PAST
 ‘Hanako could not think that Taroo could sing anything.’

The failure of binding the dative subject in (39a) falls out automatically from the assumption that the subject is overtly attracted by T to satisfy the strong EPP feature.¹⁴ But the failure of binding the nominative object by *mo* in (39b) poses a problem, because the nominative object occupies a position internal to the scope of *mo* on the surface, as shown by the *v*P fronting test:

- (41) a. ?[sono-uta-ga uta-e-**mo**]_i Taroo-ni t_i si-ta (koto)
 that-song-NOM sing-can-Q Taroo-DAT do-PAST fact
 ‘Taroo could even sing that song.’
 b. *[uta-e-**mo**]_i Taroo-ni sono-uta-ga t_i si-ta (koto)
 sing-can-Q Taroo-DAT that-song-NOM do-PAST fact
 ‘Taroo could even sing that song.’

The contrast in acceptability between (41a) and (41b) indicates that the nominative object is contained in the projection in which *mo* appears in overt syntax, namely, ν P. Thus, if the overt syntactic structure were held responsible for indeterminate pronoun binding, the nominative object in (39b) should be able to get bound by *mo*, contrary to fact.

Notice, in this connection, that in Japanese, some predicates may take either accusative or nominative objects. With predicates of this sort, the direct object can be bound by *mo* if it is in the accusative, but it cannot, if it is in the nominative:

- (42) a. Taroo-wa nani-o wakari-**mo** si-nakat-ta.
 Taroo-TOP anything-ACC understand-Q do-NEG-PAST
 ‘Taroo did not understand anything.’
 b. *Taroo-ni-wa nani-ga wakari-**mo** si-nakat-ta.
 Taroo-DAT-TOP anything-NOM understand-Q do-NEG-PAST
 ‘Taroo did not understand anything.’

Ergative predicates do not always preclude their ν P-internal elements from getting bound by the Q particle *mo* associated with a verb. The following examples indicate that the indirect object of *i-e-ru* ‘can say’ may be bound by *mo*:¹⁵

- (43) a. Taroo-wa dare-ni kogoto-ga i-e-**mo** si-nakat-ta.
 Taroo-TOP anyone-DAT complaint-NOM say-can-Q do-NEG-PAST
 ‘Taroo could not say a complaint to anyone.’
 b. Taroo-wa dare-ni kogoto-o i-e-**mo** si-nakat-ta.
 Taroo-TOP anyone-DAT complaint-ACC say-can-Q do-NEG-PAST
 ‘Taroo could not say a complaint to anyone.’

The possibility of binding the indirect object by *mo* in (43) does not vary irrespective of whether the direct object receives nominative or accusative case. It is clear then that among ν P-internal arguments, only the nominative object displays an idiosyncratic behavior with regard to indeterminate pronoun binding.

A question to be addressed here is why the nominative object in (39b), which counts as one of the ν P-internal arguments, fails to be bound by *mo* even if it falls within the scope of *mo* (in overt syntax). A key to the answer lies in the fact that nominative case is associated with tense.¹⁶ In Japanese, it has been well observed (e.g. Shibatani (1977), Takezawa (1987), Ura (1996), and others) that the availability of a nominative phrase has a close correlation with the presence of a tense element:

- (44) a. Taroo-ni eigo-ga wakar-u.

Taroo-DAT English-NOM understand-PRES

‘Taroo understands English.’

b. *Taroo-ni eigo-o wakar-u.

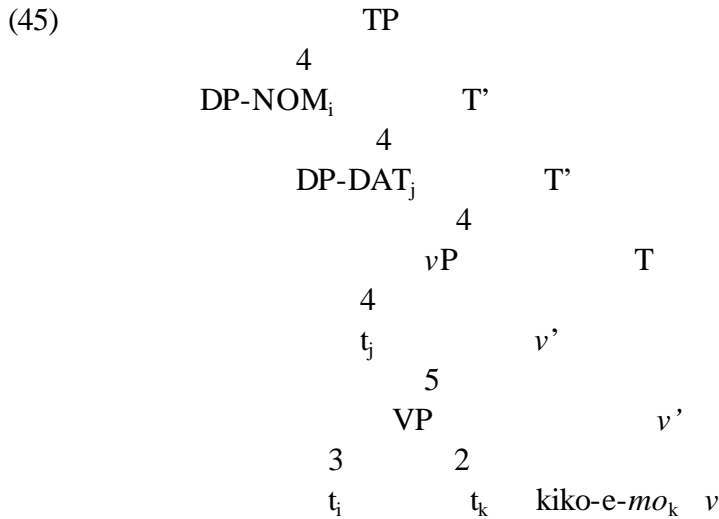
Taroo-DAT English-ACC understand-PRES

‘Taroo understands English.’

The deviance of (44b) comes from the fact that a finite clause does not have any nominative phrase. In Japanese, at least one occurrence of nominative phrase is necessary in a finite clause, and this suggests that the tense should carry the [+nominative] feature.

In the light of this fact, it is reasonable to assume that in Japanese, T accommodates a [+nominative] feature to be deleted by a nominative phrase by Case-checking. In addition, since there is a sense in which the dative phrase of an ergative predicate, which counts as a subject, should also be checked in the checking domain of T, it can be assumed that with an ergative predicate, T contains both the [+dative] and [+nominative] features, and that for the derivation to converge, these features must be deleted together with [+dative] and [+nominative] on the relevant DPs under matching (see Chomsky 1998). Given these premises, the ill-formedness of (39a) and (39b) straightforwardly follows in the present framework.

To be concrete, with an ergative predicate like *uta-e-ru* ‘can sing’, the dative subject is overtly moved to [Spec, T] by virtue of the strong EPP feature of T, and Case checking occurs within the checking domain of T. The nominative object, in contrast, remains within ν P overtly, but if checking requires locality, it must be raised to the checking domain of T covertly to check the [+nominative] feature. On this view, both the dative subject and the nominative object moves out of the scope of *mo* by the LF output, as represented in (45).¹⁷



Given the LF representation in (45), it naturally follows that neither arguments of the stative predicate *kiko-e-ru* ‘can hear’ can be bound by *mo*, since they are outside the scope of *mo* in LF.

From the current perspective, the movement of the nominative object is Case-driven, and more importantly, it must be an instance of phrasal category movement that occurs in LF. If its movement into TP involves elements other than the entire category, namely, a head or features, then *mo* is expected to extend its scope over TP, since, in this case, TP counts as $\text{Max}(\text{mo})$.¹⁸ (Recall that the scope of *mo* is defined by way of ‘domain’, as in (27)). If a non-phrasal element is moved

to T, then it is predicted, incorrectly, that the Q particle *mo* which is attached to the nominative phrase should be able to bind elements which are contained in TP:

- (46) a. *Dare-ni sono-oto-**mo** kiko-e-nakat-ta.¹⁹
 anyone-DAT that-sound-Q hear-can-NEG-PAST
 ‘Anyone could not hear that sound.’
 b. *Taroo-ni-wa doko-de sono-oto-**mo** kiko-e-nakat-ta.
 Taroo-DAT-TOP anywhere-at that-sound-Q hear-can-NEG-PAST
 ‘Taroo could not hear that sound anywhere.’

The inability of *mo* to bind the dative subject and the locative adjunct in (46) shows that the scope of *mo* does not go beyond the DP constituent that it occurs in. Since the scope extension of *mo* should obtain when a non-phrasal element of a constituent to which *mo* is attached is moved to a higher position, as I will discuss at length in Section 4, the ill-formedness of (46) indicates that the LF movement of a nominative object must be phrasal.

The behavior of nominative objects in Japanese casts doubt on Chomsky’s (1998, 1999) analysis which claims that checking does not require strict locality. According to Chomsky (1998, 1999), XP is raised to the checking domain of a head only to satisfy the requirement of an EPP feature. Once this requirement is fulfilled, other formal features can be checked by the operation Agree (without invoking movement into the checking domain). This analysis then predicts that in (39b), where the dative subject is overtly raised to [Spec, T], *mo* should be able to bind the nominative object (with no LF movement to TP), since the [+nominative] feature on T can be checked off by Agree.²⁰ Obviously, the Japanese fact is at variance with Chomsky’s (1998, 1999) claim, because the nominative object in (39b) cannot be bound by *mo*, which indicates that it moves out of the scope of *mo* by Case-driven movement in LF.

Takezawa (1987) analyzes ergative predicates as involving INFL lowering, which is intended to account for the correlation between nominative case and tense. In his analysis, a nominative object is assigned Case when INFL (*or* T) lowers into V, which entails that the nominative object should not be dislocated from VP even in LF. His analysis predicts that the nominative object should behave on a par with an ordinary accusative object with regard to the binding of indeterminate pronouns. However, given the fact that in (39b), the nominative object cannot be bound by *mo*, his analysis is not tenable. The analysis in which the nominative object is raised to TP is favored over the analysis implementing INFL lowering.

If, as argued above, the legitimacy of indeterminate pronoun binding is determined on the basis of an LF configuration, the binding of an ordinary accusative object by *mo* should also be fixed at the level of LF, where the direct object is located in the checking domain of *v*, which bears the formal feature [+accusative]. In simple clauses, this hypothesis cannot be justified, however, because the main verb (to which *mo* is affixed) resides in *v*:

- (47)
- | | | |
|--|----|----|
| | vP | |
| | 3 | |
| | XP | v' |
| | | 3 |
| | VP | v |
| | 2 | 2 |

YP \bar{t} V-*mo*_i ν

In a configuration like (47), *mo* can bind the accusative object irrespective of whether it is located in YP, where it is merged, or in XP, where it is checked. That means that it is not possible to tell, by merely looking at simple clauses, where the object is located at the LF level, where indeterminate pronoun binding applies. The adequacy of our hypothesis, however, can readily be validated by looking at sentences involving complex predicates, to which I will turn in the next section.

3. PASSIVE AND CAUSATIVE

In this section, I will show, drawing on the data pertaining to passive and causative verbs, that for Case checking to occur, ν P-internal arguments (to the exception of nominative objects) need to move into the checking domain of the topmost ν , which assemble all the Case features relevant to them. It is also argued that Japanese passive and causative verbs, which are often believed to constitute a single unit by way of verb raising at some syntactic level (e.g. Kuroda 1978, Kuno 1978, Shibatani 1978, Inoue 1976 and many others), do not form a single predicate syntactically, and that their apparent unity must come from a merger at the PF level.

It should be noted at the outset that in Japanese, there are at least two types of passive clauses, which are often referred to as ‘direct’ and ‘indirect’ passives:

- (48) a. Taroo-ga Hanako-ni kono-hon-o susume-rare-ta.
 Taroo-NOM Hanako-DAT this-book-ACC recommend-PASS-PAST
 ‘Taroo was recommended this book by Hanako.’ (Direct Passive)
 b. Taroo-ga doroboo-ni kuruma-o nusum-are-ta.
 Taroo-NOM thief-DAT car-ACC steal-PASS-PAST
 ‘Taroo got his car stolen by a thief.’ (Indirect Passive)

While the direct passive induces the demotion of the subject into an adjunct, which is often suppressed syntactically, the indirect passive does not involve suppression of the subject; instead, an ‘affectee’ argument is added (see Howard and Niyekawa-Howard 1976, Kuno 1973). The following examples illustrate the difference between the two types of passives:

- (49) a. Taroo_i-wa Hanako_j-ni zibun_{i/*j}-no heya-de home-rare-ta.
 Taroo-TOP Hanako-DAT self-GEN room-in admire-PASS-PAST
 ‘Taroo was admired by Hanako in self’s room.’
 b. Taroo_i-wa Hanako_j-ni zibun_{i/j}-no heya-de hon-o yom-are-ta.
 Taroo-TOP Hanako-DAT self-GEN room-in book-ACC read-PASS-PAST
 ‘Taroo got a book read by Hanako in self’s room.’

In the direct passive in (49a), *zibun* ‘self’, which generally shows a subject orientation, cannot take *Hanako* as its antecedent, showing that the dative argument is demoted into an adjunct. By contrast, in the indirect passive in (49b), *zibun* can take either *Taroo* or *Hanako* as its antecedent, showing that the dative argument retains its subjecthood.

Despite the difference noted above, both types of passive clauses are formed with the addition of the same passive morpheme (*rare*) to the base verb. Further, these two types of passive verbs allow *mo* to be suffixed in two different positions:

sono-hon-o t_k

In (52), the subject of the passivized verb, which is the erstwhile indirect object of *susumeru*, is first merged in [Spec, V], but is overtly raised to [Spec, T] (due to the EPP requirement). The direct object of the original verb, in contrast, remains in its original position where it is merged in overt syntax.²¹

In Japanese, the precise organization of the clause structure in overt syntax, I argue, can be checked by looking at the distribution of focus particles such as *sae* ‘even’, *dake* ‘only’, *bakari* ‘only’, etc. These focus particles may be attached to a verbal element (as well as a nominal constituent) in a way similar to *mo*.²²

- (53) Taroo-ga kono-hon-o yomi-**sae** si-ta.
 Taroo-NOM this-book-ACC read-EVEN do-Q
 ‘Taroo even read this book.’

When a focus particle like *sae* is attached to the verb, another occurrence of *sae* is allowed in some contexts, as exemplified below.²³

- (54) a. Taroo-**sae**-ga [kono-hon-o yomi-**sae**] si-ta.
 Taroo-EVEN-NOM this-book-ACC read-EVEN do-PAST
 ‘Even Taroo even read this book.’
 b. *Taroo-ga [kono-hon-(o)-**sae** yomi-**sae**] si-ta.
 Taroo-NOM this-book-ACC-EVEN read-EVEN do-PAST
 ‘Taroo even read even this book.’

When *sae* appears contiguous with the verb, it is possible to add another *sae* to the subject, but not to the direct object. Further, the addition of *sae* to an indirect object is not possible:

- (55) *Taroo-wa Hanako-ni-**sae** kono-hon-o watasi-**sae** si-ta.
 Taroo-TOP Hanako-DAT-EVEN this-book-ACC hand-EVEN do-PAST
 ‘Taroo even handed this book even to Hanako.’

Apparently, the deviance (*or* semantic anomaly) of the sentences in (54b) and (55) arises from the fact that a single constituent is potentially focused by two instances of the same type of particle. Since this semantic anomaly is not caused when the particles are scopally independent, the constraint on ‘double focusing’ must be stated in structural terms, that is, when *sae* ‘even’ is attached to a verb, the same type of focus particle is not allowed in the domain of the verb, where I take ‘domain’ to be defined as in (27).²⁴ Notice that the contrast in acceptability between the subject, on the one hand, and the direct and indirect objects, on the other, indicates that the verb resides in *v*, but not in T, at the level where this constraint is relevant.

Importantly, this is a constraint that applies in overt syntax. In the first place, the base position where an argument is merged is not a crucial factor determining the distribution of focus particles:

- (56) a. Kono-kabin-**sae**-ga kowas-are-**sae** si-ta.
 this-vase-EVEN-NOM destroy-PASS-EVEN do-PAST

‘Even this vase was even destroyed.’

- b. ?Kono-kabin-(o)-**sae**_i Taroo-ga _{t_i} kowasi-**sae** si-ta.
 this-vase-ACC-EVEN Taroo-NOM destroy-EVEN do-PAST
 ‘Even this vase, Taroo even destroyed.’

In (56a), the passive subject leaves the domain of the verb by NP-movement, and in (56b), the direct object is scrambled out of the domain of the verb. Since both arguments are merged in *v*P-internal positions (and dislocated by overt syntactic operations), it is clear that possible and impossible cases cannot be distinguished merely on the basis of the positions where arguments are merged.

In the second, the examples in (57), which involve ergative predicates, shows that this constraint is in force in overt syntax, but not in LF:

- (57) a. Taroo-ni-**sae** sono-oto-ga kiko-e-**sae** si-ta.
 Taroo-DAT-EVEN that-sound-NOM hear-can-EVEN do-PAST
 ‘Even Taroo could even hear that sound.’
 b. *Taroo-ni-wa sono-oto-**sae**-ga kiko-e-**sae** si-ta.
 Taroo-DAT-TOP that-sound-EVEN-NOM hear-can-EVEN do-PAST
 ‘Taroo could even hear even that sound.’

As discussed in the previous section, the nominative object of an ergative predicate remains in *v*P-internal position in overt syntax, but moves into the checking domain of T in LF. Since (57b) is deviant, the ban on ‘double focusing’ must be determined on the basis of an overt syntactic structure, but not an LF one.

Now, bearing in mind that the ‘double focusing’ constraint applies to overt syntactic structures, let us consider (58), where *sae* appears to the immediate right of the passive morpheme:

- (58) a. *Taroo-wa Hanako-ni-**sae** kono-hon-o susume-rare-**sae** si-ta.
 Taroo-TOP Hanako-DAT-EVEN this-book-ACC recommend-PASS-EVEN do-PAST
 ‘Taroo was even recommended this book even by Hanako.’
 b. *Taroo-wa Hanako-ni kono-hon-**sae** susume-rare-**sae** si-ta.
 Taroo-TOP Hanako-DAT this-book-EVEN recommend-PASS-EVEN do-PAST
 ‘Taroo was even recommended even this book by Hanako.’

Since the sentences in (58) are deviant irrespective of whether *sae* is added to the dative or accusative phrases, these arguments must lie within the domain of the passive affix. When *sae* is attached to the main verb, there emerges a difference:

- (59) a. ?Taroo-wa Hanako-ni-**sae** kono-hon-o susume-**sae** s-are-ta.
 Taroo-TOP Hanako-DAT-EVEN this-book-ACC recommend-EVEN do-PASS-PAST
 ‘Taroo was even recommended this book even by Hanako.’
 b. *Taroo-wa Hanako-ni kono-hon-**sae** susume-**sae** s-are-ta.
 Taroo-TOP Hanako-DAT this-book-EVEN recommend-EVEN do-PASS-PAST
 ‘Taroo was even recommended even this book by Hanako.’

The fact in (59) shows that while the accusative phrase falls within the domain of the verb, the dative phrase does not. The subject is allowed to accommodate *sae*, regardless of whether the verb or the passive morpheme is suffixed with *sae*, indicating that the subject is located outside the domain of both heads:

- (60) a. Taroo-**sae**-ga Hanako-ni kono-hon-o susume-rare-**sae** si-ta.
 Taroo-EVEN-NOM Hanako-DAT this-book-ACC recommend-PASS-EVEN do-PAST
 ‘Even Taroo was even recommended this book by Hanako.’
 b. Taroo-**sae**-ga Hanako-ni kono-hon-o susume-**sae** s-are-ta.
 Taroo-EVEN-NOM Hanako-DAT this-book-ACC recommend-EVEN do-PASS-PAST
 ‘Even Taroo was even recommended this book by Hanako.’

Since acceptability differs depending on whether *sae* is attached to the main verb or the passive morpheme, we can conclude that the main verb and the passive morpheme must head distinct verbal projections, and the direct passive clause in (48a) has the configuration in (52) in overt syntax.²⁵

The indirect passive, as opposed to the direct passive, invokes no demotion of the subject of the main verb into an adjunct, while the ‘affectee’ argument being added. Since the affectee argument occurs only when the passive morpheme is present, I take it that it is merged in [Spec, *rare*], and is raised to [Spec, T]. The following overt syntactic structure can thereby be posited for the indirect passive in (48b):

- (61)
- | | | | |
|--|-----------------------|-----------------------------------|--------|
| | | TP | |
| | 3 | | |
| | Taroo-ga _i | T' | |
| | | 3 | |
| | | v _P P | T |
| | 3 | | |
| | t _i | v _P ' | |
| | | 3 | |
| | | v _P | (r)are |
| | 4 | | |
| | doroboo-ni | v' | |
| | 3 | | |
| | | VP | v' |
| | 3 | 3 | |
| | kuruma-o | t _j nusum _j | v |

In this structure, both dative and accusative arguments lie within the domain of the main verb as well as the passive affix, which can be verified by looking at multiple focus constructions:²⁶

- (62) a. *Taroo-ga kosodoro-ni-**sae** kuruma-o nusum-are-**sae** si-ta.
 Taroo-NOM sneak.thief-DAT-EVEN car-ACC steal-PASS-EVEN do-PAST
 ‘Taroo even got his car stolen even by a sneak thief.’
 b. *Taroo-ga kosodoro-ni kuruma-**sae** nusum-are-**sae** si-ta.
 Taroo-NOM sneak.thief-DAT car-ACC-EVEN steal-PASS-EVE do-PAST
 ‘Taroo even got even his car stolen by a sneak thief.’

The examples in (62) indicate that both dative and accusative arguments fall within the domain of the passive affix. Furthermore, the fact that the sentences in (63) are judged deviant shows that they are also included in the domain of the verb:

- (63) a. *Taroo-ga kosodoro-ni-**sae** kuruma-o nusumi-**sae** s-are-ta.
 Taroo-NOM sneak.thief-DAT-EVEN car-ACC steal-EVEN do-PASS-PAST
 ‘Taroo even got his car stolen even by a sneak thief.’
 b. *Taroo-ga kosodoro-ni kuruma-(o)-**sae** nusumi-**sae** s-are-ta.
 Taroo-NOM sneak.thief-DAT car-ACC-EVEN steal-EVEN do-PASS-PAST
 ‘Taroo even got even his car stolen by a sneak thief.’

In contrast, the ‘affectee’ argument, which receives nominative case marking, lies outside the domain of the verb and the passive morpheme, since (64a) and (64b) are well-formed:

- (64) a. Taroo-**sae**-ga kosodoro-ni kuruma-o nusum-are-**sae** si-ta.
 Taroo-EVEN-NOM sneak.thief-DAT car-ACC steal-PASS-EVEN do-PAST
 ‘Even Taroo even got his car stolen by a sneak thief.’
 b. Taroo-**sae**-ga kosodoro-ni kuruma-o nusumi-**sae** s-are-ta.
 Taroo-EVEN-NOM sneak.thief-DAT car-ACC steal-PASS-EVEN do-PASS-PAST
 ‘Even Taroo even got his car stolen by a sneak thief.’

These facts illustrate that the ‘affectee’ argument must be located above v_P P, whereas the dative and accusative arguments are located within v_P , which accommodates the main verb, as in (61).

Let us now turn to the binding of indeterminate pronouns. If their bindability is fixed by overt construals, we predict that in a direct passive like (48a), *mo* can bind both dative and accusative arguments if it is attached to the passive morpheme, and only the accusative argument if it is attached to the main verb. This prediction is not borne out:

- (65) a. Taroo-wa dare-ni kono-hon-o susume-rare-**mo** si-nakat-ta.
 Taroo-TOP anyone-DAT this-book-ACC recommend-PASS-Q do-NEG-PAST
 ‘Taroo was not recommended this book by anyone.’
 b. Taroo-wa Hanako-ni nani-o susume-rare-**mo** si-nakat-ta.
 Taroo-TOP Hanako-DAT anything-ACC recommend-PASS-Q do-NEG-PAST
 ‘Taroo was not recommended anything by Hanako.’

In (65), *mo*, which is construed with the passive morpheme, can bind both dative and accusative arguments. In contrast, when *mo* is associated with the main verb, *mo* can bind neither of them:

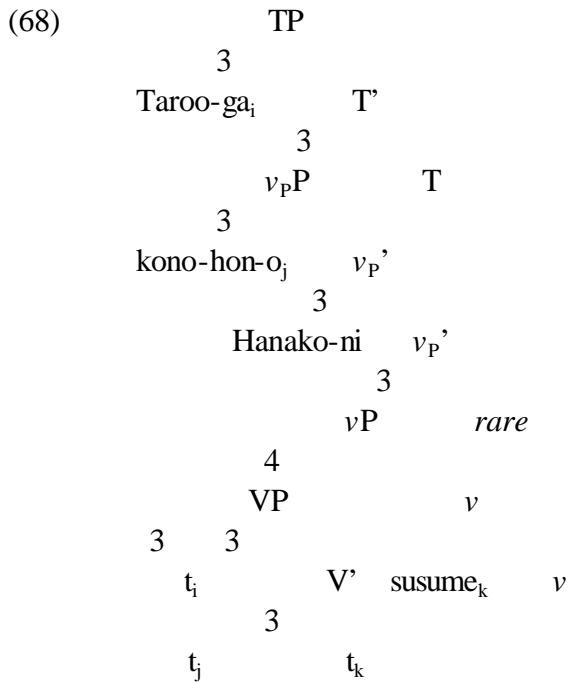
- (66) a. *Taroo-wa dare-ni kono-hon-o susume-**mo** s-are-nakat-ta.
 Taroo-TOP anyone-DAT this-book-ACC recommend-Q do-PASS-NEG-PAST
 ‘Taroo was not recommended this book by anyone.’
 b. *Taroo-wa Hanako-ni nani-o susume-**mo** s-are-nakat-ta.
 Taroo-TOP Hanako-DAT anything-ACC recommend-Q do-PASS-NEG-PAST
 ‘Taroo was not recommended anything by Hanako.’

The subject of the passive clause fails to be bound by *mo* regardless of whether *mo* occurs with the passive morpheme or with the main verb, as shown below:

- (67) a. *Dare-ga Hanako-ni kono-hon-o susume-rare-**mo** si-nakat-ta.
 anyone-NOM Hanako-DAT this-book-ACC recommend-PASS-Q do-NEG-PAST
 ‘Anyone was not recommended this book by Hanako.’
 b. *Dare-ga Hanako-ni kono-hon-o susume-**mo** s-are-nakat-ta.
 anyone-NOM Hanako-DAT this-book-ACC recommend-Q do-PASS-NEG-PAST
 ‘Anyone was not recommended this book by Hanako.’

The ungrammaticality of the sentences in (67) is expected, since the subject, being in [Spec, T], is outside the domain of the passive affix and the main verb.

The crucial fact is that *mo* can bind the dative and accusative arguments when *mo* is construed with the passive affix, but it cannot when it is construed with the main verb. This indicates that these arguments are in the domain of the passive affix, but not in the domain of the verb. Thus, these two arguments are located in the projection of v_P P, headed by *rare*, at LF, where indeterminate pronoun binding applies, as in (68):



Since the accusative argument is embedded under the domain of the main verb in overt syntax, as discussed above, it must be moved into the checking domain of *rare* in LF. This means that the topmost v_P , i.e. the passive affix *rare*, serves to check both dative and accusative arguments.

Essentially the same distribution is observed for the arguments of the indirect passive clause. First, in (69), *mo*, which appears to the right of the passive morpheme, can bind the two arguments of the original verb:

- (69) a. Taroo-wa dare-ni kuruma-o nusum-are-**mo** si-nakat-ta.
 Taroo-TOP anyone-DAT car-ACC steal-PASS-Q do-NEG-PAST
 ‘Taroo did not get his car stolen by anyone.’

- b. Taroo-wa doroboo-ni nani-o nusum-are-**mo** si-nakat-ta.
 Taroo-TOP thief-DAT anything-ACC steal-PASS-Q do-NEG-PAST
 ‘Taroo did not get anything stolen by a thief.’

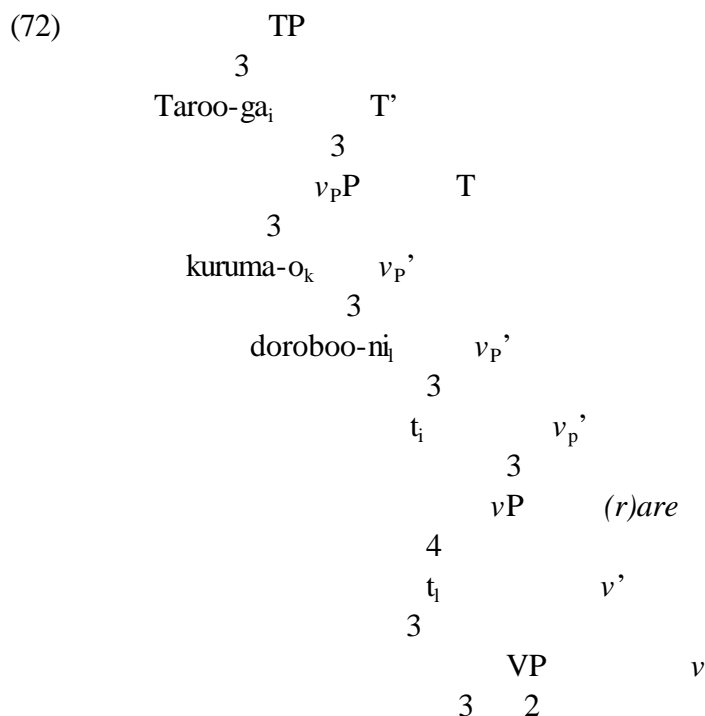
By contrast, neither the dative phrase nor the accusative phrase can be bound by the Q particle *mo*, when it is attached to the verb:

- (70) a. *Taroo-wa doroboo-ni nani-o nusumi-**mo** s-are-nakat-ta.
 Taroo-TOP thief-DAT anything-ACC steal -Q do-PASS-NEG-PAST
 ‘Taroo did not get anything stolen by a thief.’
 b. *Taroo-wa dare-ni kuruma-o nusumi-**mo** s-are-nakat-ta.
 Taroo-TOP anyone-DAT car-ACC steal-Q do-PASS-NEG-PAST
 ‘Taroo did not get his car stolen by anyone.’

Needless to say, the subject of the indirect passive, i.e. the ‘affectee’ argument, cannot be bound by *mo* irrespective of whether the main verb or the passive verb hosts *mo*:

- (71) a. *Dare-ga doroboo-ni kuruma-o nusum-are-**mo** si-nakat-ta.
 anyone-NOM thief-DAT car-ACC steal-PASS-Q do-NEG-PAST
 ‘Anyone did not get his car stolen by a thief.’
 b. *Dare-ga doroboo-ni kuruma-o nusumi-**mo** s-are-nakat-ta.
 anyone-NOM thief-DAT car-ACC steal-Q do-PASS-NEG-PAST
 ‘Anyone did not get his car stolen by a thief.’

The fact that both dative and accusative arguments may be bound by *mo* if it is placed to the right of the passive morpheme, but not if it is to the right of the main verb, shows that these arguments are moved into the checking domain of the passive morpheme *rare*, as represented by (72):



$$t_k \quad t_j \quad \text{nusum}_j \quad \nu$$

Movement of these arguments must occur in LF, since they occupy positions internal to the lower ν P in overt syntax, which includes the main verb in it, as evidenced by (62) and (63). The data indicate that the topmost ν_p possesses the [+dative] and [+accusative] features, and that in order to remove those features, the associated arguments need to be moved into ν_p P for Case checking, irrespective of where they are located on the surface. The data then lead us to the conclusion that when there are a plural number of ν P layers, the topmost ν contains the features to be checked off by ν P-internal arguments under matching, so that the ν P-internal arguments move into the checking domain of the highest ν by the LF output.

The adequacy of the proposal that the highest ν always serves to check ν P-internal arguments can be further confirmed by looking at sentences involving causativization:

- (73) Taroo-wa Hanako-ni kono-hon-o yom-ase-ta.
 Taroo-TOP Hanako-DAT this book-ACC read-CAUSE-PAST
 ‘Taroo made/let Hanako read this book.’

Causative verbs pattern with passive verbs in that they allow *mo* to attach to the causative affix as well as the main verb:

- (74) a. Taroo-wa Hanako-ni kono-hon-o yomi-**mo** s-ase-nakat-ta.
 Taroo-TOP Hanako-DAT this-book-ACC read-Q do-CAUSE-NEG-PAST
 ‘Taroo did not even make/let Hanako read this book.’
 b. Taroo-wa Hanako-ni kono-hon-o yom-ase-**mo** si-nakat-ta.
 Taroo-TOP Hanako-DAT this-book-ACC read-CAUSE-Q do-NEG-PAST
 ‘Taroo did not even make/let Hanako read this book.’

In Japanese, causative constructions are interpreted to involve either manipulative causation or directive causation (see Shibatani 1977). The difference is morphologically manifested in the case of intransitive verbs:

- (75) a. Taroo-ga roozin-ni suwar-ase-nakat-ta.
 Taroo-NOM old.man-DAT sit.down-CAUSE-NEG-PAST
 ‘Taroo did not let old men sit down.’
 b. Taroo-ga roozin-o suwar-ase-nakat-ta.
 Taroo-NOM old.man-ACC sit.down-CAUSE-NEG-PAST
 ‘Taroo did not make old men sit down.’

Example (75a), where the causee argument is marked with dative, is interpreted as involving directive causation. By contrast, (75b), where the causee argument is in the accusative, involves manipulative causation. In Japanese, the directive causative is often analyzed as having a control structure, while the manipulative causative is not, as represented by (76) (see Miyagawa 1999):²⁷

- (76) a. [TP Taroo-ga [ν Cp roozin-ni [ν P PRO suwar] (s)ase] ta]
 b. [TP Taroo-ga [ν Cp [ν P roozin-o suwar] (s)ase] ta]

In the manipulative causative, the causative affix, which heads v_cP , can be assumed to take a causee argument as its specifier, and a vP expressing a caused event as its complement. In the direct causative, in contrast, the causative affix takes a vP indicating a caused event as its complement, with no causee argument filling in v_cP .²⁸ This difference may be motivated, in part, by the fact that while the causee argument of the directive causative must be animate, the causee argument of the manipulative causative does not have to be animate:

- (77) a. *Taroo-ga hana-ni sak-ase-ta.²⁹
 Taroo-NOM flower-DAT bloom-CAUSE-PAST
 ‘Taroo let the flower bloom.’
 b. Taroo-ga hana-o sak-ase-ta.
 Taroo-NOM flower-ACC bloom-CAUSE-PAST
 ‘Taroo made the flower bloom.’

Since the controller of PRO is generally restricted to animate arguments, the animacy restriction on the causee argument of the directive causative naturally follows if it involves a control structure (see Terada 1990, Morikawa 1993). The fact that the structures in (76) are correct can be confirmed by way of the multiple focus construction:

- (78) a. ?Taroo-ga roozin-ni-sae suwari-sae s-ase-nakat-ta.
 Taroo-NOM old.man-DAT-EVEN sit.down-EVEN do-CAUSE-NEG-PAST
 ‘Taroo did not even let even old men sit down.’
 b. *Taroo-ga roozin-(o)-sae suwari-sae s-ase-nakat-ta.
 Taroo-NOM old.man-ACC-EVEN sit.down-EVEN do-CAUSE-NEG-PAST
 ‘Taroo did not even make even old men sit down.’

As shown in (78), where *sae* shows up on the main verb, the dative argument can legitimately be associated with *sae*, but the accusative argument cannot. When *sae* attaches to the causative affix, neither the dative nor the accusative arguments can further be suffixed with *sae*, as in (79):

- (79) a. *Taroo-ga roozin-ni-sae suwar-ase-sae si-nakat-ta.
 Taroo-NOM old.man-DAT-EVEN sit.down-CAUSE-EVEN do-NEG-PAST
 ‘Taroo did not even let even old men sit down.’
 b. *Taroo-ga roozin-(o)-sae suwar-ase-sae si-nakat-ta.
 Taroo-NOM old.man-ACC-EVEN sit.down-CAUSE-EVEN do-NEG-PAST
 ‘Taroo even made even old men sit down.’

It goes without saying that the causer argument, which is marked with nominative case, can be suffixed with *sae*, irrespective of whether the main verb or the causative morpheme accommodates another *sae*, showing that it lies outside the domain of these verbal heads:

- (80) a. Taroo-sae-ga roozin-ni/o suwari-sae s-ase-nakat-ta.
 Taroo-EVEN-NOM old.man-DAT/ACC sit.down-EVEN do-CAUSE-NEG-PAST
 ‘Even Taroo did not even let/make old men sit down.’
 b. Taroo-sae-ga roozin-ni/o suwar-ase-sae si-nakat-ta.
 Taroo-EVEN-NOM old.man-DAT/ACC sit.down-CAUSE-EVEN do-NEG-PAST

‘Even Taroo did not even let/make old men sit down.’

In (78) and (79), since acceptability changes depending on whether a focus particle is attached to the causative affix or to the main verb, it is clear that the dative ‘causee’ argument is located in v_C P, which is headed by the causative affix, and the accusative ‘causee’ argument, in v P, which includes the main verb in its head position. (Note incidentally that the data here provide us with evidence that the causative affix, just like the passive affix, heads an independent projection which is distinct from a projection containing the main verb.)

The same ‘manipulative’ versus ‘directive’ distinction applies to transitive verbs, but in this case, there is no overt manifestation of the difference. If the present analysis on causativization is correct, it is expected that the dative causer argument, but not the accusative argument, of a transitive causative verb, should reside in v_C P, headed by the causative affix, on the directive interpretation:³⁰

(81) [_{TP} Taroo-ga [_{v_C P} Hanako-ni [_{v P} PRO kono-hon-o yom] ase] ta]

In fact, this seems to be the case. Limiting our attention to the behavior of dative and accusative arguments, first consider the following:

- (82) a. *Taroo-wa Hanako-ni kono-hon-sae yomi-sae s-ase-ta.
 Taroo-TOP Hanako-DAT this-book-EVEN read-EVEN do-CAUSE-PAST
 ‘Taroo even let Hanako read even this book.’
 b. *Taroo-wa Hanako-ni kono-hon-sae yom-ase-sae si-ta.
 Taroo-TOP Hanako-DAT this-book-EVEN read-CAUSE-EVEN do-PAST
 ‘Taroo even let Hanako read even this book.’

The unacceptability of (82) shows that the accusative argument resides in v P, where the verb is located. The dative argument, by contrast, stands in v_C P, which is headed by *sase*:

- (83) a. ?Taroo-wa Hanako-ni-sae kono-hon-o yomi-sae s-ase-ta.
 Taroo-TOP Hanako-DAT-EVEN this-book-ACC read-EVEN do-CAUSE-PAST
 ‘Taroo even let even Hanako read that book.’
 b. *Taroo-wa Hanako-ni-sae kono-hon-o yom-ase-sae si-ta.
 Taroo-TOP Hanako-DAT-EVEN this-book-ACC read-CAUSE-EVEN do-PAST
 ‘Taroo even let even Hanako read this book.’

The difference in acceptability between (83a) and (83b) is indicative of the fact that the dative argument is located within v_C P. The examples in (82) and (83) indicate that the causative construction in (73), if it is directive, has the structure in (81) in overt syntax.

Now, if a surface configuration establishes the possibility of indeterminate pronoun binding, then it is predicted that while the dative argument in (73) can be bound by *mo* when *mo* is hosted by the causative *sase*, but not by the main verb, the accusative argument in (73) may be bound whether *mo* is hosted by the main verb or the causative affix. Further, we predict that the dative causee in (75a) can be bound by *mo* only if *mo* is associated with the causative affix, and that the accusative causee in (75b) can, regardless of whether *mo* is affixed to the main verb or the causative affix.

These predictions are false, however, because the causative verbs show behaviors identical to passive verbs. To begin with, the Q particle *mo*, if hosted by the causative (*s*)*ase*, can bind the dative and accusative arguments:

- (84) a. Taroo-wa Hanako-ni nani-o yom-ase-**mo** si-nakat-ta.
 Taroo-TOP Hanako-DAT anything-ACC read-CAUSE-Q do-NEG-PAST
 ‘Taroo did not let Hanako read anything.’
 b. Taroo-wa dare-ni kono-hon-o yom-ase-**mo** si-nakat-ta.
 Taroo-TOP anyone-DAT this-book-ACC read-CAUSE-Q do-NEG-PAST
 ‘Taroo did not let anyone read this book.’

In the second, if *mo* is placed to the right of the main verb, these arguments cannot be bound by *mo*:

- (85) a. *Taroo-wa Hanako-ni nani-o yomi-**mo** s-ase-nakat-ta.
 Taroo-TOP Hanako-DAT anything-ACC read-Q do-CAUSE-NEG-PAST
 ‘Taroo did not let Hanako read anything.’
 b. *Taroo-wa dare-ni kono-hon-o yomi-**mo** s-ase-nakat-ta.
 Taroo-TOP anyone-DAT this-book-ACC read-Q do-CAUSE-NEG-PAST
 ‘Taroo did not let anyone read this book.’

The subject of the causative verb can never be bound by the Q particle *mo* regardless of whether it follows the verb or the causative affix:

- (86) a. *Dare-ga Hanako-ni kono-hon-o yom-ase-**mo** si-nakat-ta.
 anyone-NOM Hanako-DAT this-book-ACC read-CAUSE-Q do-NEG-PAST
 ‘Anyone did not let Hanako read this book.’
 b. *Dare-ga Hanako-ni kono-hon-o yomi-**mo** s-ase-nakat-ta.
 anyone-NOM Hanako-DAT this-book-ACC read-Q do-CAUSE-NEG-PAST
 ‘Anyone did not let Hanako read this book.’

The same holds true for causatives in intransitive clauses in (75). With intransitive causative constructions, the causee argument, regardless of its case marking, cannot be bound by *mo*, when it is attached to the main verb:

- (87) a. *Taroo-wa dare-ni suwari-**mo** s-ase-nakat-ta.
 Taroo-TOP anyone-DAT sit.down-Q do-CAUSE-NEG-PAST
 ‘Taroo did not let anyone sit down.’
 b. *Taroo-wa dare-o suwari-**mo** s-ase-nakat-ta.
 Taroo-TOP anyone-ACC sit.down-Q do-CAUSE-NEG-PAST
 ‘Taroo did not make anyone sit down.’

On the other hand, both types of causee arguments are allowed to be bound by *mo*, when it is attached to the causative suffix:

- (88) a. Taroo-wa dare-ni suwar-ase-**mo** si-nakat-ta.
 Taroo-TOP anyone-DAT sit.down-CAUSE-Q do-NEG-PAST

‘Taroo did not let anyone sit down.’

- b. Taroo-wa dare-o suwar-ase-**mo** si-nakat-ta.
 Taroo-TOP anyone-ACC sit.down-CAUSE-Q do-NEG-PAST
 ‘Taroo did not make anyone sit down.’

The fact clearly indicates that the configuration relevant for indeterminate pronoun binding is not established in overt syntax, but in LF, where all ν P-internal arguments are raised into the topmost ν C P for the purpose of Case-checking.

Up to this point, I have demonstrated that both in passive and causative clauses, ν P-internal elements, irrespective of whether they reside in overt syntax, must be located in the topmost ν P, which is headed by the passive or causative affix, at LF for Case checking to occur. As suggested earlier, this fact leads to the prediction that ν P-internal arguments are, no matter how deeply embedded, always Case-checked while residing in the checking domain of the topmost ν P in LF. The adequacy of this view can be further confirmed by a little more complex examples that contain more than two ν P layers. Consider (89):

- (89) Taroo-ga Hanako-ni gohan-o tabe-sase-rare-ta.
 Taroo-NOM Hanako-DAT rice-ACC eat-CAUSE-PASS-PAST
 ‘Taroo was made to eat rice by Hanako.’

In (89), the main verb *taberu* ‘eat’ is followed by the causative affix, which occurs to the left of the passive affix. In (89), *Hanako* is a *by*-phrase adjunct associated with the passive *rare*. The passive subject is the causee argument which is promoted under passivization, and the DP *gohan* ‘rice’ is the direct object of *taberu*. Thus, we can assume that (89) has the overt syntactic structure in (90):

- (90) [TP Taroo-ga_i [ν P Hanako-ni [ν C P t_i [ν P gohan-o tabe] sase] rare] ta]

The fact that the accusative phrase in (89) resides in the lowest ν P, where the main verb is accommodated, can be ascertained by (91):

- (91) a. *Taroo-ga Hanako-ni gohan-**sae** tabe-ase-rare-**sae** si-ta.
 Taroo-NOM Hanako-DAT rice-EVEN eat-CAUSE-PASS-EVEN do-PAST
 ‘Taroo was even made to eat even rice by Hanako.’
 b. *Taroo-ga Hanako-ni gohan-**sae** tabe-ase-**sae** s-rare-ta.
 Taroo-NOM Hanako-DAT rice-EVEN eat-CAUSE-EVEN do-PASS-PAST
 ‘Taroo was even made to eat even rice by Hanako.’
 c. *Taroo-ga Hanako-ni gohan-**sae** tabe-**sae** s-ase-rare-ta.
 Taroo-NOM Hanako-DAT rice-EVEN eat-EVEN do-CAUSE-PASS-PAST
 ‘Taroo was even made to eat even rice by Hanako.’

Since the sentences are deviant irrespective of whether *sae* is attached to the main verb, the causative affix, or the passive affix, the accusative phrase *gohan* ‘rice’ must be located in the lowest ν P, which has the main verb in it, as represented by (90). In LF, this accusative argument must move into the highest ν P, headed by *rare*. This can be evidenced by the fact that the accusative

argument can be bound by *mo* only if it is attached to the passive morpheme, which constitutes the outermost layer of vP :

- (92) Taroo-wa Hanako-ni nani-o tabe-sase-rare-**mo** si-nakat-ta.
 Taroo-TOP Hanako-DAT anything-ACC eat-CAUSE-PASS-Q do-NEG-PAST
 ‘Taroo was not made to eat anything by Hanako.’

The well-formedness of (92) stands in sharp contrast to the ill-formedness of the sentences in (93), where *mo* appears to the immediate right of the causative morpheme or to the immediate right of the main verb:

- (93) a. *Taroo-wa Hanako-ni nani-o tabe-sase-**mo** s-are-nakat-ta.
 Taroo-TOP Hanako-DAT anything-ACC eat-CAUSE-Q do-PASS-NEG-PAST
 ‘Taroo was not made to eat anything by Hanako.’
 b. *Taroo-wa Hanako-ni nani-o tabe-**mo** s-ase-rare-nakat-ta.
 Taroo-TOP Hanako-DAT anything-ACC eat-Q do-CAUSE-PASS-NEG-PAST
 ‘Taroo was not made to eat anything by Hanako.’

Evidently, the accusative object is an argument of the main verb, but cannot be bound by *mo* if *mo* is attached to the verb. Nor can it be bound by *mo* if *mo* is attached to the causative affix. Since *mo* can bind the accusative argument only if it is placed to the immediate right of the passive affix, the direct object must be raised into the checking domain of the topmost v_P , headed by *rare*, in LF (although the direct object is not thematically related to the passive affix).

Finally, let us look at the behavior of adjuncts in sentences involving complex predicates. Consider the following example, which includes ‘locative’ and ‘time’ adjuncts:

- (94) Taroo-wa sono-toki-ni asoko-de home-are-ta.
 Taroo-TOP that-time-at there-at admire-PASS-PAST
 ‘Taroo was admired there at that time.’

In (95), since the addition of *sae* to the main verb or to the passive affix does not yield a well-formed sentence, the locative adjunct *asoko-de* ‘there’ must reside in the lowest v_P , which has the main verb in it, rather than v_P , which has the passive morpheme, in overt syntax:

- (95) a. *Taroo-wa sono-toki-ni asoko-de-**sae** home-rare-**sae** si-ta.
 Taroo-TOP that-time-at there-at-EVEN admire-PASS-EVEN do-PAST
 ‘Taroo was even admired even there at that time.’
 b. *Taroo-wa sono-toki-ni asoko-de-**sae** home-**sae** s-are-ta.
 Taroo-TOP that-time-at there-at-EVEN admire-EVEN do-PASS-PAST
 ‘Taroo was even admired even there at that time.’

On the other hand, the time adjunct *sono-toki-ni* ‘at that time’ lies outside the domain of the main verb as well as the passive affix, as shown by the acceptability of (96):

- (96) a. Taroo-wa sono-toki-ni-**sae** asoko-de home-are-**sae** si-ta.
 Taroo-TOP that-time-at-EVEN there-at admire-PASS-EVEN do-PAST

‘Taroo was even admired there even at that time.’

- b. Taroo-wa sono-toki-ni **sae** asoko-de home-**sae** s-are-ta.
 Taroo-TOP that-time-at-EVEN there-at admire-EVEN do-PASS-PAST
 ‘Taroo was even admired there even at that time.’

In the light of the facts in (95) and (96), we can easily see that (94) has the structure in (97) in overt syntax:

- (97) [_{TP} Taroo-ga sono-toki-ni [_{vpP} [_{vp} asoko-de home] rare] ta]

Now, the question to be addressed is whether or not an adjunct is checked in the place where it is merged. The fact that this is not necessarily the case can be demonstrated by (98):

- (98) a. Taroo-wa sono-toki-ni doko-de home-are-**mo** si-nakat-ta.
 Taroo-TOP that-time-at anywhere admire-PASS-Q do-NEG-PAST
 ‘Taroo was not admired anywhere at that time.’
 b. *Taroo-wa sono-toki-ni doko-de home-**mo** s-are-nakat-ta.
 Taroo-TOP that-time-at anywhere admire-Q do-PASS-NEG-PAST
 ‘Taroo was not admired anywhere at that time.’

The examples in (98) show that *mo* can bind the locative adjunct only if it is construed with the passive morpheme, indicating that the adjunct resides in the checking domain of the passive morpheme in LF. If the examples in (98) are compared with those in (95), it becomes clear that the locative adjunct is associated with the lower *v*P, which has the main verb in it, in overt syntax, but is raised to the upper *v*_P, which is headed by the passive affix, at the LF level. (It can in fact be readily demonstrated that all *v*P-internal adjuncts must be located in the checking domain of the highest light verb at the LF level, irrespective of where they are merged.)

Time adjuncts pattern with subjects, for the Q element *mo*, whether it is attached to the verb or the passive affix, cannot bind them:

- (99) a. *Taroo-wa donna-toki-ni home-are-**mo** si-nakat-ta.
 Taroo-TOP any-time-at admire-PASS-Q do-NEG-PAST
 ‘Taroo was not admired at any time.’
 b. *Taroo-wa donna-toki-ni home-**mo** s-are-nakat-ta.
 Taroo-TOP any-time-at admire-Q do-PASS-NEG-PAST
 ‘Taroo was not admired at any time.’

Since the time adjunct is associated with tense, it must be checked in T. The notable fact, then, is that adjuncts, just like arguments, are partitioned into two classes, one which must reside in the checking domain of T, and the other which must reside in the checking domain of the topmost *v*, at the level of LF where feature checking takes place.

The discussion brings an interesting fact into light. Adjuncts are usually assumed to have no properties that motivate movement (see Chomsky 1995), but on the contrary, the Japanese fact shows that movement must be invoked if an *v*P-internal adjunct is merged in a place other than the topmost *v*P (for modification), which shows that *v*P-internal adjuncts (as well as *v*P-internal arguments) move into the checking domain of the topmost *v* for checking to be invoked. The fact

leads us to conclude, contrary to Chomsky (1995), that the topmost ν should bear some formal ‘adjunct’ features (like [+locative] etc.), and that for those features to be checked off, LF movement of the associated adjuncts to the ν P is necessitated (if they are not merged to it) in a way similar to arguments.

In Japanese, the position of a verb is hard to detect directly, and reliable tests for checking its position have not been available before, because heads cluster together at the rightmost periphery of the clause owing to its SOV word order. Thus, in the literature, opinions are divided as to whether or not the verb should be raised to T in Japanese (see Koizumi 1995, Otani and Whitman 1991, Sakai 1998, and others). However, the newly attested data on indeterminate pronoun binding, together with those on multiple focusing constructions, provide a substantial body of evidence that the verb does not move into T in Japanese. In Japanese, the possibility of verb raising is minimal, in the sense that V raises only to the light verb ν which can select an agent as its specifier, and that other verbal elements stay in the positions where they are merged even in LF. In the Minimalist Program, it is often assumed (Chomsky and Lasnik 1993, Chomsky 1991, 1993) that V universally raises at least as far as T at LF. But the Japanese fact shows that this assumption is not valid, since V remains in a ν P-internal position in overt syntax and does not raise to T even in LF. The fact suggests that LF representations may show more crosslinguistic differences than usually assumed with regard to the place where V is located (see Lightfoot and Hornstein 1994).

In the Japanese literature, it is often assumed that for passive or causative verbs, the main verb is syntactically raised to the causative or passive affix so as to form a complex verb (Kuno 1978 and many others). Some researchers (e.g. Hasegawa 1988, Terada 1990) even argue that the difference in the direct and indirect passive, or the difference in the manipulative and directive causative, may depend on whether such V-movement occurs in syntax or in PF. However, our data show that these differences are not reducible to this simple parameter, since verbs do not raise to the affixes in syntax or even in LF. The conclusion to be drawn is that affixation of passive and causative morphemes to a main verb in Japanese must result from a morphological operation of merger at the PF level, i.e. verbal elements are fused together by morphological operations.

Summarizing, in Japanese, the Q particle *mo*, when it is attached to V or ν , is not capable of binding subjects and elements related to T. The same Q particle can bind ν P internal elements, which are checked in the domain of the topmost ν P, when it is attached to a head residing in the topmost ν P. The indeterminate pronoun binding facts, coupled with double focusing constructions, provide us with solid evidence that ν P-internal arguments need to enter the checking domain of their licensing head, i.e. the topmost ν , by the LF output for Case checking to take place. The discussion shows that a strict local relation is required of checking, and that TP-related arguments and adjuncts must reside in TP, and ν P-internal arguments and adjuncts, in the topmost ν P for feature checking to take place.

4. LF INCORPORATION

The foregoing discussion has shown that indeterminate pronouns may be bound by *mo* if they fall within the scope of *mo* in LF. In this section, I will discuss some cases in which *mo* apparently extends its scope beyond the domain of the head that it occurs with, and argue that in such cases, the head undergoes head movement to a higher projection in LF. In this connection, Japanese is shown to implement at least two types of LF process of head movement, namely, noun incorporation and adverbial incorporation. The fact pertaining to incorporation also lends empirical support to the view that indeterminate pronoun binding is relevant at the level of LF.

To start with, let us discuss noun incorporation in Japanese. First of all, note the general fact that when *mo* is attached to a direct object, it cannot bind an indeterminate pronoun that occurs as an indirect object:

- (100) *Taroo-wa dare-ni hon-**mo** watasa-nakat-ta.
 Taroo-TOP anyone-DAT book-Q hand-NEG-PAST
 ‘Taroo did not hand a book to anyone.’

In (100), *mo*, which is located in direct object position, cannot bind the indirect object. This restriction on binding generally holds, but there is a class of nouns which allow for exceptional binding when used as the direct objects of *suru* ‘do’, as illustrated below:

- (101) a. Taroo-wa dare-ni soodan-**mo** si-nakat-ta.
 Taroo-TOP anyone-DAT consult-Q do-NEG-PAST
 ‘Taroo did not consult anyone.’
 b. Taroo-wa dare-ni situmon-**mo** si-nakat-ta.
 Taroo-TOP anyone-DAT question-Q do-NEG-PAST
 ‘Taroo did not question anyone.’

Nouns which permit this type of exceptional binding include *happyou* ‘presentation’ *kookai* ‘open’ *komento* ‘comment’, and other verbal nouns having similar properties. In (100), the Q particle *mo*, which is construed with the direct object, displays the same behavior as the Q particle *mo* which is directly attached to *suru*:

- (102) Taroo-wa dare-ni soodan-o si-**mo** si-nakat-ta.
 Taroo-TOP anyone-DAT consult-ACC do-Q do-NEG-PAST
 ‘Taroo did not consult anyone.’

Just as the Q particle *mo* in (102), which is attached to *suru* ‘do’, can bind the dative argument, so the Q particle *mo* in (101), which is affixed to the direct object, can bind the dative argument. Note that these verbal nouns, which permit exceptional binding, can form a complex predicate with the light verb *suru* ‘do’.³¹

- (103) Taroo-wa Hanako-ni soodan-si-ta.
 Taroo-TOP Hanako-DAT consult-do-PAST
 ‘Taroo consulted Hanako.’

When (101a) is compared with (104), it is clear that the verbal nouns that occur as the direct objects of *suru* behave in the same way as those forming part of predicates:

- (104) Taroo-wa dare-ni soodan-si-**mo** si-nakat-ta.
 Taroo-TOP anyone-DAT consult-do-Q do-NEG-PAST
 ‘Taroo did not consult anyone.’

The important fact is that *mo* displays the identical behavior with regard to indeterminate pronoun binding, regardless of whether it is attached to the verbal noun serving as a direct object or to the light verb *suru* ‘do’:

- (105) a. Taroo-wa doko-de Hanako-ni soodan-**mo** si-nakat-ta.
 Taroo-TOP anywhere Hanako-DAT consult-Q do-NEG-PAST
 ‘Taroo did not consult Hanako anywhere.’
 b. *Dare-ga Hanako-ni soodan-**mo** si-nakat-ta.
 anyone-NOM Hanako-DAT consult-Q do-NEG-PAST
 ‘Anyone did not consult Hanako.’

The examples in (105) show that a locative adjunct, but not the subject, can be bound by *mo*, when *mo* is associated with the direct object *soodan* ‘consult’. Exactly the same fact is found in (106), where *mo* is attached to the verb *suru*:

- (106) a. Taroo-wa doko-de Hanako-ni soodan-o si-**mo** si-nakat-ta.
 Taroo-TOP anywhere Hanako-DAT consult-ACC do-Q do-NEG-PAST
 ‘Taroo did not consult Hanako anywhere.’
 b. *Dare-ga Hanako-ni soodan-o si-**mo** si-nakat-ta.
 anyone-NOM Hanako-DAT consult-ACC do-Q do-NEG-PAST
 ‘Anyone did not consult Hanako.’

What is more, the same binding asymmetry is observed in cases where the verbal noun forms a predicate with the light verb *suru* ‘do’:

- (107) a. Taroo-wa doko-de Hanako-ni soodan-si-**mo** si-nakat-ta.
 Taroo-TOP anywhere Hanako-DAT consult-do-Q do-NEG-PAST
 ‘Taroo did not consult Hanako anywhere.’
 b. *Dare-ga Hanako-ni soodan-si-**mo** si-nakat-ta.
 anyone-NOM Hanako-DAT consult-do-Q do-NEG-PAST
 ‘Anyone did not consult Hanako.’

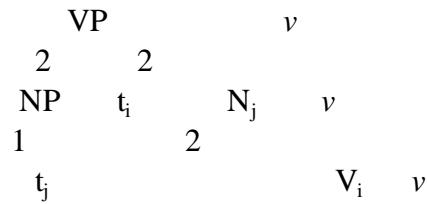
Verbal nouns like *soodan* ‘consult’ pattern alike irrespective of whether they serve as part of complex predicates or as the direct objects of *suru* with regard to indeterminate pronoun binding.

The fact can be offered a principled explanation if we assume that in (101a) the verbal noun *soodan* ‘consult’ is incorporated into the light verb *suru* ‘do’, in consequence of head movement, thereby the structure in (108) being derived:³²

- (108)
- ```

 TP
 4
 XP T'
 4
 vP T
 4
 YP v'
 4

```



In (108), the verbal noun is incorporated into the verbal complex residing in  $vP$ , so that *mo*, which is attached to  $N$ , extends its scope over  $vP$  and is able to bind a  $vP$ -internal element (i.e.  $\text{Max}(mo)=vP$ ). In this analysis, the peculiar behavior of the  $Q$  particle *mo* in (101) with regard to indeterminate pronoun binding is correctly predicted. Further, since the domain extension by virtue of LF incorporation is limited to  $vP$ , the fact shows that the main verb which hosts noun incorporation does not raise beyond  $vP$  even in LF.

This type of noun incorporation occurs in LF. Although the verbal noun *soodan* ‘consult’ in (101a) lacks overt case-marking in the presence of a  $Q$  particle like *mo*, it is not incorporated into the verb on the surface, since it allows for adjectival modification:

- (109) Taroo-wa Hanako-ni taisita soodan-**mo** si-nakat-ta.  
 Taroo-TOP Hanako-DAT much consult-Q do-NEG-PAST  
 ‘Taroo did not consult Hanako much.’

The fact that adjectival modification is possible only when the verbal noun stands as a nominal constituent is evidenced by (110):

- (110) a. Taroo-wa Hanako-ni taisita soodan-o si-nakat-ta.  
 Taroo-TOP Hanako-DAT much consult-ACC do-NEG-PAST  
 ‘Taroo did not consult Hanako much.’  
 b. \*Taroo-wa Hanako-ni taisita soodan-si-nakat-ta.  
 Taroo-wa Hanako-DAT much consult-do-PAST  
 ‘Taroo did not consult Hanako much.’

The contrast in acceptability between the two examples in (110) shows that modification by adjectives is not possible when a verbal noun forms part of predicate. The fact that the verbal noun, to which *mo* is attached as in (101a), does not constitute part of a predicate is further supported by (111):

- (111) ??Taroo-wa suugaku-o benkyoo-**mo** si-nakat-ta.  
 Taroo-TOP mathematics-ACC study-Q do-NEG-PAST  
 ‘Taroo did not study anything.’

Example (111) is degraded due to the ‘double-o’ constraint (see Shibatani 1977, and others). In Japanese, more than one accusative-marked nominal is not allowed in a single clause:

- (112) ?\*Taroo-wa suugaku-o bennkyoo-o si-ta.  
 Taroo-TOP math-ACC study-ACC do-PAST  
 ‘Taroo studied mathematics.’

The sentence in (111) is degraded in a manner similar to (112) (although (111) sounds somewhat better in the absence of overt accusative marker). By contrast, (113) is fully acceptable:

- (113) Taroo-wa suugaku-o benkyoo-si-ta.  
 Taroo-TOP mathematics study-do-PAST  
 ‘Taroo studied mathematics.’

In (113), the verbal noun *benkyoo* ‘study’ forms a part of the complex predicate with no case marking, so that the sentence tolerates the presence of the DP *suugaku* ‘mathematics’, which is in the accusative. The contrast in acceptability between (111) and (113) indicates that when *mo* is directly attached to a verbal noun, the verbal noun must function as a direct object, bearing accusative Case, even though there is no overt manifestation of case-marking. This, in turn, shows that noun incorporation under consideration must take place at the LF level.

One important observation often made in regard to incorporation in the literature (see Baker (1988) and others) is that a phrasal element does not undergo incorporation. Since incorporation is an instance of head movement, there is a sense in which a phrasal element should not be incorporated. This constraint is in force with Japanese noun incorporation as well, since a verbal noun to be incorporated into the verb cannot be phrasal:

- (114) \*Taroo-wa dare-ni henna soodan-**mo** si-nakat-ta.  
 Taroo-TOP anyone-DAT strange consult-Q do-NEG-PAST  
 ‘Taroo did not make a strange consultation with anyone.’

In (114), the Q particle *mo*, which is attached to the verbal noun *soodan* ‘consult’, does not extend its scope over *vP*, as shown by the failure of *mo* to bind the dative phrase. That means that the verbal noun remains intact in its direct object position (with no incorporation), indicating that noun incorporation in Japanese involves movement of a head, although it occurs in LF.

In this connection, we should also note that there are several other restrictions imposed on exceptional indeterminate pronoun binding. First of all, the direct object of the light verb *suru* ‘do’ does not always allow the scope extension of *mo*. In (115), the direct object of *suru* behaves on a par with an ordinary direct object, in that it does not permit the scope of *mo* to extend over *vP*:

- (115) \*John-wa doko-de kaigi-**mo**/supiiti-**mo** si-nakat-ta.  
 John-TOP anywhere meeting-Q/speech-Q do-NEG-PAST  
 ‘John did not have a meeting/a speech anywhere.’

The nouns in (115) differ from verbal nouns which allow for exceptional binding, in that they cannot form a predicate with *suru* in overt syntax:

- (116) ?\*John-wa kaigi-si-ta/supiiti-si-ta.  
 John-TOP meeting-do-PAST/speech-do-PAST  
 ‘John had a meeting/a speech.’

Although the sequence *kaigi suru* ‘meeting+do’ is permissible if it is understood to involve case-marker drop, motivated by some pragmatic factors, the two words are never construed as forming a unitary predicate. Another notable fact is that even with a verbal noun which can

incorporate into the light verb *suru*, incorporation is precluded when it appears as the direct object of a full-fledged verb (in lieu of the light verb *suru*):

(117) \*John-wa dare-ni soodan-**mo** motikake-nakat-ta.

John -TOP anyone-DAT consult-Q bring -NEG-PAST

‘John did not bring a consultation to anyone.’

In (117), *mo* cannot bind the dative argument, showing that the noun *soodan* ‘consult’ is not incorporated into the verb *motikakeru* ‘bring’ in LF. The impossibility of the complex predicate \**soodan-motikakeru* ‘consult+bring’ also implies that the verb cannot serve as a host where the verbal noun is incorporated.

The generalization to be drawn here is that a verbal noun can be incorporated into the light verb *suru* by virtue of the LF operation of noun incorporation insofar as it stands as the direct object of *suru*, and does not count as a phrasal element. The existence or non-existence of noun incorporation in LF is also correlated with the question of whether a given noun has the ability to form a complex predicate with the light verb *suru*. The important fact is that *mo* comes to extend its scope over *vP* once a verbal noun to which *mo* is suffixed is incorporated into the verb.

In Japanese, there is another type of LF incorporation, which involves movement of an adverbial head. First, observe that the Q particle *mo* which is attached to an adverbial is generally precluded from binding an indeterminate pronoun lying outside the adverbial constituent that *mo* occurs in:

(118) \*Taroo-wa dare-o nessin-ni-**mo** home-nakat-ta.

Taroo-TOP anyone-ACC earnestly-Q admire-NEG-PAST

‘Taroo did not admire anyone earnestly.’

In some cases, however, *mo*, which attaches to an adverbial, can successfully bind an indeterminate pronoun outside:

(119) a. Taroo-wa nani-o fuan-ni-**mo** omowa-nakat-ta.

Taroo-TOP anything-ACC fearfully-Q think-NEG-PAST

‘Taroo was not afraid of anything.’

b. Taroo-wa nani-o gimon-ni-**mo** kanzi-nakat-ta.

Taroo-TOP anything-ACC questionably-Q feel-NEG-PAST

‘Taroo did not doubt anything.’

In both cases in (119), *mo* is combined with an adverbial, which is syntactically separate from the verb, but can bind the direct object, as with (120), where *mo* is accompanied by the verb:

(120) a. Taroo-wa nani-o fuan-ni omoi-**mo** si-nakat-ta.

Taroo-TOP anything-ACC fearfully think-Q do-NEG-PAST

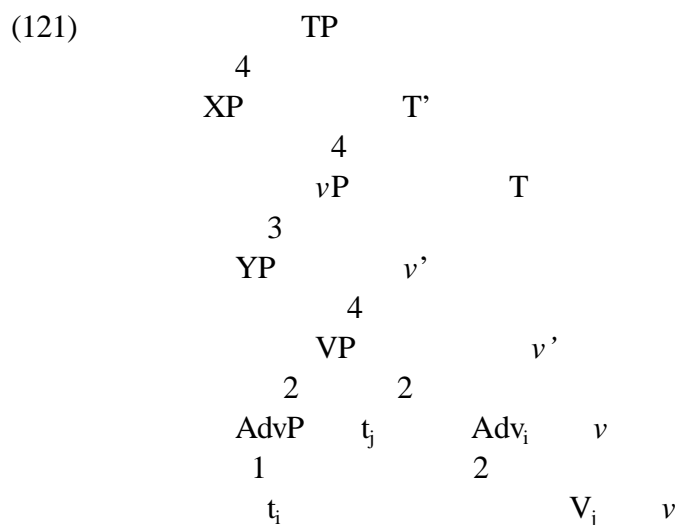
‘Taroo was not afraid of anything.’

b. Taroo-wa nani-o gimon-ni kanzi-**mo** si-nakat-ta.

Taroo-TOP anything-ACC questionably feel-Q do-NEG-PAST

‘Taroo did not doubt anything.’

In (119), *mo* behaves as if it is associated with the verb. This type of exceptional binding can be readily accounted for, again, if we assume that an adverbial like *fuan-ni* or *gimon-ni* is incorporated into the verb as a consequence of LF head movement:



If an adverbial is incorporated into the verb, as represented by (121), it automatically falls out that *mo*, which is attached to the adverbial, extends its scope over  $\nu\text{P}$ , and can bind a  $\nu\text{P}$ -internal argument.

Notice that *omou* ‘think’ and *kanziru* ‘feel’, which host adverbial incorporation, are verbs denoting a general mental activity, and that these verbs, when combined with the adverbs such as *gimon-ni* ‘questionably’, *fuan-ni* ‘anxiously’, *fuman-ni* ‘unsatisfactorily’, etc., come to express the kind of mental processes involved (while the adverbs are used to specify manners). What is peculiar about those complex predicates is that the entire expressions determine complement selection:

- (122) a. \*Taroo-wa [ kare-ga kuru beki-da to ] gimon-ni omot-ta.  
           Taroo-TOP he-NOM come should that questionably think-PAST  
           ‘Taroo doubted that he should come.’  
       b. Taroo-wa [ kare-ga kuru beki-da to ] omot-ta.  
           Taroo-TOP he-NOM come should that think-PAST  
           ‘Taroo thought that he should come.’

When the verb *omou* ‘think’ stands alone, it can select a declarative clause as its complement, but when it accompanies *gimon-ni*, it cannot. Since the addition of a simple adverbial adjunct usually does not affect the verb’s selectional properties, I take it that in (119), the verb take the adverb as a complement, so the adverb can be incorporated in LF.<sup>33</sup>

Adverbial incorporation at issue must take place at LF. That the adverbial does not constitute part of the verb in overt syntax can be confirmed by the fact that it can be modified by another adverbial:

- (123) Taroo-wa sono-hookoku-o taihen gimon-ni omot-ta.  
           Taroo-TOP that-report-ACC greatly questionably think-PAST  
           ‘Taroo thought about that report very questionably.’

In (123), the adverbial *taihen* ‘greatly’ does not modify the verb *omou* ‘think’. This can be readily evidenced by the fact that the omission of the adverbial *gimon-ni* ‘questionably’ results in ungrammaticality:

- (124) Taroo-wa sono-hookoku-o taihen \*(gimon-ni) omot-ta.  
 Taroo-TOP that-report-ACC greatly questionably think-PAST  
 ‘Taroo thought about that report very (questionably).’

The fact on adverbial modification shows that the adverbial is an independent element in overt syntax. This analysis gains further support from the fact that it also allows coordination:

- (125) Taroo-wa sono-hookoku-o [ gimon-ni katu fuan-ni ] omot-ta.  
 Taroo-TOP that-report-ACC questionably and fearfully think-PAST  
 ‘Taroo thought about that report questionably and fearfully.’

In general, elements forming part of predicates resist coordination of this type.<sup>34</sup>

- (126) \*Taroo-wa ano-hito-ni [ soodan katu situmon ]-si-ta.  
 Taroo-TOP that-person-DAT consult and question-do-PAST  
 ‘Taroo consulted and questioned that person.’

It is then plausible to conclude that adverbials like *gimon-ni* stand as independent elements in syntax. If so, adverbial incorporation at issue must occur in LF.

This adverbial incorporation differs in nature from the type of noun incorporation that I have discussed earlier. For one thing, the verbs which host incorporated adverbials do not form complex predicates with the adverbials, as indicated by the impossibility of *\*fuan-omou* ‘fear-think’ and *\*gimon-kanziru* ‘question-feel’. For another, while the verbs allow for adverbial incorporation, they do not accept noun incorporation:

- (127) a. \*Taroo-wa nani-ni gimon-**mo** kanzi-nakat-ta.  
 Taroo-TOP anything-DAT doubt-Q feel-NEG-PAST  
 ‘Taroo did not feel doubt on anything.’  
 b. Taroo-wa nani-ni gimon-o kanzi-**mo** si-nakat-ta.  
 Taroo-TOP anything-DAT doubt-ACC feel-Q do-NEG-PAST  
 ‘Taroo did not feel doubt on anything.’

The impossibility of binding the dative argument by *mo* in (127a), unlike (127b), indicates that the direct object cannot be incorporated into the verb.

Despite these differences, however, the adverbials exhibit behaviors on a par with verbal nouns which are incorporated into a light verb with regard to indeterminate pronoun binding. In the first place, the Q element *mo* attached to the adverbs can bind vP internal elements.<sup>35</sup>

- (128) Taroo-wa nani-ni-tuite gimon-ni-**mo** omwa-nakat-ta.  
 Taroo-TOP anything-about questionably-Q think-NEG-PAST  
 ‘Taroo did not doubt anything.’

The same indeterminate pronoun may also be bound by *mo* if it is attached to the verb *omou* ‘think’ instead of *gimon-ni* ‘questionably’:

- (129) Taroo-wa nani-ni-tuite gimon-ni omoi-**mo** si-nakat-ta.  
 Taroo-TOP what-about questionably think-Q do-NEG-PAST  
 ‘Taroo did not doubt anything.’

In the second, when an indeterminate pronoun occurs in subject position, the Q particle *mo* which appears next to the adverbial is unable to bind it:

- (130) \*Dare-ga sono-koto-o gimon-ni-**mo** omowa-nakat-ta.  
 anyone-NOM that-thing-ACC questionably-Q think-NEG-PAST  
 ‘Anyone did not doubt that.’

Similarly, in cases in which *mo* is associated with the verb, *mo* is not capable of binding the subject indeterminate pronoun:

- (131) \*Dare-ga sono-koto-o gimon-ni omoi-**mo** si-nakat-ta.  
 anyone-NOM that-thing-ACC questionably think-Q do-NEG-PAST  
 ‘Anyone did not doubt that.’

These facts straightforwardly follow if the adverb *gimon-ni* is incorporated into the verb by head movement in LF while the verb remains in *v*. If so, it is naturally expected that the Q particle *mo* which is associated with the adverb can extend its scope, behaving on a par with the Q particle *mo* which is attached to the verb, with respect to indeterminate pronoun binding.

The data concerning incorporation in Japanese argue against the claim that *mo* should always start out from a position adjacent to its host indeterminate pronoun. In Japanese, an indirect object is generated in a position hierarchically higher than a direct object (i.e. the former does not c-command the latter), as demonstrated by Hoji (1985). If *mo* is moved from the *ni*-marked phrase to the direct object in (132), its movement is overt and must involve lowering:

- (132) Taroo-wa dare-ni situmon-**mo** si-nakat-ta.  
 Taroo-TOP anyone question-Q do-NEG-PAST  
 ‘Taroo did not ask anyone a question.’

In (132), the alleged movement of *mo* cannot be licit, which shows that *mo* cannot be overtly moved from a position next to an indeterminate pronoun to a verb head position, and that *mo* must be directly merged to V without movement.

The discussion also point to the conclusion that *mo* does not block movement of a head into a higher position. As we saw earlier, if *mo* intervenes between a verb and its associated bound morpheme, *su(ru)* is inserted:

- (133) Taroo-wa sono-koto-o hanasi-**mo** si-nakat-ta.  
 Taroo-TOP that-fact-ACC talk-Q do-NEG-PAST  
 ‘Taroo did not even talk about that fact.’



If *mo* stands as an intervening head, we might say that *mo* blocks the movement of the verb into a higher position, so the insertion of the dummy verb *su(ru)* ‘do’ is necessitated. However, the data on incorporation indicate clearly that the particle *mo* does not block movement of a head to which it is attached. Thus, it is not feasible to say that the dummy verb *su(ru)* is inserted when its movement is blocked by an intervening element like *mo*. In Japanese, the verb does not move for reasons independent of the existence of a Q particle. In (133), *su(ru)* is inserted simply due to the fact that adjacency is interrupted by *mo*.

To sum up, I have argued in this section that if a head to which *mo* is related is moved into a higher position by head movement, the scope of *mo* is extended accordingly. The fact shows that the existence of *mo* does not preclude head movement intrinsically, and also presents another argument in support the view that the scope of *mo* is defined by way of an LF configuration, rather than an overt syntactic configuration.

## 5. CONCLUSION

In this paper, I have shown on the basis of indeterminate pronoun binding that tense-related elements must be located in the checking domain of T, and that other elements, in the checking domain of the highest  $\nu$  when the relevant feature checking to occur. The data pertaining to focus particles, coupled with the data on indeterminate pronoun binding, demonstrate that the checking configurations are established in LF. In Japanese, verbs (including causative and passive affixes) do not move into T even in LF, and there are two types of LF movement, phrasal category movement, and head movement. The newly attested data in Japanese has led us to the conclusion that reordering of constituents after ‘narrow’ syntax can occur, and further that strict locality is always required for feature checking, contrary to Chomsky’s (1988, 1999) proposal.

## Notes

\*Portions of this paper were presented at the ‘Syntax and Semantics of Scope’ workshop at the 24th annual meeting of the Kansai Linguistic Society (October 23, 1999), at a KELC meeting, Konan University (October 10, 1999), and at a linguistics colloquium held at Institute of Language and Culture, Hokkaido University (February 6, 2000). I am grateful to John Whitman, Takao Gunji, Masanobu Ueda, Satoshi Oku, Yoshihiro Yamada, Kimihiro Ohno, Koichiro, Miori Kubo, Kaneaki Arimura, and the audience at these meetings for their comments and suggestions. Any remaining errors and inadequacies are of course my own.

<sup>1</sup> When indeterminate pronouns are combined with *demo*, they can only read as positive polarity items. See McGloin (1976).

<sup>2</sup> If indeterminate pronouns are construed with *ka*, they are interpreted as interrogative pronouns or existential quantifiers. While *mo* can occur with most indeterminate pronouns, it cannot be combined with *naze* ‘why’.

<sup>3</sup> In (3b), *dare-mo* ‘everyone’ takes wide scope over the negation.

<sup>4</sup> Here, the only surface difference is that the universal quantifier is case-marked, while the negative polarity item is not. Some Japanese speakers intonationally distinguish indeterminate pronouns serving as negative polarity items from those serving as universal quantifiers.

<sup>5</sup> When the matrix verb is replaced by *yuu* ‘say’, the indeterminate pronoun is understood existentially. For analysis of quantificational variability, see Berman (1989).

<sup>6</sup> The distance between an indeterminate pronoun and a negative element is irrelevant, and can be long distance.

<sup>7</sup> A multiple number of dummy verbs are allowed if the verb complex is interrupted in more than one place.

<sup>8</sup> Under the split VP analysis, it is possible to say that *mo* is merged to *v* after V is raised and adjoined to *v*, forming a sequence [[ V [ *v* ] ] *mo* ]. This analysis can also capture the essential claims advanced in this paper.

<sup>9</sup> Here, I assume, with Collins (1997) and Chomsky (1999), that an unaccusative verb comprises a light verb which does not take an agent argument as its specifier. In Japanese, transitivity is often marked by verb-internal morphology, which I assume is not a overt manifestation of a light verb, but merely reflects the nature of a light verb that co-occurs with the verb. cf. Sells (1995)

<sup>10</sup> The definitions of ‘containment’ and ‘domination’ are given below (see Chomsky 1993):

- (i) a. The category dominates if every segment of dominates .
- b. The category contains if some segment of dominates .

<sup>11</sup> When the argument is moved to the left of a time adjunct, the sentence also degrades:

- (i) ??Taroo-wa dare-o ano-toki t home-**mo** si-nakat-ta.  
Taroo-TOP anyone-ACC that-time admire-Q do-NEG-PAST  
‘Taroo did not admire anyone at that time.’

<sup>12</sup> Saito (1989) argues that a scrambled phrase can be reconstructed into its original position in LF or can remain in the position where it is moved by scrambling in LF. Since both of the examples in (36) are unacceptable, a scrambled phrase does not reconstruct into its pre-scrambling site for the purpose of indeterminate pronoun binding.

<sup>13</sup> Even if the nominative object is moved to the sentence front, the dative subject cannot be bound by *mo*:

- (i) ?\*Sono-uta-ga<sub>i</sub> dare-ni t uta-e-**mo** si-nakat-ta.  
that-song-NOM anyone-DAT sing-can-Q do-NEG-PAST  
‘That song, anyone could not sing.’

<sup>14</sup> Lasnik and Saito (1992) and Takahashi (1994) argue that the subject does not raise to [Spec, T], basing their discussions on the observation that there is no asymmetry between extraction out of subject and object. It is clear from the discussion, however, that the fact must be captured in a different way.

<sup>15</sup> A *v*P-internal adjunct can also be bound by *mo*, when it is construed with the main verb:

- (i) Taroo-ni-wa doko-de kogoto-ga ie-**mo** si-nakat-ta.  
Taroo-DAT-TOP anywhere complaint-NOM say-can-Q do-NEG-PAST.  
‘Taroo could not make a complaint anywhere.’

<sup>16</sup> I assume, with Takezawa (1987), Ura (1996), Tada (1992), Koizumi (1998), and others, that a DP which bears nominative Case has the morphological marking of nominative case. Note that if morphological case is dissociated from structural Case, as argued by Kuroda (1988), we would not expect the effect discussed in this paper to occur.

<sup>17</sup> Throughout the discussion, I ignore the presence of a NEG projection that might exist in a negative sentence. It must be noted that this does not affect the validity of the arguments presented in the paper.

<sup>18</sup> I assume, following Chomsky (1995), that when features are moved, those features associated with *mo* are also moved as a free rider.

<sup>19</sup> When *mo* is attached to a nominative phrase, morphological case is not expressed, but we can assume that it carries nominative Case.

<sup>20</sup> Agree might be subject to the Phase Impenetrability Condition, but even if this is true, it only requires movement into the edge of a phase head, but not to [Spec, T].

<sup>21</sup> It is irrelevant for the present purpose whether or not the subject of *susumeru* ‘recommend’ should be realized as an invisible argument inside *v*P.

<sup>22</sup> When *sae* is attached to a nominative or accusative phrase, case marking becomes optional. When a nominative phrase is case-marked, case marker appears to the right of the focus particle, but with an accusative phrase, it occurs inside the focus particle. The focus particle is not omissible with a dative phrase or a PP. The crucial point is that the judgments do not differ whether case marking is dropped or not (where applicable).

<sup>23</sup> Needless to say, exactly the same patterns are found with other types of focus particles. Note here that two occurrences of focus particles are not allowed if they are both attached to nominal constituents:

- (i) ?\*Taroo-**sae**-ga kon-hon-**sae** yon-da.  
Taroo-EVEN-NOM this-book-EVEN read-PAST  
‘Even Taroo read even this book.’

<sup>24</sup> No such constraint is imposed on the so-called ‘*kakari*’ particle. Thus, the following sentence is not deviant:

- (i) Taroo-ga [ sono-hon-**wa** yomi-**wa** ] si-ta (koto).  
Taroo-NOM that-book-TOP read-TOP do-NEG-PAST fact  
‘Taroo read that book.’

Note also that the semantic anomaly does not arise if a different kind of particle is embedded under the scope of *sae*:

- (ii) Taroo-wa [ sono-hon-**dake** yomi-**sae** ] si-ta.  
 Taroo-TOP that-book-ONLY read-EVEN do-PAST  
 ‘Taroo even read only that book.’

See Aoygai (1998, 1999) for discussion of the distinction between ‘*kakari*’ and ‘*focus*’ particles.

<sup>25</sup> The data presented here militates against Kitagawa’s (1984) analysis in which complex predicates retain their unity as simple words in the syntax, and are decomposed into individual heads having their own projections at LF.

<sup>26</sup> Similar facts obtain even if vP-fronting test is implemented. For details, see Kubo (1992).

<sup>27</sup> For an overview of the issues related to causative constructions in Japanese, see Miyagawa (1999). See also Kuroda (1965) and Hoshi (1991, 1994).

<sup>28</sup> In both cases, it can be assumed that a causer argument is generated under the causative affix, and is raised into TP overtly.

<sup>29</sup> In Japanese grammar, plant names such as *hana* ‘flower’, *ki* ‘tree’, etc. generally count as inanimate.

<sup>30</sup> For reasons of space, I will not discuss transitive causatives involving manipulative interpretations.

<sup>31</sup> It might be thought that complex predicates in (103) are formed as a result of an incorporation of the verbal noun into the light verb in overt syntax, or that they are accorded the status of predicates in the lexicon. The choice of one analysis over the other does not affect the argument in the paper, however.

<sup>32</sup> I assume here that the verbal noun does not comprises a DP projection, so that it can be incorporated into the verb.

<sup>33</sup> The adverbs that are susceptible to incorporation are derived from attributive forms of nominal adjectives. It might be thought that they are some sort of secondary predicates. The important point, however, is that incorporation is usually possible from a complement position, but not from an adjunct position. See Baker (1988).

<sup>34</sup> A conjunction of the entire complex verbs is possible, as in (i):

- (i) Taroo-wa ano-hito-ni [ soodan-si katu situmon-si ] ta.  
 Taroo-TOP that-person-DAT consult-do and question-do PAST  
 ‘Taroo consulted and questioned that person.’

<sup>35</sup> When *gimon-ni* ‘questionably’ is modified by another adverbial, it is not possible to bind any vP internal argument:

- (i) \*Taroo-wa nan-ni-tuite taihen gimon-ni-**mo** omowa-nakat-ta.  
 Taroo-TOP anything-about very questionably-Q think-NEG-PAST  
 ‘Taroo did not think about anything very questionably.’

This is expected if adverbial incorporation is an instance of head movement. See Baker (1988).

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