Binding of Indeterminate Pronouns and Clause Structure in Japanese

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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 the topmost light verb v. The data pertaining to indeterminate pronoun binding, coupled with the data on focus particles, reveal that in Japanese, checking configurations are established in LF. LF movement employed for Case checking is argued to involve the raising of a phrasal category, on the basis that it displays properties different from those of nonphrasal movement in LF. The newly attested data from Japanese lead to the conclusion that constituents can be reordered after “narrow” syntax and that strict locality is required for checking to take place, contrary to Chomsky’s (2000, 2001) proposal.

Keywords: indeterminate pronoun binding, Case checking, LF phrasal category movement, LF head movement, checking domain, clause structure, Japanese

1 Introduction

In the Minimalist Program it has been assumed that when Case checking is to be invoked, arguments enter the checking domain of the head that carries the relevant Case features to be checked by them. Recently Chomsky (2000, 2001) has advanced a different view, to the effect that Case checking (feature checking) can be executed by Agree without requiring strict locality (i.e., without movement). The Japanese data pertaining to indeterminate pronoun binding pose an empirical problem for the latter view, however. In this article I will show, on the basis of the distribution of indeterminate pronoun binding, that for Case checking to take place, the arguments of a predicate do need to enter the checking domains of the heads that bear formal matching features.

More specifically, I argue 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 v, where
the lexical projection of verbal elements is complete. I also argue that adjuncts fall into two
classes: ones that enter the checking domain of T and ones that enter the checking domain of the
highest v for the purpose of feature checking. The discussion reveals that if arguments and adjuncts
are not in the checking domain of their licensing head in overt syntax, LF movement is invoked.

In Japanese both phrasal category movement and head movement can occur in LF. I argue
that LF phrasal category movement displays properties different from those of nonphrasal category
movement and that LF movement of arguments for Case checking must involve the raising of
an entire category. Chomsky (2000, 2001) proposes that a full phrasal category is raised only to
check an EPP feature and that after this requirement is fulfilled, Agree serves to check formal
features. Agree can be executed without locality, hence, without an LF movement operation. This
proposal suggests that there will be no reordering of constituents in LF. The Japanese facts argue
against this view, however, since both phrasal and head movement, whereby constituents are
reordered in LF, can occur.

2 Clause Architecture in LF

In this section I argue that the binding of indeterminate pronouns by the Q particle mo allows
LF configurations to be diagnosed in Japanese. The distribution of indeterminate pronouns shows
that arguments need to move into the checking domain of their licensing head by LF and must
be Case-checked there for the derivation to converge. Chomsky (2000, 2001) proposes that a full
phrasal category is raised to the checking domain of a head only to satisfy the requirement of an
EPP feature and that once this requirement is fulfilled, Agree should be able to check other formal
features without strict locality. But the Japanese facts are not consonant with his view. In this
section and the next I argue that arguments are Case-checked in strict locality with their licensing
heads, and I show that if arguments are not in the checking domains of the heads in overt syntax,
LF movement is induced.

Let us begin by noting that in Japanese, indeterminate pronouns such as dare ‘anyone’, doko
‘anywhere’, and nani ‘anything’ are generally allowed to serve as negative polarity items (and
sometimes as universal quantifiers) when they are bound by mo (see McGloin 1976).

(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.’

The Q particle mo, used to fix the interpretation of an indeterminate pronoun, is not required to
be placed next to it (see Kuroda 1965). It may, for instance, be attached to V or C instead.1

1 In Japanese the surface position of the Q particle mo is relatively free, but it cannot appear to the right of T, as
illustrated in (i).
(2) a. Taroo-wa nani-o kai-mo si-nakat-ta.

Taroo-TOP anything-ACC buy-Q do-NEG-PAST
‘Taroo did not buy anything.’

Hanako-TOP Taroo-NOM anything-ACC buy-PAST that-Q think-NEG-PAST
‘Hanako did not think that Taroo bought anything.’

In (2a) mo is attached to V, separate from nani ‘anything’, but can still legitimately bind it, just as in (1a), where mo is directly attached to nani. The sentences in (1a) and (2a) express fairly similar meanings, asserting that there was nothing that Taroo bought.

The Q particle mo may be attached to different kinds of lexical heads and hence can occur in various syntactic positions. It can generally be attached to a lexical element to its left. When a nominal constituent or a complementizer serves as its host, it typically appears at the rightmost periphery of the constituent. When it is associated with a verbal element, it is affixed to some element appearing to its left, and the verbal complex that it separates from the main verb is associated with a dummy verb su(ru) ‘do’.

(3) a. Taroo-wa Hanako-o [hasiri-mo s-ase-nakat-ta].

Taroo-TOP Hanako-ACC run-Q do-CAUSE-NEG-PAST
‘Taroo did not also make Hanako run.’

b. Taroo-wa Hanako-o [hasir-ase-mo si-nakat-ta].

Taroo-TOP Hanako-ACC run-CAUSE-Q do-NEG-PAST
‘Taroo did not also make Hanako run.’

The Japanese dummy verb su(ru) ‘do’ behaves differently from the English dummy verb do. In English do-support is implemented if tense is not associated with a lexical verb or an auxiliary. In Japanese the dummy verb su(ru) is morphologically inserted when a bound verbal element is

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2 When the matrix verb is replaced by yuu ‘say’, the indeterminate pronoun is understood existentially. For analysis of quantificational variability, see Berman 1989.

3 One constraint imposed on the binding of indeterminate pronouns by mo is that the negative element nai ‘not’ cannot be separated from mo by a clause boundary.

Examples (i) and (ii) are unacceptable, since mo is included in C, there being no independent C projection intervening between mo and nai. When mo is separated from its host indeterminate pronoun, the distance between the two cannot be “too long,” either, as shown in (ii).

(ii) ?*Hanako-wa [Masao-ga nani-o kat-ta mo to] omowa-nakat-ta.

Hanako-TOP Masao-NOM anything-ACC buy-Q do-PAST-Q that-Q think-NEG-PAST
‘Hanako did not think that Masao bought anything.’

Example (ii) is unacceptable because a clause boundary intervenes between nani and mo.

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(1) *Hanako-wa [Taroo-ga nani-o kat-ta mo to] omowa-nakat-ta.

Hanako-TOP Taroo-NOM anything-ACC buy-Q do-PAST-Q that-Q think-NEG-PAST
‘Hanako did not think that Taroo bought anything.’
separated from a lexical verb, and \textit{su}(ru) is not necessarily associated with tense, as shown in (3).

The distribution of indeterminate pronoun binding allows us to determine the clause structure of Japanese. To see this, let us consider when and how indeterminate pronouns are properly interpreted. First, note that when \textit{mo} appears to the right of a verb in a simple clause, the arguments are divided into two classes: those that can be bound by \textit{mo} and those that cannot. The first class of arguments includes direct and indirect objects.

(4) a. Taroo-wa \textit{nani-o} kai-\textit{mo} si-nakat-ta.
Taroo-TOP anything-ACC buy-Q do-NEG-PAST
‘Taroo did not buy anything.’
b. Taroo-wa \textit{dare-ni} ai-\textit{mo} si-nakat-ta.
Taroo-TOP anyone-DAT meet-Q do-NEG-PAST
‘Taroo did not meet anyone.’
c. Taroo-wa \textit{dare-ni} omiage-o age-\textit{mo} si-nakat-ta.
Taroo-TOP anyone-DAT souvenir-ACC give-Q do-NEG-PAST
‘Taroo did not give anyone a souvenir.’

The second class includes subjects.

(5) a. \textit{*Dare-ga} warai-\textit{mo} si-nakat-ta.
anyone-NOM laugh-Q do-NEG-PAST
‘Anyone did not laugh.’
b. \textit{*Dare-ga} Hanako-o home-\textit{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 illustrates that when \textit{mo} is attached to a verb, the external argument (i.e., the subject) lies outside its scope, whereas vP-internal arguments, whether direct or indirect, lie within it.

This type of asymmetry obtains not merely for arguments but also for adjuncts. When \textit{mo} is appended to a verb, it is unable to bind adjuncts with scope over TP, as illustrated by \textit{itu} ‘anytime’ and \textit{dooyuu-riyuu-de} ‘for any reason’.

(6) \textit{*Taroo-wa itul/dooyuu-riyuu-de} hasiri-\textit{mo} si-nakat-ta.
Taroo-TOP anytime/any-reason-for run-Q do-NEG-PAST
‘Taroo did not run anytime/for any reason.’

There are several classes of adjuncts that can be bound by \textit{mo}. These adjuncts include locative phrases, comitative phrases, instrumental phrases, and manner adverbs, which are generally construed as residing within vP. For example:

(7) a. Taroo-wa \textit{doko-kara/doko-de} hasiri-\textit{mo} si-nakat-ta.
Taroo-TOP anywhere-from/anywhere-at run-Q do-NEG-PAST
‘Taroo did not run (from) anywhere.’
b. Taroo-wa *doko-ni* yuki-*mo* si-nakat-ta.
   Taroo-TOP anywhere-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-naihu-del/dono-yoo-ni* pan-o kiri-*mo* si-nakat-ta.
   Taroo-TOP any-knife-with/any-manner-in bread-ACC cut-Q do-NEG-PAST
   ‘Taroo did not cut the bread with any knife/in any manner.’

In essence, adjuncts taking scope over TP cannot be bound by a Q particle *mo* attached to the verb, whereas adjuncts that are assumed to be related to vP-internal positions can.

Evidently, the instances of indeterminate pronoun binding observed above are structurally constrained. We can therefore say that an indeterminate pronoun can 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 given here:

(8) 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.

I assume here that when *mo* is attached to a head, it is merged with the head by way of head adjunction, and they form a complex head. This complex head may be susceptible to further syntactic operations (e.g., head movement) in the course of derivation. To exemplify, when *mo* is attached to a verb like *home(ru)* ‘admire’, the complex verb \[ V[\bigvee home]mo \] is formed. Since the verb is transitive, its object is merged with it, as a result of which VP is formed. Under the split-VP analysis, this VP is merged with v, and V (with *mo*) is raised to v. If the subject is further merged (after V-raising), the structure in (9) results.

(9) \[
\begin{array}{c}
\text{vP} \\
\text{Subj} \text{v'} \\
\text{VP} \text{v} \\
\text{Obj} t_i \text{home-mo}_i v
\end{array}
\]

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4 The terms *containment* and *domination* are defined as follows (see Chomsky 1993):
   (i) a. The category \( \alpha \) *dominates* \( \beta \) if every segment of \( \alpha \) dominates \( \beta \).
       b. The category \( \alpha \) *contains* \( \beta \) if some segment of \( \alpha \) dominates \( \beta \).

5 I assume with Collins (1997) and Chomsky (2001) that an unaccusative verb occurs with a light verb v that does not take an agent argument as its specifier.
The light verb v 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 that attracts V, so that V necessarily raises to v in overt syntax.

Given the assumption that V and mo constitute a complex head that undergoes movement, it is easy to see that when mo is construed with V, the scope of mo is fixed relative to the position of V (i.e., \( \text{Max}(\text{mo}) = \text{Max}(\text{V-mo}) \)). For example, if the V (comprising mo) resides in the head position of vP, as in (10), YP and ZP—but not XP—are included in the domain of V. Consequently, only YP and ZP fall under the scope of mo.

\[
(10) \quad \begin{array}{c}
\text{TP} \\
\text{XP} \\
\text{vP} \\
\text{YP} \\
\text{VP} \\
\text{ZP} \\
\end{array}
\]

If the V associated with mo is raised to T, as in (11), mo extends its scope over TP, which means that YP, ZP, and XP are included in its scope.

\[
(11) \quad \begin{array}{c}
\text{TP} \\
\text{XP} \\
\text{vP} \\
\text{YP} \\
\text{VP} \\
\text{ZP} \\
\end{array}
\]
The crucial difference between (10) and (11) lies in the possibility of binding XP, which is located in TP. In (10) XP does not fall within the scope of mo, but in (11) it does.

In Japanese, when mo occurs with a verb, subjects and TP-related adjuncts are not able to be bound by it, but vP-internal arguments and adjuncts are. Here, subjects and other TP-related adjuncts residing in the position designated as XP lie outside the scope of mo. On the other hand, vP-internal arguments and adjuncts located in positions equivalent to YP and XP fall within the scope of mo. It is clear then that the verb must reside in vP, as in (10), at the level where indeterminate pronoun binding applies. (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 or adjoined positions.)

I assume here that subjects are merged in [Spec, v] and raised to [Spec, T] overtly. In the literature on Japanese the suggestion has been made (e.g., Kuroda 1988) that subjects need not be moved into [Spec, T]. This is motivated by the observation that Japanese generally lacks “agreement” phenomena that induce movement (see Fukui 1986). But Miyagawa (2001) provides evidence against this suggestion, arguing instead that subjects are overtly moved to [Spec, T] to satisfy an EPP requirement on T. In this article I will advocate the latter view and maintain that subjects are overtly raised to [Spec, T]. This view is reasonable in light of the fact that subjects pattern with TP-related adjuncts, rather than vP-internal adjuncts, with respect to multiple focusing constructions, which can be used to diagnose overt syntactic structure (see section 3).

In the proposed analysis the scope of mo is determined relative to a lexical item to which it is attached. In cases where mo occurs together with C, as in (12), the scope of mo extends over CP.

(12) \[
\text{CP} \\
\text{TP} \quad \text{C-mo} \\
\downarrow \quad \downarrow \\
\text{XP} \quad \text{T'} \\
\downarrow \quad \downarrow \\
\text{vP} \quad \text{T} \\
\downarrow \quad \downarrow \\
\text{YP} \quad \text{v'} \\
\downarrow \quad \downarrow \\
\text{VP} \quad \text{v} \\
\downarrow \quad \downarrow \\
\text{ZP} \quad \text{V}
\]

To be more precise, Miyagawa (2001) argues that the EPP requirement can sometimes be satisfied by a DP other than the subject. However, the crucial point here is that in unmarked cases the subject must serve to fulfill this requirement.
In this case there should be no subject-object asymmetry in regard to indeterminate pronoun binding, since both subject and object fall under the domain of C. This prediction is correct.

   ‘Taroo could not think that Hanako admired anyone.’
   Taroo-DAT-TOP Hanako-NOM anyone-ACC admire-PAST that-Q think-can-NEG-PAST
   ‘Taroo could not think that anyone admired Masao.’
   Taroo-DAT-TOP anyone-NOM Masao-ACC admire-PAST that-Q think-can-NEG-PAST

As shown in (13), when *mo* occurs with C, there is no subject-object asymmetry in the binding of indeterminate pronouns. In the same vein, when *mo* is construed with C, there is no asymmetry between TP adjuncts and vP adjuncts. This is illustrated by the time adjunct *itu* ‘anytime’ and the locative adjunct *doko-de* ‘anywhere’.

   ‘Taroo could not think that Hanako played at any time.’
   Taroo-DAT-TOP Hanako-NOM anytime play-PAST that-Q think-can-NEG-PAST
   ‘Taroo could not think that Hanako played anywhere.’
   Taroo-DAT-TOP Hanako-NOM anywhere-at play-PAST that-Q think-can-NEG-PAST

These 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.

Finally, notice that the trace of an argument is not subject to indeterminate pronoun binding. Thus, even when an indeterminate pronoun is merged vP-internally, it cannot be bound by *mo* if it overtly moves out of the scope of *mo*.

(15) a. *Nani-ga (Taroo-ni) yom-are-mo si-nakat-ta.
   ‘Anything was not read (by Taroo).’
   anything-NOM Taroo-DAT read-PASS-Q do-NEG-PAST
   ‘Anything did not break down.’
   anything-NOM break-Q do-NEG-PAST

The surface subject of the passive verb in (15a) originates as a direct object, as does the surface subject of the unaccusative verb in (15b). If the position of merger were relevant for indeterminate pronoun binding, both sentences in (15) would be well formed, like those in (16).

   ‘Taroo did not read anything.’
   Taroo-top anything-ACC read-Q do-NEG-PAST
Nevertheless, the facts are not in keeping with the expectations. This means that the scope of *mo* is not determined at the tail of a chain, and that the positions where arguments are merged (or θ-marked) have no bearing on indeterminate pronoun binding once they are displaced.

The view that an indeterminate pronoun cannot be bound by *mo* if located in a position beyond its scope gains additional support from the ill-formedness of the sentences in (17), where vP-internal elements are fronted to sentence-initial position via scrambling.

(17) a. ?*Dare-o* Taroo-wa t1 home-*mo* si-nakat-ta.
    anyone-ACC Taroo-TOP admire-Q do-NEG-PAST
    ‘Anyone, Taroo did not admire.’

b. ?*Doko-e*1, Taroo-ga t1 iki-*mo* si-nakat-ta.
    anywhere-to Taroo-NOM go-Q do-NEG-PAST
    ‘Anywhere, Taroo did not go.’

On the other hand, if scrambling moves an argument only vP-internally, acceptability does not change, as illustrated by (18).

(18) Taroo-wa *dare-o*, koko-de t1 home-*mo* si-nakat-ta.
    Taroo-TOP anyone-ACC here-at admire-Q do-NEG-PAST
    ‘Taroo did not admire anyone here.’

These facts show that an indeterminate pronoun can be bound by *mo* only if the highest point it reaches in the derivation (i.e., the head of its chain) lies within the scope of *mo*.

Still, even if the characterization that an indeterminate pronoun can be bound by *mo* when the head of its chain falls under the scope of *mo* is correct, the question remains whether the binding possibilities depend upon surface or LF configurations. In the following paragraphs I will argue—on the basis of ergative predicates—that the legitimacy of indeterminate pronoun binding is determined at LF, where arguments are moved into the checking domain of their licensing heads (in the sense of Chomsky 1993).

The inventory of ergative predicates in Japanese includes stative ones like *wakaru* ‘understand’, *aru* ‘have’, and *dekiru* ‘can do’, as well as verbs suffixed with -e ‘can’. Here the subjects are marked with dative case, and direct objects, with nominative case. Empirical evidence that the binding of indeterminate pronouns by *mo* is fixed in LF configurations can be adduced from (19).

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7 When the argument is moved to the left of a time adjunct, the sentence degrades.

(i) ??Taroo-wa *dare-o*, ano-toki t1 home-*mo* si-nakat-ta.
    Taroo-TOP anyone-ACC that-time admire-Q do-NEG-PAST
    ‘Taroo did not admire anyone at that time.’
(19) 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.’

   Taroo-DAT anything-NOM sing-can-Q do-NEG-PRES
   ‘Taroo cannot sing anything.’

Although *mo is attached to the verb in (19), neither the nominative object nor the dative subject can be bound by it. The same arguments may be bound when C hosts *mo, however.

(20) 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 dative subject of *uta-e-ru ‘can sing’ must be overtly attracted to [Spec, T] to satisfy the EPP requirement on T, while the nominative object remains inside vP. The correctness of this view can be confirmed by the vP-fronting test in (21).

(21) a. *[sono-uta-ga uta-e-mo]i, Taroo-ni ti si-ta (koto)
   that-song-NOM sing-can-Q Taroo-DAT do-PAST fact
   ‘(the fact that) Taroo could also sing that song’

   b. *[uta-e-mo]i, Taroo-ni sono-uta-ga ti si-ta (koto)
   sing-can-Q Taroo-DAT that-song-NOM do-PAST fact
   ‘(the fact that) Taroo could also sing that song’

These examples show that the vP constituent—which can be moved to sentence-initial position—includes a nominative object and a verb suffixed with *mo, and also that the dative subject

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8 Even if the nominative object is moved to sentence-initial position, the dative subject cannot be bound by *mo.

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

The unacceptability of (i) is naturally anticipated if the dative subject is Case-checked in the checking domain of T in LF.
is located outside vP. Given this, the impossibility of binding the dative subject in (19a) would follow automatically if it is assumed that the subject is overtly attracted by T to check an EPP feature. By contrast, the failure of *mo to bind the nominative object in (19b) poses a problem, because this nominative phrase occupies a position internal to the scope of *mo on the surface. In effect, the unacceptability of (21b) suggests that the nominative object is contained in the vP that includes *mo in overt syntax. Thus, if overt syntactic structure is responsible for indeterminate pronoun binding, the nominative object in (19b) should be bound by *mo, but it is not.

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

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

Further, ergative predicates do not always preclude their vP-internal elements from being bound by the Q particle *mo associated with a verb. The following example indicates that the indirect object of *i-e-*ru ‘can say’ may be bound by *mo:

(23) Taroo-wa dare-ni monku-ga i-e-*mo si-nakat-ta.
    Taroo-TOP anyone-DAT complaint-NOM say-can-Q do-NEG-PAST
    ‘Taroo could not tell anyone a complaint.’

It is clear then that among vP-internal arguments, only nominative objects display idiosyncratic behavior with regard to indeterminate pronoun binding.

The question arises why the nominative object in (19b)—one of the vP-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 in Japanese nominative phrases are licensed by tense (see, e.g., Shibatani 1977, Takezawa 1987, Ura 2000). This suggests that the nominative object is Case-checked by T (see Tada 1992, Koizumi 1998). In addition, since there is a sense in which the dative subject of an ergative predicate should also be checked in the checking domain of T, we can assume that the tense element associated with an ergative predicate contains [+dative] and [+nominative] features to be deleted by Case checking.

For the derivation to converge, the features [+dative] and [+nominative] must be deleted together with those on the relevant DPs (see Chomsky 2000). With an ergative predicate like *uta-e-*ru ‘can sing’, the dative subject is overtly moved to [Spec, T] by virtue of the EPP feature of T, and Case checking occurs within the checking domain of T. The nominative object, on the other hand, remains within vP in overt syntax. Still, if Case checking requires locality, it must be ‘covertly’ raised to the checking domain of T in order to check the [+nominative] feature, as in (24).
Here both the dative subject and the nominative object move out of the scope of *mo* by the LF output. If indeterminate pronoun binding applies at LF, it naturally follows that neither argument of the stative predicate *uta-e-ru* ‘can sing’ can be bound by *mo*, since they are located outside the scope of *mo* in LF.

The present analysis assumes that the tense element associated with an ergative predicate like *uta-e-ru* inherently comprises [+dative] and that [+dative] is not assigned by the verb. In Japanese, in fact, there is good reason to believe that T should be divided into two classes, depending on whether or not it bears [+dative], since predicates licensing dative subjects encode a stative meaning. This temporal property crucially distinguishes ergative predicates from ordinary ones, which generally express an eventive meaning. It is therefore reasonable to say that T in Japanese—which carries a stative meaning—can possess [+dative] and select an ergative predicate as its complement. Obviously, the proper lexical choice must be made in the numeration; otherwise, the derivation will not converge.

One theoretical question arising from the movement of the nominative phrase is how it can be moved across the trace of the dative subject marked by *t_j* from its original position *t_i* in (24). Since [*Spec, T*] and [*Spec, v*] are not equidistant from *t_i* (in the absence of the successive movement of the verb to T), direct movement of the nominative phrase from a VP-internal position to [*Spec, T*] violates Shortest Move. However, a violation of Shortest Move can be circumvented if the nominative phrase moves through [*Spec, v*]. In effect, given the notion of phase in Chomsky 2001, it must first land on the edge of v, since the material inside vP (which constitutes a phase) cannot be accessed by syntactic operations from outside because of the Phase Impenetrability Condition. If this condition is pertinent to LF movement as well as overt movement, it follows that in (24) the nominative phrase must first stop at the edge of v on its way to [*Spec, T*]. It can then be moved over the dative phrase without violating Shortest Move.
From the current perspective, movement of the nominative object is Case-driven; more importantly, it must be an instance of phrasal category movement in LF. If movement into TP involves elements other than the entire category (i.e., a head or features), then mo would be expected to extend its scope over TP, since in this case TP counts as Max(mo). Given this, it is predicted—incorrectly—that the Q particle mo attached to the nominative phrase should be able to bind indeterminate pronouns contained in TP.

   anyone-DAT that-sound-Q hear-can-NEG-PAST
   ‘Anyone could not hear that sound.’

   Taroo-DAT-TOP anywhere-at that-sound-Q hear-can-NEG-PAST
   ‘Taroo could not hear that sound anywhere.’

As I will discuss in section 4, the scope of mo is extended when nonphrasal movement of a constituent to which mo is attached occurs. The inability of mo to bind an indeterminate pronoun in (25) shows then that the LF movement of the nominative object must be phrasal.

The behavior of nominative objects in Japanese casts doubt on Chomsky’s (2000, 2001) claim that checking does not require strict locality. According to Chomsky, a phrasal category (XP) is raised to the checking domain of a head only in order to satisfy the requirement of an EPP feature. Once this requirement is fulfilled, other formal features can be checked by Agree—that is, without LF movement. This analysis predicts that in (19b), where the dative subject is overtly raised to [Spec, T], mo should be able to bind the nominative object (with no LF movement of the nominative phrase to TP). Obviously, the Japanese facts are at variance with Chomsky’s claim, because the nominative object in (19b) cannot be bound by mo, indicating that it moves out of the scope of mo by Case-driven movement in LF.

If, as argued above, the legitimacy of indeterminate pronoun binding is determined on the basis of LF configurations, the binding of an ordinary accusative object by mo should also be fixed at the level of LF. But an accusative object is merged VP-internally and is Case-checked in [Spec, v]. If mo is affixed to the verb residing in v, the object would fall under the scope of mo whether it is located in its Merge or checking position. This means that we cannot determine where the object is located at LF merely by looking at simple clauses. The adequacy of the hypothesis, however, can readily be validated by looking at sentences involving complex predicates. This is the topic of the next section.

3 Passive and Causative

In this section, drawing on data pertaining to passive and causative verbs, I argue that for Case checking to occur, vP-internal arguments (with the exception of nominative objects) need to enter...
the checking domain of the topmost $v$, which assembles all the Case features relevant to them. The data presented in this section show that LF movement of vP-internal arguments is necessary if they are not already in the checking domain of the highest $v$ in overt syntax. The data further argue against Chomsky’s (2000, 2001) view that Case checking can be executed without LF movement. I also show that adjuncts, which are usually not assumed to involve movement for checking purposes, may be moved covertly for formal licensing, in just the same way that arguments are.

Let us first discuss passive clauses. At the outset it should be noted that Japanese has at least two types of passive clauses, often referred to as direct and indirect passives.

   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 demotion of the subject to an adjunct, which is often suppressed syntactically, the indirect passive does not; instead, an affectee argument is added (see, e.g., Howard and Niyekawa-Howard 1976, Kuno 1973). Both types of passive clauses are formed by adding the same passive morpheme $(r)\text{are}$ to the base verb.

To determine whether arguments are moved in LF, it is necessary to know where they are located in overt syntax. For the direct passive, the passive affix can be assumed to be a light verb that takes an ordinary vP as its complement and the demoted subject of the main verb as its optional specifier (see Aoyagi 1999). In light of numeral quantifier floating, Miyagawa (1989a,b) argues that the subject of the direct passive involves movement to [Spec, T]. If so, it must be the case that in the direct passive in (26a) the subject $\text{Taroo}$—the erstwhile indirect object of $\text{susumeru}$—is first merged in [Spec, V] and then overtly raised to [Spec, T] because of the EPP requirement. In contrast, the direct object of the main verb remains in its base position where it is merged in overt syntax. Under the view held here, then, the direct passive in (26a) should have the structure in (27).

\[10\] The difference between direct and indirect passives in the status of dative arguments can be discerned in the following sentences:

(i) a. Taroo\textsubscript{2}-wa Hanako\textsubscript{3}-ni zibun\textsubscript{2,3}-no heya-de home-rare-ta.
   Taroo\textsubscript{2}-TOP Hanako\textsubscript{3}-DAT self-GEN room-in admire-PASS-PAST
   (Lit.) ‘Taroo was admired by Hanako in self’s room.’

b. Taroo\textsubscript{2}-wa Hanako\textsubscript{3}-ni zibun\textsubscript{2,3}-no heya-de hon-o yom-are-ta.
   Taroo\textsubscript{2}-TOP Hanako\textsubscript{3}-DAT self-GEN room-in book-ACC read-PASS-PAST
   (Lit.) ‘Taroo was affected by Hanako’s reading the book in self’s room.’

In the direct passive (ia) the reflexive $\text{zibun}$ ‘self’—which generally shows a subject orientation—cannot take $\text{Hanako}$ as its antecedent, showing that the dative argument is demoted to an adjunct. In the indirect passive (ib) $\text{zibun}$ can take either $\text{Taroo}$ or $\text{Hanako}$ as its antecedent, showing that the dative argument retains its subjecthood.
Note that movement of the subject over the dative phrase is legitimate, with no violation of Shortest Move, if it raises to [Spec, T] by stopping at the edge of each vP.

I argue that in Japanese the precise organization of clause structure in overt syntax can be assessed by observing the distribution of focus particles such as *sae* ‘even’, *dake* ‘only’, and *bakari* ‘only’. These focus particles may be attached to a verbal element (as well as to a nominal constituent) in a way similar to *mo*. When a focus particle like *sae* is attached to a verb, another occurrence of *sae* is allowed in certain contexts.11

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

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

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

11 Two occurrences of the same focus particle are not allowed if both are attached to nominal constituents.

(i) ?*Taroo-*sae*-ga kono-hon-*sae* yon-da.
    Taroo-EVEN-NOM this-book-EVEN read-PAST
    (Lit.) ‘Even Taroo read even this book.’
When *sae* appears contiguous with a verb, as in (28), it is possible to add another *sae* to the subject, but not to the direct or indirect object. Apparently, the deviance of (28b) and (28c) emerges from the fact that a single constituent is potentially focused by two instances of the same 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, another occurrence of *sae* is not allowed in its domain.12 (Notice, in this connection, that the contrast in acceptability between the subject case, on the one hand, and the direct and indirect object cases, on the other, indicates that the verb resides in *v*—but not in *T*—at the level where the constraint is relevant.)13

Crucially, this multiple focus construction allows us to diagnose where arguments are located in overt syntax. The examples in (29) show that the position where an argument is merged does not determine the well-formedness of the multiple focus construction.

(29) a. Kono-kabin-*sae*-ga kowas-are-*sae* si-ta.
   this-vase-EVEN-NOM break-PASS-EVEN do-PAST
   (Lit.) ‘Even this vase was even broken.’
   b. *Kono-kabin-(o)-*sae*, Taroo-ga t i kowasi-*sae* si-ta.
   this-vase-ACC-EVEN Taroo-NOM break-EVEN do-PAST
   (Lit.) ‘Even this vase, Taroo even broke.’

In (29a) the passive subject leaves the domain of the verb via NP-movement, and in (29b) the direct object is scrambled out of the domain of the verb. Since both arguments are merged in *v*-internal positions and dislocated by overt syntactic operations, the double focusing constraint cannot be stated in terms of the positions where the arguments are merged. Next, the examples in (30) involve ergative predicates taking a dative-nominative case pattern. They illustrate that the double focusing constraint is sensitive to overt syntactic structure.

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

As discussed above, the nominative object of an ergative predicate remains in *v*-internal position in overt syntax, but moves into the checking domain of *T* in LF. Since (30b) is deviant, the ban on double focusing must be determined on the basis of overt syntactic structure, not LF structure.14

---

12 No such constraint is imposed on “kakari” particles. See Aoyagi 1998, 1999 for discussion of the distinction between “kakari” and “focus” particles.

13 If we adopt a Larsonian shell for the double object construction, (28c) can be taken to indicate that *V* raises to the topmost *vP* that selects an agent by way of a verbal head that licenses an indirect object.

14 One theoretical question that might arise here is how to deal with the double focusing constraint in the general setting of the Minimalist Program. Since PF and LF are the only levels of representation relevant for the grammar on
Bearing in mind that the double focusing construction enables us to pinpoint where arguments are placed in overt syntax, let us consider the direct passive in (31).

(31) *Taroo-wa Hanako-ni kono-hon-(o)-sae {susume-sae
Taroo-TOP Hanako-DAT this-book-ACC-EVEN recommend-EVEN
s-are-ta/susume-rare-sae si-ta}.
do-PASS-PAST/recommend-PASS-EVEN do-PAST
(Lit.) ‘Taroo was even recommended even this book by Hanako.’

This example, where the accusative phrase accompanies sae, is deviant irrespective of whether another sae is added to the main verb or the passive affix. This shows that the accusative phrase must lie within the domain of the main verb as well as that of the passive verb. When sae occurs with a dative phrase, a difference in acceptability emerges.

(32) Taroo-wa Hanako-ni-sae kono-hon-o /H20853
Taroo-TOP Hanako-DAT-EVEN this-book-ACC recommend-EVEN
s-are-ta/*susume-rare-sae si-ta}.
do-PASS-PAST/recommend-PASS-EVEN do-PAST
(Lit.) ‘Taroo was even recommended this book even by Hanako.’

This difference in acceptability shows that the dative phrase falls within the domain of the passive verb, but not the main verb. The subject is allowed to accommodate sae, regardless of whether it is suffixed to the verb or the passive morpheme, indicating that the subject is located outside the domain of both heads.

(33) Taroo-sae-ga Hanako-ni kono-hon-o {susume-rare-sae
Taroo-EVEN-NOM Hanako-DAT this-book-ACC recommend-PASS-EVEN
si-ta/susume-sae s-are-ta}.
do-PASS/recommend-EVEN do-PASS-PAST
(Lit.) ‘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, these must head distinct verbal projections; the direct passive clause in (26a) has the configuration (27) in overt syntax.

Unlike the direct passive, the indirect passive invokes no demotion of the subject of the main verb to an adjunct while the affectee argument is added. Since the affectee argument occurs only when the passive morpheme is present, I take it that it is merged in [Spec, (r)are] and raised

minimalist assumptions, the constraint must be formulated as an interface condition. One way of doing so is to say that the ‘‘semantic’’ feature causing a double focus violation can be copied onto another position only when it is associated with phonological features. As phonological features are stripped off under Spell-Out, LF movement would not be capable of copying this semantic feature, even if the category is moved to a higher position by LF movement. This allows us to say that although the double focusing constraint applies at the LF interface, its structural relation is evaluated on the basis of overt syntactic structure. There are a number of other possible ways of dealing with these facts, but a detailed discussion of the double focusing constraint is beyond the scope of this article, and will not be pursued here.
to [Spec, T], and that \((r)\)are takes an ordinary \(vP\) as its complement. The overt syntactic structure in (34) can thereby be posited for the indirect passive (26b).

\[
\begin{align*}
(34) & & \text{TP} \\
& & \text{Taroo-ga}_i \quad \text{T'} \\
& & \quad \text{v}_p \text{P} \quad \text{T} \\
& & \quad \text{t}_i \quad \text{v}_p' \\
& & \quad \quad \text{vP} \quad \text{(r)are} \\
& & \quad \text{doroboo-ni} \quad \text{v'} \\
& & \quad \quad \text{VP} \\
& & \quad \quad \quad \text{kuruma-o} \quad \text{t}_j \quad \text{nusum}_j \quad \text{v}
\end{align*}
\]

In this structure both dative and accusative arguments lie within the domain of the main verb as well as of the passive verb. The adequacy of this view can be verified by looking at multiple focus constructions.\(^{15}\)

\[
(35) \begin{align*}
a. & \quad \text{**Taroo-ga kosodoro-ni-}\text{sae}\quad \text{kuruma-o} \quad \{\text{nusum-are-}\text{sae} \text{ si-ta\slash nusumi-}\text{sae} \\
& \text{Taroo-NOM sneak.thief\text{-DAT-EVEN car-ACC steal-PASS-EVEN do-PAST\slash steal-EVEN} s-are-ta}\}. \\
& \text{do-PASS-PAST} \\
& \text{\quad (Lit.) ‘Taroo even got his car stolen even by a sneak thief.’} \\

b. & \quad \text{**Taroo-ga kosodoro-ni } \text{kuruma-(o)-}\text{sae}\quad \{\text{nusum-are-}\text{sae} \text{ si-ta\slash nusumi-}\text{sae} \\
& \text{Taroo-NOM sneak.thief\text{-DAT car-ACC-EVEN steal-PASS-EVEN do-PAST\slash steal-EVEN} s-are-ta}\}. \\
& \text{do-PASS-PAST} \\
& \text{\quad (Lit.) ‘Taroo even got even his car stolen by a sneak thief.’}
\end{align*}
\]

\(^{15}\) Similar facts obtain even if a \(vP\)-fronting test is implemented. For details, see Kubo 1992.
These examples indicate that both dative and accusative arguments fall within the domain of the passive and main verbs. In contrast, the affectee argument—which receives nominative case marking—lies outside the domain of the main and passive verbs, since (36) is well formed.

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

These facts show that the affectee argument must be located above vP, headed by the passive verb, whereas the dative and accusative arguments are located within vP, which accommodates the main verb, as illustrated in (34).

Let us now turn to indeterminate pronoun binding. If the bindability of these pronouns is fixed by overt syntactic structure, we predict that in a direct passive like (26a) mo can bind both dative and accusative arguments if it is attached to the passive morpheme, or bind only the accusative argument if it is attached to the main verb. This prediction is not borne out, however.

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

In (37) mo, which is construed with the passive morpheme, can bind both dative and accusative arguments. But when mo is associated with the main verb, it cannot bind either of them. The subject fails to be bound by mo regardless of whether it occurs with the passive morpheme or with the main verb, as shown in (38).

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

These facts indicate that both dative and accusative arguments are in the domain of the passive
affix, but not of the main verb, and that the subject is outside the domain of both elements. This is shown in (39).

\[(39)\]

Here both the dative and accusative arguments are located in the projection of vP, headed by rare. Since the accusative argument is embedded under the domain of the main verb in overt syntax, as confirmed by (31), it must be covertly raised into the checking domain of rare from the VP containing the main verb (first by moving through the edge of each light verb).

As for the indirect passive in (26b), if overt syntactic construal is relevant for indeterminate pronoun binding, the prediction is that mo should be able to bind both dative and accusative arguments regardless of whether it is construed with the main verb or the passive affix. The fact of the matter is that when mo appears to the right of the passive morpheme, it can bind both kinds of arguments, but when it is attached to the main verb, it cannot, as shown by (40).

\[(40)\] a. Taroo-wa dare-ni kuruma-o \{nusum-are-mo si-nakat-ta/*nusumi-mo
Taroo-TOP anyone-DAT car-ACC steal-PASS-Q do-NEG-PAST/steal-Q
s-are-nakat-ta\}.
do-PASS-NEG-PAST
‘Taroo did not get his car stolen by anyone.’
b. Taroo-wa doroboo-ni nani-o \{nusum-are-mo si-nakat-ta/*nusumi-mo\}
Taroo-TOP thief-DAT anything-ACC steal-PASS-Q do-NEG-PAST/steal-Q
s-are-nakat-ta\}.
do-PASS-NEG-PAST
‘Taroo did not get anything stolen by a thief.’

The subject of the indirect passive—the affectee argument—cannot be bound by \textit{mo} irrespective of whether the main verb or the passive verb hosts this particle.

(41) *Dare-ga doroboo-ni kuruma-o \{nusum-are-mo si-nakat-ta/nusumi-mo\}
anyone-NOM thief-DAT car-ACC steal-PASS-Q do-NEG-PAST/steal-Q
s-are-nakat-ta\}.
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 \textit{mo} when it appears to the right of a passive morpheme, but not to the right of a main verb, shows that these arguments are moved into the checking domain of the passive verb \textit{(r)are}, as shown in (42).

(42)

\[
\begin{array}{c}
\text{TP} \\
\text{T} \quad \text{T'} \\
\text{vP} \quad \text{T'} \\
\text{kuruma-o} \\
\text{vP'} \\
\text{doroboo-ni} \\
\text{vP'} \\
\text{t}_i \\
\text{vP} \\
\quad \text{vP} \\
\quad \text{(r)are} \\
\text{t}_l \\
\text{v'} \\
\text{VP} \\
\quad \text{t}_j \\
\quad \text{nusum}_j \\
\quad \text{v} \\
\text{t}_k \\
\end{array}
\]
Both dative and accusative arguments must be moved for Case checking in LF, since they occupy positions internal to the lower vP in overt syntax. LF movement across arguments occupying the specifier positions of light verbs is possible, provided they move through the edge of each one. The data suggest that the topmost vP possesses [+dative] and [+accusative] features and that in order to remove them, the arguments need to appear in vP, regardless of where they are located on the surface.

The fact that arguments are moved in LF for Case checking if they are not already in their checking domain in overt syntax can also be confirmed with causative verbs. First, consider the following sentences:

(43) a. Taroo-ga roozin-ni suwar-ase-nakat-ta.
    ‘Taroo did not let the old men sit down.’

b. Taroo-ga roozin-o suwar-ase-nakat-ta.
    ‘Taroo did not make the old men sit down.’

Example (43a), where the causee argument is marked with dative, is interpreted as involving directive causation. By contrast, (43b), where the causee argument is in the accusative, involves manipulative causation (see Shibatani 1973). In Japanese the directive causative is often analyzed as having a control structure, while the manipulative causative is not (see Miyagawa 1999, Terada 1990, Morikawa 1993).

(44) a. [TP Taroo-ga [vCP roozin-ni [vP PRO suwar] (s)ase] ta]

b. [TP Taroo-ga [vCP [vP roozin-o suwar] (s)ase] ta]

In the directive causative (44a) the causative affix heads vCP and takes a causee argument as its specifier. A vP expressing the caused event functions as its complement. In contrast, in the manipulative causative (44b) the causative affix takes a vP expressing a caused event as its complement, with no causee argument filling vCP. That the structures in (44) are correct can be confirmed by the multiple focus construction.

(45) a. Taroo-ga roozin-ni-sae {?suwari-sae
    Taroo-NOM old.man-DAT-EVEN sit.down-EVEN
    s-ase-nakat-ta/?suwar-ase-sae si-nakat-ta].
    do-CAUSE-NEG-PAST/sit.down-CAUSE-EVEN do-NEG-PAST
    (Lit.) ‘Taroo did not even let even the old men sit down.’

---

16 In both cases it can be assumed that a causer argument is generated under the causative affix and is raised into TP overtly.
b. *Taroo-ga roozin-(o)-sae {suwari-sae
Taroo-NOM old.man-ACC-EVEN sit.down-EVEN
s-ase-nakat-ta/suwari-ase-sae si-nakat-ta}.
do-CAUSE-NEG-PAST/sit.down-CAUSE-EVEN do-NEG-PAST
(Lit.) ‘Taroo did not even make even the old men sit down.’

As shown in (45), when sae attaches to the main verb, the dative argument can legitimately be
associated with another sae, but the accusative argument cannot. When sae attaches to the causative
affix, neither the dative nor the accusative argument can further be suffixed with sae. This shows
that the dative causee argument is located in vCP—headed by the causative affix—and the accusa-
tive causee argument is located in vP, which includes the main verb, in overt syntax.

In the case of transitive verbs there is no overt morphological manifestation of the distinction
between manipulative and directive causatives, since the causee is always in the dative.

(46) Taroo-wa Hanako-ni sore-o sawar-ase-nakat-ta.
Taroo-TOP Hanako-DAT it-ACC touch-CAUSE-NEG-PAST
‘Taroo did not let/make Hanako touch it.’

On the directive interpretation the causee has control over the caused event, so this argument is
expected to reside in vCp, headed by the causative affix. This is in fact the case.

(47) a. *Taroo-wa Hanako-ni sore-(o)-sae {sawari-sae
Taroo-TOP Hanako-DAT it-ACC-EVEN touch-EVEN
s-ase-nakat-ta/sawari-ase-sae si-nakat-ta}.
do-CAUSE-NEG-PAST/touch-CAUSE-EVEN do-NEG-PAST
(Lit.) ‘Taroo did not even let Hanako touch even it.’

b. Taroo-wa Hanako-ni sae-o {?sawari-sae
Taroo-TOP Hanako-DAT-EVEN it-ACC touch-EVEN
s-ase-nakat-ta/*sawari-ase-sae si-nakat-ta}.
do-CAUSE-NEG-PAST/touch-CAUSE-EVEN do-NEG-PAST
(Lit.) ‘Taroo did not even let Hanako touch even it.’

These examples illustrate that on the intended sense the dative argument is located within vCp,
while the accusative argument is in vP, as shown in (48).17

17 The overt syntactic structure obtained on the manipulative interpretation can be readily assessed when the causee
argument is an inanimate entity that cannot take control over the caused event.

(i) *Ano-hito-wa roooboku-ni-sae me-o {das-ase-sae si-ta/dasi-sae s-ase-ta}.
that-person-TOP old.tree-DAT-EVEN bud-ACC come.out-CAUSE-EVEN do-PAST/come.out-EVEN do-CAUSE-PAST
(Lit.) ‘That person even made even the old tree bud.’
The manipulative causative (i) shows that the dative argument falls within the domain of the main verb as well as that
of the causative affix, indicating that it is located in vP in overt syntax. But (ii) shows that this dative argument must be
raised to the checking domain of (s)ase in LF.

(ii) Ano-hito-wa nami-ni me-o {das-ase-mo si-nakat-ta/*dasi-mo s-ase-nakat-ta}.
that-person-TOP anything-DAT bud-ACC come.out-CAUSE-Q do-NEG-PAST/come.out-Q do-CAUSE-NEG-PAST
‘That person did not make anything bud.’
The data also provide evidence that the causative affix, just like the passive affix, heads an independent projection distinct from the one containing the main verb.

Let us now turn to binding of indeterminate pronouns by *mo*. First, 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, but can be bound by *mo* when it is attached to the causative suffix.

(49) a. Taroo-wa dare-ni {suwar-ase-*mo* si-nakat-ta/*suwari-*mo*} Taroo-TOP anyone-DAT sit.down-CAUSE-Q do-NEG-PAST/sit.down-Q s-ase-nakat-ta}.
do-CAUSE-NEG-PAST
‘Taroo did not let anyone sit down.’
do-CAUSE-NEG-PAST
‘Taroo did not make anyone sit down.’

The same holds true for transitive causatives. As shown by (50), the Q particle *mo*, when hosted by the causative *(s)ase*, can bind the dative and accusative arguments. When it is placed to the right of the main verb, however, it cannot bind any of them.

(50) a. Taroo-wa Hanako-ni nani-o {sawar-ase-*mo* si-nakat-ta/*sawari-*mo*} Taroo-TOP Hanako-DAT anything-ACC touch-CAUSE-Q do-NEG-PAST/touch-Q s-ase-nakat-ta}.
do-CAUSE-NEG-PAST
‘Taroo did not let Hanako touch anything.’
b. Taroo-wa dare-ni sore-o {sawar-ase-*mo* si-nakat-ta/*sawari-*mo*} Taroo-TOP anyone-DAT it-ACC touch-CAUSE-Q do-NEG-PAST/touch-Q s-ase-nakat-ta}.
do-CAUSE-NEG-PAST
‘Taroo did not let anyone touch it.’

If the data pertaining to indeterminate pronoun binding are compared with those of multiple focus constructions, it becomes immediately clear that the configuration relevant for indeterminate pronoun binding is established not in overt syntax, but in LF, where all vP-internal arguments are raised into the topmost vC/P for the purpose of Case checking.18

The data considered thus far suggest that when there are several vP layers, the topmost v contains the formal features to be checked by vP-internal arguments and that the vP-internal arguments are bound there when the Q particle is placed to the right of the main verb.

18 For independent arguments in favor of the view that the causee in the manipulative causative undergoes LF raising for Case checking, see Harley 1995 and Miyagawa 1999.
elements, irrespective of where they are located in overt syntax, must appear in the checking domain of the highest v—where the lexical projection of verbal elements is complete—at LF for Case checking to occur. In fact, the validity of the claim that vP-internal arguments, no matter how deeply embedded, are always Case-checked in the checking domain of the highest v in LF can be further confirmed by slightly more complex examples that contain more than two vP layers.

(51) Taroo-ga Hanako-ni gohan-o tabe-sase-rare-ta.
    ‘Taroo was made to eat rice by Hanako.’

In (51) the main verb tabe(ru) ‘eat’ is followed by the causative affix, which occurs to the left of the passive affix. Hanako is a by-phrase adjunct associated with the passive rare. The passive subject is the causee argument that is promoted under passivization, and gohan ‘rice’ is the direct object of taberu. Thus, (51) should have the overt syntactic structure in (52).

(52) [TP Taroo-gai [vPP Hanako-ni [vCP ti [vP gohan-o tabe] sase] rare] ta]

The fact that the accusative phrase in (51) resides in the lowest vP where the main verb is accommodated is confirmed by (53).

(53) *Taroo-ga Hanako-ni gohan-(o)-sae {tabe-ase-rare-sae
    si-ta/tabe-ase-sae    s-rare-ta/tabe-sae    s-ase-rare-ta}.
    do-PAST/eat-CAUSE-EVEN do-PASS-PAST/eat-EVEN do-CAUSE-PASS-PAST
    (Lit.) ‘Taroo was even made to eat even rice by Hanako.’

Since (53) is 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 vP, which has the main verb in it. In LF this accusative argument will therefore move into the highest vPP headed by rare. This is shown in (54).

(54) Taroo-wa Hanako-ni nani-o {tabe-sase-rare-mo si-nakat-ta/*tabe-sase-mo
    s-are-nakat-ta/*tabe-mo s-ase-rare-nakat-ta}.
    do-PASS-NEG-PAST/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 it cannot be bound by mo when the particle is attached to the main verb. Nor can it be bound when mo is attached to the causative affix. Since mo can bind the accusative argument only if it is placed to the right of the passive affix, the direct object must be raised into the checking domain of the topmost vP headed by rare in LF, even though the direct object is not thematically related to the passive affix.

Finally, let us consider the behavior of adjuncts in sentences involving causative predicates. First, (55) shows that when a vP-internal adjunct like uti-e ‘to home’ is affixed with sae, a further
addition of *sae to the main verb *kaer(u) ‘return’ or to the causative affix does not yield a well-formed sentence.

(55) *Taroo-wa Hanako-o uti-e-sae [kaer-ase-sae si-ta/kaeri-sae]
    Taroo-TOP Hanako-ACC home-to-EVEN return-CAUSE-EVEN do-PAST/return-EVEN
    s-ase-ta]
    do-CAUSE-PAST
    (Lit.) ‘Taroo even made Hanako return even to her home.’

This means that the goal adjunct *uti-e ‘to home’ must reside in the lowest *vP in overt syntax, which includes the main verb, rather than in *vCP, which includes the causative verb.

(56) [TP Taroo-ga [vCP [vP Hanako-o uti-e kaer] (s)ase] ta]

Some adjuncts are ambiguous with regard to whether they modify the main verb or the causative verb (e.g., manner adjuncts can specify a manner of causation as well as the event denoted by the main verb), but the goal adjunct shown in (55) unambiguously modifies the main verb, since it can cooccur only with a verb expressing motion. Example (57), in effect, shows that the goal adjunct cannot modify the causative verb.

(57) *Taroo-wa uti-e Hanako-o waraw-ase-ta.
    Taroo-TOP home-to Hanako-ACC laugh-CAUSE-PAST
    ‘Taroo made Hanako laugh to home.’

If the goal adjunct were able to modify the causative verb, (57) would be acceptable, having the meaning ‘Taroo made Hanako laugh to her home’. The unacceptability of (57) shows that the goal adjunct cannot be thematically related to the causative (s)ase. Interestingly, however, *mo can bind the goal adjunct if it is construed with the causative morpheme. (58) shows that the goal argument must be located in the checking domain of the causative (s)ase in LF.

(58) Taroo-wa Hanako-o doko-e [kaer-ase-mo si-nakat-ta/*kaeri-mo]
    Taroo-TOP Hanako-ACC anywhere-to return-CAUSE-Q do-NEG-PAST/return-Q
    s-ase-nakat-ta]
    do-CAUSE-NEG-PAST
    ‘Taroo did not make Hanako return to anywhere.’

A comparison of (55) and (58) suggests that in overt syntax the goal adjunct is associated with the lower *vP, which has the main verb in it, but is raised to the upper *vCP headed by the causative affix at LF—even though it is not thematically related to the causative affix.

This discussion brings an interesting fact to light. Adjuncts are usually not assumed to have properties that motivate movement (see Chomsky 1995). Nevertheless, the Japanese facts show that LF movement must be invoked if a *vP-internal adjunct is merged in a place other than the topmost *vP (for modification). Importantly, *vP-internal adjuncts (as well as *vP-internal arguments) move into the checking domain of the topmost *v for feature checking, but not for thematic reasons. This leads to the conclusion that the topmost *v should bear some formal “adjunct” features (e.g.,
[+ locative]) and that for those features to be checked, LF movement of the associated adjuncts to the highest vP is necessary (if they are not merged with it already).

TP-related adjuncts behave differently from vP-internal adjuncts. For instance, in (59) the time adjunct *sono-toki-ni* ‘at that time’ occupies a position outside vCP in overt syntax.

(59) Taroo-wa sono-toki-ni-sae Hanako-o {kaer-ase-sae si-ta/kaeri-sae
Taroo-TOP that-time-at-EVEN Hanako-ACC return-CAUSE-EVEN do-PAST/return-EVEN
s-ase-ta},
do-CAUSE-PAST
(Lit.) ‘Taroo even made Hanako return even at that time.’

This time adjunct patterns with subjects, in that the Q element *mo*—whether it is attached to the verb or the causative affix—cannot bind it.

(60) *Taroo-wa donna-toki-ni Hanako-o {kaer-ase-mo si-nakat-ta/kaeri-mo
Taroo-TOP any-time-at Hanako-ACC return-CAUSE-Q do-NEG-PAST/return-Q
s-ase-nakat-ta},
do-CAUSE-NEG-PAST
‘Taroo did not make Hanako return at any time.’

Since the time adjunct is associated with tense, it must be checked in T. The notable fact is that adjuncts, just like arguments, are partitioned into two classes: those that must reside in the checking domain of T at LF and those that must reside in the checking domain of the topmost v.

The data on indeterminate pronoun binding, together with those on multiple focusing, show that in Japanese, verbs that remain below T in overt syntax do not move into T even in LF. In effect, the necessity of verb raising is minimal in Japanese, in the sense that a main verb (suffixed with *mo*) raises only to the light verb v (that introduces an agent as its specifier and VP as its complement), and other verbal elements stay in the positions where they are merged—even in LF. In the generative literature 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 facts suggest that this assumption is not valid, since V may remain in a vP-internal position throughout the derivation. LF representations may show more crosslinguistic differences than are usually assumed with regard to the location of V (see Lightfoot and Hornstein 1994).

Summarizing, the binding of indeterminate pronouns by *mo* provides evidence that strict locality is required of Case (feature) checking. The discussion has shown that TP-related adjuncts and arguments (including subjects and nominative objects) must have their features checked in the checking domain of T and that vP-internal arguments and adjuncts (except for nominative objects) need to enter the checking domain of the topmost light verb v for feature checking.

4 LF Incorporation

At this point two issues remain to be discussed. One concerns the status of LF raising of arguments. In the present analysis the entire phrasal category of an argument must be raised into the checking
domain of the relevant head for Case checking. In this regard, however, one might still question whether Case can be checked by raising less than a phrasal category of an argument. The other issue has to do with the rule of su(ru) insertion. In this article I assume that when mo is attached to a verb, the dummy verb su(ru) is inserted to the left of a discontinuous verbal element for morphological reasons. Nevertheless, it might be argued that su(ru) insertion takes place because a verb (with mo) cannot be raised into a higher one in the presence of mo, which blocks head movement.

In Japanese, however, there is evidence supporting the view that LF raising of an argument must involve a phrasal category, as well as the fact that the Q particle mo does not block head movement. In this section I discuss cases that lend empirical support to this view. First, I show that a nonphrasal projection of a constituent to which mo is affixed can be moved to a higher position in LF and that when such a category is moved, mo extends its scope beyond the domain of the head to which it is attached. I then argue that LF movement for the purpose of Case checking must be phrasal, since it does not invoke domain extension. The discussion reveals that Japanese has two types of LF movement, namely, head movement, which invokes domain extension, and full phrasal category movement, which does not.

In Japanese there are at least two types of LF head movement, noun incorporation and adverbial incorporation. Let us first discuss noun incorporation. The general fact here is that when mo is attached to a direct object, it cannot bind an indeterminate pronoun that occurs as an indirect object.

(61) *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.’

This restriction on binding holds generally, but there is a class of nouns that allow exceptional binding when they are used as the direct object of suru ‘do’.

    Taroo-TOP anyone-DAT consultation-Q/question-Q do-NEG-PAST
    ‘Taroo did not consult/question anyone.’

Nouns that permit this type of exceptional binding include happyoo ‘announcement’, kookai ‘disclosure’, teian ‘proposal’, and other verbal nouns with similar properties. What is notable about (62) is that the Q particle mo—construed with the direct object—displays the same behavior as the Q particle mo attached directly to the verb suru.

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

    Taroo-TOP anyone-DAT consultation-do-Q do-NEG-PAST
    ‘Taroo did not consult anyone.’
In (63a) the verbal noun soodan ‘consultation’ stands as a direct object, and in (63b) it forms a complex predicate with the verb suru. Interestingly, just as the Q particle mo can bind the dative argument in (63a) and (63b), so it can bind the dative argument in (62). But in none of these cases can mo bind external arguments.

(64) a. *Dare-ga Hanako-ni soodan-mo si-nakat-ta.
   anyone-NOM Hanako-DAT consultation-Q do-NEG-PAST
   ‘Anyone did not consult Hanako.’

   b. *Dare-ga Hanako-ni soodan-o si-mo si-nakat-ta.
      anyone-NOM Hanako-DAT consultation-ACC do-Q do-NEG-PAST
      ‘Anyone did not consult Hanako.’

   c. *Dare-ga Hanako-ni soodan-si-mo si-nakat-ta.
      anyone-NOM Hanako-DAT consultation-do-Q do-NEG-PAST
      ‘Anyone did not consult Hanako.’

Verbal nouns like soodan pattern alike irrespective of whether they serve as part of a complex predicate or as the direct object of suru; crucially, the Q particle mo can bind internal arguments—but not external arguments—regardless of whether it is attached to the verbal noun serving as a direct object or to the verb suru.

The exceptional binding in (62) can be accounted for if we assume that the verbal noun is incorporated into the semantically light verb suru ‘do’ to form a complex predicate, as in (65). 19

(65)  

19 Since an incorporated noun functions as a complex predicate, I assume that it is not Case-checked as an argument, even though it has overt morphological case marking. I also assume that the semantically light verb suru serving as the host for noun incorporation is merged as V and raises overtly to v, just like other main verbs.
If the verbal noun incorporates into the verb residing in vP, as a consequence of head movement, it follows that *mo, which is attached to N, will extend its scope over vP and be able to bind a vP-internal element (i.e., Max(*mo) = vP). Note that domain expansion by virtue of noun incorporation is limited to vP. This suggests that the complex verb does not raise beyond vP.

This type of noun incorporation occurs in LF. Although the verbal nouns in (62) lack overt case marking in the presence of *mo, they could not incorporate into the verb on the surface, as they allow adjectival modification.

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

The fact that adjectival modification is possible when a verbal noun stands as an independent constituent, but not when it forms part of the predicate, is confirmed in (67).

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

    Taroo-TOP Hanako-DAT much consultation-do-NEG-PAST
    ‘Taroo did not consult Hanako much.’

That the verbal nouns in (62) to which *mo is attached do not constitute part of the predicate in overt syntax is further supported by (68).

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

The unacceptability of (68) can be attributed to the Double-*o Constraint, which prohibits more than one accusative-marked nominal from occurring in a single clause (see, e.g., Shibatani 1977).

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

The sentence in (68) is degraded in a manner similar to (69) (although (68) sounds better, lacking the overt accusative marker). By contrast, (70) is fully acceptable.

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

In (70) the verbal noun benkyoo `study’ forms part of the complex predicate with no case marking, so that the sentence tolerates the presence of the accusative DP suugaku `mathematics’. This fact indicates that when *mo is directly attached to a verbal noun, the verbal noun must be a direct
object, even though there is no overt manifestation of case marking. This in turn suggests that the noun incorporation under consideration must take place at LF.20 (LF incorporation of the verbal nouns in (62) can then be seen as the “covert” counterpart of syntactic incorporation, forming the complex verbs soodan-suru ‘consult’ and situmon-suru ‘question’ (see Kageyama 1982, Miyagawa 1987, 1989a.)

As is often observed in the literature (see, e.g, Baker 1988), a phrasal element does not undergo incorporation, because it involves head movement. This constraint holds for Japanese LF noun incorporation as well, and a verbal noun to be incorporated into the verb suru cannot be phrasal.

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

In (71) the Q particle mo, attached to the verbal noun soodan ‘consultation’, does not extend its scope over vP. This means that the verbal noun must remain intact in its direct object position (with no incorporation), indicating that noun incorporation in Japanese involves movement of a head in LF.21

Japanese has another type of LF incorporation, which involves movement of an adverbial head. First, observe that a Q particle mo attached to an adverbial is generally unable to bind an indeterminate pronoun outside the adverbial constituent in which it occurs.

(72) *Taroo-wa dare-o nessin-ni-mo home-nakat-ta.
Taroo-TOP anyone-ACC enthusiastically-Q admire-NEG-PAST
‘Taroo did not admire anyone enthusiastically.’

20 In this connection, note that several other restrictions are imposed on exceptional indeterminate pronoun binding. First, the direct object of suru ‘do’ does not always allow scopal extension of mo. In (i) the direct object of suru behaves like an ordinary direct object, since it does not permit the scope of mo to extend over vP.

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

The nouns in (i) differ from verbal nouns that allow exceptional binding, in that they cannot form a unitary predicate with suru in overt syntax.

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

Note that the sequence kaigi suru ‘meeting + do’ is permissible only when the case marker is dropped owing to pragmatic factors. Furthermore, even with a verbal noun that does incorporate into the semantically light verb suru, actual incorporation may be precluded when the verbal noun appears as the direct object of a full-fledged verb (i.e., in lieu of suru).

(iii) *John-wa dare-ni soodan-mo motikake-nakat-ta.
John-TOP anyone-DAT consultation-Q bring-NEG-PAST
‘John did not bring anyone a consultation.’

In (iii) mo cannot bind the dative argument, suggesting that the verbal noun soodan ‘consultation’ is not incorporated into the verb in LF. The impossibility of *soodan-motikakeru ‘consultation-bring’ also implies that the verb cannot serve as a host for incorporation of the verbal noun.

21 In this case suru is understood to be a heavy verb, rather than a light verb that accepts noun incorporation. See Miyagawa 1987, Tsujimura 1990, and Kageyama 1982.
In some cases, however, *mo* can successfully bind an indeterminate pronoun outside an adverbial to which it is attached.

    Taroo-TOP anything-ACC questionably-Q think-NEG-PAST/feel-NEG-PAST
    ‘Taroo did not doubt/feel doubt about anything.’

In (73) *mo*, which is combined with an adverbial, is syntactically separate from the verb but can still bind the direct object, in the same way as in (74), where *mo* is accompanied by the verb.

(74) Taroo-wa *nani-o gimon-ni omoi-mo/kanzi-mo* si-nakat-ta.
    Taroo-TOP anything-ACC questionably think-Q/feel-Q  do-NEG-PAST
    ‘Taroo did not doubt/feel doubt about anything.’

In (73) *mo* behaves as if it were associated with the verb. The fact that *mo*, which is attached to the adverbial *gimon-ni*, extends its scope over vP and can bind a vP-internal argument clearly indicates that this adverbial is incorporated into the verb.22 (Verbs allowing adverbial incorporation include *omou* ‘think’ and *kanziru* ‘feel’, and adverbs to be incorporated include *gimon-ni* ‘questionably’, *huan-ni* ‘anxiously’, and *human-ni* ‘unsatisfactorily’.)

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

(75) Taroo-wa *sono-hookoku-o taihen gimon-ni* omot-ta.
    Taroo-TOP that-report-ACC greatly questionably think-PAST
    ‘Taroo considered that report very questionable.’

In (75) the adverbial *taihen* ‘greatly’ does not modify the verb *omou* ‘think’. This is confirmed by the fact that omitting the adverbial results in ungrammaticality.

(76) Taroo-wa *sono-hookoku-o taihen *(gimon-ni)* omot-ta.
    Taroo-TOP that-report-ACC greatly questionably think-PAST
    ‘Taroo considered that report very (questionable).’

The facts of adverbial modification show that the adverbial is an independent element in overt syntax. This analysis gains further support from (77), where adverbials are coordinated.

(77) Taroo-wa *sono-hookoku-o *[gimon-ni katu huan-ni]* omot-ta.
    Taroo-TOP that-report-ACC questionably and fearfully think-PAST
    ‘Taroo considered that report questionable and fearful.’

22 Adverbs susceptible to incorporation are derived from adverbial forms of nominal adjectives. Since incorporation is generally not admitted from an adjunct position, I assume that the verb takes the adverb as a complement.
In general, elements forming part of a predicate resist coordination of this type.23

Taroo-TOP that-person-DAT consultation and question do-PAST
‘Taroo consulted and questioned that person.’

It is now easy to see that adverbials like gimon-ni ‘questionably’ stand as elements independent of the verb in overt syntax. If so, the adverbial incorporation proposed here must occur in LF.

This adverbial incorporation differs in nature from the noun incorporation discussed above. For one thing, the verbs that host incorporated adverbials do not have complex predicate counterparts, as reflected by the impossibility of forms like *huan-omou ‘fear-think’ and *gimon-kanziru ‘question-feel’. Furthermore, while these verbs allow adverbial incorporation, they do not allow noun incorporation.

Taroo-TOP anything-DAT fear-Q feel-NEG-PAST
‘Taroo did not feel any fear.’

Taroo-TOP anything-DAT fear-ACC feel-Q do-NEG-PAST
‘Taroo did not feel any fear.’

The impossibility of mo binding a dative argument in (79a)—unlike in (79b)—indicates that the direct object cannot be incorporated into the verb.

Despite these differences, the adverbials in question behave like verbal nouns incorporated into the semantically light verb suru with regard to indeterminate pronoun binding. First, the Q element mo attached to huan-ni ‘fearfully’ in (80a) can bind a vP-internal element, in the same way as in (80b), where mo is attached to the verb omou ‘think’.24

Taroo-TOP anything-about fearfully-Q think-NEG-PAST
‘Taroo did not feel fear about anything.’

Taroo-TOP anything-about fearfully think-Q do-NEG-PAST
‘Taroo did not feel fear about anything.’

23 Coordination of the complex verbs is possible, however, as in (i).

Taroo-TOP that-person-DAT consultation-do and question-do PAST
‘Taroo consulted and questioned that person.’

24 When huan-ni ‘fearfully’ is modified by another adverbial, however, it is not possible to bind any vP-internal argument.

(i) *Taroo-wa nani-ni-tuite taihen huan-ni-mo omowa-nakat-ta.
Taroo-TOP anything-about very fearfully-Q think-NEG-PAST
‘Taroo did not think about anything very fearfully.’

This is expected if the adverbial incorporation at issue is an instance of head movement. See Baker 1988.
Second, a Q particle *mo next to an adverbial cannot bind an indeterminate pronoun in subject position, just as in the case where *mo is associated with a verb.

\[(81)\] a. *Dare-ga sono-koto-o huan-ni-mo omowa-nakat-ta.
   anyone-NOM that-thing-ACC fearfully-Q think-NEG-PAST
   ‘Anyone did not fear that thing.’

   b. *Dare-ga sono-koto-o huan-ni omoi-mo si-nakat-ta.
   anyone-NOM that-thing-ACC fearfully think-Q do-NEG-PAST
   ‘Anyone did not think that thing.’

This means that the Q particle *mo that is associated with the adverb *huan-ni can extend its scope over vP, on a par with a Q particle *mo attached to the verb. This scope fact follows straightforwardly if the adverb *huan-ni is incorporated into the verb via head movement in LF while the verb remains in v.

The data presented in this section provide evidence that *mo does not block movement of a head to a higher position. As we saw earlier, when *mo intervenes between a verb and its associated bound morphemes, the dummy verb *su(ru) ‘do’ is inserted. Since the head to which *mo attaches can be moved, it is not possible to claim that *mo blocks movement of the verb to a higher position, the result of which requires the insertion of the dummy verb *su(ru). Instead, the facts indicate that verb raising is not affected by *mo and that *su(ru) is inserted morphologically simply because adjacency is interrupted (see Halle and Marantz 1993, Bobaljik 1994).25

In Japanese domain extension occurs with noun or adverb incorporation, where a nonphrasal projection is moved in LF. This effect is absent when LF movement occurs for the purpose of Case checking, however.

   Taroo-TOP anywhere-at book-Q read-NEG-PAST
   ‘Taroo did not read the book anywhere.’

   b. Taroo-wa doko-de hon-o yomi-mo si-nakat-ta.
   Taroo-TOP anywhere-at book-ACC read-Q do-NEG-PAST
   ‘Taroo did not read the book anywhere.’

In (82a) the direct object *hon ‘book’ must be raised into vP (out of VP) in LF for the purpose of Case checking. If Case checking could be executed by raising the nonphrasal projection of an argument to vP, we would expect that *mo in (82a) could bind *doko-de ‘anywhere’—as in (82b)—since the domain of *mo would extend over vP through raising a nonphrasal category to vP. This expectation is not fulfilled, however. The lack of domain extension in (82a) clearly

25 Miyagawa (2001) argues that in Japanese, verbs raise to T, but that verb raising is blocked when they are suffixed with *mo. While Miyagawa assumes that the failure of verb raising to T is caused by the existence of an intervening *mo, the discussion here shows that this assumption, as it stands, cannot be sustained. For other different views on verb movement in Japanese, see, among others, Otani and Whitman 1991, Hasegawa 1988, Terada 1990, Harley 1995, Koizumi 1995, 2000, and Sakai 1998.
indicates that the raising of an argument into the checking domain of a relevant head for the purpose of Case checking must be phrasal and cannot be nonphrasal.

In essence, I have shown that when a head to which mo is affixed is incorporated via head movement in LF, the scope of mo is extended over the category into which it is incorporated. This fact argues for a view in which dummy verbs are inserted for morphological reasons. The scope extension effect is missing in the LF movement of an argument for Case checking, indicating that LF Case-driven movement must involve the raising of an entire phrasal category.

5 Conclusion

In this article I have shown that given the facts of indeterminate pronoun binding, tense-related elements must be located in the checking domain of T and that other elements must appear in the checking domain of the highest light verb v for feature checking to occur. Data pertaining to focus particles, together with data on indeterminate pronoun binding, provide substantial evidence for the view that checking configurations are established in LF. In Japanese, verbs with mo (including causative and passive affixes) do not move into T even in LF. Moreover, there are two types of LF movement, phrasal category movement and head movement. LF movement of arguments for the purpose of Case checking must involve the raising of a phrasal category. The newly attested data in Japanese clearly illustrate that constituents can be reordered after “narrow” syntax and that strict locality is always required for feature checking—contrary to Chomsky’s (2000, 2001) proposal.

References


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