Domain Extension: A Study of Restructuring Predicates in Japanese and the Role of Head Movement

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ABSTRACT

This thesis offers an account of how an opaque domain becomes transparent by making use of head movement. The study covers three types of Japanese predicates that generally show clause-union effects called 'restructuring' where the apparent clause boundary disappears and more than one clause acts as a unit. I argue that whether restructuring is obtained or not depends on whether a verb head of the embedded clause moves to the matrix clause to extend the domain, building on Baker's (1988) and den Dikken's (2007) work.

The three predicates examined are (i) the motion verbs *ik* 'go' and *ku* 'come' in V-*ni*-*ik/ku* 'go/come to do V' forms, (ii) the causative morpheme -*(s)ase*, and (iii) the predicate *mi* 'try' in V-*te*-*mi* 'try Ving' forms. I first show that these predicates exhibit restructuring properties and behave similarly on the surface. I then show that the motion verbs behave differently depending on where they license the object. Focusing on long-distance nominative Case assignment of the object, a restructuring property, I propose that two structures are available for the nominative object under *sase* and *mi*, whereas only one structure is available for the object under the motion verbs. This structural difference is based on scope facts of the nominative object under each predicate. I argue that structural optionality arises when verbal head movement occurs, and that the intervening morpheme *ni* under the motion verbs blocks such head movement, whereas *te* under *mi* and the null morpheme under *sase* do not. I thus show head movement to be crucial in calculating the domain for Case assignment, and as such, to be crucial in determining the domain for scope of the nominative object; a correlation that has not been claimed in the literature.

The thesis consequently supports the idea that head movement is a syntactic operation and not a PF operation by showing that head movement determines a domain that must be calculated for the purpose of syntactic relations. It also reveals whether Japanese employs head movement depends on a type of predicate, more specifically, a type of morpheme that the predicate requires. The study provides an insight into how morphology and syntax interact, and in turn how this affects domain transparency.

ABRÉGÉ

Cette thèse propose d'expliquer comment un domaine opaque devient transparent par le biais du mouvement de tête. L'étude couvre trois types de prédicats en japonais qui démontrent des effets de fusion propositionnelle qu'on appelle 'restructuration', un phénomène où la frontière entre deux propositions disparaît, et plusieurs propositions se comportent alors comme une seule entité. Je fais valoir que l'occurrence de la restructuration dépend de si oui ou non une tête verbale de la proposition enchâssée se déplace vers la proposition supérieure pour élargir le domaine, développant ainsi les travaux de Baker (1988) et de den Dikken (2007).

Les prédicats examinés sont (i) les verbes de mouvement *ik* ‘aller’ et *ku* ‘venir’ dans les formes V-*ni*-*ik*/*ku* ‘aller/venir pour V’, (ii) le morphème causatif *(s)ase*, et (iii) le prédicat *mi* ‘essayer’ dans les formes V-*te*-*mi* ‘essayer de V’. Je démontre s'abord que ces prédicats ont des propriétés de restructuration et se ressemblent à la surface. Je démontre ensuite que les verbes de mouvement se comportent différemment selon l'endroit où ils autorisent l'objet. Examinant l'attribution à longue distance du cas nominatif à l'objet, une des propriétés de la restructuration, je propose que deux structures sont disponibles avec *sase* et *mi*, alors qu'une seule structure l'est avec les verbes de mouvement. Cette différence structurelle découle de la portée de l'objet nominatif sous chaque prédicat. Je fais valoir que l'optionalité se manifeste quand il y a un mouvement de tête, et que le morphème interposé *ni,* sous le verbe de mouvement, bloque ce mouvement de tête, tandis que *te* et le morphème nul sous *sase* ne le font pas. Je démontre ainsi que le mouvement de tête est crucial dans le calcul du domaine de l'attribution du cas, et de ce fait, crucial dans la détermination du domaine de la portée de l'objet nominatif; une corrélation qui n'a pas jamais été affirmée à ce jour.

Cette thèse appuie donc l'idée que le mouvement de tête est une opération syntaxique et pas de la FP, en montrant que le mouvement de tête détermine un domaine calculé pour les relations syntaxiques. Elle révèle aussi que l'emploi du mouvement de tête en japonais dépend d'un type de morphème requis par le prédicat. Cette étude permet de mieux comprendre comment interagissent la morphologie et la syntaxe, et quel effet cela a sur la transparence des domaines.

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Chapter 1 Introduction

1. Opacity from the Barriers Framework to Phase Theory

In this thesis, I will take a closer look at configurations in which two or more domains behave as a single domain; that is, configurations where the transparency effect shows up. The goal is to provide an account for the transparency effect, making use of both syntactic and morpho-phonological arguments. Essentially, the goal is to figure out what constrains possible relationships between a target X and a goal Y in a configuration like the following:

(1) [X…. [Y….]]

In (1) whether Y can move to X, for example, depends on if the boundary between X and Y is transparent or opaque. In this thesis, I will argue that the opaque boundary becomes transparent via head movement of an element from the Y clause to the X clause.

Much work on opaque domains has been done in the last decades, and the definition of an opaque domain has gone through a series of developments. The most notable work on opacity in the Government and Binding (GB) framework is represented by Chomsky's (1986a) notion of Barriers, which determines an opaque domain (i.e. a barrier) contextually as: if a given domain is not lexically governed (i.e. locally c-commanded by a lexical element), then that domain is opaque. Consider the subject/object asymmetry in (2):

(2) a. Who$_1$ did you see [$_{NP}$ a picture of t]
b. *Who did [$_{NP}$ a picture of t] surprise you?

In (2), the extraction of *who* out of an object NP is permitted (2a), whereas the extraction out of a subject NP is not (2b). This is so because the NP in (2a) is lexically governed by the verb *see* and is thus not a barrier, whereas the NP in

(2b) is not lexically governed and is thus a barrier. Hence, moving a wh-phrase across a barrier yields the ungrammaticality in (2b).

Thus, in Barriers, the same XP can be opaque or transparent depending on the context. We will see later in the thesis that the notion of 'relativized' opacity is promoted by Bobaljik & Wurmbrand's (2005) work in the Minimalist Framework, which I will ultimately challenge. Strikingly, they propose that an XP complement of a lexical item induces opacity, whereas an XP governed by a functional element induces transparency, which is completely the opposite of the definition of Barriers.[1] I will question this contextually-defined opacity, and instead argue that an opaque domain is inherently opaque, and that transparency is induced by the syntactic head movement.

Going back to the definition of Barriers, note that there is an unavoidable stipulation in Barriers: that is, IP is not a barrier by itself, even if the node is not lexically governed. In (2a), repeated as (3) below, the IP is not lexically governed because it is governed by C, but it does not constitute an opaque domain and therefore allows movement out of it:

(3) $[_{CP}$ Who$_1$ did $[_{IP}$ you see $[_{NP}$ a picture of t]]]

Thus, the *wh*-movement does not cross a barrier in the above case. This special status of IP is later recalled in Chomsky's (2000 and his subsequent work) work on *phases* in the later Minimalist Framework. In this framework, TP is also given a special status and is thus not an opaque domain. I will discuss phases more in detail in the next section.

Though the notion of locality has gone through a series of developments in the transition period from the GB to the Minimalist framework, the central issue has always been what defines opacity and what 'lifts' it in certain environments. In later Minimalism, the notion of a 'barrierhood' has been somehow revived (Boeckx and Grohman 2005), taking a form called *phases* (Chomsky 2000 and his

[1] As will be discussed later, Bobaljik & Wurmbrand (2005) limit their discussion to clausal complements of a lexical verb, and remain agnostic whether a nominal complement constitutues an opaque domain.

subsequent work). In Chomsky's Phase Theory, an opaque domain called a phase is simply defined as 'propositional,' which includes transitive *v*Ps and CPs but not TPs or unaccusative and passive *v*Ps.[2] While Barriers technically allows any XP to be a barrier depending on whether it is lexically governed or not, Phase Theory simply defines what becomes a phase.

What is crucial to Phase Theory, however, is to reduce the computational burden with a syntactic derivation proceeding in multiple units, or more specifically by phases, which is a significant departure from the Barriers framework where a syntactic derivation is an all-at-once process. Phase Theory thus defines how a derivation proceeds in multiple cycles, and how a syntactic relation can be established across a phase. The primary goal of this thesis is to examine cases that are apparently not well-behaved with respect to the locality under Phase Theory and to seek for an explanation for those exceptional 'non-local' relationships.

Before proceeding to the task, in the following section, I will provide a brief introduction of Chomsky's phase system in the Minimalist Framework and review how locality is constrained in this system.

2. A Brief Overview of Phases

As was briefly introduced in the previous section, Chomsky (2000 and his subsequent work) developed a theory of phases, where derivations proceed in multi-cycles. Each cycle is defined in terms of a syntactic unit called a 'phase,' which, Chomsky assumes are transitive *v*P and CP but not TP or unaccusative/passive *v*P. Under Phase Theory, a given derivation must proceed in a phase-by-phase fashion. For example, in (4), *wh*-movement stops by each phase on its way to the matrix CP:

(4)[$_{CP}$What did Tom [$_{vP}$ say [$_{CP}$ that Mary [$_{vP}$ bought t]]]
|_____|_____|_____|_____|

[2] See Legate (2003) for an argument that unaccusative and passive *v*Ps show phasal properties such as providing a reconstruction site for a quantifier phrase.

Fox (1999) shows that the intermediate position at the edge of *v*P is motivated by 'reconstruction' effects. Consider (5):

(5) a. [Which of the papers that he_1 wrote for the $teacher_2$]
did every $student_1$ __√__ get her_2 __*__ to grade __*__?
b. *[Which of the papers that he_1 wrote for the $teacher_2$]
did she_2 __*__ get every $student_1$ __*__ to grade __*__?

In (5), the moved wh-phrase contains the bound pronoun *he* and the R-expression *the teacher*, which is subject to the Binding Condition C. Thus, while *he* must be bound by *every student*, *the teacher* cannot be bound by *her*. This means that the wh-phrase must 'reconstruct' to a position higher than *her* but lower than *every student*. As can be seen in (5a), the reconstruction site is available between the subject and the object, and thus the sentence is grammatical. On the other hand, in (5b) no such reconstruction site is available, and thus the sentence is ungrammatical.

Interpreted in terms of phases, the data in (5a) shows that the wh-phrase indeed stops by the *v*P phase (via adjunction), and in that position Condition C is not violated, and the bound pronoun is licensed, as shown below:

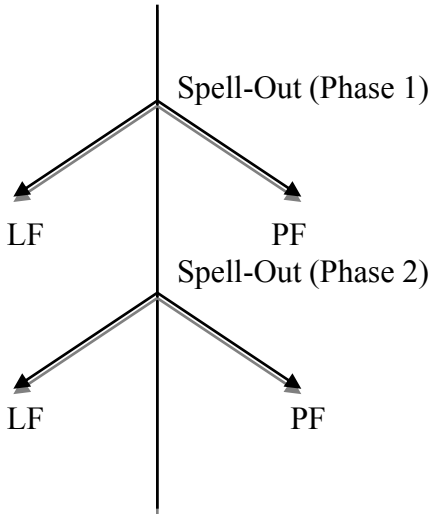
(6) $[_{TP}$ **every student$_1$** $[_{vP}$ [which of the papers that **he$_1$** wrote for **the teacher$_2$**$]_3$
$[_{vP}$ t_1 get **her$_2$** to grade t_3]]]

In Phase Theory, a derivation does not wait until it is fully complete to undergo PF and LF interpretations. Instead, as soon as the derivation reaches each phase, that phase undergoes the operation called *Transfer* (Chomsky 2001a):

(7) TRANSFER hands a narrow syntactic derivation over to phonological (PF) and semantic (LF) component.

On its way to the semantic component, a derivation has its phonological features that are only visible to PF 'stripped away' so that the derivation converges at LF. We call the 'stripping away' of phonological features Spell-Out, assuming the following model of Transfer:

(8)



In this thesis, I assume the standard phase theory, where Transfer occurs simultaneously to both PF and LF (see Marušič 2005 for a different view). This Multiple-Spell-Out model, first proposed by Uriagereka (1999), yields the strict locality effects, which is conditioned by the constraint called Phase Impenetrability Condition (Chomsky 2001b):

(9)*Phase Impenetrability Condition (PIC)*
The domain of H is not accessible to operations outside HP; only H and its edge are accessible to such operations.
(HP a phase with head H, the edge being the residue outside of H', either specifiers (Specs) or elements adjoined to HP)

Under PIC, H and its edge are visible for operations only up to the next phase ZP, but not beyond. Thus in (10), only α and H can be accessible from Z, but not YP:

(10) $[_{ZP}\ Z\ldots[_{HP}\ \alpha\ [H\ YP]]]$

What undergoes spell-out at each phase and what triggers the spell-out has been a central issue in the phase theory. Here, I introduce one view from Chomsky (2001a) and Nissenbaum (2000), where a phase head spells out its complement but not the phase head itself and its edge. Thus, the PIC effect straightforwardly follows from their system since the complement undergoes spell-out and therefore

becomes inaccessible from outside. In (11), at each phase HP (11a) and ZP (11c), the phase head H and Z triggers the spell-out of their underlined complement:

(11) a. $[_{HP}\ \alpha\ [H\ \underline{YP}]]$ At Phase 1: YP undergoes Spell-Out
b. $[_{WP}\ W\ [_{HP}\ \alpha\ [H\ \underline{YP}]]]$
c. $[_{ZP}\ Z\ \underline{[_{WP}\ W\ [_{HP}\ \alpha\ [H\ YP]]]]}$ At Phase 2: WP undergoes Spell-Out

Skinner (2009), on the other hand, proposes an alternative view in which spell-out is triggered by the next higher head from the phase head, and also in which a spell-out domain is not just the complement but the phase head as well. An additional assumption under this model of spell-out is that a 'spell-out trigger', the head that triggers a spell-out, may extract a phase head:

(12) a.	$[_{HP}\ \alpha\ [H\ YP]]$	Phase 1 complete
b.	$[_{WP}\ W\ [_{HP}\ \alpha\ \underline{[H\ YP]}]]$	Merger of W triggers the spell-out of H and YP (H still accessible from W)
c.	$[_{ZP}\ Z\ [_{WP}\ W\ [_{HP}\ \alpha\ [H\ YP]]]]$	Merger of the phase head Z; Phase 2 complete
d.	$[_{XP}\ X\ [_{ZP}\ \underline{Z}\ \underline{[_{WP}\ W\ [_{HP}\ \alpha\ [H\ YP]]]}]]$	Merger of X triggers the spell-out of
e.	$[_{XP}\ X\ [_{ZP}\ Z\ \underline{[_{WP}\ W\ [_{HP}\ \alpha\ [H\ YP]]]}]]$	Z and WP (Z still accessible from X)

The difference between the standard phase theory and Skinner's model is that the former does not spell-out a phase head, whereas Skinner spells out a phase head along with its complement. In both models, the spelled-out head is allowed to continue moving, but they bring about different phonological effects. We will later see that Skinner's model provides a more straightforward explanation for phonological effects observed between a phase head and its complement that are spelled-out together. Under the assumption that a syntactic phase correlates with a phonological phase, Skinner's model allows a phase head and its complement to bring about 'destructive' phonology, where elements that are spelled-out together undergo less structure-preserving phonological processes. Under the standard phase theory, a phase head and its complement are not spelled-out together, and thus there should be a phonological boundary between the head and its complement, which predicts that the head and the complement will undergo rather

structure-preserving phonological processes once they are assigned phonology individually upon spell-out. For this reason, I will adopt Skinner's triggering model of spell-out in this thesis, a detail of which is going to be discussed later.

Under Chomsky's standard phase theory, locality constraints such as PIC have been assumed to hold for both Move and Agree, which are two fundamental operations in the Minimalist Framework. Move is a subcomponent of the operation Merge, which takes two syntactic objects and forms a new syntactic object by combining the two. Move is dependent on Agree under Chomsky's system in that Move occurs as a consequence of Agree. Agree is an operation establishing a relation such as agreement or Case checking between a feature F_1, the *probe*, and another feature F_2, the *goal* in a restricted domain (i.e. a phase). Agree erases uninterpretable features of both the probe and the goal under feature-identity called Matching. Move occurs when Agree by itself is not sufficient for the relation between F_1 and F_2, and when α bearing F_1 requires β's displacement with its feature F_2 to α's specifier. We call such property on the head α an 'EPP' property, which requires α's Spec to be filled by a syntactic element.[3] The domain for Agree and Move has been another central issue in the literature, and while Chomsky maintains the view that PIC applies to both of them in the same domain, Bobaljik & Wurmbrand (2005) assume that they operate in different domains, and that the domain for Agree is more strict than that for Move.[4] I will revisit the issue later in this thesis.

As mentioned earlier, this thesis investigates configurations where two or more domains act as one. In particular, I will examine a configuration where Agree seems to hold between more than two syntactic elements. I will assume that

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[3] EPP (Extended Projection Principle) originates from Chomsky (1981,1982), which states that a clause needs a subject. For example, the predicate *likely* or *seems* only takes one argument, which is a proposition. However, the clause still needs a subject, and thus the expletive *it*, which bears no Θ-role, is inserted to satisfy EPP, as shown below:

(i) a. It is likely that John is at work now.
    b. *Is likely that John is at work now.
(ii) a. It seems that John is at work now.
    b. *Seems that John is at work now.

[4] Bošković (2007) argues that the domain for Agree is more relaxed than that for Move, which is the opposite claim of Bobaljik & Wurmbrand.

such Agree exists, following the work by Hiraiwa (2001). In the following section, I will introduce the standard Agree and Hiraiwa's Multiple Agree system.

3. A Brief Overview of Agree

The operation Agree is the erasure of uninterpretable features of a probe and goal. There is a subcomponent to the operation called Matching, which makes sure that the relevant uninterpretable features on both probe and goal are identical. The features that are marked for deletion under Matching are then subject to Agree. The assumptions for the probe-goal system are as follows:

(13) a. Matching is a feature identity.
b. D(P) is the sister of P (D(P) = the domain of the probe P).
c. Locality reduces to 'closest c-command.'
(Chomsky 2000: 122)

Matching is a relation between a probe and a goal, where the probe with an uninterpretable feature matches the goal with an interpretable feature of the same kind. But not every matching pair is subject to Agree, and the goal must be in the domain of the probe (13b). Moreover, it has to meet the locality condition (13c), which states that when the probe c-commands more than one matching goal, the probe must agree with the most local goal. Consider the following configuration, where β and γ are both matching goals of α that are in α's domain, α c-commands β, and β c-commands γ:

(14) AGREE
α > β > γ

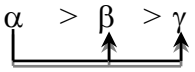
In the configuration above, Agree is established only between α and β due to the locality constraint but not between α and γ, since β is α's closest goal.

Let us consider Case agreement in the probe-goal system. Under Chomsky's probe-goal system, structural Case is taken to be a reflex of uninterpretable ϕ features. For instance, uninterpretable ϕ features of T probe for a matching goal with interpretable ϕ features and an uninterpretable Case feature. In

the probe-goal system, it is assumed that both the probe and the goal need to be 'active', meaning that both need to contain uninterpretable features to implement Agree (Chomsky 2000, Chomsky 2001a,b). Agree thus takes place between the probe and the goal, erasing the uninterpretable ϕ features of T and the uninterpretable Case feature of the goal. Chomsky assumes that 'interpretable features of the probe determine manifestation of structural Case': that is, T (nominative), *v* (accusative), and such. Likewise, manifestation of the probe's ϕ set depends on interpretable ϕ features of the goal. When the probe has an EPP property, the movement of the goal follows, but otherwise, Agree should suffice.[5] The probe-goal system can be seen as the update of the traditional Case-assignment system where verbs agree with nouns, assigning Case. We will come back to Case-agreement later in this thesis and revisit the issue of what feature undergoes Agree for nominative Case assignment.

Note that Chomsky's system of Agree does not allow long-distance Agree in the presence of a closer goal to the probe. However, Hiraiwa (2001) proposes that in fact such Agree is possible, allowing the following configuration:

(15) Multiple AGREE



(AGREE (α, β, γ), where α is a probe and both β and γ are matching goals for α.)

In (15), the probe α finds its closest matching goal β in the usual manner, but this does not trigger an immediate Agree. The probe instead continues to search all its matching goals within an accessible domain (i.e. a phase). At the point where the probe has located all the matching goals, Agree applies to all the matching goals *simultaneously*. Note that the simultaneous Agree could avoid the 'defective

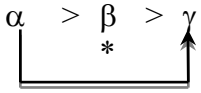
[5] One example that shows that a subject moves to Spec, TP from Spec, *v*P for EPP is given below:

(i) [$_{TP}$ The students$_1$ have [$_{vP}$ [all t$_1$] learned French]].

If floating quantifiers like *all* are base-generated with their modifying element (Sportiche 1998), then in (i) *the students* has moved from Spec, *v*P to Spec, TP for EPP. In other words, *the student* first Agrees with T for its nominative Case and then moves, stranding the quantifier in its original position.

intervention effect' (Chomsky 2000), where β, an 'inactive' matching goal due to the prior Agree with some other probe, would still block the intended Agree between α and γ:

(16) Defective Intervention Effect



Note that Hiraiwa's Multiple Agree is a single instance of syntactic operations that apply derivationally simultaneously. The lack of intervention effect thus follows since at the point that Agree applies, β is not yet inactive, thereby not causing an intervention. I will later adopt Multiple Agree and discuss cases where the operation seems to apply across a phase.

4. A Brief Overview of Distributed Morphology

One of the primary goals of this thesis is to find out how morphology and syntax interact to yield transparency or opacity. I will thus discuss the place of morphology in the grammar and introduce a particular morphological theory developed in the Minimalist Framework.

Up until early Minimalism, morphology has been assumed to be a separate component of the grammar, where words are created prior to syntax. Thus, under this view, verbs and nouns for example are fully inflected before entering the syntax. However, Halle & Marantz (1993) developed a theory called Distributed Morphology (DM), where morphology is 'distributed' through various other grammatical components and therefore does not function as a separate component for word-formation.[6] In DM, there are no 'ready-made' words, and morphemes are seen as feature bundles that contain only grammatical features and lack phonological features. Thus, for example, inflectional elements such as tense or plurality are only specified as [+past] or [+plural] prior to the syntax, and they do

[6] Baker (1985) first placed morphology in the domain of syntax and showed that syntactic derivations are reflected in morphological structures.

not obtain phonological content until they undergo an operation called 'vocabulary insertion', where bundles of grammatical features are assigned phonological form after spell-out. In DM, 'vocabulary' is a list of items consisting of 'contexts for insertion' and 'sounds', as illustrated below:

(17) a. [+past] ↔ -d
b. [+plural] ↔ -z

After spell-out, syntactic terminals containing these grammatical features are assigned phonology according to the vocabulary list like (17). When there is more than one vocabulary item for a specified feature, DM asserts that the vocabulary item that is more 'specified' for contexts for insertion takes priority. For example, nouns such as *sheep* or *ox* will be ensured to yield their plural forms *sheep* and *oxen*, respectively, according to the vocabulary list like (18):

(18) a. [pl] ↔ -en /{√OX, √CHILD...}
b. [pl] ↔ -∅ /{√SHEEP, √MOOSE...}
c. [pl] ↔ -z, -s, -es elsewhere

This notion of vocabulary items will be referred to later and is an important concept to keep in mind. However, to avoid confusion and for simplicity, I will follow the usual notation of syntactic structures where 'words' are already mapped onto the structures for the remainder of this thesis.

Along with the current notion of morphology introduced above, I would like to address the syntax/phonology interaction upon spell-out, which I will assume exists in this thesis. Marantz (2007), Marvin (2002), Piggott & Newell (2008), Samuels (2009) among others argue that the notion of phases in syntax plays an important role in phonology as well. Piggott & Newell (2008), for example, argue that a phase conditions how an otherwise illegitimate phonological representation is salvaged, according to how spell-out proceeds. To take concrete examples, in Ojibwa, a VV sequence is generally not permitted, and thus it can be salvaged by vowel deletion:

(19) *name:-ag → [name:g]
sturgeon-PL
'sturgeons'

However, Piggott & Newell observe that a VV sequence is not always subject to vowel deletion, and vowels in hiatus can sometimes be tolerated:

(20) gi:-a:gamose: [gi:a:gamose:]
PAST-walk.in.snowshoes
's/he walked in snowshoes'

They argue that the two different salvation strategies are attributed to how the VV sequence is evaluated within Phase Theory. They argue that while the VV sequence in (19) falls within the same phase at the time of spell-out (21a), the relevant vowels in (20) are separated by a phase boundary (21b):

(21) a. [name:-ag]
sturgeon-PL
'sturgeons'
b. gi:-[a:gamose]
PAST-walk.in.snowshoes
's/he walked in snowshoes'

They then propose that the vowel hiatus needs to be resolved only within a phase, attributing it to the following condition:[7]

[7] Piggott & Newell point out that there is a case where the hiatus needs to be resolved even across a phase boundary. However, the illegitimate VV sequence is not subject to vowel deletion, and consonant epenthesis is instead used as a salvation strategy:

(i) * [ni-[a:pawe:]] → [ni**d**a:pawe:] C-epenthesis
1S-have.nightmare
'I have nightmares'

Note that the difference between *ni-* in (i) and *gi:-* in (21b) is that the former is monomoraic while the latter is bimoraic. According to Piggott and Newell, the hiatus resolution in (i) is resolved after a post-spell-out operation forces the prefix to combine with the following morpheme. The adjustment is required to avoid stranding the prefix in a position where it cannot be prosodically organized. After the adjustment, the vowel hiatus is reevaluated due to Phase Integrity, and the consonant epenthesis subsequently occurs.

(22) *Phase Integrity* (Piggott and Newell 2008)
Conditions on the well-formedness of prosodic categories are imposed on all elements that emerge within a phase α, if the elements are solely within α.

I will also adopt Piggott and Newell's (2008) model of syntax/phonology interface later in this thesis, assuming that phonological conditions are sensitive to a phase boundary.

5. The Organization of the Thesis

So far, I have laid out the theoretical assumptions that I will adopt in this thesis. In this final section, I will present the goals and the organization of this thesis. As mentioned earlier, the aim of this thesis is to examine cases where unexpected transparency shows up. I will first introduce constructions where the relationship between X and Y only holds in a single clause (23). In other words, a configuration such as (24) where X and Y are separated by a clause-boundary is illegitimate:

(23) [X Y]
|___|

(24) [X Z [Y]]
|_____|
*

We will then see cases where the otherwise illegitimate configuration (24) becomes available in certain environments traditionally called 'restructuring' configurations, where the head W selecting the domain for Y is the right kind:

(25) [X W [Y]]
|_____|

The goal of this thesis is to: 1) examine the properties of the head W; 2) investigate whether all transparency effects are of the same kind; 3) explore what brings about transparency; and lastly, 4) find out what conditions transparency. In the following subsections, I will lay out the organization of this thesis.

5.1 Two Opposing Views on Domain Extension

In Chapter 2, I will provide a literature review of two opposing views on unexpected transparency. I will first introduce one view, represented by Wurmbrand (2001) and Bobaljik & Wurmbrand (2005), that transparency follows from the fact that the domain in the legitimate cross-clausal configuration is smaller than that in the illegitimate case, and as a consequence, the opaque boundary is no longer present, as shown below:

(26) [X W [α Y]]
|_____|

In the above configuration, the node α containing Y represents a domain smaller than a clause. Thus, an otherwise illegitimate relation between X and Y becomes legitimate.

Bobaljik & Wurmbrand add another flavour to the domain of Y, proposing that the head W selecting the domain of Y determines its status for transparency. This means that in addition to size, selection plays a role of transparency. More specifically, they propose that if W is lexical as opposed to functional, it induces an opaque domain, which they call an 'agreement domain.' We will see that under their system, Agree in this configuration between X and Y is impossible, and as a consequence, Y is forced to move to X. In this work, the domain for Agree and Move is not the same.

I will then introduce the other view, which is that transparency is derived from the syntactic operation, head movement. I will take up three previous analyses, Baker (1988), den Dikken (2007), and Kandybowicz (2009), all of whom assume the same domain size of Y both in the illegitimate and the legitimate configuration but utilize head movement to derive transparency across a domain:

(27) [X W [Y]]
↑___↑_____|

I will later argue that the size-based account alone does not explain everything, and the aid of head movement is imperative. I will also reject Bobaljik & Wurmbrand's view of agreement domain triggered by the lexical/functional dichotomy of a domain-selecting head. Moreover, among the head movement approaches, I will also show that Kandybowicz's mechanism is fairly different from Baker's and den Dikken's and ultimately (in Chapter 4) reject his view.

5.2 Domain Discrepancy in Restructuring Predicates

In Chapter 3, I will take up three particular restructuring environments in Japanese, the motion verb *ik/ku* 'go/come' construction, the causative *-(s)ase* construction, and the *mi* 'try doing' construction. I will show that the three predicates behave differently in one particular restructuring environment, the nominative object construction. I will first show that the nominative object construction is where the object is optionally assigned nominative Case when the potential morpheme *-(rar)e* 'can' or the desiderative morpheme *-tai* 'want' appears in the sentence. I will then illustrate that the nominative object takes ambiguous scope relative to *rare/tai* in both the causative *-sase* and *mi* constructions, whereas the motion verbs *ik* and *ku* exhibit the obligatory wide scope of the nominative object:

(28) ambiguous scope with *-sase* and *mi*
[SUBJ [*rare/tai* [***sase/mi*** [V OBJ$_{NOM}$]]]
OBJ$_{NOM}$ > rare/tai
rare/tai > OBJ$_{NOM}$

(29) obligatory wide scope with the motion verbs *ik* and *ku*
[SUBJ [*rare/tai* [***ik/ku*** [V OBJ$_{NOM}$]]]
OBJ$_{NOM}$ > rare/tai
*rare/tai > OBJ$_{NOM}$

Based on this finding, I will argue that none of the previous analyses alone can explain the overall scope facts because they either only allow the obligatory wide scope of the nominative object, or always allow the narrow scope of the

nominative object. I will then propose that a combined analysis that accommodates the scope facts is necessary, assuming that the wide scope of the nominative object is associated with the structure where the object is base-generated above *rare/tai* (Takano 2003), whereas the narrow scope is associated with the structure where the nominative object is base-generated in the canonical object position (Bobaljik & Wurmbrand 2005, Takahashi 2010). I will further propose that -*sase* and *mi* both have the option of yielding both structures, whereas the motion verbs are only associated with the base-generation structure:

(30) Optional Structures with -*sase*/*mi*
a. [SUBJ [OBJNOM [*rare/tai* [***sase/mi*** [V pro]]]]]
(wide scope of Nom Obj)
b. [SUBJ [*rare/tai* [***sase/mi*** [V OBJNOM]]]]
(narrow scope of Nom Obj)

(31) Obligatory Structure with *ik/ku*
a. [SUBJ [OBJNOM [*rare/tai* [***ik/ku*** [V pro]]]
(wide scope of Nom Obj)
b.* [SUBJ [*rare/tai* [***ik/ku*** [V OBJNOM]]]]
(*narrow scope of Nom Obj)

Moreover, I will attempt to clarify the scope issues in general including the reported obligatory narrow scope of the accusative object and address the issue of entailment relationships as an alternative explanation to the scope facts. I will defend the view that semantics reads the scope relationships off of syntactic structures.

5.3 Domain Extension via Head Movement

In Chapter 4, I will argue that the structural optionality proposed in the previous chapter is associated with syntactic head movement of the embedded predicate under each restructuring predicate. I will propose that when head movement is available, the object can be base-generated either in the matrix or in the embedded clause, whereas in the absence of head movement, the object must be base-generated high.

I will first set up three diagnostics for verb movement in Japanese, using elliptical answers, focus particles, and reduplication. I will argue more specifically that elliptical answers utilize VP-ellipsis, contrary to the well-accepted view that Japanese does not employ VP-ellipsis (Hoji 1998; Oku 1998; Goldberg 2005). The argument in turn supports the existence of V movement.

Based on the developed diagnoses for head movement, I will then show that while *sase* and *mi* consistently exhibit head movement of the embedded predicate, the motion verbs *ik* and *ku* do not. The head movement generalization regarding the structural optionality will thus guide us to a new investigation on what allows and blocks such head movement.

I will then focus on morpho-phonological behaviors of the intervening morphemes between the embedded predicate and each restructuring predicate, showing that they behave differently. I will argue that while the intervening morpheme *ni* between the embedded predicate and the motion verbs (i.e. V-***ni***-*ik/ku*) blocks head movement, a null morpheme under -*sase* (i.e. V-ø-*sase*) and -*te* in the V-***te***-*mi* construction do not. Based on this argument, I will propose that the null morpheme for -*sase* and -*te* are the same head with a different phonological realization, whereas *ni* is a different syntactic head from these two morphemes. I will focus especially on the difference between *ni* and *te*, proposing that *ni* is a noun-selecting postpositional head, while *te* is an event head E (Uesaka 1996). I will also illustrate that they show different phonological properties: that is, while the affixation of *te* triggers a variety of phonological effects on the embedded predicate, the affixation of *ni* does not.

I will then propose a mechanism to derive structural optionality utilizing head movement in relation to Case assignment. I will assume that nominative Case is a reflection of an uninterpretable T feature (Pesetsky and Torrego 2001) on the object, and Case is assigned under Multiple Agree (Hiraiwa 2001) between the object and T. I then show that the domain for Agree that is otherwise opaque can be extended via head movement, along the lines of den Dikken's (2007) Phase Extension. I will show that this will allow the nominative object with *-sase* and *mi* to stay in its canonical object position since the head movement extends the domain for Case agreement. However, such head movement is unavailable with the motion verbs, which consequently bans the object from occupying the canonical object position. The proposal thus explains the obligatory wide scope effect in the motion verb construction because the object has to be base-generated in the position higher than *rare/tai* in order for its Case to be licensed. I will thus conclude that morphology plays a crucial role for nominative Case assignment and consequently for scope calculation, which has never been claimed before in the literature.

5.4 Remaining Issues: Noun Incorporation and Two *Ga*s

In Chapter 5, I will address a few remaining issues that have not been covered in the previous chapters. Although the main claim of this thesis is to argue that head movement contributes to extending clausal domains, and that size of the domain does not directly bring about transparency, I will point out that in nominal domains, size does in fact play a role of extending a domain. I will base this conclusion on the observation of noun incorporation in Japanese, where we will see another type of transparency that appears to be parallel to the cases discussed in the previous chapters. We will learn that head movement is not available for the cases examined, which in turn suggests that the size-wise account is instead necessary. I will then suggest that sentential domains and nominal domains are different in nature, and that both types of transparency-triggering mechanisms are necessary.

I will then address another complicating issue: that is, there appears to be two different types of nominative *ga* in the nominative object constructions. I will discuss Matsui's (2009) observation regarding this issue that while *ga* in one case is interpreted as the exhaustive *ga*, it is interpreted as the neutral *ga* in another case (Kuno 1973, Kuroda 1965). While Matsui argues that these two *ga*s should be differentiated, assigning each *ga* a different syntactic position, I will point out that the obligatory wide scope data from the motion verbs do not fall under her structural analysis. I will thus conclude that although Matsui's observation is important and worth exploring, reducing the interpretive difference to different structures is not as straightforward as is argued.

I hope that the study undertaken in this thesis will shed more light on the theoretical status of head movement and on the interaction between syntax and morphology. Its domain-extending nature strongly suggests that head movement is part of syntax, as opposed to the alternative Minimalist view that head movement is a PF operation (Boeckx and Stjepanović 2001; Chomsky 2001b).

The study of intervening morphemes in relation to (im)possible head movement also strengthens the hypothesis that morpho(-phono)logical domains correlate with syntactic domains (Dobler et al. in press; Marvin 2002; Newell 2008; Piggott & Newell 2008; Samuels 2009; Skinner 2009). I thus hope to gain a better insight into how the components of the grammar interact with each other, including the ones that do not seem to have an effect on each other at first glance.

Chapter 2 The Syntax of Domain Extension

1. Introduction

In this chapter, we will review two major views on transparency effects, where there appears to be more than one clause, which nonetheless behaves like one. The first major view appeals to 'sizes' or 'selecting head' of domain for agreement or movement. Under this view, transparency effects derive from the fact that the relevant domain is rather 'small' when compared to other opaque domains. These small domains can sometimes be further divided into transparent and opaque domains, depending on the selecting head of the domain.

The second major view appeals to head movement to derive domain transparency while keeping the size of the relevant domain intact. Under this view, the opaque domain becomes transparent by moving some verb head of the lower domain to the higher domain.

In what follows, I will introduce Wurmbrand's (2001) VP-complementation approach which follows the first view and in which Wurmbrand argues that complements of restructuring predicates are nothing bigger than bare VPs while complements of non-restructuring predicates project at least *v*Ps. I will then discuss Bobaljik and Wurmbrand's (2005) notion of Agreement Domain which demarcates a domain for Agree. Basing their analysis on Wurmbrand's VP-complementation analysis, Bobaljik & Wurmbrand further examine a case where the same VP constitutes an opaque domain for Agree and simultaneously a transparent domain for Move. Under their analysis, the relevant domain is determined 'contextually' in terms of selection. More specifically, a given VP becomes opaque when it is selected by a lexical head, whereas the VP becomes transparent when it is selected by a functional head. To see this effect, we will examine obligatory DP movement for Case and its scope facts in restructuring contexts.

Following this, I will discuss three approaches from the head movement view. I will first review Baker's (1988) Government Transparency Corollary (GTC), which was a pioneering concept for later analyses and which utilizes head

movement for domain extension. I will then discuss den Dikken's (2008) Phase Extension, which could be seen as a Minimalist version of GTC. [1] Lastly, I will introduce Kandybowicz's (2009) analysis based on Edge Feature (Chomsky 2008) activation theory. The central goal of this thesis is to show that the head movement approach provides a tool for understanding domain extension along with the roles of each syntactic head which contributes to domain transparency or opacity.

2. VP-Complementation Approaches

In this section, I will discuss two analyses that are based on the assumption that complements of restructuring predicates are bare VPs lacking functional projections for Case such as *v* or T.[2] We will first see how Wurmbrand's (2001) VP-complementation approach provides a straightforward account of apparent long-distance Case agreement. We will then move on to Bobaljik & Wurmbrand's (2005) analysis, where we will see a mismatch between transparency for agreement and transparency for movement.

2.1 Wurmbrand (2001)

Wurmbrand's (2001) primary focus of the study is what we call 'restructuring phenomena.' Restructuring is a property of two apparent clauses behaving as a single clause. For example, when an infinitival clause is merged with certain

[1] den Dikken in some ways owes his Phase Extension analysis to Chomsky's (1995) notion of 'equidistance' where an opaque domain becomes extended through head movement.

[2] The idea seems to be a reminiscent of the structural difference between control and raising verbs proposed by Chomsky (1986b). He argues that control verbs are subcategorized for S' (CP), whereas raising verbs are subcategorized for S (IP). Thus, while the embedded subject position in control configurations is not governed by the verb (i), the subject position in raising configurations is (ii), thereby satisfying the properties of empty categories (i.e. trace must be governed, whereas PRO must not be governed):

(i) John tried [$_{S'}$[$_{S}$ PRO to win].
(ii) John seems [$_{S}$ t to win].

Therefore, the smaller domain S is transparent for government, whereas S' constitutes an opaque domain.

predicates, the object of the infinitival clause can undergo long-distant passivization or agreement with the matrix Case-assigner, which is not normally possible across a clause. These restructuring properties are subject to cross-linguistic variation and are not limited to those properties.

The restructuring predicates include modal verbs (*must, may, can*), aspectual verbs (*start, begin*), motion verbs (*come, go, return*), causative verbs (*let, make*), and other predicates such as *try*, *forget, manage*, which are again subject to cross-linguistic variation (Wurmbrand 2001). Although Wurmbrand further classifies these restructuring predicates into lexical and functional (implications of this claim will be discussed in both Chapter 3 and 4), I will focus on the syntactic (and semantic) properties shared by restructuring predicates for the present purpose. Wurmbrand states that 'a restructuring infinitive does not involve 'propositional' or 'force' properties such as tense, negation, or complementizers and lacks an embedded structural Case position/assigner'. Among these properties, of particular interest for us is the lack of Case-assignment in an embedded clause and is a central topic in Chapter 3.

2.1.1 German

Let us first consider the following example of 'long passive' from German in which passivization of the matrix predicate affects Case of the embedded object:

(1) a. dass der Traktor zu reparieren versucht wurde
that the tractor-NOM to repair tried was
'that they tried to repair the tractor'
lit. 'that the tractor was tried to repair'

b.*dass der Traktor zu reparieren geplant wurde
that the tractor-NOM to repair plan was
'that they planned to repair the tractor'
lit. 'that the tractor was planned to repair'

Wurmbrand (2001:19, 36)

In (1a), the matrix restructuring verb *try* is passivized, which subsequently cancels the Case-assigning ability of the embedded clause. Note that the embedded predicate *repair* is not passivised, but the object nonetheless obtains nominative

Case and agrees with the matrix auxiliary. Note that, as shown in (1b), this sort of long passive is only possible with restructuring predicates. Therefore, the object embedded under a non-restructuring verb such as *plan* is unable to obtain Case from the matrix clause. The only way to express passive in this case is through an impersonal passive construction such as (2) which does not involve 'long-distance' Case assignment:[3]

(2) dass den Traktor zu reparieren geplant wurde
that the tractor-ACC to repair plan was
'that they planned to repair the tractor'
Wurmbrand (2001:19, 36)

The long-distance nominative Case assignment in (1a) shows the clause union effect in which the infinitival clause is transparent for Case assignment. The clause-union effect disappears when the infinitival clause is selected by a non-restructuring predicate such as *plan*. Thus, the same clause constitutes both a transparent and an opaque domain with respect to the assignment of Case depending on its selecting predicate.

The apparent long-distance Case assignment follows straightforwardly if the embedded clause under a restructuring predicate lacks clausal projections including the Case projection. Assuming that *v*P is responsible for the object Case, Wurmbrand proposes that the embedded clause when selected by a restructuring verb does not contain *v*P. Under this assumption, even the accusative object like in (3) is also assigned Case from the matrix domain: [4]

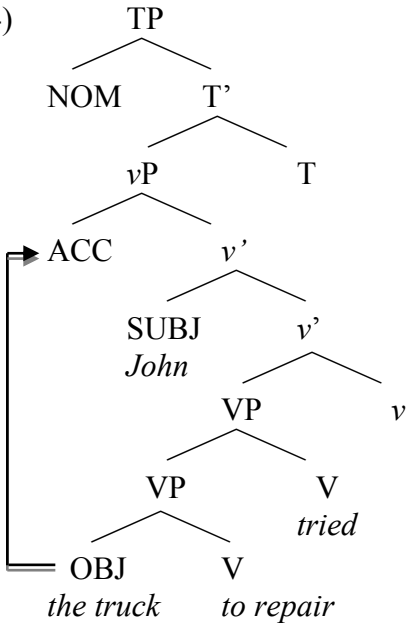
[3] We will see shortly that Wurmbrand argues that long-distance nominative Case assignment is only apparent, and Case assignment is in fact local. I will use the term 'long-distance' only to refer to the phenomenon.

[4] As Wurmbrand also notes, since she assumes that restructuring infinitives do not contain *v*P (nor the clausal projections above), the term 'matrix' or 'embedded' is not used correctly here. However, following Wurmbrand, I will continue to use the term on a purely descriptive level.

(3) weil Hans den Traktor zu reparieren versuchte
since John the tractor-ACC to repair tried
'since John tried to repair the tractor'
Wurmbrand (2001:17)

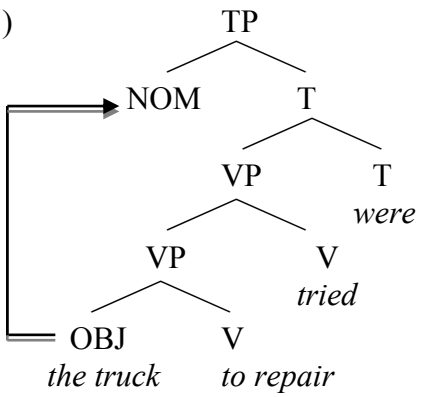
Thus, in (4), while *try* has a *v*, *repair* does not, which forces the object to move to the matrix *v* for Case:

(4)



Going back to the long-passive example in (1a), Wurmbrand claims that when the matrix predicate is passivized, not only does the embedded *v* for *repair* not exist, the matrix *v* also becomes unavailable. Thus, the passivization of *try* affects the Case of the embedded object, and the object must undergo movement to the matrix T domain for Case:

(5)



This shows that nominative Case-assignment on the object is correctly explained under this analysis.

2.1.2 Japanese

Interestingly, another language like Japanese also shows long-distant nominative Case assignment in restructuring contexts. Japanese is a nominative-accusative language, and therefore the default Case morphology on objects is accusative. However, objects also appear with nominative Case under certain predicates that are stative (Kuno 1973). Thus, the object appears in accusative under the non-stative verb *tabe* 'to eat' in (6) but appears in nominative under the stative predicate *deki* 'be capable' in (7):

(6) a. Emi-wa ringo-o tabe-ru.
Emi-TOP apple-ACC eat-PRES
'Emi eats apples'
b.*Emi-wa ringo-ga tabe-ru.
Emi-TOP apple-NOM eat-PRES
'Emi eats apples'
(Wurmbrand 2001: 33)

(7) a.* Emi-wa nihongo-o deki-ru.[5]
Emi-TOP Japanese-ACC be.capable-PRES
'Emi speaks Japanese.'
b. Emi-wa nihongo-ga deki-ru.
Emi-TOP Japanese-NOM be.capable-PRES
'Emi speaks Japanese.'
(Wurmbrand 2001: 34)

Wurmbrand assumes that the Case-assigner for both nominative and accusative on the object is *v*, with the additional assumption that the choice between accusative and nominative is determined by the stativity of the verb (Kuno 1973; Tada 1992), and that *v* assigns nominative only when it is specified for [+stative]. I will later (in Chapter 4) assume that nominative Case is assigned by T (Hiraiwa 2001; Koizumi 1994, 1995; Nomura 2005; Takezawa 1987).

Although objects unambiguously appear as either nominative or accusative when selected by simple predicates, they can also show up optionally as one or the other when the potential morpheme *-(rar)e* 'can' or the desiderative morpheme *-tai* 'want' appears in the sentence. *-(rar)e* and *-tai* are members of a class of stative predicates that assign nominative Case.[6] When they attach to a non-stative verbal stem, the object Case can be dependent on either the higher predicate (8a, 9a) or the lower predicate (8b, 9b):

(8) a. Emi-wa ringo-ga tabe-rare-ru.
Emi-TOP apple-NOM eat-CAN-PRES
'Emi can eat apples.'
b. Emi-wa ringo-o tabe-rare-ru.
Emi-TOP apple-ACC eat-CAN-PRES
'Emi can eat apples.'
(Wurmbrand 2001: 47)

[5] A little caution is in order here in the sentences' translations. The stative predicate *deki* 'be.capable' is a stative predicate, but is best translated as 'speak' in English. Thus, although the verb 'speak' in English can be an eventive verb, it is used as a stative predicate meaning 'can speak.'

[6] *-e* and *-rare* are allomorphs of the potential morpheme. The former attaches to consonant-final verb stems, while the latter attaches to vowel-final verb stems.

(9) a. Emi-wa ringo-ga tabe-ta-i.
Emi-TOP apple-NOM eat-WANT-PRES
'Emi wants to eat apples.'
b. Emi-wa ringo-o tabe-ta-i.
Emi-TOP apple-ACC eat-WANT-PRES
'Emi wants to eat apples.'
(Wurmbrand 2001: 35)

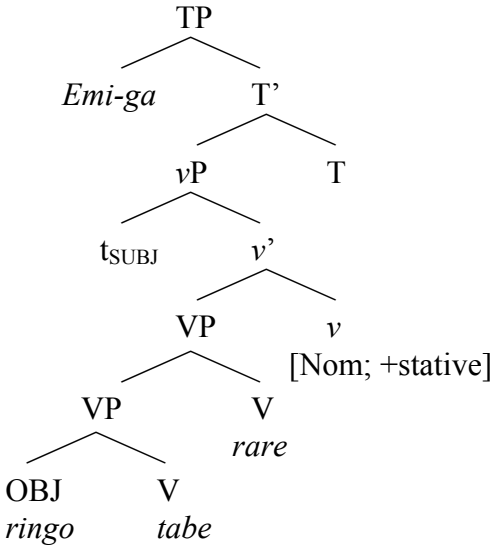
As we have seen in the German long-passive examples, long-distance Case licensing is a characteristic of restructuring, and modals like *-rare* and *-tai* are known as restructuring predicates (Koizumi 1995, Wurmbrand 2001). Both (8a) and (9a) are cases of restructuring, where the object obtains Case from the Case-assigning head (whether the Case-assigning head be *v* or T) in the matrix clause. The nominative Case assignment is explained straightforwardly in Wurmbrand's system under the assumption that there is no Case-assigning head or projection in the embedded clause, and the matrix *v* does not assign accusative Case due to its stative nature.

What appears to be challenging are cases like (8b) and (9b), where the object also appears with accusative Case. If restructuring infinitives lack a Case-projection, objects should not be able to be marked as accusative, contrary to fact. German also exhibits a similar case where the object embedded under a passivized restructuring predicate can appear with accusative Case. So far we have only seen that the object under passivized restructuring verbs can obtain nominative Case. The following example shows that accusative objects are also grammatical, and that agreement between the embedded object and the matrix auxiliary is not possible when the object is accusative:

(10) dass versucht wurde/*wurden
It tried was/*were
[den Traktor und den Lastwagen zu reparieren]
[[the tractor and the truck]-ACC to repair]
'that they tried to repair the tractor and the truck'
lit. 'It was tried to repair the tractor and the truck'
Wurmbrand (2001:38)

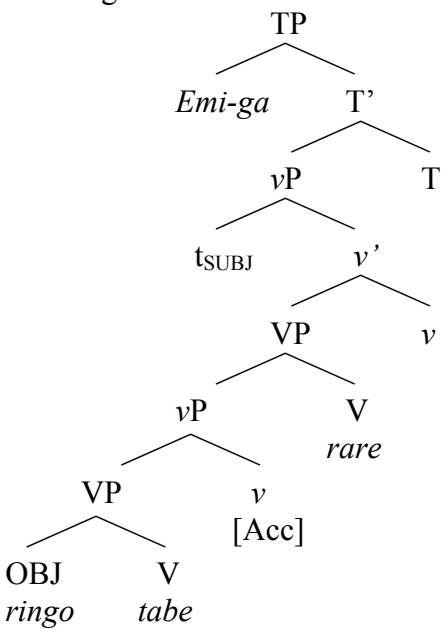
However, Wurmbrand analyzes those examples as instances of non-restructuring, where the embedded clause has its own Case projection.[7] This means that the apparent optionality of accusative Case assignment in Japanese is like that of the German case, and what seems to be optional is restructuring and not the types of Case assigned to the object. Thus, the Japanese examples in (8a) and (8b), for example, are assigned a restructuring and non-restructuring structure, respectively:

(11) Restructuring infinitive



[7] In Chapter 3, I will conclude that the accusative example is ambiguous between restructuring and non-restructuring sentences (Miyagawa 1987a).

(12) Non-restructuring Infinitive



The restructuring infinitive in (11) does not contain *v*P in the embedded clause, and therefore the object agrees with the matrix Case assigner *v*. On the other hand, the non-restructuring infinitive in (12) has its own Case projection in the embedded clause, and therefore, the object is assigned Case from the embedded *v*.

If the above line of the analysis is on the right track, then we should be able to see a different behavior of the object in restructuring and non-restructuring infinitives.[8] Wurmbrand in fact shows that the prediction is correct, pointing out different scope interpretations of the object as shown in the following examples:

[8] As for German restructuring/non-restructuring cases, Wurmbrand (2001) utilizes scramblability of an object under a restructuring context and of non-scramblability under a non-restructuring context to show that the same predicate has two choices as a restructuring and as a non-restructuring predicate.

(13) a. John-ga migime-dake-ga tumur-e-ru[9]
John-NOM right-eye-only-NOM close-can-PRES
'John can close only his right eye'
*can>only; only >can
b. John-ga migime-dake-o tumur-e-ru
John-NOM right-eye-only-ACC close-can-PRES
'John can wink his right eye'
can > only; ??only > can

It has been claimed in the literature (Bobaljik & Wurmbrand 2005; Koizumi 1994; Saito & Hoshi 1998; Sano 1985; Tada 1992; Takano 2003, Ura 1996 among others) that the nominative object in (13a) unambiguously takes wide scope over the stative predicate *-rare*, while the accusative object in (13b) unambiguously takes narrow scope below it.[10] Assuming this scope generalization, Wurmbrand argues that the scope fact is explained straightforwardly, if the scope position correlates with the Case position. In other words, the nominative object must move to the matrix clause to obtain Case and takes wide scope from that position. Meanwhile, the accusative object obtains Case in the embedded clause and takes narrow scope.

Wurmbrand's VP-complementation analysis for restructuring infinitives thus offers a straightforward account for transparency effects, of which we took a closer look at long-distance Case assignment. Indeed, her system provides distinct Case positions for a nominative object and an accusative object, which then correctly predicts scope positions, under the assumption that the scope generalization in (13) holds.

Nomura (2003, 2005), however, points out that the narrow scope interpretation is in fact possible, contrary to what has been claimed in previous literature. Consider the following example:

[9] The potential morpheme *-rare* appears as *-e* because it is attached to the consonant-final verb stem *tumur* 'to close' (see footnote 6 above).
[10] I will shortly disagree with this scope-generalization.

(14) Taro-ga koyubi-dake-ga mage-rare-ru-no-wa sit-te-i-ta-ga
Taro-NOM pinkie-only-NOM bend-CAN-PRES-NL-TOP know-TE-I-PAST-but,
(kare-ga) kusuriyubi-dake-mo mage-rare-ru no-ni-wa odoroi-ta.
(he-NOM) ring finger-only-also bend-CAN-PRES-NL-NI-TOP surprised-PAST
'I have known that Taro can bend only his pinkie, but I was surprised that he can also bend only his ring finger.'

Note that the above example is only grammatical under the narrow scope reading of the nominative object. The fact that the first statement 'Taro can bend only his pinkie' can be followed up by another statement 'but Taro can also bend only his ring finger' clearly contradicts the wide scope reading of the nominative object and forces the narrow scope reading. Nomura argues against the standard scope generalization, showing that the narrow scope of nominative objects is in principle possible, though not salient.

However, I will revisit Nomura's observation in Chapter 3, showing that his scope generalization does not in fact always follow. More specifically, I will show that while the nominative object can generally take ambiguous scope, it sometimes must take wide scope, depending on the matrix predicate.

2.2 Bobaljik & Wurmbrand (2005)

In this section, I introduce Bobaljik & Wurmbrand's (2005) analysis, which attempts to explain the scope patterns of the nominative object. Although Bobaljik & Wurmbrand are aware of Nomura's new scope generalization, they provide an account based on the old scope generalization, where the nominative object necessarily takes scope over the restructuring predicate. We will see that under their analysis, the Case position of the object is fixed depending on the matrix predicate, which then determines the scope position of the object.

2.2.1 Restructuring and Obligatory Wide Scope

Let us consider the following examples from German restructuring constructions: (15a) is an example of long-passive construction, and (15b) is an example of active restructuring:

(15) a. weil alle Fenster zu schlieβen vergessen wurden
since all windows (NOM) to close forgotten were
since they forgot to close all the windows
'lit. since all the windows were forgotten to close'
∀ > forget *forget > ∀
(Bobaljik & Wurmbrand 2005:835)

b. weil er alle Fenster vergessen hat [t_{OBJ} zu schlieβen]
since he all windows (ACC) forgotten has to close
since he forgot to close all the windows
∀ > forget *forget > ∀
(Bobaljik & Wurmbrand 2005:810)

In both examples above, the object is assigned Case from the matrix Case assigner (i.e. T in (15a); *v* in (15b)), and the object obligatorily takes scope over the restructuring predicate 'forget'. Both sentences are only felicitous if 'all windows are such that they/he forgot to close them', and the interpretation that 'they/he closed some but not all windows' is not available. Wurmbrand's (2001) proposal is that restructuring infinitives are bare VPs and therefore lack Case-assigning abilities. Moreover, the scope position correlates with the Case position, and Case is licensed via movement.

Bobaljik & Wurmbrand adopt Wurmbrand's VP-complementation analysis; however, they claim that the obligatory wide scope of the object in (15) should be something unexpected. According to their analysis, in German when an object is embedded under a simple predicate, Agree suffices for Case assignment. If this were the case, we should expect that the object is able to take ambiguous scope since the object can be assigned Case in-situ via Agree. Thus, the obligatory wide scope is rather surprising since it requires obligatory Case-driven movement and exhibits anti-reconstruction effect.

In the following subsection, we will first see that Agree indeed suffices for Case assignment. We will encounter the scenario in which the object inside a VP must obtain nominative Case from the matrix T, but covert movement out of that VP is independently excluded. This in turn forces the object to obtain Case in-situ

via Agree. We will then consider Bobaljik & Wurmbrand's analysis on the obligatory wide scope effect in Section 2.2.3.[11]

2.2.2 Case-licensing via Agree

Let us first consider the following examples:

(16) a. weil mindestens einem Kritiker jeder Film
since at.least one.DAT critic every.NOM film
gefallen sollte
please should
'since at least one critic should like every movie'
∃>∀/?∀>∃

b. weil mindestens einem Kind jede Übung gelungen ist
since at.least one.DAT child every.NOM exercise managed AUX
'since at least one child managed to do every exercise'
∃>∀/?∀>∃
(Bobaljik & Wurmbrand 2005:819)

In both (16a) and (16b) the nominative object occupies the lowest VP position and is allowed to take ambiguous scope relative to the dative object that is structurally higher. Thus the sentence is felicitous under the interpretation that 'for each movie, there is at least one critic who likes it (∀>∃)' or that 'there is at least one critic who likes all the movies (∃>∀).' This shows that the nominative object either takes scope in-situ or undergoes covert movement to take wide scope.

The wide scope option, however, disappears when the VP containing the nominative object is fronted. Consequently, the nominative object takes narrow scope:

[11] However, for the purpose of this thesis, I will confine German data to only introducing Bobaljik & Wurmbrand's analysis and not discuss scope in German.

(17) a.?[Jeder Film gefallen]$_{VP}$ sollte mindestens
every.NOM film please should at.least
einem Kritiker
one.DAT critic
'At least one critic should like every movie.'
∃>∀ *∀>∃

b. ?[Jede Übung gelungen]$_{VP}$ ist mindestens
every.NOM exercise managed AUX at.least
einem Kind
one.DAT child
'At least one child (has) managed to do every exercise.'
∃>∀ *∀>∃
(Bobaljik & Wurmbrand 2005:819-20)

Bobaljik & Wurmbrand report that the result is unsurprising, given the following English equivalent:

(18) a. …and a policeman stood in front of every bank that day ∃>∀ ∀>∃
b. …and [stand in front of every bank] a policeman did that day ∃>∀ *∀>∃
(Bobaljik & Wurmbrand 2005:820)

In (18a) both narrow and wide scope of *every bank* is possible, where the former means that the same policeman stood in front of all the banks, and the latter means that a different policeman stood in front of each bank. However, in (18a) where the VP is fronted, the wide scope reading of *every bank* disappears and the sentence must have the same-policeman reading.

Thus, fronting of VP induces the scope-freezing effect, the loss of inverse scope. Bobaljik & Wurmbrand argue that the fronted VP may (or must) reconstruct, but in its reconstructed position, the VP constitutes an opaque domain. Accordingly, covert movement of the quantifier out of the reconstructed VP is not allowed. Importantly, however, nominative Case on the DP in both (17a) and (17b) is obligatory, which means that the DP is Case-dependent on the matrix predicate. Given that the VP constitutes an island for covert movement, Case must be instead licensed via Agree with the DP staying in situ. Going back to (16), the nominative object is then able to stay in-situ throughout the derivation and obtain Case from T via Agree.

Thus, if Agree is an option for nominative Case assignment, the obligatory wide scope effect seen in the previous subsection is rather surprising. We saw that in certain configurations, the object must move to its Case position in the matrix clause and take scope above the restructuring predicate. If Agree suffices for Case, the object should then be able to stay in-situ and obtain Case via Agree, thereby taking the narrow scope. The fact that the object is somehow forced to move for Case in the obligatory wide scope cases requires further explanation. We will now turn to Bobaljik & Wurmbrand's mechanism to derive different scope behaviors of nominative objects.

2.2.3 Agreement Domain

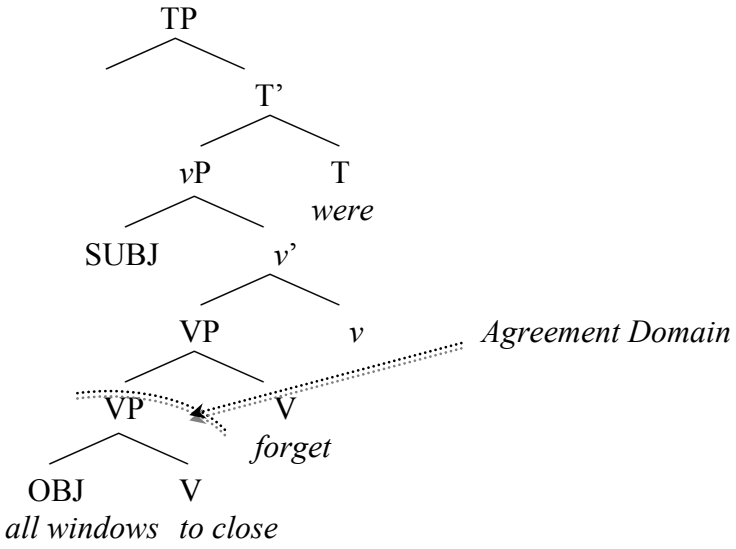
Assuming the VP-complementation analysis, Bobaljik & Wurmbrand propose that depending on what selects a bare VP, that VP can be either transparent or opaque. More specifically, they propose that when VP is the complement of a lexical restructuring verb, that VP constitutes an opaque domain for Agree; otherwise, it does not constitute an opaque domain. Their view on opaque domain is called 'the induced domain generalization' and is summarized below:

(19) *The induced domain generalization* (Bobaljik & Wurmbrand 2005:20)
The (verbal) complement to a lexical verb delineates an agreement domain.

According to (19), the verbal complement of the restructuring predicate *forget* in (20) constitutes an agreement domain, as indicated in (21):

(20) weil alle Fenster zu schließen vergessen wurden
since all windows (NOM) to close forgotten were
since they forgot to close all the windows
∀ > forget *forget > ∀
(Bobaljik & Wurmbrand 2005:823)

(21)



Note that in the above structure, the VP complement '(to) close all the windows' is a verbal complement of a lexical restructuring verb 'forget', by which the VP is marked as agreement domain. This is why Case-agreement between the Case-assigning head T and the object is not permitted in (20), and why the object must move outside of the lower VP to obtain Case at Spec TP in a spec-head configuration. Assuming that Case licensing is evaluated at LF, Bobaljik & Wurmbrand argue that the object cannot undergo reconstruction and must stay in its Case-position.

Notice that under their system, the domain for agreement and domain for movement do not coincide. This is so because if they did coincide, then the object would not be able to move to obtain Case, given that the VP complement is an opaque domain for Agree. Note also that under their system, Move is not dependent on Agree but rather is an independent operation, contra Chomsky (2000, 2001a,b). Thus, Move only occurs when Agree fails to apply: that is, the object undergoes movement to its Case position when Case cannot be assigned via Agree.

It is not the case that obligatory wide scope always occurs in restructuring constructions. As opposed to the lexical predicate *forget*, functional predicates such as modals do not induce agreement domain. In fact, the VP-complement of

the modal *must* in (22) does not induce an agreement domain, and the embedded object is able to take narrow scope and agree with the modal:

(22) weil vor der Habilitation ein Buch publiziert werden
since before the promotion a book published become
muss / *müssen
must.3SG/ *must.3PL
since one book must be published before promotion
i. It is necessary to publish one book before promotion.
ii. There is a (specific) book and it must be published before promotion.
(Bobaljik & Wurmbrand 2005:832)

The example thus contrasts sharply with the example involving the lexical restructuring predicate *forget*.

Summarizing this section, we have seen that under Bobaljik & Wurmbrand's analysis, domain opacity varies depending on what selects the domain (i.e. lexical vs. functional) and also on the syntactic operation (i.e. Move vs. Agree). We have also seen that Case-licensing needs to be evaluated at LF for the obligatory wide scope.[12]

In the next chapter, we will revisit Bobaljik & Wurmbrand's analysis, verifying their assumptions based on a case study from Japanese restructuring configurations. In particular, I will show that the lexical/functional split for opacity-inducing triggers does not always hold in Japanese.

[12] However, one thing that remains unclear about their system is that, even with the LF condition of Case-licensing, it is not clear why interpreting the lower copy/trace of the object left by movement is impossible. In other words, it is not clear why 'reconstruction' is impossible. Even if the moved object needs to stay in its Case-position at LF, it should be in principle able to interpret the lower copy for scope matters. For example, in (i) the lower copy of the indefinite DP can be interpreted low:

(i) Someone from NY is likely to t win the lottery.
someone > likely; likely > someone
a. It is likely that there will be someone from New York who wins the lottery.
b. There is someone from New York who is likely to win the lottery.
Fox & Nissenbaum (2004:475)

Moreover, if Case-licensing is evaluated at LF, it remains unanswered why there is ever a PF reflex of Case (Miyagawa p.c.).

3. Head-Movement Approaches

In the previous section, I introduced the size/selection-based account of domain transparency, taking up Wurmbrand's (2001) and Bobaljik & Wurmbrand's (2005) analyses. In this section, I will discuss three different approaches that utilize head movement to capture domain transparency. I will first review Baker's (1988) Government Transparency Corollary (GTC), where head movement out of an opaque domain (i.e. across Barrier) renders the domain transparent. I will then introduce den Dikken's (2007) Phase Extension, where head movement of a phase head extends the phasehood up to the next phrase. In both analyses, head movement renders an otherwise opaque domain transparent for syntactic operations such as agreement or movement. Lastly, I will discuss a slightly different view on the role of head movement put forth by Kandybowicz's (2009), which 'deactivates' an opaque domain by moving a head to a phase head, as opposed to 'extending' domain as seen in Baker and den Dikken's analyses.

3.1 Baker (1988)

Baker (1988), within the Government and Binding framework, presents a unified account for the fact that 'grammatical functions (GF) appear to change in incorporation structures'. Analyzing incorporation as an instance of head movement, Baker proposes that head movement changes a government relationship by extending the domain of government (i.e. by obviating a Barrier). We will see cases of the GF changing phenomena, where an originally non-object receives a canonical object status. The effect is then analyzed as a consequence of 'extended' domain for government via head movement, which follows from a corollary called Government Transparency Corollary (GTC).

3.1.1 Incorporation

Consider first Noun Incorporation in Mohawk below:

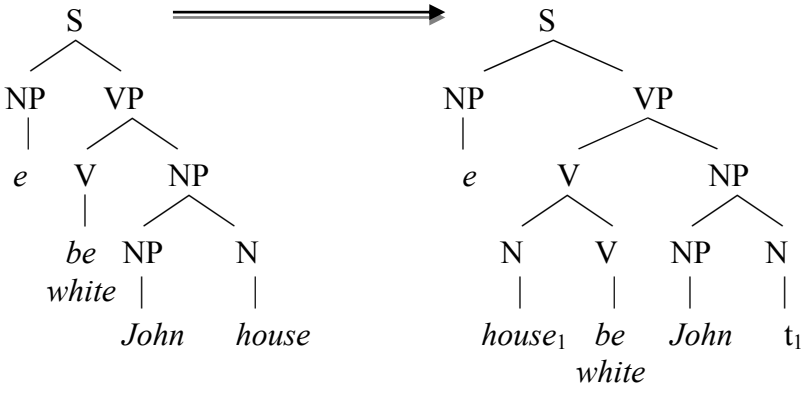
(23) Noun Incorporation:

a. Ka-rakv ne [sawatis hrao-**nuhs**-aʔ].
3N-white DET John 3M-**house-**SUF
'John's house is white'

b. Hrao-**nuhs**-rakv ne [sawatis t]
3M-**house**-white DET John
'John's house is white'
(Baker 1988: 65)

In (23a) the root *rakv* 'be white' and *-nuhs* 'house' are an independent verb and a noun, respectively, whereas in (23b) the two morphemes are merged together and form a complex predicate. Note that the verb in (23a) shows neuter agreement, matching its thematic object *-nuhs-*. In (23b) however, the verb shows masculine agreement, matching the possessor noun *sawatis*. In other words, the possessor somehow has obtained the status of an object of the verb. Baker attempts to correlate this GF changing process with the syntactic operation of noun-incorporation (NI), where the noun incorporates into the verb, assuming the following structures:

(24)



The GF changing phenomenon is not restricted to NI and is also observed in causative constructions. Consider the following examples from Chichewa:

(25) a. Mtsuko u-na-gw-a
waterpot SP-PAST-fall-ASP
'The waterpot fell'

b. Mitsikana a-na-u-gw-ets-a mtsuko
girl SP-PAST-OP-fall-CAUS-ASP waterpot
'The girl made the waterpot fall.'
(Baker 1988:10-11)

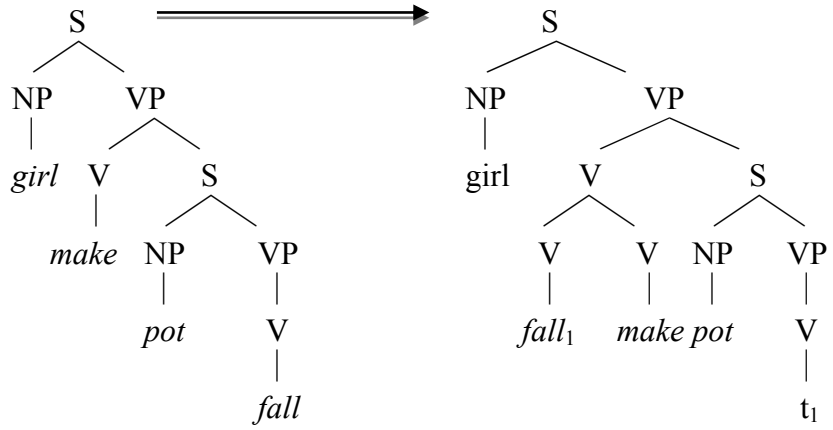
In the examples above, it is the *waterpot* that falls on the ground; however, the grammatical function of the same noun is different. While *mtsuko* 'waterpot' is the subject in (25a), triggering subject agreement on the verb, in (25b) the same noun is the object, triggering object agreement. Thus, causativization introduces another argument as a subject, which consequently changes GF of the original subject into an object.

Baker attempts to unify the GF changing phenomena all together as an instance of incorporation. As shown below, causatives in Chichewa have paraphrases:

(26) a. Mtsikana a-na-chit-**its**-a kuti mtsuko u-**gw**-e
girl SP-PAST-do-CAUSE-ASP that waterpot AGR-fall-ASP
'The girl made the waterpot fall'
b. Mtsikana a-na-**gw**-**ets**-a mtsuko
girl SP-PAST-fall-CAUSE-ASP waterpot
'The girl made the waterpot fall.'
(Baker 1988:148)

In (26a) the causative *-its-* and the verb *-gw-* 'fall' are independent from each other, whereas in (26b) the verb is merged with the causative. Baker assumes that (26b) is derived from (26a) by moving the *gw* 'fall', providing the following structures:

(27)



Verb Incorporation analysis of morphological causatives are thus somewhat parallel to English raising constructions like (28), where the raising verb *seem* appears in two different configurations:

(28) a. It seems that Sara adores Brussels sprouts.
b. Sara seems to adore Brussels sprouts.
(Baker 1988:150)

As in the causative configuration, these two sentences share the same argument structure and the same arguments obtain Θ-roles from the same predicates, and the raising verb consistently takes a propositional complement (Chomsky 1981). Thus, both of the embedded subjects in (28a) and (28b) obtain the external Θ-role from the embedded predicate *adore* in their underlying structures:

(29) [$_S$ *e* Infl seem [$_S$ Sara Infl adore Brussels sprouts]]

In (29), the embedded subject in (28a) stays in-situ, and the expletive is inserted in the matrix subject position, whereas the subject moves to the matrix clause in (28b).

The causative paraphrases in (26) are thus parallel to the raising construction in that the causative morpheme appears in two different configurations while sharing the same argument structure: that is, the causative -*its*- takes a propositional complement and an agentive external argument:

(30) [$_S$ girl Infl *its* [$_S$ waterpot Infl fall]]

Unlike other morphological independent verbs, -*its*- is an affix and needs to find a host verb to attach to. This can be done in two ways: either the 'pleonastic' verb like *do* is inserted (31a), or the embedded verb moves to *its* (31b):

(31) a. [$_S$ girl Infl do + *its* [$_S$ waterpot Infl fall]]
b. [$_S$ girl Infl fall$_1$ +*its* [$_S$ waterpot Infl t$_1$]]

Thus, (31) yields (26a), whereas (31b) yields (26b), repeated below as (32a) and (32b), respectively:

(32)=(26) a. Mtsikana a-na-chit-**its**-a kuti mtsuko u-**gw**-e
girl SP-PAST-do-CAUSE-ASP that waterpot AGR-fall-ASP
'The girl made the waterpot fall'
b. Mtsikana a-na-**gw**-**ets**-a mtsuko
girl SP-PAST-fall-CAUSE-ASP waterpot
'The girl made the waterpot fall.'

Given that causatives are an instance of V incorporation, GF changing is accounted for together with NI under the same notion of incorporation.

3.1.2 Applicatives

The correlation between incorporation and GF changing can be extended to applicative constructions as well. An example of an applicative construction from Chichewa is given below:

(33) a. Mbidzi zi-na-**perek**-a msampha **kwa** nkhandwe
zebras SP-PAST-**hand**-ASP trap **to** fox
'The zebras handed the trap to the fox.'

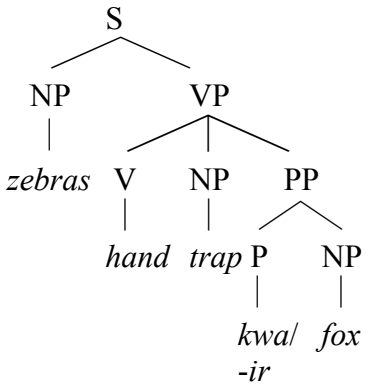
b. Mbidzi zi-na-**perek-er**-a nkhandwe msampha
zebras SP-PAST-**hand-to**-ASP fox trap
'The zebras handed the fox the trap'
(Baker 1988:229)

In (33a) the verb *perek* 'hand' takes a PP as its complement, and thus the noun *nkhandwe* 'fox' appears as an object of the preposition *kwa* 'to'. In (33b), on the other hand, the noun directly appears post-verbally as the verb's object without an accompanying preposition: instead, the verb is morphologically complex, with what is traditionally called the 'applicative' suffix attached to it. Despite the surface difference of the sentences, the nominal in both sentences receives the same thematic role (i.e. goal).

Assuming the Uniformity of Theta Assignment Hypothesis (34), Baker states that (33a) and (33b) should have the same underling structure as in (35):

(34) *The Uniformity of Theta Assignment Hypothesis (UTAH)* (Baker 1988:46)
Identical thematic relationships between items are represented by identical structural relationships between those items at the level of D-structure.

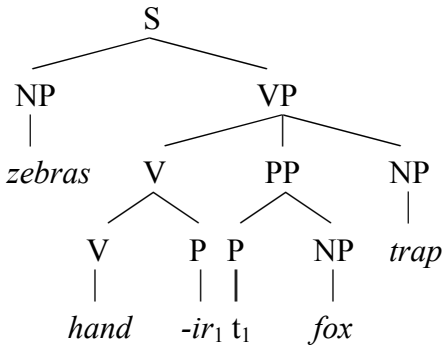
(35)



Baker assumes that in the structure above, either the preposition *kwa* or the applicative suffix *-ir* can assign the goal-thematic-role to the noun. Although nothing happens when *kwa* fulfills that role, *-ir*, due to its affixal nature, needs to move to the verb root:[13]

[13] See Marantz (1993), Pylkkänen (2002) for more recent approaches to applicatives.

(36)



Thus, parallel to NI and causatives, applicative constructions are analyzed as an instance of incorporation: more precisely, Preposition Incorporation (PI).[14]

The 'applied' object, which is the object left behind by PI, in fact shows properties of a canonical object. First, consider the examples of direct objects from Chichewa. Direct objects in Chichewa usually appear immediately after the verb (37a), and they may optionally agree with the verb (37b):

(37) a. Mikango yanu i-na-thamangits-a **mbuzi zathu**
lions your SP-PAST-chase-ASP **goats our**
'Your lions chased out goats.'
b. Mikango yanu i-na-**zi**-thamangits-a **mbuzi zathu**
lions your SP-PAST-**OP**-chase-ASP **goats our**
'Your lions chased our goats.'
(Baker 1988:247)

However, in a benefactive applicative construction, the applied object shows these properties instead: it appears immediately after the verb (38a), and optionally triggers object agreement (38b). When it triggers object agreement, the applied

[14] Note that there is no morphological resemblance between the preposition and the applicative affix (i.e. "incorporee"), unlike other cases of incorporation. Baker states that this simply reflects the fact that the prepositional incorporee here is an affix, rather than a full root. Because of this, it additionally bears a morphological subcategorization feature (e.g. it needs to be bound to a verb) and no longer has the option to stand on its own as a root.

object can be null (38c):[15]

(38) a. Amayi a-ku-umb-ir-a mwana mtsuko (??mtsuko mwana)
woman SP-PRES-mold-for-ASP child waterpot waterpot child
'The woman is molding the waterpot for the child.'
b. Amayi a-ku-**mu**-umb-ir-a mtsuko **mwana**
woman SP-PRES-**OP**-mold-for-ASP waterpot child
'The woman is molding the waterpot for the child.'
c. Amayi a-ku-**mu**-umb-ir-a mtsuko
woman SP-PRES-**OP**-mold-for-ASP waterpot
'The woman is molding the waterpot for him.'
(Baker 1988:247)

In the presence of an applied object, the direct object cannot do the same:

(39) a.*Amayi a-na-**u**-umb-ir-a mwana **mtsuko**
woman SP-PRES-**OP**-mold-for-ASP child waterpot
'The woman is molding the waterpot for the child.'
b.*Amayi a-ku-**u**-umb-ir-a mwana
woman SP-PRES-**OP**-mold-for-ASP child
'The woman is molding it for the child.'
(Baker 1988:247)

Furthermore, the benefactive applied object undergoes passivization, another instance of a direct object property:

(40) a. Kalulu a-na-gul-ir-a mbidzi nsapato.
hare SP-PAST-buy-for-ASP zebras shoes
'The hare brought shoes for the zebras.'
b. Mbidzi zi-na-gul-ir-idw-a nsapato (ndi kalulu).
zebras SP-PAST-buy-for-PASS-ASP shoes by hare
'The zebras were bought shoes by the hare.'
(Baker 1988:248)

Again, the direct object loses its ability to undergo passivization:

[15] Surprisingly, the preferred word order is reversed and the benefactive object does not appear right after the verb when it triggers the object agreement. Baker (1988) in his footnote mentions Mchombo (1986) who argues that Chichewa object prefixes are not true object agreement but are clitics, but Baker ignores the mater in his discussion for the sake of simplicity.

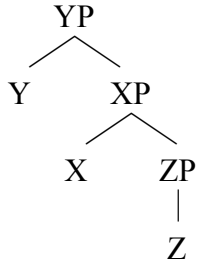
(41) *Nsapato zi-na-gul-ir-idw-a mbidzi (ndi kalulu)
shoes SP-PAST-buy-for-PASS-ASP zebras by hare
'Shoes were bought for the zebras by the hare.'
(Baker 1988:248)

Putting all the observations together, Baker identified the GF changing phenomena with the syntactic process of incorporation: that is, in incorporation structures, a non-object becomes an object in all NI, VI, and PI configurations that we have looked at. But what does incorporation do to bring about the promotion-to-an-object effect? We will look at the mechanism in the following subsection.

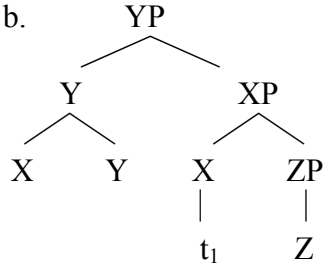
3.1.3 Government Transparency Corollary

Baker argues that incorporation alters a government relationship, and consequently renders an opaque domain transparent. Consider the following pre-incorporation and post-incorporation configurations:

(42) a.



b.



Baker argues that in (42a) XP is an opaque domain (i.e. barrier) for Y to reach ZP, whereas in (42b) it becomes transparent.[16] The domain transparency in an

[16] Barrier (Baker 1988:56): Let D be the smallest maximal projection containing A. Then C is a BARRIER between A and B if and only if C is a maximal projection that contains B and excludes A, and either:
(i) C is not selected, or
(ii) The head of C is distinct from the head of D and selects some WP equal to or containing B.
(iii) X is **distinct** from Y only if no part of Y is a member of a (movement) chain containing X.
(i) represents the fact that if B is contained in an adjunct, then A is not able to govern B because these two are not 'theta-connected'. (ii) represents the Minimality Condition,

incorporation structure such as (42b) follows from what Baker proposes as the *Government Transparency Corollary (GTC)*:

(43) *The Government Transparency Corollary* (GTC; Baker 1988: 64)
A lexical category which has an item incorporated into it governs everything which the incorporated item governed in its original structural position.[17]

The effect of (43) is that head movement extends domain for government. Let us consider the noun incorporation examples from the previous section repeated below:

(44) a. Ka-rakv ne [sawatis hrao-**nuhs**-aʔ].
3N-white DET John 3M-**house-**SUF
'John's house is white'
b. Hrao-**nuhs**-rakv ne [sawatis t]
3M-**house**-white DET John
'John's house is white'
(Baker 1988: 65)

In the examples above, the unincorporated (44a) has (42a) as its structure, whereas (44b) has (42b) as its structure, where the verb *-rakv* 'white' is Y, the noun *-nuhs-* 'house' is X, and the NP *sawatis* 'John' is ZP.[18] As we have seen above, in the unincorporated sentence (44a) the verb shows neuter agreement, whereas the verb in the incorporated sentence (44b) shows masculine agreement, agreeing with the possessor 'John'. Assuming that a verb can only establish an agreement relationship with an NP that it governs, Baker claims that GTC accounts for the agreement shift. In (44a) the verb does not govern the possessor, and thus no agreement holds between the two, whereas in (44b) the head movement of N alters the government relationship making the verb agree with the

---

where if B is contained in a category with an intervening theta-role assigner, again, A is not able to govern B since A and B are not *directly* theta-connected to each other. Thus, under Baker's definition, A governs B iff it is 'directly theta-connected to B.'

[17] A governs B iff A c-commands B and there is no category C such that C is a barrier between A and B.

[18] See (24) in Section 3.1.1. for the structures.

possessor.

Thus, Baker's analysis explains the GF changing phenomena in a principled manner by appealing to domain transparency derived by head movement. GTC allows a non-object element to receive canonical properties of an object by rendering an otherwise opaque domain transparent. However, the domain for Baker is a Barrier, which hinges on the notion of government. As seen in Chapter 1, with the framework transition from GB to Minimalism, Barriers no longer play a role for locality, and phases take their place. In the following section, we will see den Dikken's (2007) analysis, which can be seen as a reformulation of GTC in a phase-based theory.

3.2 den Dikken (2007)

Using the notion of phase, den Dikken (2007) makes a connection between head movement and domain expansion within the Minimalist framework. While head movement extends the domain for government in Baker's GTC, it extends phasehood in den Dikken's system. In this section, we will see the mechanism of phase-extending head movement, which den Dikken calls Phase Extension. We will also see another transparency-inducing head movement and discuss different consequences that each operation brings about.

3.2.1 Phase Extension

den Dikken proposes that the domain of a given phase is extended up to the next node dominating that phase by moving the head of the phase to the head above. The notion of this domain expansion is called Phase Extension:

(45) *Phase Extension*

> Syntactic movement of the head H of a phase α up to the head X of the node β dominating α extends the phase up from α to β; α loses its phasehood in the process, and any constituent on the edge of α ends up in the domain of the derived phase β as a result of Phase Extension.
>
> (den Dikken 2007:1)

For den Dikken, an inherent phase consists of a predication structure (i.e. a

subject and its predicate), and a derived phase is a result of phase extension moving the head of a phase (represented by the Φ symbol below) to the head above X, as schematized below:

(46) $[_{XP}$ X+Y $[_{YP}$ t_Y ZP]]
Φ ← Φ

Note that Phase Extension differs from GTC in that the former does not just make an opaque domain transparent, but it makes the domain above it opaque. Hence, while XP in (46) might not be a phase originally, it becomes one through this process. Bearing this in mind, let us first look at 'Copular Inversion' examples below:

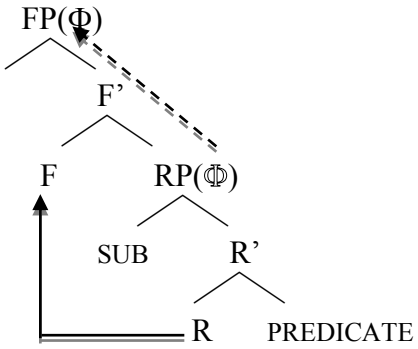
(47) a. this book is the #1 best-seller in the country
b. the #1 best-seller in the country is this book

In (47a) *this book* is the small clause subject of the nominal predicate *the #1 best-seller in the country*. den Dikken argues that (47a) is derived by moving *this book* to the subject position, whereas (47b) is derived by raising the predicate to the subject position, assuming the following structures:

(48) a. $[_{FP}$ $SUBJECT_1$ $[F$ $[_{RP}$ t_1 [RELATOR [PREDICATE]]] = (47a)
b. $[_{FP}$ $PREDICATE_1$ $[F$ $[_{RP}$ SUBJECT [RELATOR t_1]]]] = (47b)

In both (48a) and (48b), RELATOR is an abstract functional head, which mediates the relationship between a predicate and its subject. The RP is a small clause, which for den Dikken is a phase, which is further embedded under some functional phrase FP. In order for the predicate to move to the subject position (FP Spec in the above structure), the probe F needs to see the predicate trapped inside the RP phase. Due to Phase Extension in (49), movement of the phase head RELATOR to the head F extends its phase up to FP:

(49)



Due to the extended phase, the predicate is no longer trapped inside the RP phase, and becomes visible from F, allowing predicate inversion. Moreover, the subject and the predicate become equidistant from the Spec of FP due to the R-to-F movement, hence no minimality violation.[19]

The consequence of this head movement is that the subject is no longer at the edge position of the inherent phase. Thus, extraction of the subject (i.e. *this book*) in a predicate inversion sentence is not permitted:[20]

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[19] den Dikken's notion of 'closeness' is given below:

(i) In the configuration [$_{KP}$ ZP [K…[YP…XP]]], with K seeking to attract something to its specifier (ZP): YP is closer to K than XP unless YP is in the same minimal domain as (a) ZP or (b) XP.

(den Dikken 2007:5)

The predicate and the object are in the same minimal domain, where the minimal domain of the chain (α, t) includes the maximal projection of the raised head:

(ii) the minimal domain δ_{MIN}(CH) of a chain resulting from head adjunction of α to β is $\delta_{MIN}(\alpha) \cup \delta_{MIN}(\beta)$.

(den Dikken 2007:6)

den Dikken notes that his definition of closeness is a minimally adopted version of Chomsky's (1995) notion of Equidistance:

(i) γ and β are equidistant from α if γ and β are in the same minimal domain.

(Chomsky 1995:356)

Chomsky's minimal domain is defined as follows:

(ii) For any set S of categories, let us take Min (S) (minimal S) to be the smallest subset K of S such that for any $\gamma \in$ S, some $\beta \in$ K reflexively dominates γ.

(Chomsky 1995:178)

[20] In order to prevent the subject from escaping to the edge of FP prior to the head movement, den Dikken assumes the following restriction on adjunction:

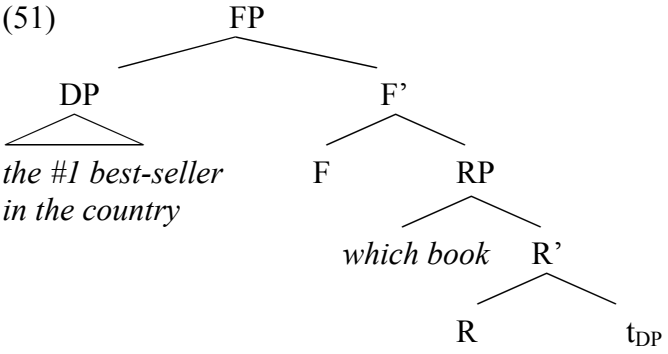
(i) Adjunction to meaningless categories is disallowed.

(den Dikken 2007:9)

FP, being the meaningless projection of a functional element, is thus not available as an adjunction site.

(50) a. I think that the #1 best-seller in the country is this book
b. *Which book do you think that the #1 best-seller in the country is *t*?
(den Dikken 2007:8)

(51)



In this manner, the Phase Extension analysis successfully allows predicate inversion while at the same time disallows extraction of the subject in the inverted copular sentence.

3.2.2 Phase Extension and Predicate Incorporation

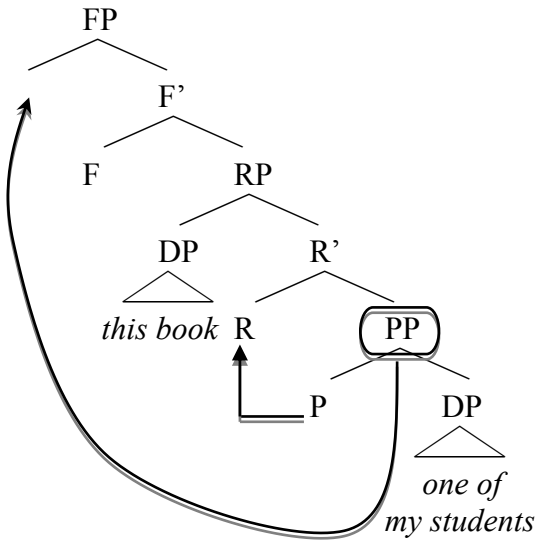
Next, consider the 'dative inversion' examples below:

(52) a. I gave this book to one of my students
b. I gave one of my students this book

den Dikken assumes that (52b) is derived from (52a) by moving the dative PP above the base position of the direct object, converting the dative construction into the double object construction. Both constructions are also assumed to involve small clause structures, whose head is a RELATOR. However, den Dikken additionally assumes that 'the raised predicate in dative inversion constructions is somehow 'poorer' than its in-situ counterpart in the prepositional dative construction'. He attributes the 'poorness' of the raised predicate to the fact that no dative preposition appears in the double object construction, contrary to the dative construction, in which an overt preposition surfaces. den Dikken assumes, however, that a null P exists even in the double object construction, and that this P

is subject to incorporation for 'morphological licensing':[21]

(53)

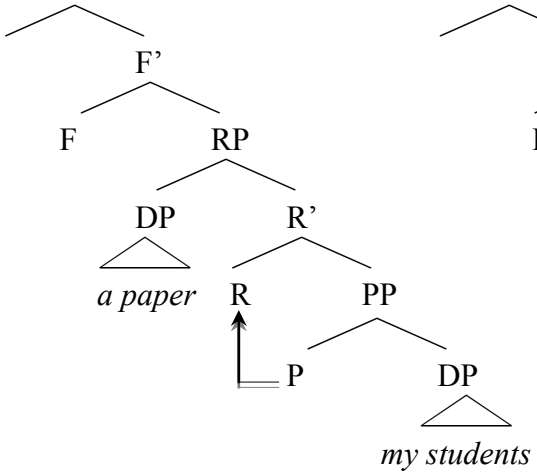


den Dikken further assumes that the P incorporation requirement can only be met when R is empty: when it is filled by an overt element, the incorporation is blocked, and P needs to find another licenser, the verb. The consequence of these assumptions is shown by a comparison of two types of double object constructions, where one of them has a verbal particle, and the other one does not. Consider (54a) and (54b), the structures of which are given in (55a) and (55b), respectively:

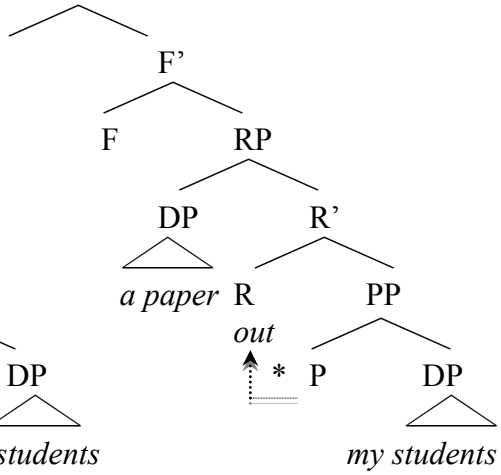
(54) a. I think that I sent my students a paper of mine.
b. I think that I sent my students out a paper of mine.

[21] We will see later why DP is visible from F.

(55) a.



b.



In both examples, the predicate is invisible from F. Crucially, den Dikken assumes that the verbal particle *out* in (54b) is a realization of R. Thus, while the null P successfully incorporates itself into the empty R in (55a), it cannot do so in (55b). According to den Dikken, movement of the predicate head (i.e. the null P) to R renders the entire predicate *my students* visible, in accordance with the following assumption:

(56) Movement of the head H of a phrase HP embedded inside a phase Φ to the head of the phase makes both H and its maximal projection visible to probes outside the phase (RP)

PROBE. . . [RP R+ H_1 [HP . . . t_1 . . .]]
Φ

(den Dikken 2007:5)

H corresponds to P, and HP to PP in both (55a) and (55b). After movement of P to the phase head R in (55a), P and PP are now visible to an outside probe F, allowing for PP to move to the spec of FP.

In contrast, P-to-R movement is not available for (55b) since R is occupied by the particle *out*. Thus, in order for the predicate to be visible from F, the phase head R moves to F, in accordance to Phase Extension. The movement of R thus extends its phase up to FP, allowing the predicate to move.

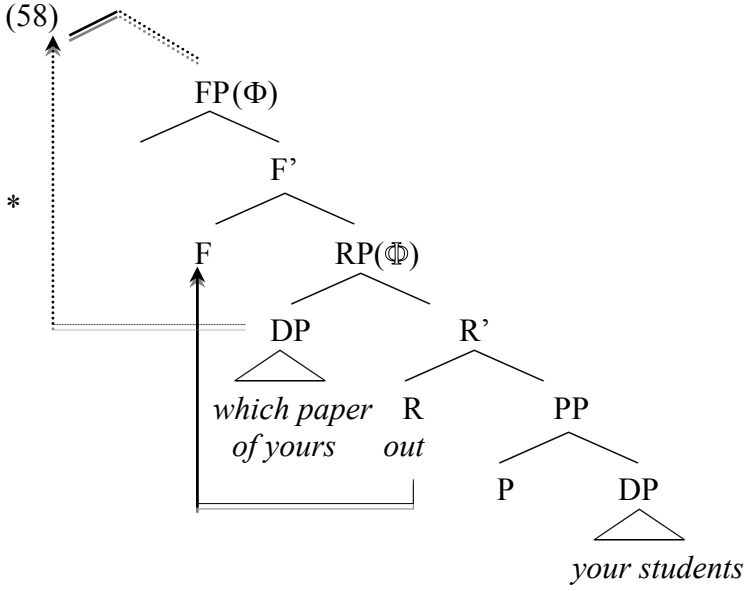
The two strategies for domain expansion above bring up interesting

consequences. While movement of the predicate itself is equally possible for both (54a) and (54b), movement of the subject of the dative small clause (i.e. direct object) *the paper* degrades the sentence in (57a) but not in (57b):

(57) a. *which paper of yours do you think that you sent your students out t?
b. which paper of yours do you think that you sent your students t?
(den Dikken 2007:8)

The extraction of the subject of the small clause is banned in (57a) because it is trapped inside the newly created phase due to Phase Extension:

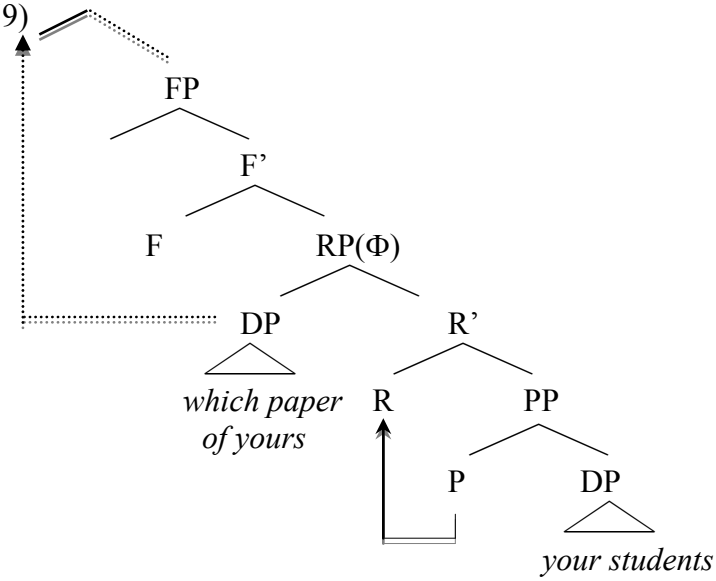
(58)



Recall that in (58) there is no P-to-R movement, and R thus moves to F for Phase Extension. The immediate consequence of that is *which paper of yours*, the subject of the small clause, is no longer at a phase edge since the phasal domain is extended from the RP to the FP. Thus, the *wh*-phrase is no longer visible from outside FP, and its extraction yields ungrammaticality.

On the other hand, the derivation of (57b) starts off differently from (57a) with P moving to R first:

(59)



In (59), as a consequence of the P-to-R movement, Phase Extension is no longer necessary, and the subject is still at the phase edge of RP when *wh*-movement is called for and hence, (57b) is grammatical. Both types of movement for domain extension -Phase Extension and Predicate Incorporation- therefore equally allow for predicate inversion, while only the former bans extraction of the subject out of a small clause.

3.2.3 Phase Extension and the GTC Effect

Let us now consider a case where both types of movement for domain extension are combined: a case where Phase Extension is followed by movement of a predicate. In the configuration below, RP is layered by VP and *v*P:

(60) $[_{vP}\ v\ [_{VP}\ V\ [_{RP\,=\,SC}$ SUBJECT [R [PREDICATE]]]]]

If R moves to V, and subsequently to *v*, that makes both the subject and the predicate visible from *v* due to the successive Phase Extension head movement:

(61) $[_{vP}\ v$+V+R $[_{VP}\ t_V$ $[_{RP\,=\,SC}$ SUBJECT $[t_R$ [PREDICATE]]]]]
Φ $\leftarrow$ (Φ) $\leftarrow$ (Φ)

What is interesting is when the predicate head moves to R before R undergoes phase-extending head movement. Recall that such movement not only makes the predicate head visible but also makes its maximal projection accessible to an outside probe. Thus, under this scenario, *v* is able to reach the complement of the predicate head:

(62) $[_{vP}\ v\text{+V+R+P}\ \ [_{VP}\ t_V\ \ \ [_{RP\,=\,SC}\ \text{SUBJECT}\ \ [t_R\ \ [t_P\ \text{COMPLEMENT}]]]]$
$\quad\quad\quad

3.3.1 Facts: Extraction in Nupe

Kandybowicz (2009) discusses wh-extraction in Nupe, a Benue-Congo language spoken in south central Nigeria, paying attention to the fact that while extraction from a tensed clause is allowed, extraction from a perfect clause is not:

(63) Ké Musa è/à pa ____ o [Present/Future TP]
what Musa PRS/FUT pound FOC
'What is Musa pounding?' 'What will Musa pound?'

(64) *Ké Musa á pa ____o [Perfect TP]
what Musa PRF pound FOC
'What has Musa pounded?'
(Kandybowicz 2009:305)

Although the above examples appear to have the same configuration, considering the fact of the language's word order tells us the contrary. In Nupe, the word order of a verb phrase is determined by the clause's tense/aspect specification, and both VO and OV word orders are attested, where the former emerges with the tense markers, and the latter with the perfect marker:

(65) a. Musa è/à si dùkùn. [VO]
PRES/FUT buy pot
'Musa is buying/will buy a pot.'
b. Musa á dùkùn si [OV]
PRF pot buy
'Musa has bought a pot.'
(Kandybowicz 2009:309)

Moreover, these two constructions differ with respect to the distribution of a manner adverb. As shown below, while the adverb must appear between the present/future tense marker *à/é* and the verb, the same adverb must also precede the perfect marker *á*:

(66) Musa (*dàdà) à/é dàdà si (*dàdà) dùkùn
Musa quickly FUT/PRS quickly buy quickly pot
'Musa will quickly/is quickly buy/buying a pot.'

(67) Musa dàdà á (*dàdà) dùkùn si.
Musa quickly PRF quickly pot buy
'Musa has quickly bought a pot.'
(Kandybowicz 2009:310)

Additionally, another tense marker such as future tense can co-appear with *á,* showing that these two are not in complementary distribution:

(68) Musa (g)à dàdà á dùkùn si aní.
Musa FUT quickly PRF pot buy already
'Musa will have quickly bought a pot already.'
(Kandybowicz 2009:310)

From these observations, Kandybowicz has concluded that the perfect marker is not a T element and appears lower than T, more specifically, under *v*. This assumption is supported by the fact that *á́* is a phonologically reduced form of the light verb *lá*, which is a *v* element. Assuming that the phasal status of *v* depends on whether *v* is an external Θ-role assigner, Kandybowicz treats *v* as a phase head in both transitive and unergative sentences but not in unaccusative or passive sentences.[22]

3.3.2 V-movement and Word Order Variation

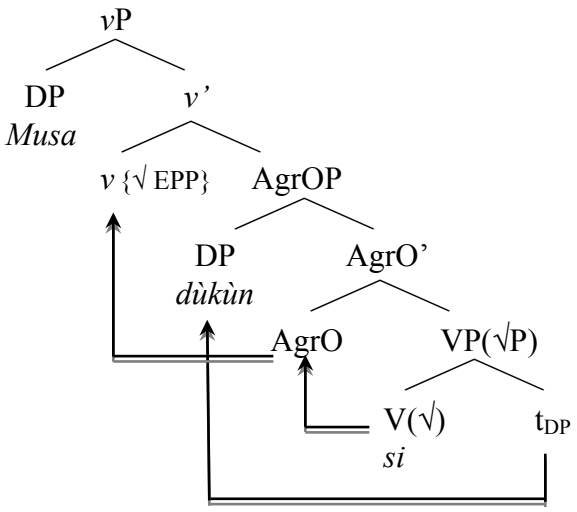
The word order variation is explained as follows: first, following Koizumi (1995) and Travis (1991) among others, Kandybowicz assumes a *v*P-internal projection for Case, labeling it as AgrO for concreteness. The derivation of a non-perfect sentence such as (69) proceeds as follows: the object will first raise to Spec AgrO after being assigned Case due to the EPP property on AgrO. After the object raising, the verb then raises to *v.* Motivation behind the V-to-*v* raising is considered to be a requirement on *v* bearing an uninterpretable V feature

[22] See Legate (2003) for a different view.

(√-feature in his terminology) that comes with the EPP property:

(69) Musa si dùkùn.
Musa buy pot
'Musa bought a pot.'
(Kandybowicz 2009:311)

(70)

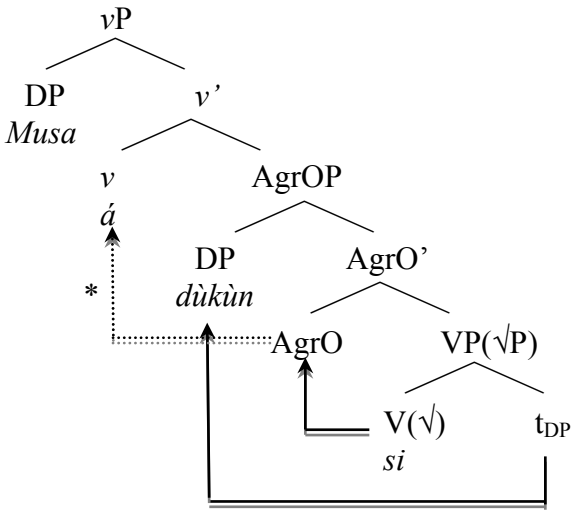


Thus, the VO order in non-perfect sentences is correctly derived after V-to-*v* raising.

However, in perfect constructions such as (71), where the perfect morpheme appears under *v*, *v* is no longer assumed to act as a probe. Therefore, V-to-*v* movement is blocked, and the OV order is derived solely by object raising to Spec, AgrOP:

(71) Musa á dùkùn si.
Musa PRF pot buy
'Musa has bought a pot'
(Kandybowicz 2009:312)

(72)



3.3.3 Analysis: Extraction in Nupe

Bearing the sequence of these operations in mind, let us turn to the *wh*-extraction mentioned at the outset of this section. Recall that while extraction from a non-perfect sentence is permitted, extraction from a perfect sentence is prohibited. We have just seen that in non-perfect constructions, there is V-to-*v* movement, whereas in perfect constructions, the movement is blocked. Thus, extraction is only permitted when there is V movement but is blocked in the absence of such movement.

Kandybowicz proposes what V-to-*v* movement triggers is *activation* of the Edge Feature (Chomsky 2008) residing in *v*. According to Chomsky, what drives the application of Merge is the Edge Feature (EF), a refined version of an EPP feature (Chomsky 2000). However, unlike EPP, EF triggers both External Merge (EM: pure Merge) and Internal Merge (IM: movement), whereas EPP only triggers IM. What differentiates EM from IM is that which possesses the EF. When a phase head (e.g. *v* or C) possesses the EF, it drives IM, whereas when a non-phase head (e.g. T or V) bears the EF, it drives EM (i.e. pure Merge).[23]

[23] However, an immediate concern arises regarding this assumption: A-movement is an instance of IM, but nonetheless, it appears to be triggered by a non-phase head T. According to Chomsky (2008), there is a reason that T is not a phase, and what appears to be T-driven movement is in fact triggered by C. Chomsky argues that C has two probes: one is the EF that is automatically available, and the other is an Agree-feature (φ-feature).

Unlike Chomsky, however, Kandybowicz proposes that there are two types of EFs: External Edge Feature (EEF) and Internal Edge Feature (IEF), the former of which is responsible for EM, and the latter of which is responsible for IM. However, there is one twist to posit these two types of EFs: while EEF is inherently active, IEF is *dormant* by default and thus requires activation. Only by having the IEF activated is extraction through an edge possible.

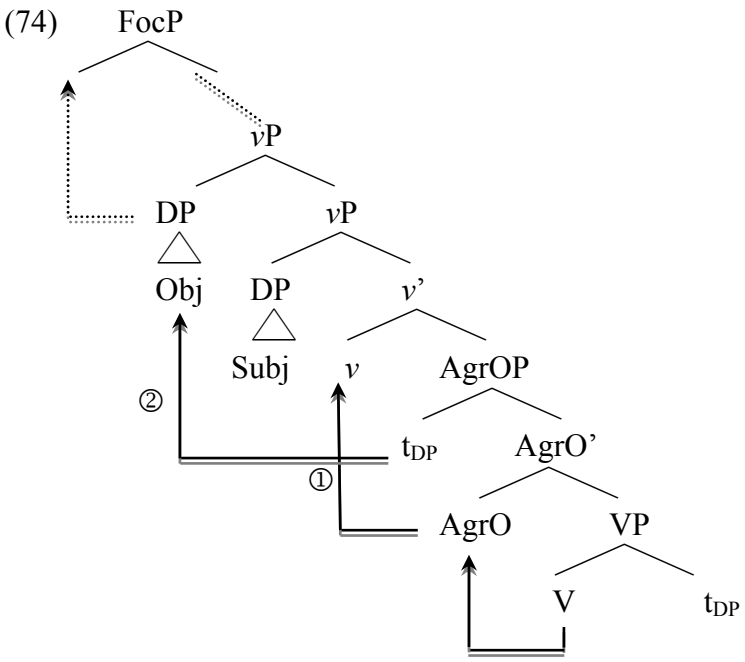
Recall that in Nupe extraction, *wh*-movement out of *v*P is only possible in non-perfect constructions but not in perfect constructions. Recall also that there is V-to-*v* movement in non-perfect constructions, whereas no such movement occurs in perfect constructions. Putting the observations together, Kandybowicz proposes that the IEF activation is implemented via Agree between the phase head *v* and V (√ in his terminology) for satisfying *v*'s uninterpretable V-(or √-)feature, followed by V-to-*v* head movement. The activated IEF then enables extraction of a wh-phrase out of a *v*P as in (73), as shown in the configuration in (74):

(73) Ké Musa è/à pa ____ o [Present/Future TP]
what Musa PRS/FUT pound FOC
'What is Musa pounding?' 'What will Musa pound?'
(Kandybowicz 2009:308)

The former drives *wh*-movement (A'-movement), whereas the latter drives DP-movement (A-movement) through T. T *inherits* an Agree-feature (φ-feature) from C, and that is what drives A-movement. Therefore, T acts as a probe only derivatively at the CP phase level. Chomsky's reasoning for this assumption is that Tense- and φ-features, both of which are considered to be T-related properties, are only manifested upon the merger of C: if T is not selected by C, it is a raising infinitival or ECM with no φ-features and tense. Because of this, Chomsky assumes that Agree- and Tense-features are inherited from C.

The A-A' distinction is also derived: if T inheriting an Agree-feature from C agrees with its goal DP, the DP either remains in situ, undergoing long-distance Agree, or raises to Spec TP but not beyond that since its uninterpretable features are valued at the point of the derivation that the DP reaches Spec TP. Chomsky's system thus seems to be simple and elegant and to explain the two types of Merge (EM and IM) by assuming the same type of feature (EF) on different types of heads (i.e. phase head and non-phase head). However, C-to-T Feature Inheritance system is mandatory under his analysis.

(74)

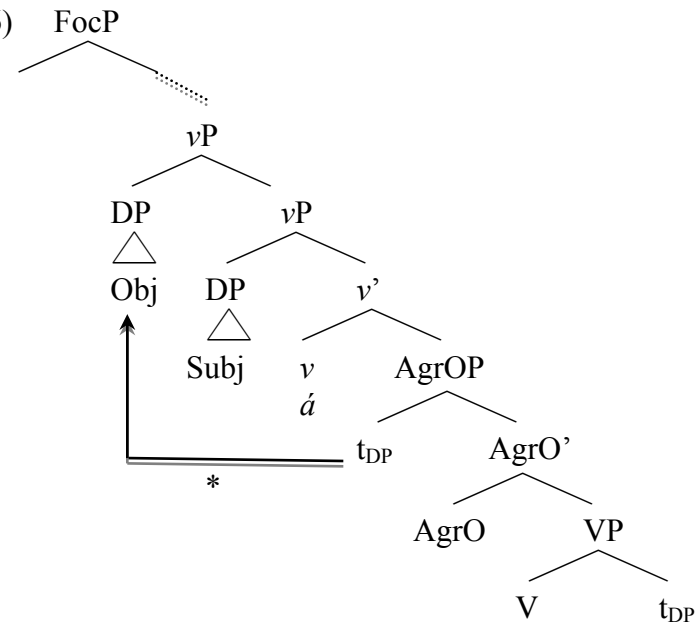


Kandybowicz's argument is that only when the sequence of operations happens is the object able to move to the edge of *v*P, from which it can be raised further up (to Spec FOCP in his structure). This is so since the IEF of the *v*P is activated via head movement of V, which allows the object to pass through the edge of the *v*P on its way to the further *wh*-movement:

However, Kandybowicz claims that activation of IEF is not possible when the perfect morpheme *á* appears as in (75). In other words, *v* does not act as a probe in a perfect construction and thus V does not move to *v*:

(75) *Ké Musa á pa ____o [Perfect TP]
what Musa PRF pound FOC
'What has Musa pounded?'
(Kandybowicz 2009:308)

(76)



Since the *v*P edge is not available due to the failure of IEF activation, the *wh*-object cannot use it as an escape hatch and therefore extraction out of a perfect construction results in ungrammaticality.

Consequently, Kandybowicz also made a connection between head movement and domain transparency. Although the three head-movement approaches that we have seen so far are different from each other in terms of their exact mechanisms and their theoretical framework, their core idea is the same: head movement renders an opaque domain transparent. Despite this, I will later (in Chapter 4) defend the domain-extension view of Baker's and den Dikken's and not the EF activation view of Kandybowicz's, focusing on the nature of head movement.

4. Summary

In this chapter, I discussed two major opponent views on domain transparency: the VP-complementation approach equipped with Agreement Domain vs. Head Movement Approach. As for the VP-complementation approach, it is worth questioning if (a) the size of a complement clause explains other kinds of transparency effects, and if (b) the lexical/non-lexical property of a predicate is the only factor that gives rise to the presence or absence of an opaque domain. As

for the head movement approach, it is worth exploring what types of head under what conditions allow or disallow such domain extension.

In the next chapter, I will further examine transparency effects by focusing on certain restructuring predicates in Japanese. Based on Takahashi's (2010) study, we will first see that the complement clause of restructuring predicates should project to *v*P, contra Wurmbrand (2001) and Bobaljik & Wurmbrand (2005). Although the fact first appears to undermine the VP-complementation approach, I will still defend Wurmbrand's core idea that the lack of Case projections in the embedded clause triggers long-distant nominative Case assignment. However, I will show that Bobaljik & Wurmbrand's functional/lexical split does not always give rise to the opacity/transparency dichotomy. The argument will be based on a Case study of Japanese restructuring predicates, where certain lexical predicates do not induce obligatory wide scope of the object. The conclusion calls for an alternative analysis to capture the scope fact and is a task that will be undertaken in Chapter 4 while further exploring the head movement approach.

Chapter 3 Domain Discrepancy in Restructuring Predicates

1. Introduction

In the previous chapter, we briefly saw that certain Japanese predicates allow long-distance nominative Case assignment on objects. In this chapter, I further examine nominative object constructions under three types of predicates: the motion verbs *ik* 'go' and *ku* 'come', the causative *-sase*, and *mi* 'try doing.' The core finding of this chapter is that nominative objects under the motion verbs obligatorily take wide scope relative to the modals *rare* 'can' or *tai* 'want', whereas in *sase* and *mi* constructions, they can take either wide or narrow scope. This finding challenges previous analyses on nominative object constructions, which have not taken into consideration the predicate-dependent degree of transparency.

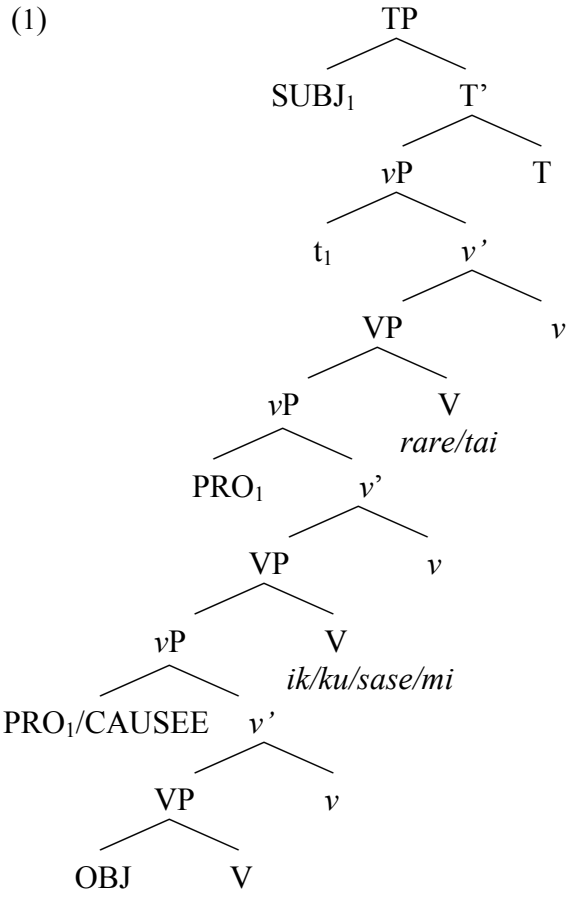
In Section 2, I first apply diagnoses for restructuring to the three predicates, showing that all of them qualify as restructuring predicates. In Section 3, I then turn my attention to one of the restructuring properties, 'long-distance' nominative Case assignment and review previous literature on nominative object constructions. I emphasize again how there is no clear consensus on the scope data in the literature (see Chapter 2 section 2.1.2), and that my focus is limited to the scope of nominative objects. I then introduce two opposing views on nominative object constructions with respect to where the object is licensed. I suggest that the two views are not necessarily mutually exclusive, as both are necessary. Section 4 presents the scope data from the motion verbs and the causative, revealing that the motion verbs exhibit the obligatory wide scope of nominative objects, whereas the causative does not. Section 5 adds the scope data from *mi* 'try' and strengthens the idea that a combined account of the two opposing views is in fact necessary. The proposal also leads us to conclude that 'restructuring' is not a uniform phenomenon altogether, and that different degrees of transparency exist (Wurmbrand 2001). Section 6 addresses the general

assumption of how scope correlates with syntactic structures and explores the alternative view that scope ambiguity is a direct consequence of entailment relationships. I also discuss how a unified treatment of nominative objects with all types of quantifiers is difficult, based on the data from numeral quantifiers. Section 7 summarizes this chapter.

2. Restructuring in Japanese

In Chapter 2, Section 2.1.2, we saw that certain predicates such as the potential morpheme *-rare* and the desiderative morpheme *-tai* allow long-distance nominative Case assignment. So far, we have only seen cases with one main verb to which these morphemes attach. In this section, we see more complex cases where there is another predicate in the middle to which these morphemes attach. Thus, cases of our interest configurationally look like (1):

(1)



We examine three types of such intervening predicates, which are the motion verbs *ik* 'go' and *ku* 'come', the causative morpheme *-sase*, and *mi* 'try doing.' Note that the structure in (1) is different from Wurmbrand's (2001) VP-complementation structure in that it involves *v*P layers containing null subjects. Assuming this structure, I define a clause as a *v*P, a full-fledged structure with the external and internal arguments of a predicate. In what follows, we will see that the *v*Ps in (1) exhibit clause-union effects, which in turn qualifies the intervening predicate to be a restructuring predicate, because it does not block interaction between the lowest and the highest clause.

2.1 Motion Verbs: *ik* 'go' and *ku* 'come'

Let us start with the motion verbs *ik* 'go' and *ku* 'come' as one such type of intervening restructuring predicate. In the previous literature, Miyagawa (1987a) first showed that these motion verbs qualify as restructuring predicates. We will first review his arguments for restructuring, which are 'long-distance' nominative Case assignment and the distribution of the clause-bound discontinuous morpheme *sika na(i)* 'only'.[1] We then add scrambling as another test of restructuring to strengthen Miyagawa's argument.

2.1.1 Nominative Case Assignment

Let us start with nominative Case assignment on objects. The object under the motion verbs must usually obtain accusative Case, as shown in (2):

(2) Hanako-wa sono honya-ni [manga-o/*ga kai-ni]
Hanako-TOP that book store-to comic book-ACC/*NOM buy-NI
ik-u/ku-ru.
go-PRES/ come-PRES
'Hanako goes/comes to that book store to buy comic books.'

[1] I will later claim that nominative objects under the motion verbs are not assigned Case across a clause boundary. For the moment, I simply use the traditional terminology 'long-distance' just to refer to the surface facts.

However, as exemplified in (3) and (4), when the potential morpheme *-(rar)e* or the desiderative morpheme *-ta(i)* attaches to these motion verbs, the object can appear with nominative Case:[2]

(3) Hanako-wa sono honya-ni [manga-ga kai-ni]
Hanako-TOP that book store-to comic book-NOM buy-NI
ik-e-ru/ ko-rare-ru.
go-CAN-PRES/ come- CAN-PRES
'Hanako can go/come to that book store to buy comic books.'

(4) Hanako-wa sono honya-ni [manga-ga kai-ni]
Hanako-TOP that book store-to comic book-NOM buy-NI
iki-ta-i/ ki-ta-i.
go-WANT-PRES/ come-WANT-PRES
'Hanako wants to go/come to that book store to buy comic books.'

As with the German and Japanese examples from Chapter 2 section 2.1.2, the object in the above examples can also appear with accusative Case, which shows that the restructuring is optional:

(5) Hanako-wa honya-ni [manga-o kai-ni]
Hanako-TOP book store-to comic book-ACC buy-NI
ik-e-ru/ ko-rare-ru.
go-CAN-PRES/ come-CAN-PRES
'Hanako can go/come to the book store to buy comic books.'

(6) Hanako-wa honya-ni [manga-o kai-ni]
Hanako-TOP book store-to comic book-ACC buy-NI
iki-ta-i/ ki-ta-i
go-WANT-PRES/ come-WANT-PRES
'Hanako wants to go/come to the book store to buy comic books.'

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[2] There is also a string adjacency requirement between the embedded verb and the motion verb (Miyagawa 1987a). For example, when an adverb like *atode* 'later' intervenes between the two verbs, the nominative object can no longer appear:

(i) Hanako-wa sono honya-ni [manga-o/*ga kai-ni] atode
Hanako-TOP that book store-to comic book-ACC/NOM buy-NI later
ik-e-ru/ ko-rare-ru.
go-CAN-PRES/ come-CAN-PRES
'Hanako can go/come to that book store to buy comic books later.'

I thus assume that (3) and (4) are cases of restructuring, whereas (5) and (6) could be either restructuring or non-restructuring (Miyagawa 1987a).[3] The clause-union effect in (3) and (4) can be further confirmed by replacing the motion verbs with non-restructuring verbs such as *kik* 'ask' that do not allow nominative Case assignment (Miyagawa 1987a):[4]

(7) a. Boku$_1$-wa Taroo$_2$-ni [PRO$_2$ terebi-o miru ka] kik-e-ru.
I-TOP -DAT TV-ACC watch C ask-CAN-PRES
'I can ask Taro if he is going to watch TV.'
b.* Boku$_1$-wa Taroo$_2$-ni [PRO$_2$ terebi-ga miru ka] kik-e-ru.
I-NOM -DAT TV-NOM watch C ask-CAN-PRES
'I can ask Taro if he is going to watch TV.'
(Miyagawa 1987a: 278)

Nominative Case assignment in (3) and (4) thus suggests that the motion verbs exhibit restructuring effects.

2.1.2 *Sika-na(i)* Constructions

Let us now turn to another diagnostic for restructuring that Miyagawa (1987a) presents: the *sika na(i)* construction. *Sika na(i)*, together meaning 'only' or 'nothing but' in English, is a discontinuous morpheme in that *-sika* attaches to a phrase to be focused and *-na(i)* to a predicate. *Sika* directly attaches to a noun, replacing its Case marker.[5] In (8), *sika* is attached to the object 'pizza' and *na(i)* to the verb *tabe* 'to eat', which yields the meaning that 'X eats only pizza':

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[3] Wurmbrand (2001) treats cases like (5) and (6) as non-restructuring. However, we will see shortly that sentences with accusative objects also show clause-union effects for *sika-nai* constructions and scrambling.

[4] The fact would be the same with a verb that does not select for a [+Q] complementizer. The verb *iw* 'to tell' takes a [-Q] complementizer, but still does not allow nominative Case assignment:

(i) a. Boku$_1$-wa Taroo$_2$-ni [PRO$_1$ terebi-o miru to] i-e-ru.
I-TOP -DAT TV-ACC watch C tell-CAN-PRES
'I can tell Taro that I watch TV.'
b. * Boku$_1$-wa Taroo$_2$-ni [PRO$_1$ terebi-ga miru to] i-e-ru.
I-NOM -DAT TV-NOM watch C tell-CAN-PRES
'I can tell Taro that I watch TV.'

[5] While *sika* replaces nominative and accusative Case, it does not replace dative, as

(8) Taro-wa pizza-**sika** tabe-**na**-i.
-TOP SIKA eat-NEG-PRES
'Taro eats only pizza.'

The distribution of *sika na(i)* is rather constrained: they need to be clause-mates. Thus, while both *sika* and *na(i)* can appear in the same clause as in (8) or (9a), they cannot be separated by a clause boundary as in (9b):

(9) a. Boku-wa [Taro-ga pizza-**sika** tabe-**na**-**i**-no]-o kii-ta.
I-TOP -NOM SIKA eat-NEG-PRES- C]-ACC hear-PAST
'I heard that Taro eats only pizza.'
b.*Boku-wa [Taro-ga pizza-**sika** tabe-ru-no]-o kika-**na**-katta.
I-NOM -NOM SIKA eat-PRES-C]-ACC hear-NEG-PAST
'I heard that Taro eats only pizza.'
(Miyagawa 1987a:276)

Miyagawa (1987a) uses this construction as a diagnostic for restructuring, and shows that the motion verbs license *sika nai* across a clause-boundary:[6]

(10) Hanako-wa tosyokan-ni [zassi-**sika** kari-ni]
Hanako-TOP library-to magazine-SIKA borrow-NI
ika/ko-**na**-i.
go/come-NEG-PRES
'Hanako goes/comes to the library to borrow only magazines.'

In (10) *sika* appears in the embedded clause, whereas *na(i)* occurs in the matrix clause. The sentence is nonetheless grammatical, exhibiting the clause-union

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shown below:

(i) Taro-wa Hanako-ni-sika hon-o age-na-i.
-TOP -DAT-SIKA book-ACC give-NEG-PRES.
'Taro gives only Hanako the book.'

I will shortly use the dative *sika* phrase as a control to see clause-union effects with accusative objects.

[6] Again, the string adjancency requirement must be met. When something intervenes between the embedded verb and the motion verb, *sika-nai* cannot be licensed cross-clausally (Miyagawa 1987a):

(i) *Taro-wa [Hanako-ni hon-**sika** kaesi-ni] kesa ika-**nakat**-ta.
-TOP -DAT book-SIKA return-NI this morning go-NEG-PAST
'Taro went to return only a book to Hanako this morning.'

effect. While (10) is a case where *sika* is attached to an accusative object, replacing its Case marker, the sentence still shows the clause-union effect. This is surprising if accusative objects appear exclusively in non-restructuring contexts, as Wurmbrand argues. The transparency with accusative objects can in fact be shown by changing the locative phrase in (10) by a dative object to which *sika* attaches:

(11) Hanako-wa [Taro-ni-**sika** zassi-**o** kari-ni]
Hanako-TOP Taro-DAT-SIKA magazine-ACC borrow-NI
ika/ko-**na**-i.
go/come-NEG-PRES
'Hanako goes/comes to borrow the magazine only from Taro.'

In (11) the object *zassi* 'magazine' appears with accusative Case marker, and still *sika* is licensed across the clause-boundary.[7] Thus, the fact that the motion verbs can tolerate the non-clause-mate *sika nai* suggests that *ik* and *ku* are restructuring predicates, and that accusative objects are ambiguously associated with restructuring and non-restructuring configurations, as Miyagawa (1987a) claims.

2.1.3 Scrambling

Let us finally consider scrambling as another test for restructuring. Long-distance scrambling is used as a diagnosis for restructuring in German. Long-distance scrambling is generally disallowed in German. However, while scrambling of the embedded object *the tractor* is not allowed with the non-restructuring predicate 'regret' (12a), it is possible with the restructuring predicate 'try' in (12b):

[7] That *sika* is in the lower domain can be confirmed by the fact that *Taro-ni* is the argument of *kari* 'to borrow' and not of the motion verbs:

(i) Hanako-wa Taro-ni zassi-o kari-ta.
Hanako-TOP Taro-DAT magazine-ACC borrow-PAST
'Hanako borrowed the magazine from Taro.'

(ii) *Hanako-wa Taro-ni it/ki-ta.
Hanako-TOP Taro-DAT go/past-PAST
'Hanako goes/comes to Taro.'

(12) a.* dass Hans nur den Traktor$_1$ bedauert hat [t_1 repariert zu haben]
that John only the tractor regretted has repair to have
'that John (only) regretted having repaired (only) the tractor.'
b. dass Hans den Traktor$_1$ versucht hat [t_1 zu reparieren]
that John the tractor-ACC tried has to repair
'that John (has) tried to repair the tractor'
(Wurmbrand 2001:41, 286)

Thus, the possibility of long-distance scrambling in (12b) exhibits a clause-union effect or transparency of the embedded clause.

However, long-distance scrambling cannot be straightforwardly used as a diagnosis for restructuring in Japanese. As Saito (1985) observes, long-distance scrambling is generally possible in Japanese:

(13) a. John-ga [Mary-ga sono hon-o yonda to] it-ta (koto).
-NOM -NOM that book-ACC read C say-PAST (fact)
'John said that Mary read that book.'
b. Sono-hon-o John-ga [Mary-ga t_1 yonda to] it-ta (koto).
that book-ACC -NOM -NOM read C say-PAST (fact)
'John said that Mary read that book.'
(Saito 1985: 167-8)

Thus, scramblability of the embedded object in (13b) does not show transparency of the embedded clause.

Interestingly however, long-distance scrambling behaves differently from short-distance scrambling with respect to anaphor-binding. Consider non-scrambling examples in (14) first:

(14) a. [Masao-ga [karera$_1$-ni [[otagai$_1$-no sensei]-o
-NOM they-DAT each other-GEN teacher-ACC
syookaisi-ta]]] (koto)
introduce-PAST (fact)
'Masao introduced each other's teachers to them'
b. [Karera$_1$-ga [otagai$_1$-o hihansita]] (koto)
they-NOM each other-ACC criticized fact
'They criticized each other.'
(Saito 1992: 74)

In both (14a) and (14b), the anaphor *otagai* 'each other' is locally A-bound by its antecedent *karera* 'they,' and both sentences are grammatical. When the anaphor is not bound by its antecedent, as in (15), the sentence becomes ungrammatical. This is so because Condition A of the binding theory that an anaphor must be bound is violated:[8]

(15) a. ?*[Masao-ga [[otagai$_1$-no sensei]-ni
-NOM each other-GEN teacher-to
[karera$_1$-o syookai-si-ta]]] (koto)
they-ACC introduce-do-PAST
'Masao introduced them to each other's teachers'

b. ?*[Otagai-no sensei]-ga [karera-o hihan-si-ta] (koto)
each other-GEN teacher-NOM they-ACC criticize-do-PAST (fact)
'Each other's teachers criticized them.'

(Saito 1992: 74)

Returning to scrambling, Saito (1992) crucially observes that a short-scrambled phrase can bind an anaphor:[9]

(16) a. Karera$_1$-o [Masao-ga otagai-no sensei-ni t_1
they-ACC -NOM each other-GEN teacher-DAT
syookai-si-ta].
introduce-do-PAST
'Them$_1$, Masao introduced t_1 to each other$_1$'s teachers.'

b.? Karera$_1$-o [otagai-no sensei-ga t_1 hihan-si-ta]
they-ACC each-other-GEN teacher-NOM criticize-do-PAST
'Them$_1$, each other$_1$'s teachers criticized t_1.'

(Saito 1992: 75)

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[8] Binding Theory (Chomsky 1986a):
(i) Condition A: An anaphor must be bound in its binding domain (i.e. the clause containing the NP).
(ii) Condition B: A pronoun must be free (i.e. not bound) in its binding domain.
(iii) Condition C: An R-expression (i.e. a proper noun) must be free.

[9] Saito (1992) in a footnote notes that the examples in (16), especially (16b), are somewhat worse than the perfect VP-internal scrambled example below:

(i) Masao-ga karera$_1$-o [[otagai$_1$-no sensei]-ni syookai-si-ta] (koto)
-NOM -ACC each other-GEN teacher-DAT introduce-do-PAST fact
'Masao, them$_1$, introduced t_1 to each other's teachers '

I will not further investigate the contrast between clause-internal scrambling across the subject and VP-internally scrambling in this thesis.

However, Saito points out that a long-scrambled phrase does not qualify as an A-binder. Consider non-scrambling examples in (17) first:

(17) a. [Masao-ga Hanako-ni [[karera-ga otagai-no sensei-o
-NOM -DAT they-NOM each other-GEN teacher-ACC
hihan-si-ta] to] it-ta] (koto).
criticize-do-PAST C say-PAST (fact)
'Masao said to Hanako that they criticized each other's teachers.'

b.*[Masao-ga otagai-no sensei-ni [[Hanako-ga
-NOM each other-GEN teacher-DAT -NOM
karera-o hihan-si-ta] to] it-ta] (koto).
them-ACC criticize-do-PAST C say-PAST (fact)
'Masao said to each other's teachers that Hanako criticized them.'
(Saito 1992: 75)

In (17a) the anaphor *otagai* is locally bound by its antecedent *karera*, whereas in (17b) the anaphor is not bound by its antecedent, violating Condition A.

Let us now consider scrambling. Crucially, the salvation strategy observed with short-distance scrambling in (16) cannot apply to long-distance scrambling. The preposed antecedent cannot bind the anaphor in the matrix clause:

(18) *Karera$_1$-o [Masao-ga otagai$_1$-no sensei-ni [[Hanako-ga t_1
-ACC -NOM each other-GEN teacher-DAT -NOM
hihan-si-ta] to] it-ta] (koto).
criticize-do-PAST C say-PAST (fact)
'Masao said to each other's teachers that Hanako criticized them.'
(Saito 1992: 76)

Saito (1992) thus concludes that short-distance scrambling is (optionally) A-movement, whereas long-distance scrambling is A'-movement.[10]

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[10] Short-distance scrambling can be optionally A'-movement. Consider the following example:

(i) Zibunzisin$_1$-o [Hanako-ga $t_1$hihan-si-ta] (koto)
self-ACC -NOM criticize-do-PAST fact
'Herself$_1$, Hanako$_1$ criticized t_1.'

In (i), if *zibunzisin* 'self' is A-scrambled, it would cause a Condition C violation since *Hanako* will be locally A-bound. However, if it is alternatively A'-scrambled, the grammaticality of (i) follows. The English equivalent of (i) is given below:

(ii) Himself$_1$, John$_1$ likes t_1.

Saito's observation thus shows that long-distance scrambling in the context of anaphor binding can be used as a test of restructuring. If a phrase that has undergone apparent long-distance scrambling can bind an anaphor in the matrix clause, it should be a case of restructuring. Akima (2004) in fact shows that the motion verbs *ik* and *ku* show the clause-union effect:[11]

(19) a. [Taro-to Jiro]$_1$-o [otagai$_1$-no hahaoya-ga [eki-made t_1
-and -ACC each other-GEN mother-NOM station-to
mukae-ni] it-ta /ki-ta].
pick up-NI go-PAST /come-PAST
'Taro and Jiro$_1$, each other's mothers went to pick up t_1 at the station '

b.* [Otagai$_1$-no hahaoya-ga [eki-made [Taro-to Jiro]$_1$-o
each other-GEN mother-NOM station-to -and -ACC
mukae-ni] it-ta /ki-ta].
pick up-NI go-PAST /come-PAST
'Each other$_1$'s mothers went to pick up Taro and Jiro$_1$ at the station'
(Akima 2004: 231)

In (19a), the anaphor is successfully bound by its antecedent that has undergone long-distance scrambling. As shown by (19b) when the anaphor is not bound by its antecedent, the sentence becomes ungrammatical. Thus, the scrambling data additionally support the fact that the motion verbs qualify as restructuring predicates.

In the following sections, we look at other restructuring predicates, using the three tests for restructuring discussed in this section; (a) long-distance nominative Case assignment; (b) *sika-nai* constructions; and (c) scrambling.

Thus, short-distance scrambling could also be A'-movement.

[11] The clause-union effect in (19a) can be further confirmed by adding an adverb between the embedded verb *mukae-ni* and the motion verb *it-ta/ki-ta* to force non-restructuring. In (i), the adverb *kinoo* 'yesterday' intervenes and the sentence becomes bad (thanks to Shigeru Miyagawa for raising this point):

(i) */??[Taro-to Jiro]$_1$-o [otagai$_1$-no hahaoya-ga [eki-made t_1
-and -ACC each other-GEN mother-NOM station-to
mukae-ni] kinoo it-ta/ki-ta].
pick up-NI yesterday go-PAST/come-PAST
'Taro and Jiro$_1$, each other's mothers went to pick up t_1 at the station yesterday'

2.2 Causative Morpheme: *-sase*

Another restructuring predicate of the type that I would like to examine in this section is the causative morpheme *-(s)ase*. While other languages like English express causation with the independent verb *make* (e.g. *John made Mary clean the room*), in Japanese, attaching the causative morpheme *-(s)ase* to a verbal stem creates a causative expression:[12,13]

Intransitive Verbs[14]

(20) Taroo-ga Hanako-o ik-ase-ta
Taro-NOM Hanako-ACC go-CAUSE-PAST
'Taro made Hanako go.'

Transitive Verbs

(21) Taroo-ga Hanako-ni soba-o tabe-sase-ta.
Taro-NOM Hanako-DAT soba-ACC eat-CAUSE-PAST
'Taro made Hanako eat soba.'

The example in (20) is a causative form of an intransitive verb, whereas (21) is that of a transitive verb. With intransitive verbs, the causee can appear with accusative Case, whereas with transitive verbs, it necessarily appears with dative Case. It has been assumed that the latter fact follows from the Double-o

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[12] *-(s)ase* is subject to allomorphic variation. When the last segment of a verb stem ends with a vowel, the causative morpheme is realized as *-sase*. When a verb stem is consonant ending, *-ase* appears instead.

[13] There is also the familiar distinction between the lexical causative and the syntactic causative in Japanese as well. As with other languages that have the same distinction, Japanese lexical causatives show mono-clausal properties. See Shibatani (1973, 1976, 1990), Miyagawa (1984, 1998) for their analyses. See also Harley (2008) who makes an attempt of unifying both types of causatives in syntax.

[14] The causee can alternatively appear with the dative Case maker *-ni* when a verb is intransitive:

(i) Taroo-ga Hanako-ni ik-ase-ta
Taro-NOM Hanako-DAT go-CAUSE-PAST
'Taro let Hanako go.'

As shown in its translation, the causative verb with a *-ni* marked causee is often translated as *let* instead of *make*. Shibatani (1990) notes that 'the *o*-causatives imply that the intention of the causee is ignored by the causer, while in the *ni*-causatives, the causer typically appeals to the causee's intention to carry out the caused event'. I will not further go into details with the distinction between *-ni* causatives and *-o* causatives in this thesis. See Miyagawa (1999) for a detailed analysis.

Constraint (Harada 1973), which bans more than one *o*-marked NP within a clause:[15]

(22)* Taroo-ga Hanako-o soba-o tabe-sase-ta.
Taro-NOM Hanako-ACC soba-ACC eat-CAUSE-PAST
'Taro made Hanako eat soba.'

At first glance, it appears that the -*sase* and the verb stem constitute a single word, and thus the sentence is mono-clausal. Causative constructions nevertheless exhibit bi-clausal properties. In the following subsections, I first discuss bi-clausal properties of Japanese causatives, presenting data from adverbial scope and anaphor binding. We learn that an adverb can ambiguously modify both the causing event and the caused event, and that an anaphor can ambiguously refer to the embedded subject or the matrix subject. After seeing that -*sase* shows bi-clausal properties, I then apply the three restructuring tests to the causative constructions, showing that they show restructuring effects.

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[15] The double-*o* constraint violation of this kind is not salvaged by dislocating one of the DPs:

(i) a.* Hanako-o Taroo-ga soba-o tabe-sase-ta.
-ACC -NOM soba-ACC eat-CAUSE-PAST
'Taro made Hanako eat soba.'
b.* Soba-o Taroo-ga Hanako-o tabe-sase-ta.
soba-ACC -NOM -ACC eat-CAUSE-PAST
'Taro made Hanako eat soba.'

This contrasts with the kind of double-*o* violation in (ii)

(ii) a.* Hanako-ga Taroo-o hamabe-o aruk-ase-ta.
-NOM -ACC beach-ACC walk-CAUSE-PAST
'Hanako made Taro walk on the beach.'
b. Hamabe-o Hanako-ga Taroo-o aruk-ase-ta.
beach-ACC -NOM -ACC walk-CAUSE-PAST
'Hanako made Taro walk on the beach.'
c. Taro-o Hanako-ga hamabe-o aruk-ase-ta.
-ACC -NOM beach-ACC walk-CAUSE-PAST
'Hanako made Taro walk on the beach.'

The double-*o* violation in (ii) is called a surface double-*o* violation in that the -*o* on the second DP is not accusative but locative. The surface double-*o* violation is thus different from a pure double-*o* violation in that dislocating one of the DPs salvages the otherwise ungrammatical sentence.

2.2.1 Biclausality of *-sase*

In this section, we will examine bi-clausality of Japanese causatives. Shibatani (1990) observes that an adverbial phrase can ambiguously modify the causer's action or the causee's action in a sentence like below:[16]

(23) Taroo-ga Hanako-o **te-o** **takaku** **age-te** tomar-ase-ta.[17]
-NOM -ACC hand-ACC high raise-TE stop-CAUSE-PAST
'Taroo made Hanako stop with a hand raised high.'
(Shibatani 1990:314)

In (23) the manner adverb *te-o takaku agete* 'with a hand raised high' ambiguously modifies the causer's action or the causee's action. The adverb modifying the causer's action yields the interpretation that 'Taro made Hanako stop with his hand raised high', whereas modifying the causee's action yields the interpretation that 'Taro made Hanako stop with her hand raised high.' What this means is that the causative sentence has two syntactic domains for the adverb to modify: one for the causer's action, and the other for the causee's action. Harley

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[16] The original work is attributed to Fodor (1970) who argues against Generative Semantics that attempts to derive *kill* from *cause to die*. As shown below, the instrumental (means) adverb can modify both the subject's and the object's action in the case of *cause to die*, but it can only modify the subject's and not the object's action in the case of *kill*: that is, while 'swallowing tongue' can be done by both John and Bill in (i), it can only be done by John in (ii).

(i) John caused Bill to die by swallowing his tougue.
(ii) John killed Bill by swallowing his tongue.

The idea is that (i) represents two events, whereas (ii) represents one event with its own sub-event structure (*e.g. cause-become-not-alive* (McCawley 1968)) which is not encoded in the syntax. Thus, instrumental adverbs can only target events but not sub-events.

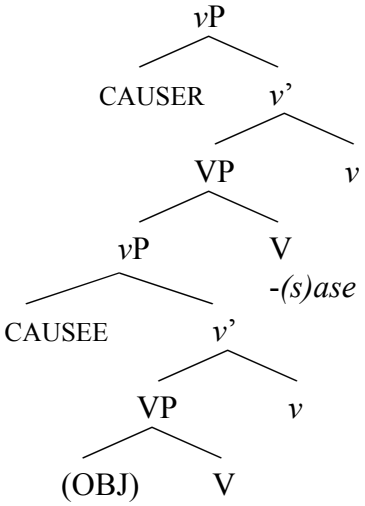
[17] The lexical causative equivalent of the sentence (i) shows mono-clausal properties, and thus the adverb can only modify the causer's (Taro's) action and not the causee's (Hanako's):

(i) Taro-ga Hanako-o **te-o** **takaku** **age-te** tom-e-ta.
-NOM -ACC hand-ACC high raise-TE stop-CAUSE-PAST
'Taro stopped Hanako with a hand raised high.'

I thus conclude that there is only one *v*P involved in lexical causatives, as opposed to syntactic causatives with two *v*Ps involved.

(2008) identifies *v*P as locus for adverbs and therefore posits a bi-clausal structure in (24):[18]

(24)



Another example from reflexive binding confirms the same point. Kuroda (1965) and Shibatani (1976) observe that the subject-oriented reflexive *zibun* 'self' can refer to either the causer or the causee:[19]

(25) Taroo$_1$-ga Hanako$_2$-o zibun$_{1/2}$-no heya-e ik-ase-ta.
-NOM -ACC self-GEN room-to go-CAUSE-PAST
'Taro made Hanako go to his/her room.'

---

[18] For Harley (2008), *-(s)ase* is a realization of *v*, not of V. When the lower *v* is realized as *-(s)ase*, that *-sase* behaves as a lexical causative. See her analysis for details.

[19] The lexical causative does not have this property, and *zibun* can only refer to the causer. Consider the following lexical and syntactic causative pair of examples:

(i) a. Taro$_1$-ga Hanako$_2$-o zibun$_{1/*2}$-no heya-no mae-de tom-e-ta.
-NOM -ACC self-GEN room-GEN front-at stop-CAUSE-PAST
'Taro stopped Hanako in front of self's room.'

b. Taro$_1$-ga Hanako$_2$-o zibun$_{1/2}$-no heya-no mae-de
-NOM -ACC self-GEN room-GEN front-at
tom-ar-ase-ta.
stop-INCH-CAUSE-PAST
'Taro made Hanako stop in front of self's room.'

(ia) is an example of the lexical causative, and *zibun* can only refer to the causer *Taro*, in contrast to the syntactic causative example in (ib), where *zibun* can refer to either the causer or the causee *Hanako*. Thus, the lexical causative shows mono-clausal properties, whereas the syntactic causative exhibits bi-clausal properties.

(26) Taro$_1$-ga Hanako$_2$-ni zibun$_{1/2}$-no hon-o sute-sase-ta
-NOM -DAT self-GEN book-ACC discard-CAUS-PAST
'Taro made Hanako discard his/her book.'

The fact that *zibun* can refer to *Taroo* or *Hanako* in (25) and (26) again shows that the causative exhibits bi-clausal properties: that is, there is a subject position (i.e. *v*P) for each clause (Saito 2006).

Having established bi-clausal properties of the causative constructions, let us look at their restructuring properties in the following subsections.

2.2.2 Restructuring Properties of *-sase*

Causative constructions behave the same way as the motion verbs in that they allow long-distant nominative Case assignment when either *-rare* or *-tai* attaches to them (Manning et al. 1999):[20]

[20] The nominative object can also appear in intransitive causatives under stative predicates:

(i) Watasi-wa musuko-ga hatarak-ase-rare-ru.
-TOP son-NOM work-CAUSE-CAN-PRES
'It is my son that I could make work'

However, Matsui (2009) points out that the sentence in (i) is only acceptable under the specific interpretation (Kuno 1973, Kuroda 1965) of the nominative object as opposed to the generic interpretation that 'I could make my son work.' I do not discuss the different interpretation of the nominative object in this thesis, but see Matsui (2009) for this issue.

(27) a. Taro-wa Hanako-ni ringo-ga tabe-sase-rare-ru.[21]
Taro-TOP Hanako-DAT apple-NOM eat-CAUSE-CAN-PRES.
'Taro can make Hanako eat an apple.'
b. Taro-wa Hanako-ni ringo-ga tabe-sase-ta-i.
Taro-TOP Hanako-DAT apple-NOM eat-CAUSE-WANT-PRES.
'Taro wants to make Hanako eat an apple.'

As is the case with the motion verbs, causatives also allow accusative Case assignment:

(28) a. Taro-wa Hanako-ni ringo-o tabe-sase-rare-ru.
Taro-TOP Hanako-DAT apple-ACC eat-CAUSE-CAN-PRES.
'Taro can make Hanako eat an apple.'
b. Taro-wa Hanako-ni ringo-o tabe-sase-ta-i.
Taro-TOP Hanako-DAT apple-ACC eat-CAUSE-WANT-PRES.
'Taro wants to make Hanako eat an apple.'

The *sika nai* test also confirms the restructuring properties of *-sase*. As shown below, the discontinuous morpheme *sika nai* is able to appear in different clauses:

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[21] The sentence becomes ungrammatical when the causee appears with accusative Case:
(i) a. *Taro-wa Hanako-o ringo-ga tabe-sase-rare-ru.
-TOP -ACC -NOM eat-CAUSE-CAN-PRES
'Taro can make Hanako eat an apple.'
b. *Taro-wa Hanako-o ringo-ga tabe-sase-ta-i.
-TOP -ACC -NOM eat-CAUSE-WANT-PRES
'Taro wants to make Hanako eat an apple.'
In fact, it seems that the causee in transitive sentences is not allowed to appear in accusative Case in general. As shown below, even if the object undergoes relativization or topicalization, the accusative causee is still not permitted (Hiraiwa 2010):
(i) Taro-ga Hanako-ni/*o t_1 tabe-sase-ta ringo$_1$
-NOM -DAT/*ACC eat-CAUSE-PAST apple
'The apple that Taro made Hanako eat'
(ii) Ringo-wa Taro-ga Hanako-ni/*o tabe-sase-ta.
-TOP -NOM -DAT/*ACC eat-CAUSE-PAST
'The apple, Taro made Hanako eat.'
The ungrammaticality of the accusative causee suggests that the double-*o* violation in causative cases should be treated differently. It could be that *-sase* obligatorily 'absorbs' accusative Case feature of the embedded predicate (Takahashi 2010). However, the exact mechanism of Case absorption is not clear, and I thus leave this issue aside for the moment.

(29) Taro-wa [Hanako-ni-**sika** ringo-o tabe]-sase-**nai**.
Taro-TOP Hanako-DAT-SIKA apple-ACC eat-CAUSE-NEG
'Taro makes only Hanako eat an apple.'

(30) Taro-wa [Hanako-ni ringo-**sika** tabe]-sase-**nai**.
Taro-TOP Hanako-DAT apple-SIKA eat-CAUSE-NEG
'Taro makes Hanako eat only an apple.'

Finally, the scrambling test also shows that *-sase* is subject to restructuring. (31) shows that the scrambled phrase can bind an anaphor in the matrix clause:[22]

(31) ?[Taro-to Jiro]$_1$-o [otagai$_1$-no sensei-ga [Hanako-ni t_1
-and -ACC each other-GEN teacher-NOM -DAT
hihans]-ase]-ta.
criticize-CAUS-PAST
'Taro and Jiro$_1$, each other's teachers made Hanako criticize t_1.'

Before concluding this section, it should be noted that Miyagawa (1987a), contrary to the standard view of causative constructions as restructuring predicates (Baker 1988, Kitagawa 1994, Kuno 1973), claims that restructuring never applies to causatives. First, consider the following passive example:

(32) Kodomo-ga hatarak-ase-rare-ta.
child-NOM work-CAUSE-PASS-PAST
'The child was made to work.'

In (32), the object of the intransitive causative predicate is passivized, which shows that intransitive causatives allow passivization. However, as shown below, the object of the transitive causative predicate cannot be passivized (Harada 1973):

---

[22] As with Saito's examples, the sentence is slightly marginal, compared to the perfect *v*P-internal scrambling:

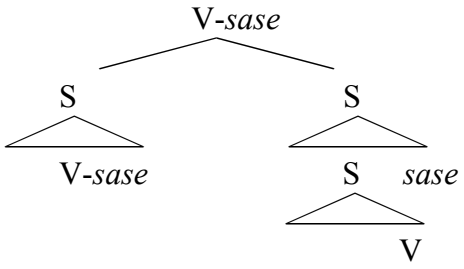
(i) Masao-ga [$_{vP}$ [Taro-to Jiro]$_1$-o [$_{vP}$ otagai$_1$-no sensei-ni
-NOM and -ACC each other-GEN teacher-DAT
[$_{VP}$ t_1 hihans]-ase-ta].
criticize-CAUSE-PAST
'Masao made, Taro and Jiro$_1$, each other's teacher criticize t_1.'

(33) a. Taroo-ga Hanako-ni kodomo-o yob-ase-ta.
-NOM -DAT child-ACC call-CAUSE-PAST
'Taro made Hanako call the child.'
b. * Kodomo$_1$-ga Taroo-ni(yotte) Hanako-ni t_1 yob-ase-rare-ta.
child-NOM -DAT(by) -DAT call-CAUSE-PASS-PAST
'The child was made to call by Hanako by Taro.'

In (33b) the causee *kodomo* 'child' has undergone passivization out of the embedded clause, and the sentence becomes ungrammatical. Miyagawa claims that this suggests that restructuring is not an option for causatives and excludes (33b) as a Condition A violation, assuming that the trace, being a pure anaphor, must be bound in its clause.

However, as has been examined so far in this section, causatives in fact exhibit other restructuring properties. In fact, Miyagawa admits that they exhibit both mono-clausal and bi-clausal properties. However, he claims that their mono-clausal properties are not due to restructuring, but that they are associated with a dual structure: that is, a causative construction is simultaneously mono-clausal and bi-clausal along the lines of Zubizarretta (1982):

(34)



This line of analysis is incompatible with the current Minimalist Framework, where there are no levels of representations, which forces a structure to be either simplex or complex. Moreover, once a causative sentence is simultaneously mono-clausal and bi-clausal, it is not clear to me why the object in (33b) cannot be passivized from the mono-clausal structure of the sentence.

Thus, the ungrammaticality of (33b) should be explained on independent grounds. I assume that movement of the object DP violates some type of locality

constraint: that is, movement of the object necessarily moves over the dative DP, violating Minimality (Kiguchi 2006; Takahashi 2010). In other words, movement of the dative DP is more local than that of the object DP in the following configuration:[23,24]

[23] The implication of this line of analysis is that both DPs must be in the same domain when the locality is calculated. Thus, the lower *v* cannot serve as a phase head, which spells out its complement (VP) containing the object DP. We will come back to the structure of causatives later in section 5, which will be updated in Chapter 4.

[24] However, the story is not that simple. The direct object of a ditransitive verb can be passivized, crossing over the indirect object:

(i) Hon-ga Mary-ni t okur-are-ta
-NOM -DAT send-PASS-PAST
Lit. 'A book was sent Mary'

Although I do not have a direct answer to this, I speculate that the ungrammaticality of (33b) could also be due to the application of 'long passives' which is only allowed with certain aspectual verbs such as *hajime* 'begin' or *oe* 'finish' (Nishigauchi 1993). In fact, compared to (ii), neither the motion verbs nor *mi* 'try', which will be examined in the next subsection, tolerate long-passives:

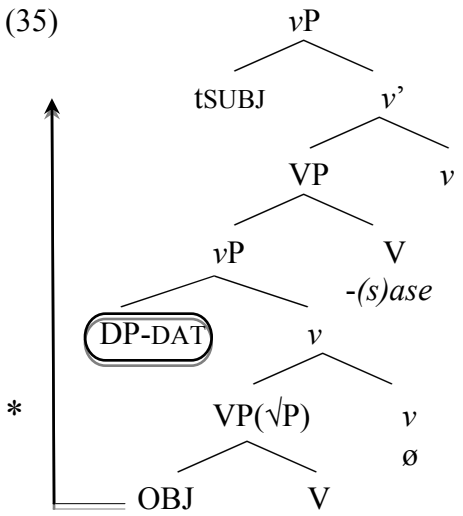
(ii) Sono keeki-ga tabe-hajime-rare-ta.
that cake-NOM eat-begin-PASS-PAST
'That cake was begun to be eaten.'
lit. 'That cake was begun to eat.'

(iii)??/*Sono keeki-ga tabe-ni-ko-rare-ta.
that cake-NOM eat-NI-come-PASS-PAST
'That cake was come to be eaten.'
lit. 'That cake was come to eat.'

(iii) * Sono keeki-ga tabe-te-mi-rare-ta.
that cake-NOM eat-TE-try-PASS-PAST
'That cake was tried being eaten.'
lit. 'That cake was tried eating.'

Assuming that the motion verbs and *mi* do not allow long passives, I speculate that *sase* does not also alow long passive, and hence the ungrammaticality of (33b). See also Kiguchi (2006) for a phase-based different explanation of the minimality effect of the causative.

(35)



Summarizing this section, we have seen that causative constructions pass all the diagnoses for restructuring, suggesting that the *-sase* qualifies as a restructuring predicate.

2.3 Try: *mi*

The last predicate of the kind that I would like to examine is V-*te mi* the 'try V-ing' construction.[25] The verb *mi* means 'to see' on its own; however, when it has as its complement a verbal construction with the particle *-te*, the verb *mi* yields the interpretation of 'try V-ing':[26]

[25] V-*te* V constructions are not restricted to *mi*, and other verbs such as *morau* 'to receive' or *ok* 'to put' also participate in the constructions, yielding V-*te morau* 'receive the favor of doing X' and V-*te oku* 'doing X in advance', respectively. The examples of each verb are as follows:

(i) Haha-ni bento-o tukut-te morat-ta.
Mother-DAT boxed lunch-ACC make-TE receive-PAST
'My mother made me lunch.'

(ii) Asita-no gohan-o tukut-te oi-ta.
tomorrow-GEN meal-ACC make-TE put-PAST
'I have prepared the meal for tomorrow.'

I only take up *V-te mi* in this thesis, but the same facts should also apply to these verbs with *V-te* forms as well.

[26] The morpheme *-te* is subject to voicing when the last segment of a verb stem it attaches to ends with a voiced consonant. We examine the nature of this morpheme in Chapter 4.

(36) Sono hon-o yon-de-mi-ta.
that book-ACC read-TE-MI-PAST
'I tried reading that book.'

mi is often followed by the desiderative morpheme *-ta(i)* 'want':

(37) Itsuka eberesto-ni nobot-te-mi-ta-i.
someday Mt. Everest-DAT climb-TE-MI-WANT-PRES
'I would like to try climbing Mt. Everest someday.'

The construction is similar to that of the motion verbs from the section 2.1 in that the embedded verb is accompanied by the intervening morpheme, only with the difference of its morphological shape (i.e. V-***ni*** *ik/ku* 'go/come' vs. V-***te*** *mi* 'try'). As shown by the possible long-distance nominative Case assignment in the examples below, *mi* also behaves the same way as the motion verbs. Thus, the object can appear either with nominative or accusative Case:

(38) a. Midori-wa sono mise-de keeki-ga tabe-te mi-tai.
Midori-TOP that store-at cake-NOM eat-TE try-WANT
'Midori wants to try eating cake at that store'
b. Midori-wa sono mise-de keeki-o tabe-te mi-tai.
Midori-TOP that store-at cake-ACC eat-TE try-WANT
'Midori wants to try eating cake at that store'

The *sika na(i)* test also shows that *sika na(i)* can appear separately in each clause:

(39) [Midori-wa [sono mise-de keeki-**sika** tabe-te] mi-**na**-katta].
Midori-TOP that store-at cake-SIKA eat-TE try-NEG-PAST
'Midori only ate cake at that store'

As we expect, the scrambling test also shows that the scrambled phrase can bind an anaphor in the matrix clause:

(40) ?[Taro-to Jiro]$_1$-o [otagai$_1$-no-sensei-ga [t_1 hihansi]-te]
-and -ACC each other-GEN-teacher-NOM criticize-TE
mi-ta.
try- PAST
'Taro and Jiro$_1$, each other's teachers tried criticizing t_1.'

Thus, all restructuring tests confirm that *mi* is also a restructuring predicate, behaving the same way as the motion verbs and the causative verbs.

2.4 Section Summary

In this section, we have looked at three types of predicates: the motion verbs *ik* 'go' and *ku* 'come', the causative morpheme *-sase*, and *mi* 'try', showing that these predicates exhibit clause-union effects.

Interestingly, nominative objects behave differently in terms of their scope relative to other scope-bearing elements in a sentence. In the following section, I will particularly focus on nominative objects and their scope properties, establishing the basis that scope positions of objects correlate with their syntactic positions. The foundation of this assumption becomes very important in the later discussion since I will ultimately claim that the predicates examined in this section behave differently with respect to where it can host a nominative object, based on the observation of where the object takes scope.

3. Nominative Objects and Scope

This section provides literature review on Japanese nominative object constructions, particularly focusing on the scope of the nominative object. I will take up two opposing views regarding the base-generated position of the object, which I will ultimately (in Section 4) claim are both necessary for the data that I will be presenting. Recall in Chapter 2, Section 2.1.2 that the scope facts on nominative objects are generally not settled in the literature. We have seen while it has been first pointed out that nominative objects unambiguously take wide scope over the potential morpheme *-rare* (Koizumi 1994, 1995; Tada 1992 among others), Nomura (2003, 2005) later pointed out that they can also take narrow

scope below *-rare*. On the other hand, accusative objects are consistently acknowledged to take only narrow scope. The relevant examples are repeated below:

(41) a. John-ga migime-dake-ga tumur-e-ru
John-NOM right-eye-only-NOM close-can-PRES
'John can close only his right eye'
Interpretation 1 (only > can):
It is only his right eye that John can close.
Interpretation 2 (can > only):
John can wink his right eye.

b. John-ga migime-dake-o tumur-e-ru
John-NOM right-eye-only-ACC close-can-PRES
'John can close only his right eye'
#Interpretation 1 (only > can):
It is only his right eye that John can close.
Interpretation 2 (can > only):
John can wink his right eye.

Thus the generalization so far is that nominative objects take scope below or above *-rare*, whereas accusative objects must take scope below *-rare*.

However, in Section 4, I will point out that while the causative *-sase* and *mi* allow ambiguous scope of the nominative object, the motion verbs only allow wide scope. Thus, the scope generalization does not seem to hold anymore once the nominative objects are embedded under the motion verbs, and they must take wide scope. I will present the core data below in anticipation of a later discussion:[27]

[27] Appropriate contexts to derive each interpretation for the data below will be provided later.

(42) *Ambiguous scope with sase*

a. Kana-wa Nanasa-ni shirogohan-dake-ga tabe-sase-rare-ru.
-TOP -DAT rice-only-NOM eat-CAUSE-CAN-PRES
'Kana can make Nanasa eat only rice'
Interpretation 1 (only > can):
It is only rice (and nothing else) that Kana is able to make Nanasa eat.
Interpretation 2 (can > only):
Kana is able to make Nanasa eat rice without eating anything else.

b. Kana-wa Nanasa-ni shirogohan-dake-o tabe-sase-rare-ru.
-TOP -DAT rice-only-ACC eat-CAUSE-CAN-PRES
'Kana can make Nanasa eat only rice'
#Interpretation 1 (only > can):
It is only rice (and nothing else) that Kana is able to make Nanasa eat.
Interpretation 2 (can > only):
Kana is able to make Nanasa eat rice without eating anything else.

(43) *Ambiguous scope with mi*

a. Yuko-wa inu-dake-ga kat-te-mi-ta-i.
Yuko-TOP dog-only-NOM have-TE-try-WANT-PRES.
'(Lit.) Yuko wants to try having only dogs'
Interpretation 1 (only > want):
It is only dogs (and nothing else) that Yuko wants to try having.
Interpretation 2 (want > only):
Yuko's desire is that she wants to try having only dogs without having other animals.

b. Yuko-wa inu-dake-o kat-te-mi-ta-i.
Yuko-TOP dog-only-ACC have-TE-try-WANT-PRES.
'(Lit.) Yuko wants to try having only dogs'
#Interpretation 1 (only > want):
It is only dogs (and nothing else) that Yuko wants to try having.
Interpretation 2 (want > only):
Yuko's desire is that she wants to try having only dogs without having other animals.

(44) *Unambiguous scope with ik and ku*

a. Yuko-wa sono kookyuu resutoran-ni sarada-dake-ga tabe-ni
-TOP that expensive restaurant-to salad-only-NOM eat-NI
ik-e-ru/ ko-rare-ru.
go-CAN-PRES/ come-CAN-PRES
'Yuko is able to go/come to that expensive restaurant to eat only salad.'
Interpretation 1 (only > can):
It is only salad (and nothing else) that Yuko is able to go to that expensive restaurant to eat.
#Interpretation 2 (can > only):
It is possible for Yuko to go/come to that expensive restaurant to eat only salad.

b. Yuko-wa sono kookyuu restoran-ni sarada-dake-o tabe-ni
-TOP that expensive restaurant-to salad-only-ACC eat-NI
ik-e-ru/ ko-rare-ru.
go-CAN-PRES/ come-CAN-PRES
'Yuko is able to go to that expensive restaurant to eat only salad.'
#Interpretation 1 (only > can):
It is only salad (and nothing else) that Yuko is able to go to that expensive restaurant to eat.
Interpretation 2 (can > only):
It is possible for Yuko to go to that expensive restaurant to eat only salad.

In (42) and (43), the nominative object takes both narrow and wide scope, whereas in (44) the nominative object must take wide scope. As for the accusative object, it consistently takes narrow scope, which is compatible with the scope generalization. I will examine these data in detail in Section 4, pointing out that they challenge the previous analyses that are only able to capture either the obligatory wide scope or the unambiguous scope of the nominative object but not both. The data will also present a new perspective of restructuring phenomena by showing different types of restructuring. However, I will focus my attention on the scope facts of nominative objects but not of accusative objects, limiting myself to only mention the facts and the attempts made by the previous analyses. This is because as mentioned in Chapter 2, the scope of accusative objects is not so straightforward. Moreover, as will be seen in section 6, it is very difficult to exclude the narrow scope reading of the object in terms of entailment relationships.

This section thus forms a foundation on the literature on nominative objects and their scope. I will first discuss two opposing views on nominative object constructions, which diverge as to where nominative objects are licensed (Bobaljik & Wurmbrand 2005, Koizumi 1994, 1995; Nomura 2005; Tada 1992; Takahashi 2010; Wurmbrand 2001 among others on the one hand, Saito and Hoshi 1998; Takano 2003 on the other). One camp, which I call the movement-based approach, assumes that the nominative object is first base-generated in a canonical object position (i.e. the complement of an embedded V) and later moves to a higher position for Case (Bobaljik & Wurmbrand 2005; Koizumi 1994, 1995; Tada 1992) or for QR (Takahashi 2010) where it takes scope over *-rare*.[28] The other camp, which I call the base-generation approach, assumes that the nominative object is directly base-generated in a non-canonical position that is higher than *-rare*, and from there it takes wide scope (Takano 2003; Saito and Hoshi 1998). It is important to note, however, that except for Takahashi's (2010) analysis, both camps base their analyses on the old scope generalization that nominative objects must take wide scope.

In the following subsections, I will first examine the movement-based analyses, taking up Bobaljik & Wurmbrand's (2005) analysis as a representative of that camp. Bobaljik & Wurmbrand's obligatory wide scope effect in German has already been discussed in Chapter 2, but this time we focus on their analysis of Japanese scope facts. I will then discuss Takano's (2003) novel analysis from the base-generation approach, which will later be modified and form the basis of my analysis on the scope facts. As briefly mentioned above, however, both views have not accommodated the narrow scope reading of nominative objects. We will thus discuss one analysis from Takahashi (2010) that captures the narrow scope reading of the nominative object, examining both its theoretical advantages and disadvantages.

[28] Whether the relevant movement is Case-driven (Koizumi 1994; Nomura 2003, 2005; Tada 1992 among others) or QR (Takahashi 2010) is another issue. Although I assume that it is Case-driven in Chapter 4, my analysis does not necessarily exclude the QR-driven movement.

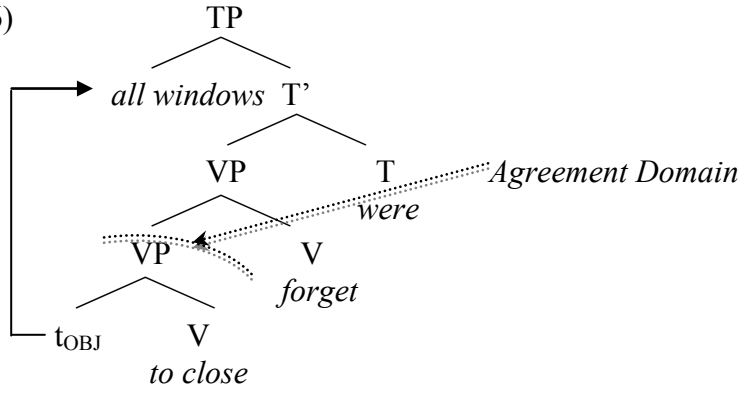
3.1 Movement Approach: Bobaljik & Wurmbrand (2005)

Recall from Chapter 2, Section 2.2.3 that Bobaljik & Wurmbrand (2005) explain the German obligatory wide scope effect in terms of the VP-complementation structure and the notion of agreement domains. Consider the relevant example again:

(45) weil alle Fenster zu schließen vergessen wurden
since all windows (NOM) to close forgotten were
'since they forgot to close all the windows'
all > forget *forget > all

We have seen that in (45) since the complement clause 'to clause all windows' constitutes an agreement domain, the object must move out of the domain to obtain Case. The structure of (45) and the definition of agreement domain are repeated below:

(46)



(47) *The induced domain generalization* (Bobaljik & Wurmbrand 2005:20)
The (verbal) complement to a lexical verb delineates an agreement domain.

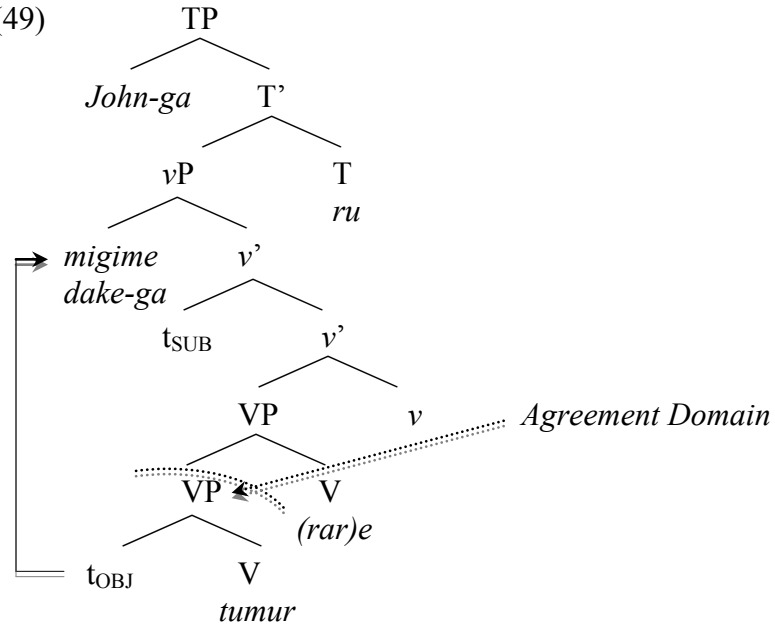
Bobaljik & Wurmbrand's analysis is that after the object movement, since a copy/trace left for A-movement does not count for scope (i.e. Agree must be evaluated at LF), as a consequence, the object necessarily takes wide scope.

Bobaljik & Wurmbrand argue that the same analysis applies to the Japanese obligatory wide scope effect such as (48), following the old scope generalization that nominative objects must take wide scope:

(48) John-ga migime-dake-ga tumur-e-ru
John-NOM right-eye-only-NOM close-can-PRES
'John can close only his right eye'
only > can; *can>only

Assuming that the potential *-rare* is a lexical verb, and that nominative Case is assigned by *v* specified as [+stative] (Wurmbrand 2001), they provide the following structure (49):[29]

(49)



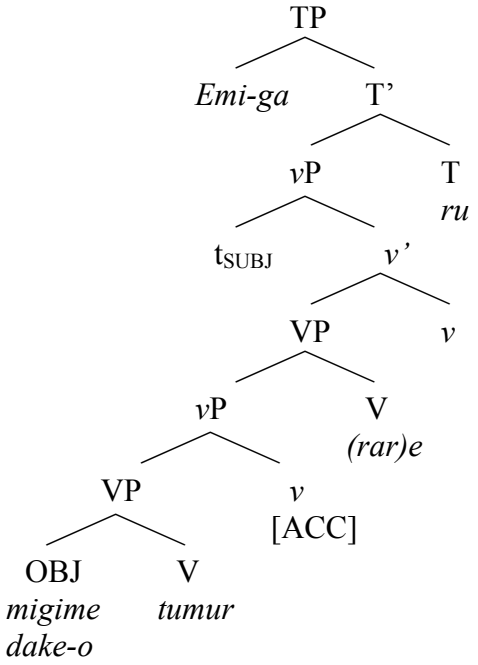
As with the German example in (45), the object in (49) is trapped inside an agreement domain, since the lower VP containing the object is a complement of the lexical verb *rare*. Thus, it needs to move outside of the agreement domain to

[29] I also assume that *-(rar)e* is a lexical verb for concreteness. However, whether it is a functional or a lexical category should not matter for my analysis.

obtain Case to a position higher than *rare*, where it obligatorily takes wide scope for the same reasoning as the German example.[30]

As for the lack of obligatory wide scope effects of accusative objects, since accusative objects are generated under non-restructuring verbs (recall Chapter 2, Section 2.1.2), Bobaljik & Wurmbrand assume that they involve a Case projection *v*P below -*rare*, as shown below:

(50)



In the above structure, since the object is able to obtain Case in its base-position, it does not need to move out of its own VP. Thus, accusative objects, in contrast to nominative objects, do not exhibit the obligatory wide scope effect and are thus able to take narrow scope.[31]

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[30] Bobaljik & Wurmbrand are aware of Nomura's observation on the narrow scope of nominative objects. Their analysis will still be compatible with Nomura's data, if -*rare* is a functional element, which does not induce an agreement domain. However, since their criteria for the lexical/functional split for Japanese is not provided, this line of argument appears to be circular.

[31] Bobaljik & Wurmbrand do not commit themselves to take a position as to whether accusative objects obligatorily take narrow scope, as indicated by the fact that they do not give any judgments on the wide scope reading of accusative objects. As briefly

Thus, under the movement approach, nominative objects are base-generated below *-rare*, but the base position does not count for scope due to the opacity of the lower VP that contextually arises. In the next subsection, we discuss the base-generation approach, which assumes that nominative objects do not undergo movement and are thus base-generated above *-rare* from the beginning.

3.2 Base-Generation Approach: Takano (2003)

Takano (2003), observing the similarities between what is called 'major' objects (Hoji 1991) and nominative objects, argues that nominative objects are not thematic objects of the embedded verbs. Major objects are exemplified below:

(51) a. John-wa Mary-o tensai-da-to omot-te-i-ru.
-TOP -ACC genius-is-that think-TE-I-PRES
'John thinks of Mary that she is a genius.'
b. Keisatu-wa Bill-o hanin-da-to dantei-si-ta.
police-TOP -ACC culprit-is-that concluded
'The police concluded of Bill that he was the culprit.'

Since Kuno's (1976) work, it has been pointed out that the accusative phrase in (51) does not reside in the embedded clause, as opposed to the nominative phrase in (52) that is an element of the embedded clause:

(52) a. John-wa Mary-ga tensai-da-to omot-te-i-ru.
-TOP -NOM genius-is-that think-TE-I-PRES
'John thinks that Mary is a genius.'
b. Keisatu-wa Bill-ga hanin-da-to dantei-si-ta.
police-TOP -NOM culprit-is-that assertion-do-PAST
'The police concluded that Bill was the culprit.'

As shown below, the nominative phrase cannot precede a matrix adverb, whereas the accusative phrase can (Kuno 1976):

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mentioned earlier, and will be discussed in section 6, excluding the wide scope of the accusative object is very difficult, and thus is an open question for their analyses as well.

(53) a. John-wa (orokanimo) Mary-ga (*orokanimo) tensai-da-to
-TOP stupidly -NOM stupidly genius-is-that
omot-te-i-ru.
think-TE-I-PRES
'(Stupidly,) John thinks that Mary is a genius.'
b. John-wa (orokanimo) Mary-o (orokanimo) tensai-da-to
-TOP stupidly -ACC stupidly genius-is-that
omot-te-i-ru.
think-TE-I-PRES
'(Stupidly,) John thinks that Mary is a genius.'

This suggests that the accusative phrase is not in the embedded clause and is associated with the matrix clause. [32] The accusative object in a construction like (51) has been assigned a structure like (54), where the object is base-generated in the matrix clause, binding a pronominal subject in the embedded clause (Oka 1988, Saito 1985 among others):

(54) NP-TOP NP_1-ACC [CP…pro_1…] V

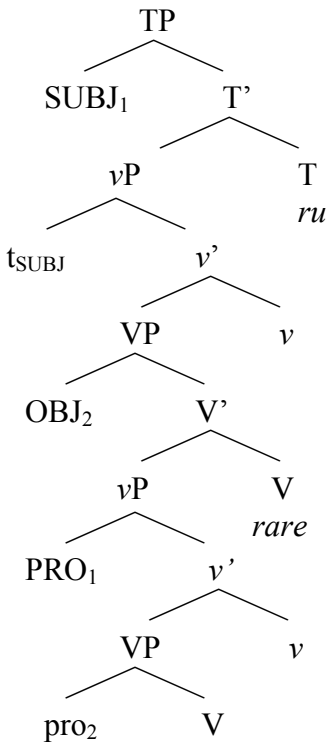
Takano (2003) argues that the same line of analysis applies to nominative object constructions. More specifically, he proposes the structure in (55), where the nominative object is base-generated in the matrix VP and binds a pronominal element situated in the canonical object position in the embedded clause:

[32]The accusative phrase and the nominative phrase behave differently with respect to the scope that they take, too. In the examples below, the nominative phrase can take narrow scope below the matrix predicate, whereas the accusative phrase cannot:

(i) a. Keisatu-wa sannin-no otoko-ga hannin-da-to dantei-si-ta.
police-TOP three-GEN man-NOM culprit-is-that conclusion-do-PAST
b. Keisatu-wa sannin-no otoko-o hannin-da-to dantei-si-ta.
police-TOP three-GEN man-ACC culprit-is-that conclusion-do-PAST
'The police concluded that three men committed the crime.'
(Takano 2003:802)

According to Takano, (ia) is felicitous under the interpretation where 'the existence of three men is true in the mind of the matrix subject', whereas (ib) cannot have the same interpretation and instead has an interpretation where 'the existence of three men is true to the speaker.' Although I agree with Takano's judgment, I will not use numeral quantifiers as a scope detector for the reason that I will mention in Section 6.2.

(55)



Unlike Bobaljik & Wurmbrand (2005), Takano assumes a full *v*P structure below *-rare*, which in turn takes two null elements: one is PRO, which is controlled by the matrix subject, and the other is *pro* bound by the base-generated object in the matrix VP. Under this analysis, the nominative object is base-generated higher than *-rare*, which automatically explains the obligatory wide scope of nominative objects.

As for the structure of accusative objects, Takano places the object in the canonical object position instead of *pro* in the embedded clause.[33] Thus, the object successfully takes narrow scope below *-rare* in a similar manner to Bobaljik & Wurmbrand.

Takano's proposal on nominative objects is based on the following three facts: (a) there are no connectivity or reconstruction effects with respect to quantifier scope; (b) 'aboutness' relationships (Kuno 1973, Saito 1985) are

[33]Whether an object undergoes short movement (i.e. object shift) is an independent issue. See Ochi (2009) for details. The point here is that the object starts off as a complement of a verb.

observed; (c) there are no subjacency effects. Let us consider these facts in turn. Starting with the lack of connectivity/reconstruction effects, consider the major object construction in (56) first:

(56) a. Mary-wa [sannin-no gakusei]$_1$-ga subete-no sensei-ni t_1
-TOP three-GEN student-NOM all-GEN teacher-DAT
syookais-are-ru beki-da-to omot-te-i-ru.
introduce-PASS-PRES should-COP-that think-TE-I-PRES
'Mary thinks that three students should be introduced to every teacher.'
three > every; every > three

b. Mary-wa sannin-no gakusei-o subete-no sensei-ni
-TOP three-GEN student-ACC all-GEN teacher-DAT
syookais-are-ru beki-da-to omot-te-i-ru.
introduce-PASS-PRES should-COP-that think-TE-I-PRES
'Mary thinks that three students should be introduced to every teacher.'
three > every; *every > three
(Takano 2003: 807)

In (56a), the nominative DP is moved from the object position, which is structurally lower than the universal quantifier. Given that Case-related movement induces connectivity effects (May 1977), the object is expected to show ambiguity with respect to its scope, yielding two interpretations; (a) 'there are three specific students that Mary thinks should be introduced to every teacher' and (b) 'for every teacher, Mary thinks that three students should be introduced to them.'[34] As indicated above, this is shown to be true: the nominative DP can take either wide or narrow scope relative to the dative DP.

On the other hand, in (56b), the accusative DP necessarily takes wide scope. This is explained straightforwardly under the major object analysis, which base-generates the object in the matrix VP. Since there is no movement involved in this case, the narrow scope position is simply unavailable with the major object. Bearing the contrast in (56) in mind, now consider cases with nominative objects:

[34] The fact that the nominative DP shows scope ambiguity contradicts Bobaljik & Wurmbrand's assumption that Case-driven movement cannot reconstruct for scope. However, we will later see that scope of numeral quantifiers is not as robust as the scope of *dake* 'only.'

(57) a. Mary-wa sanin-no gakusei-ga subete-no sensei-ni
-TOP three-GEN student-NOM all-GEN teacher-DAT
susume-rare-ru.
recommend-CAN-PRES
'Mary can recommend three students to every teacher.'
three > every; ?*every > three

b. Mary-wa sanin-no gakusei-o subete-no sensei-ni
-TOP three-GEN student-ACC all-GEN teacher-DAT
susume-rare-ru.
recommend-CAN-PRES
'Mary can recommend three students to every teacher.'
three > every; every > three
(Takano 2003: 789)

In (57a) the nominative object necessarily takes wide scope, whereas the accusative object in (57b) optionally takes wide or narrow scope with respect to the dative DP. Thus, the nominative object behaves the same way as the major object in (56b).

Let us next consider 'aboutness' relationships observed in major objects. In (58), the complement clause needs to establish what is called the 'aboutness relationship' (Kuno 1973), which ensures that the complement clause must be a statement about the major object:

(58) Watshi-wa Mary$_1$-o [pro$_1$ kirei-da-to] omo-u.
I-TOP -ACC beautiful-COP-that think-PRES
'I think of Mary that she is beautiful.'

In (58), the complement clause 'that X is beautiful' describes something about the major object, *Mary*. The aboutness relationship is assumed to hold through a pronominal element in the complement clause, which is bound by a base-generated object (Saito 1985). When the aboutness relationship does not hold, the sentence thus becomes unacceptable. In (59), the *pro* is replaced by the overt noun *Nancy*, and the sentence fails to meet the aboutness requirement:

(59) * Watshi-wa Mary-o [Nancy-ga kirei-da-to] omo-u.
I-TOP -ACC -NOM beautiful-COP-that think-PRES
'I think of Mary that Nancy is beautiful.'
(Takano 2003: 808)

Interestingly, if *Nancy-ga* above is replaced by something that can be semantically associated with the major object, the grammatical status of the sentence improves:

(60) Watashi-wa $Mary_1$-o ($kanozyo_1$-no) me-ga kirei-da-to
I-TOP -ACC she-GEN eye-NOM beautiful-COP-C
omo-u.
think-PRES
'I think of Mary that her eyes are beautiful.'
(Takano 2003: 808)

Takano shows that the same holds for the nominative object construction. As shown below, while (61a) is acceptable, (61b) is not:

(61) a. John-wa Mary-ga sikar-e-na-i.
-TOP -NOM scold-CAN-NEG-PRES
'John cannot scold Mary.'
b. *John-wa Mary-ga Bill-o sikar-e-na-i.
-TOP -NOM -ACC scold-CAN-NEG-PRES
'John cannot scold Mary Bill.'
(Takano 2003: 808)

Again, the sentence will improve if *Bill-o* in (61) is replaced with a semantically related element to the nominative object:

(62) John-wa Mary-ga (kanozyo-no) musuko-o sikar-e-na-i.
-TOP -NOM she-GEN son-ACC scold-CAN-NEG-PRES
'John cannot scold Mary's son '
(Takano 2003: 809)

Let us now consider the lack of subjacency effects in both constructions. As shown below, the major object construction is not subject to subjacency:

(63) Minna-wa Mary$_1$-o [[e$_1$ e$_2$ hanasu] kotoba$_2$-ga zyoohin-da-to]
everyone-TOP -ACC speak word-NOM graceful-is-that
omot-te-i-ru.
think-TE-I-PRES
'Everyone thinks of Mary that the words that she speaks are graceful.'
(Takano 2003: 809)

In (63) the bracketed part constitutes a relative clause, and the subject gap related to the major object *Mary* is not subject to subjacency.[35] This shows that the gap is in fact a *pro* but not a trace left by movement. Takano shows that the same is true of the nominative object construction:[36]

(64) a. Watasi-wa doitugo$_1$-ga [[e$_2$ e$_1$ hanasu] hito$_2$-o
I-TOP German-NOM speak person-ACC
sagas]-e-ru.[37]
search.for-CAN-PRES
'I can search for a person who speaks German.'
b.*Mary-wa doitugo-o/*ga hanas-u.
-TOP German-ACC/NOM speak-PRES
'Mary speaks German.'

---

[35] Kuno (1973) first observes that Japanese relative clauses do not exhibit subjacency effects:

(i) [$_{NP}$[$_S$[$_{NP}$ [$_S$ e$_1$ e$_2$ kite-iru] yoohuku$_2$]-ga yogorete-iru] shinshi$_1$]
wear-be clothes -NOM dirty-be gentleman
'The gentleman$_1$ who the suit he$_1$ is wearing is dirty.'

[36] Matsui (2009) observes that the sentence in (64a) is unacceptable under the generic interpretation of the nominative object. The same observation holds for the 'aboutness' sentence in (60). Note that we would predict that the nominative object of this kind should only take wide scope since it should always be base-generated higher than *-rare*. However, given Matsui's observation, the nominative object with the generic interpretation is not acceptable in the first place, and thus it is impossible to construct examples to test this prediction.

Takano does not mention the interpretive difference of the nominative object, and I will also leave this issue aside for future research, though I will briefly discuss it in Chapter 5.

[37] Again, the sentence sounds less natural than (i) below, where the predicate *hanas* 'to speak' is accompanied by the potential morpheme:

(i) Watasi-wa doitugo$_1$-ga [[e$_2$ e$_1$ hanas-e-ru] hito$_2$-o
I-TOP German-NOM speak-CAN-PRES person-ACC
sagas]-e-ru.[37]
search.for-CAN-PRES
'I can search for a person who speaks German.'

In (64a), the nominative object is associated with the object gap in the relative clause, which is not subject to subjacency. As shown in (64b), the predicate *hanas* 'to speak' does not assign nominative Case, showing that the object is assigned Case from the matrix predicate.

Finally, as already shown by (60) and (63), an element other than the subject of the embedded clause can be gapped and associated with the major object. In (65), the major object is associated with the object of the embedded clause:

(65) John-wa Mary$_1$-o [Bill$_1$-ga pro$_1$ hore-te i-ru to
-TOP -ACC -NOM in love-TE-be-PRES C
omot-te-i-ru].
think-TE-be-PRES
'John thinks of Mary that Bill is in love with her.'
(Takano 2003: 810)

As shown below, the embedded predicate *hore-te-i-ru* 'is in love' does not assign accusative Case and instead assigns dative Case:

(66) Bill-wa Mary-ni/*o hore-te-i-ru.
-TOP -DAT/ACC in love-TE-be-PRES
'Bill is in love with Mary.'

This suggests that (65) is a case of major objects and not an instance of the object scrambling.

The nominative object shows a similar pattern and does not necessarily have to be associated with the direct object of the embedded clause. In (67) the nominative object is associated with the indirect object of the embedded clause, which would otherwise be realized as a dative object in a simple transitive sentence like (68):

(67) Watasi-wa Mary-ga sono sigoto-o makase-rare-ru.
I-TOP -NOM that job-ACC leave-CAN-PRES
'I can leave the job to Mary.'

(68) Watasi-wa Mary-ni sono sigoto-o makase-ta.
I-TOP -DAT that job-ACC leave-PAST
'I can leave the job to Mary.'

Based on these facts, Takano provides a unified treatment of both major object constructions and nominative object constructions, assuming the base-generation structure. Takano's analysis is crucially different from Bobaljik & Wurmbrand's in that the nominative object is not moving from a canonical object position of the embedded clause but is rather base-generated in the matrix domain. As mentioned at the outset of this section, however, neither approach accommodates the possible narrow scope of nominative objects. In the next subsection, we see another account by Takahashi (2010), who pursues the movement-based analysis and yet accounts for the narrow scope facts of nominative objects.

3.3 Movement Approach: Takahashi (2010)

Takahashi (2010) dismisses both Bobaljik & Wurmbrand's (2005) and Takano's (2003) analyses, based on the fact that neither of them can accommodate Nomura's (2003, 2005) observation on the narrow scope reading of nominative objects. Moreover, he argues against Bobaljik & Wurmbrand's VP-complementation analysis by pointing out the fact that there should be a *v*P projection inside the embedded clause. First, consider again the following example from section 2.2 first:

(69) Taro$_1$-ga Hanako$_2$-ni zibun$_{1/2}$-no hon-o sute-sase-ta
-NOM -DAT self-GEN book-ACC discard-CAUS-PAST
'Taro made Hanako discard his/her book.'

We have seen that in (69), the subject-oriented reflexive *zibun* is able to refer to either *Taro* or *Hanako*. Defining antecedents for *zibun* as phrases in Spec, *v*P, Saito (2006) concludes that there are two *v*P clauses involved in the causative

construction, one in the matrix clause and the other in the embedded clause, which host *Taro* and *Hanako*, respectively. Bearing this in mind, let us now consider nominative objects in the causative construction:

(70) a. Taro$_1$-ga Hanako$_2$-ni zibun$_{1/2}$-no migite-ga
-NOM -DAT self-GEN right.hand-NOM
age-sase-rare-ta.
raise-CAUS-CAN-PRES
'Taro could make Hanako raise his/her hand.'
b. Taro$_1$-ga Hanako$_2$-ni zibun$_{1/2}$-no migite-o
-NOM -DAT self-GEN right.hand-ACC
age-sase-rare-ta.
raise-CAUS- CAN-PRES
'Taro could make Hanako raise his/her hand.'

In (70a) the nominative object can again refer to either *Taro* or *Hanako*, which indicates that the complement clause projects to a *v*P. The fact is the same with the accusative object in (70b). Takahashi thus concludes that even in a restructuring environment, the complement clause in the causative construction contains a *v*P, contra Bobaljik & Wurmbrand's VP-complementation analysis.

Now, consider Takahashi's crucial examples below:

(71) Taro-ga Hanako-ni migite-dake-ga age-sase-rare-ta.
-NOM -DAT right.hand-only-NOM raise-CAUS-CAN-PRES
Interpretation 1: (only > can)
'It is only his/her right hand that Taro could make Hanako raise.'
Interpretation 2: (can > only)
'Taro could make Hanako raise only his/her right hand without raising his/her left hand.'

(72) Taro-ga Hanako-ni migite-dake-o age-sase-rare-ta.
-NOM -DAT right.hand-only-ACC raise-CAUS-CAN-PRES
#Interpretation 1: (only > can)
'It is only his/her right hand that Taro could make Hanako raise.'
Interpretation 2: (can > only)
'Taro could make Hanako raise only his/her right hand without raising his/her left hand.'

In both (71) and (72) *dake* 'only' is attached to the object. Crucially, the nominative object is able to take either wide or narrow scope, whereas the accusative object necessarily takes narrow scope. Takahashi therefore claims that the presence or absence of a *v*P projection does not correlate with the scope interactions, contrary to Bobaljik & Wurmbrand's (2005) assumption: that is, both nominative and accusative examples involve *v*Ps, and yet there is a scope-freezing effect only with the accusative object.[38]

Takahashi proposes that the scope-freezing effect can be explained in terms of a phase theory. Assuming that *dake* undergoes QR, and that *v*P and CP constitute phases (Chomsky 2000, 2001a,b among others), he claims that QR needs to obey the Phase Impenetrability Condition (PIC); in other words, QR of *dake* is phase-bound. In order to explain the scope facts, he further proposes the following:

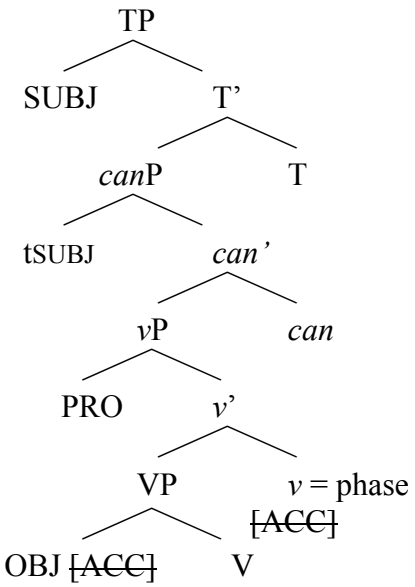
(73) Case-valuation determines phasehood.
(Takahashi 2010)

(73) ensures that the embedded *v*P only becomes a phase when it assigns accusative Case. Thus, the accusative object in (74) must take scope below *-rare* since the *v*P constitutes a phase, as schematized in (75):

(74) John-ga migime-dake-o tumur-e-ru.
-NOM right.eye-only-ACC close-can-PRES
'John can close only his right eye.'
*only > can; can > only

[38] Again, I do not speculate the scope freezing effects of accusative objects and focus my attention on nominative objects. I discuss the fact here since Takahashi's focus is on the scope-freezing effects of accusative objects.

(75)



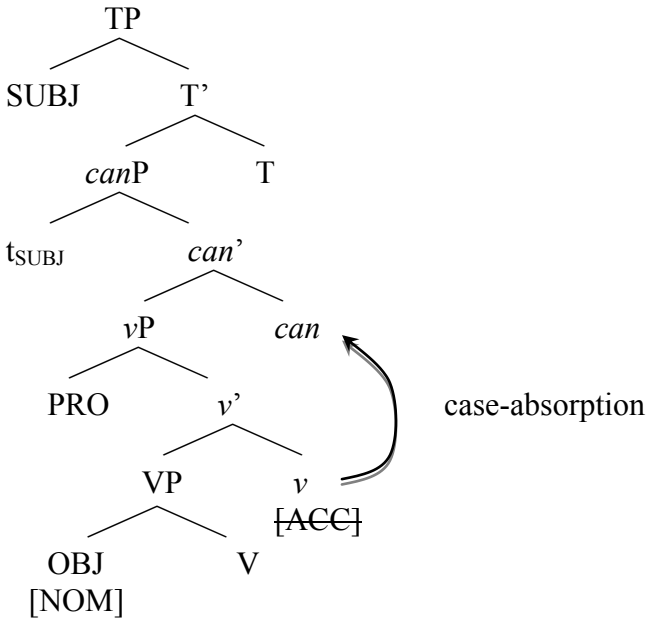
In (75), Takahashi assumes that *-rare* heads its own projection, and that it is not a lexical verb (Ura 1996, 1999). Since the embedded *v* assigns (i.e. values) accusative Case of the object, *v*P constitutes a phase in accordance to (73). Thus, the object is trapped inside the *v*P and cannot undergo QR across *v*P, which forces the object to take narrow scope.

On the other hand, Takahashi argues that the *v*P that hosts the nominative object does not constitute a phase. He first assumes with Ura (1996, 1999) that *-rare* optionally absorbs the Case-feature of *v* and that nominative Case on the object is assigned by T (Hiraiwa 2001, Koizumi 1994, Nomura 2005, Takezawa 1987 among others) in-situ.[39] Due to (73), the embedded *v*P does not become a phase, allowing the nominative object to undergo QR across *v*P to either *can*P or TP, from where the object takes scope over *rare*. The configuration of the sentence in (76) should therefore look like (77):

[39] The mechanism of Case-absorption does not seem to be clear when the potential accusative Case assigner is not the sister of the stative predicate as in the motion verb cases, if we assume that absorption only works in a sisterhood relationship between the stative predicate and the accusative Case-assigner.

(76) John-ga migime-dake-ga tumur-e-ru.
-NOM right.eye-only-NOM close-CAN-PRES
'John can close only his right eye.'
only > can; can > only

(77)



case-absorption

His causative examples in (71) and (72) can also be explained under the same mechanism. Takahashi assumes that in causative constructions, accusative Case of the embedded *v* is obligatorily absorbed by the causative morpheme -*sase*. His assumption is based on the fact that Case of the object does not come from the embedded predicate but rather comes from -*sase*. Consider (78):

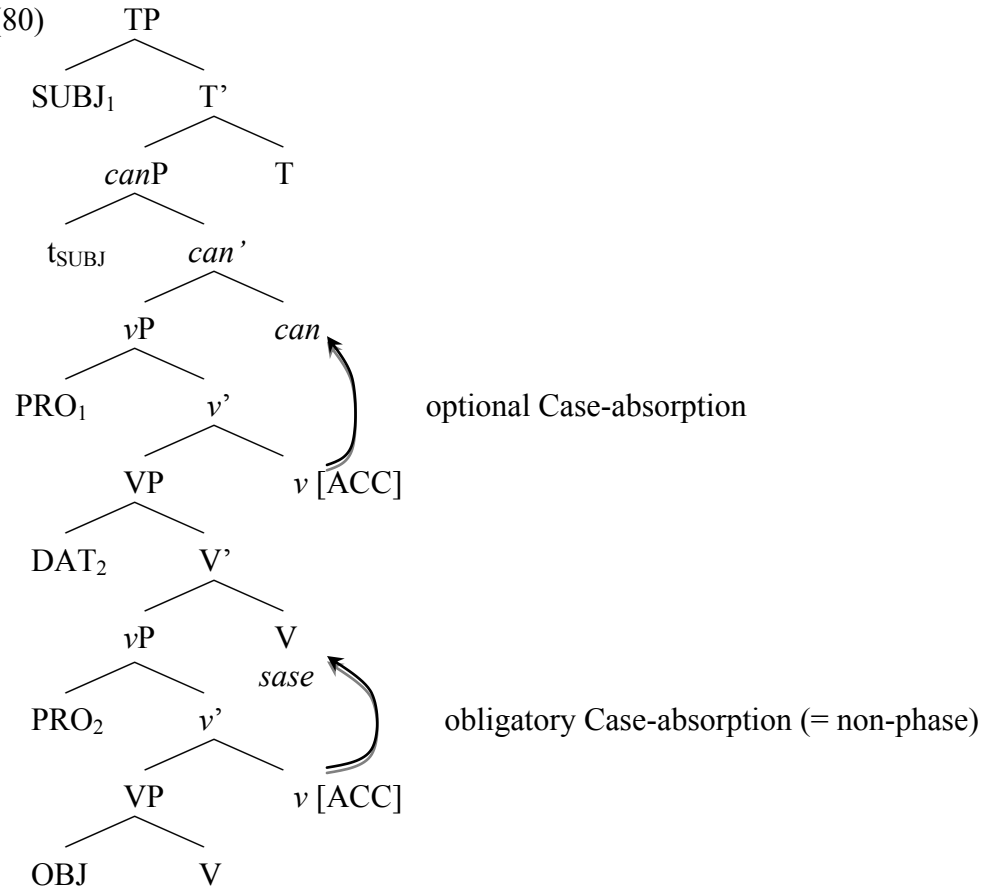
(78) John-ga eego-?o/ga wakar-u.
-NOM English-ACC/NOM know-PRES
'John understands English.'

(79) Mary-ga John-ni eego-o/*ga wakar-ase-ru.
-NOM -DAT English-ACC/NOM know-CAUS-PRES
'Mary makes John understand English.'

In (79) the stative predicate *wakar* 'to understand' assigns nominative Case to the object. However, when the predicate is followed by the causative -*sase*, the object cannot appear in nominative and must be instead accusative. Takahashi takes this as evidence that the object Case comes from -*sase* and not from *wakar*.

Going back to (71) and (72), the lower *v*P is therefore always a non-phase, since -*sase* obligatorily absorbs the Case-feature on *v*. However, the higher *v*P optionally becomes a phase or non-phase, depending on whether -*rare* absorbs the Case-feature on the higher *v*, as schematized below:

(80)



Thus, if -*rare* absorbs the Case-feature on the higher *v*, the object is licensed by T instead, appearing in nominative. This in turn ensures that the higher *v*P is not a phase, allowing the object to undergo QR to the position above -*rare*. If, on the other hand, -*rare* does not absorb the Case-feature, the higher *v*P serves as a phase, blocking QR of the accusative object. Thus, the accusative object necessarily takes narrow scope in this case. Takahashi's account is therefore movement-based and yet accommodates the narrow scope reading of nominative objects that neither Takano nor Bobaljik & Wurmbrand can explain.

3.4 Section Summary

In this section, I have reviewed three different approaches to nominative object constructions, each of which belongs to either the base-generation approach or the movement-based approach. From the movement-based approach, we saw Bobaljik & Wurmbrand (2005) and Takahashi (2010), who argue that the nominative object originates in a canonical object position and later moves to where it takes scope. However, the motivation for movement differs: Bobaljik & Wurmbrand assume that the movement is Case-driven, whereas Takahashi assumes that it is QR. From the base-generation approach, we saw Takano (2003), who proposes that the nominative object is not a thematic object of the embedded clause and is rather base-generated in the matrix clause. The three analyses are also different in terms of the structures for restructuring that they posit: Bobaljik & Wurmbrand assume that the complement clause of a restructuring predicate is a bare VP, whereas Takahashi and Takano assume that it involves a *v*P.

Moreover, each analysis makes a different prediction for the scope of nominative objects. Takano makes the strongest prediction that the nominative object always takes wide scope. Takahashi, on the other hand, predicts that the nominative object can always have narrow scope since the lower *v*P is not a phase in restructuring configurations (i.e. a Case-assigning *v* becomes a phase head). Bobaljik & Wurmbrand, however, predict that the nominative object must take wide scope in all cases of complements to lexical verbs.

However, in the following section, I show that none of their predictions hold, and that with certain matrix predicates such as the motion verbs, the nominative object only takes wide scope, which contradicts Takahashi's prediction. I also show that with other predicates such as the causative *-sase* and *mi*, the nominative object takes both wide and narrow scope, which then contradicts Bobaljik & Wurmbrand's and Takano's prediction.

4. Scope of Nominative Objects Revisited

In this section, we will see that it is not always the case that nominative objects ambiguously take narrow or wide scope. I first examine scope of nominative

objects with the motion verbs *ik* and *ku* in comparison to the causative examples. I then examine scope facts with *mi*, showing that even though its surface structure looks similar to that of the motion verbs, *mi* still behaves the same way as the causative. I then point out that none of the accounts alone discussed in the previous section are able to capture the new scope facts.

4.1 Motion Verbs vs. Causatives

The comparison between the causative morpheme *-sase* and the motion verbs *ik* and *ku* exhibits an intriguing contrast with respect to the scope of the nominative object. What is surprising is that although *-sase* allows optional narrow scope of the nominative object, the motion verbs only allow wide scope. The accusative object on the other hand consistently takes narrow scope as was the case with the other examples. In what follows, although I will present the data of both nominative and accusative objects, I will focus on the scope of nominative objects, leaving aside the scope facts of accusative objects for the reason to be discussed in Section 6.

Consider first the unsurprising patterns with *-sase*:

(81) a. Kana-wa Nanasa-ni shirogohan-dake-ga tabe-sase-rare-ru.
-TOP -DAT rice-only-NOM eat-CAUSE-CAN-PRES
'Kana can make Nanasa eat only rice'
Interpretation 1 (only > can):
It is only rice that Kana is able to make Nanasa eat (and nothing else).
Interpretation 2 (can > only):
Kana is able to make Nanasa eat rice without eating anything else.

b. Kana-wa Nanasa-ni shirogohan-dake-o tabe-sase-rare-ru.
-TOP -DAT rice-only-ACC eat-CAUSE-CAN-PRES
'Kana can make Nanasa eat only rice'
#Interpretation 1 (only > can):
It is only rice that Kana is able to make Nanasa eat (and nothing else).
Interpretation 2 (can > only):
Kana is able to make Nanasa eat rice without eating anything else.

As is also discussed in the previous section, the nominative object under the causative ambiguously takes scope above or below *-rare* in (81a). Thus, both Interpretation 1 and 2 described above are available. The accusative object,

however, unambiguously takes narrow scope below *-rare* (81b): therefore, only Interpretation 2 is available.

In fact, a follow-up statement such as (82), which forces one to interpret the narrow scope reading of the object, is available for both nominative objects and accusative objects:

(82) a. Kana-wa Nanasa-ni shirogohan-dake-ga tabe-sase-rare-ru.
-TOP -DAT rice-only-NOM eat-CAUSE-CAN-PRES
Demo, mochiron tsukemono-dake-mo tabe-sase-rare-ru.
but of course pickles-only-also eat-CAUSE-CAN-PRES
'Kana can make Nanasa eat only rice. But, of course, she can also make her eat only pickles.'

b. Kana-wa Nanasa-ni shirogohan-dake-o tabe-sase-rare-ru.
-TOP -DAT rice-only-ACC eat-CAUSE-CAN-PRES
Demo, mochiron tsukemono-dake-mo tabe-sase-rare-ru.
but of course pickles-only-also eat-sase-can-PRES
'Kana can make Nanasa eat only rice. But, of course she can also make her eat only pickles.'

Now let us look at the surprising scope patterns with the motion verbs *ik* and *ku*. First, consider the following contexts:

(83) **Context A**
Yuko is currently on a fairly low budget. Of all the menus at this expensive restaurant, their salad is the only affordable meal that she could go or come for.

(84) **Context B**
Yuko does not like spending money on food. She is brave enough to go or come to this expensive restaurant to eat only salad, although it is quite a frowned-upon behavior.

Note that Context A forces the wide scope reading of the object, whereas Context B ensures its narrow scope reading. Bearing this in mind, consider the following examples:

(85) a. Yuko-wa sono kookyuu resutoran-ni sarada-dake-ga tabe-ni
-TOP that expensive restaurant-to salad-only-NOM eat-NI
ik-e-ru/ ko-rare-ru.
go-CAN-PRES/ come-CAN-PRES
'Yuko is able to go/come to that expensive restaurant to eat only salad.'
Interpretation 1 (only > can):
It is only salad (and nothing else) that Yuko is able to go to that expensive restaurant to eat.
#Interpretation 2 (can > only):
It is possible for Yuko to go/come to that expensive restaurant to eat only salad.

b. Yuko-wa sono kookyuu restoran-ni sarada-dake-o tabe-ni
-TOP that expensive restaurant-to salad-only-ACC eat-NI
ik-e-ru/ ko-rare-ru.
go-CAN-PRES/ come-CAN-PRES
'Yuko is able to go/come to that expensive restaurant to eat only salad.'
#Interpretation 1 (only > can):
It is only salad (and nothing else) that Yuko is able to go to that expensive restaurant to eat.
Interpretation 2 (can > only):
It is possible for Yuko to go to that expensive restaurant to eat only salad.

Note that the accusative object in (85b) can take narrow scope as usual. However, the nominative object in (85a) unexpectedly takes only wide scope. In fact, a continuation that forces the object to take narrow scope is only possible with the accusative object but not with the nominative object:

(86) a.#Yuko-wa sono kookyuu resutoran-ni sarada-dake-ga tabe-ni
-TOP that expensive restaurant-to salad-only-NOM eat-NI
ik-e-ru. Demo, hanbaagu-dake-mo tabe-ni ik-e-ru.
go-CAN-PRES but hamburger-only-also eat-NI go-CAN-PRES
'Yuko is able to go to that expensive restaurant to eat only salad.
But she is also able to go there to eat only hamburger.'

b. Yuko-wa sono kookyuu resutoran-ni sarada-dake-o tabe-ni
-TOP that expensive restaurant-to salad-only-ACC eat-NI
ik-e-ru. Demo, hanbaagu-dake-mo tabe-ni ik-e-ru.
go-CAN-PRES but hamburger-only-also eat-NI go-CAN-PRES
'Yuko is able to go to that expensive restaurant to eat only salad. But she is also able to go there to eat only hamburger.'

Summarizing so far, the scope of accusative objects is the same in both the causative and the motion verb constructions, whereas the obligatory wide scope

effect of the nominative object emerges in the motion verb constructions. The fact is surprising, given the generalization that nominative objects ambiguously take narrow or wide scope. The obvious question to ask, then, is what the difference between *-sase* and the motion verbs is, and how these scope facts are explained.

In the following subsection, I will discuss the scope fact of *mi* constructions, showing that Bobaljik & Wurmbrand's (2005) lexical/functional split would make an incorrect prediction.

4.2 *mi*

Given the scope facts in the previous section, it is tempting to simply assume, along the lines of Bobaljik & Wurmbrand's analysis, that *-sase* is a functional restructuring predicate, whereas the motion verbs are lexical restructuring predicates.[40] Under this assumption, only the complement clause of the motion verbs constitutes an agreement domain, which then traps the nominative object in its Case position. Consequently, the nominative object with the motion verbs necessarily takes scope over *-rare*, whereas the object with the causative can take narrow scope. This is so since the complement clause of *-sase* does not constitute an agreement domain, and thus the object is able to obtain Case in-situ. The wide scope reading of the object would also be obtained if it undergoes EPP-driven movement to T (Nomura 2005), or QR (Takahashi 2010).

However, the lexical/functional split does not explain the fact that *mi* 'try' patterns the same way as *sase*. This is surprising since we would expect the

[40] Technically, this assumption will lose the criterion of the lexical/functional split that I adopt in this thesis. I will shortly claim that lexical elements assign Θ-roles, while functional elements do not. Since *-sase* assigns an agent Θ-role, it should belong to a lexical item under this criterion. In fact, Wurmbrand (2001) proposes the category called 'semi-functional' that falls in between lexical and functional elements. Semi-functional elements are lexical in the sense that they assign Θ-roles. But they appear as *v* which is a functional head in pure structural terms but is still in the lexical domain. Given this third type of category, we could alternatively assume that *-sase* could belong to semi-functional elements by assuming that it appears as *v* (cause). However, we will shortly see that it is difficult to extend this type of analysis to *mi* without losing any testable lexical/functional distinction.

lexical verb *mi* to behave with the motion verbs. Consider the following contexts first:

(87) **Context C**
Yuko has never had pets before. But she only likes dogs of all animals. If she is ever going to have a pet, she would like to try getting a dog, and it will be the only candidate for her pet.

(88) **Context D**
Yuko has always had cats and dogs as pets in her childhood since her parents liked having both. Although she does not mind having them both, she would like to try having only dogs or having only cats at a time once in her life.

As seen in section 2.3, *mi* is often accompanied by the desiderative *-tai*, another restructuring predicate which allows nominative objects. Thus, the scope interaction of our interest here is between the object and *-tai*.[41] While Context C forces the wide scope interpretation of the object, Context D forces its narrow scope reading. As shown below, the nominative object takes ambiguous scope, whereas the accusative object takes unambiguous narrow scope:

[41] The scope interaction between *dake* and *-tai* seems somewhat more difficult than that between *dake* and *-rare*. It seems hard to distinguish the wide scope reading 'not wanting p' (i.e. Yuko wants to have dogs & it is NOT the case that Yuko wants things other than dogs) from the narrow scope reading 'wanting not p' (i.e. Yuko wants dogs & and NOT things other than dogs).

Although V-*te*-V constructions do not seem to be compatible with *rare* for presumably pragmatic reasons, *dake* and *rare* could in principle interact and provide the same result, though the sentence does not sound natural:

(i) ?Yuko-wa inu-dake-ga kat-te mi-re-ru.
-TOP dog-ONLY-NOM have-TE-try-CAN-PRES
'Yuko can try having only dogs'
only > can; can > only

(89) a. Yuko-wa inu-dake-ga kat-te-mi-ta-i.
Yuko-TOP dog-only-NOM have-TE-try-WANT-PRES.
'(Lit.) Yuko wants to try having only dogs'
Interpretation 1 (only > want):
It is only dogs (and nothing else) that Yuko wants to try having.
(Yuko wants to have only dogs and it is not the case that she wants to have other animals.)
Interpretation 2 (want > only):
Yuko's desire is that she wants to try having only dogs without having other animals.
(Yuko wants to have only dogs and not animals other than dogs.)

b. Yuko-wa inu-dake-o kat-te-mi-ta-i.
Yuko-TOP dog-only-ACC have-TE-try-WANT-PRES.
'(Lit.) Yuko wants to try having only dogs'
#Interpretation 1 (only > want):
It is only dogs (and nothing else) that Yuko wants to try having.
Interpretation 2 (want > only):
Yuko's desire is that she wants to try having only dogs without having other animals.

Thus the object under *mi*, which seems to be a lexical predicate, does not pattern with the motion verbs, but rather behaves the same as the causative *-sase*. I argue that *mi* is a lexical predicate based on the fact that it assigns an agentive Θ-role. Consider the following examples first:

(90) a. Taoru-ga beranda-kara oti-ta.
towel-NOM balcony-from fall-PAST
'The towel fell off the balcony.'

b. Taro-ga beranda-kara oti-ta.
-NOM balcony-from fall-PAST
'Taro fell off the balcony.'

(91) a. Taihuu-ga sono tatemono-o hakai-si-ta.
typhoon-NOM that building-ACC destruction-do-PAST
'The typhoon destroyed that building.'

b. Taro-ga sono tatemono-o hakai-si-ta.
-NOM that building-ACC destruction-do-PAST
'Taro destroyed that building.'

In the examples above, both inanimate and animate subjects are compatible with the verb *ot* 'to fall' (90) or the verb *hakai-su* 'to destroy' (91). However, once the

predicate is embedded under *mi*, only the animate subject can appear in the sentence:

(92) a. *Taoru-ga beranda-kara oti-te-mi-ta.
towel-NOM balcony-from fall-TE-try-PAST
'The towel tried falling off the balcony.'
b. Taro-ga beranda-kara oti-te-mi-ta.
-NOM balcony-from fall-TE-try-PAST
'Taro tried falling off the balcony.'

(93) a. *Taihuu-ga sono tatemono-o hakai-si-te-mi-ta.
typhoon-NOM that building-ACC destruction-do-TE-try-PAST
'The typhoon tried destroying that building.'
b. Taro-ga sono tatemono-o hakai-si-te-mi-ta.
-NOM that building-ACC destruction-do-TE-try-PAST
'Taro tried destroying that building.'

In both (92) and (93), the animate subject *Taro* can be the subject of the sentence, whereas the inanimate subject such as *taoru* 'towel' or *taihuu* 'typhoon' cannot. This means that *mi* assigns a Θ-role, and it must be agentive.

If *mi* is a lexical predicate, then, the lexical/functional split does not always correlate with presence or absence of the obligatory wide scope, unless we find independent evidence that *mi* is a functional element. Yet we must somehow explain the fact that depending on the predicate, nominative objects necessarily take wide scope.

4.3 Section Summary

Let us summarize again where each of the previous analyses on nominative constructions stands. Bobaljik & Wurmbrand (2005) argue that all restructuring infinitives are bare VPs, and that the obligatory wide scope of nominative objects follows from contextually emerged boundaries for Case agreement, which crucially differ from domains for movement. Takano (2003), on the other hand, assumes that the obligatory wide scope directly follows from his structure where nominative objects are base-generated above the potential *-rare*. Takahashi (2010) disagrees with both analyses and proposes an alternative view of phases where a

phase is determined via Case-valuation. In his analysis, VP-complementation is rejected, and both nominative and accusative objects are assumed to be base-generated in the canonical object position. His complement clauses are *v*Ps, which optionally assign accusative Case.

I have shown in this section that each analysis alone faces a problem. The scope fact of the motion verbs shows that the nominative object in this construction must take wide scope, while Takahashi wrongly predicts both wide and narrow scope are possible. The scope facts of the causative *-sase* and *mi* on the other hand show that the nominative object takes either narrow or wide scope, which both Takano and Bobaljik & Wurmbrand fail to explain.

In the following section, instead of dismissing all of their analyses, however, I propose a combined account of both the movement-based approach and the base-generation approach. I argue that the scope ambiguity correlates with a structural difference derived from each approach, which in turn is determined predicate-by-predicate. More specifically, I propose that the movement-based approach and the base-generation approach do not need to be mutually exclusive, and that both are allowed by the grammar. I further argue that depending on the predicate, the nominative object is necessarily base-generated high along the lines of Takano (2003), whereas other predicates allow both options. Thus, the motion verbs which exhibit the obligaotory wide scope effect would yield Takano's base-generation structure, whereas the causative *-sase* and *mi* have the option of generating either type of the structure, namely, the base-generation structure or the movement-base structure. How the structural optionality arises is discussed in Chapter 4.

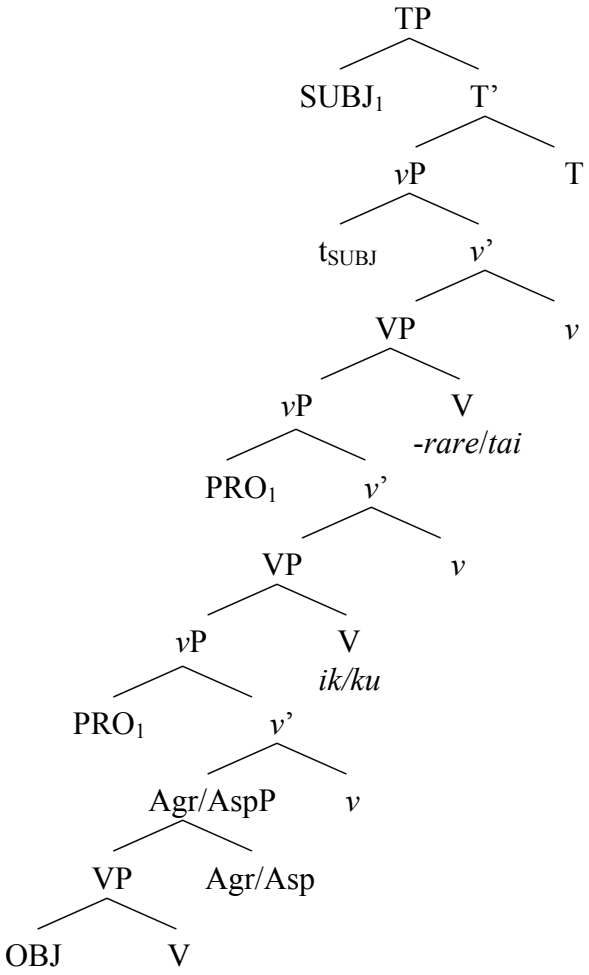
The combined account will also adopt the important ingredients from each analysis: from Takahashi's analysis, I adopt the proposal that the *v*P projection is necessary even in restructuring configurations, given the fact that the subject slot is necessary for his causative examples with reflexive-binding (see section 3.3). However, I depart from Takahashi and adopt Wurmbrand and Bobaljik & Wurmbrand's view that lack of Case-projection is responsible for nominative Case assignment on the object. Recall that Takahashi rejects Bobaljik &

Wurmbrand's VP-complementation structure only because the complement clause should be able to host a subject, for which *v*P is responsible. However, there should be no reason that the projection that licenses an external argument must be the same as the one responsible for accusative Case.[42] In other words, as long as projection other than *v*P is responsible for accusative Case, the lack of that projection will automatically explain the fact that the object in such a configuration is not assigned accusative Case. Consequently, we do not need to assume any kind of Case-absorption analysis that Takahashi pursues, the mechanism of which, to my best knowledge, remains unclear. I thus assume that *v*P is solely responsible for external arguments, and that the *v*P internal projection such as AgrO (Koizumi 1994, 1995) or AspP (Travis 2010) is responsible for accusative Case, assuming the following structures for the motion verbs (94):[43]

[42] This might be a little too strong a statement, given Burzio's generalization that a verb not assigning an external theta-role does not assign accusative Case and vice versa.

[43] Truncated structures without Case-projections such as AgrO or Asp might be difficult to obtain due to the fact that these projections are selected by the *v*. However, if Wurmbrand's type of *v*P-less structure is no longer available because of Takahashi's observation, then, it is inevitable to posit this type of truncated structure. Alternatively, Case-projections such as AgrO or Asp might appear above the *v* in Japanese. I leave this issue for future research.

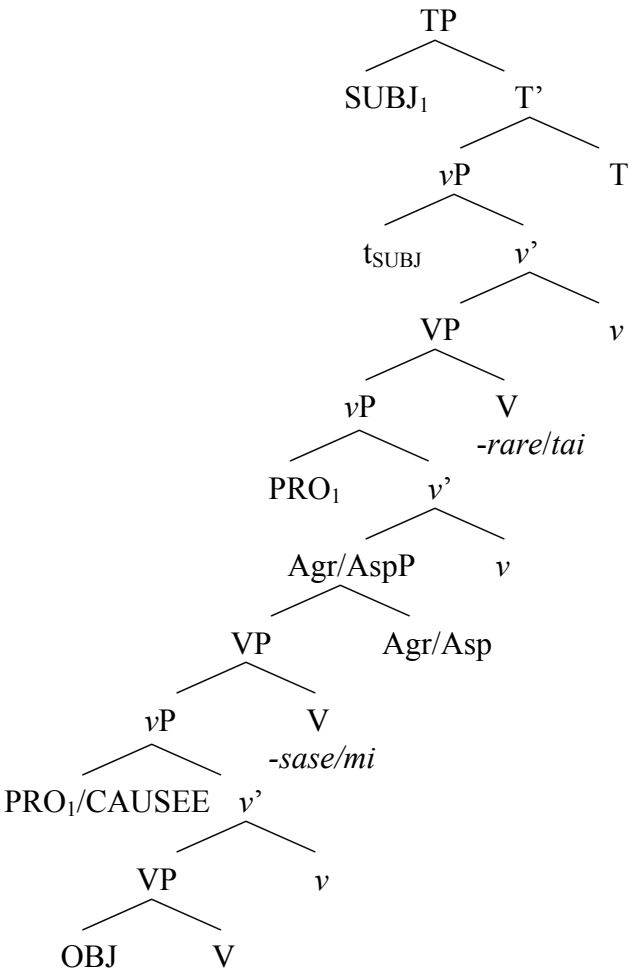
(94) Structures of accusative objects for *ik/ku*



In the above structure, I assume that the Agr/Asp head, when it appears, assigns accusative Case to the object. However, there is no such head above the motion verbs since they do not assign accusative Case.

On the other hand, I assume (95) for the causatives and *mi* constructions:

(95)[44]



In (95), there is no Agr/Asp in the embedded clause, and it only appears with *-sase*. In this regard, recall Takahashi's causative examples (78) and (79) from section 3.3, repeated below:

(96) John-ga eego-?o/ga wakar-u.
-NOM English-ACC/NOM know-PRES
'John understands English.'

[44] I have simply placed the causee in the spec of *v*P (Harley 2008) here but an alternative surface position such as the spec of *sase*-VP is also a possibility. In that case, the causee will either control PRO in the spec of *v*P or move from the Spec of *v*P to the spec of *sase*-VP.

(97) Mary-ga John-ni eego-o/*ga wakar-ase-ru.
-NOM -DAT English-ACC/NOM know-CAUS-PRES
'Mary makes John understand English.'

We have seen that in (97) since the stative predicate *wakar* no longer assigns nominative Case under -*sase*, Takahashi concluded that the object Case is dependent on -*sase* and not on the embedded verb. This means that even when the embedded verb assigns accusative Case, -*sase* obligatorily absorbs the accusative Case feature of the embedded predicate. Takahashi's conclusion can be then interpreted this way: the embedded predicate under -*sase* does not have the Agr/Asp projection, and the accusative Case on the object comes from -*sase*. This also explains the fact that there is no double-Case marking in the causative constructions, and yet -*sase* has an accusative-Case assigning property in intransitive causatives (recall Chapter 2, Section 2.2).

As for *mi*, the situation is slightly different, and we cannot construct similar examples to test whether *mi* deprives the embedded predicate of its Case-assigning property. As shown below, the verb *mi* 'to see' by itself assigns accusative Case:

(98) Mary-ga sora-o/*ga mi-ru.
-NOM sky-ACC/NOM see-PRES
'Mary sees the sky.'

However, stative predicates do not seem to occur under *mi*, and the sentence below is ungrammatical whether the object is accusative or nominative.

(99) *Mary-ga eego-o/ga wakat-te mi-ru.
-NOM English-ACC/NOM know-TE try-PRES
'Mary tries understanding English'

Simplifying the fact, however, I assume that *mi* and -*sase* have the same structure, and accusative Case consistently comes from the higher clause.[45]

[45] The similar example with *ik* is also ungrammatical, whether the object is accusative or nominative:

In the next section, I will propose the structures of the nominative object under each predicate that will accommodate the scope facts. The mechanism of nominative Case assignment will be explored in Chapter 4.

5. Proposal

In this section, I propose that the presence or absence of the obligatory wide scope effect correlates with structural optionality. I assume that the motion verbs are necessarily associated with the structure (100), whereas -*sase* and *mi* optionally alternate the structures between (100) and (101):[46,47]

(i) *Mary-ga gakkoo-ni eego-o/ga wakari-ni ik-u.
-TOP school-to English-ACC/NOM know-NI go-PRES
'Mary goes to school to understand English.'

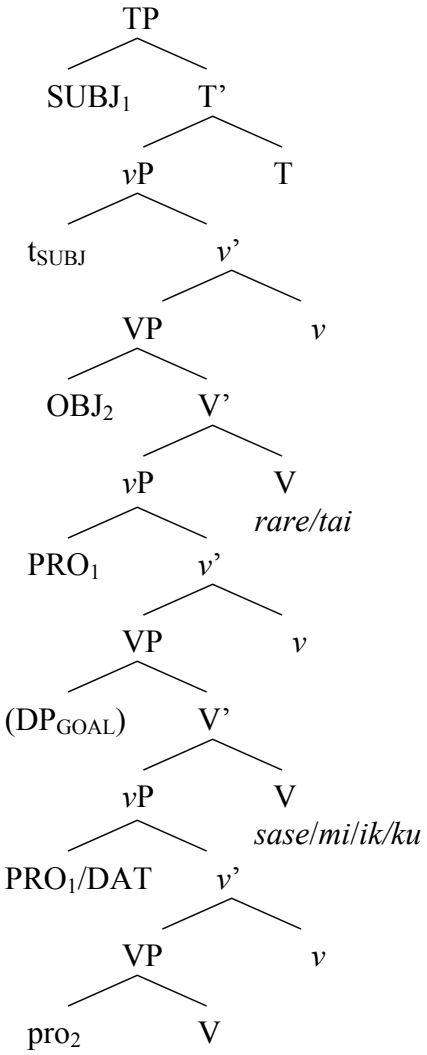
This seems to suggest, in the same manner as the causative examples, that the Case-assigning property of the embedded stative predicate is dependent on the higher predicate. The only difference is that *ik* does not assign either nominative or accusative Case, hence the ungrammaticality of (i). However, the ungrammaticality of the sentence could also be due to the fact that stative predicates are simply not compatible with the motion verbs.

[46] Moreover, if the nominative object in the motion verb construction is the argument of *rare*/*tai*, it should be true that it could occur with the causative construction and thus exhibit the obligatory wide scope effect. As shown below, the prediction is in fact borne out: the nominative object in (i) can only take wide scope in these cases:

(i) Taro-wa Hanako-ni ringo-dake-ga tabe-sase-ni ik-e-ru.
-TOP -NI apple-only-NOM eat-CAUSE-NI go-CAN-PRES
'Taro is able to go make Hanako eat only an apple.'
only > can; *can > only

[47] I assume that *rare* takes a control structure, following Nomura (2005), Takano (2003), and Ura (1999) among others.

(100) Structures available for *-sase/mi/ik/ku*[48, 49, 50]



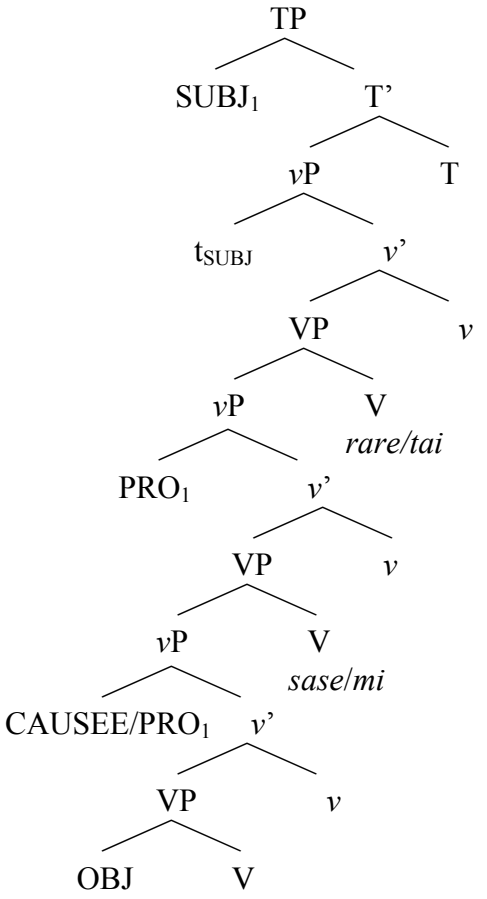
[48] Note that in the motion verb construction, the goal phrase can appear before the nominative object:

(i) Taro-wa Azabu-ni okasi-ga kai-ni ik-e-ru.
-TOP -to sweets-NOM buy-NI go-CAN-PRES
'Taro can go to Azabu to buy sweets'

Since the nominative object is always base-generated above the goal phrase, the goal-theme order in (i) should be derived by scrambling of the goal phrase (Takano p.c.). This can be shown by the following scope facts, where (iia) contains the nominative object while (iib) contains the accusative object:

(ii)a. Taro-wa hutatu-no tiiki-ni san-shurui-no doubutu-ga tukamae-ni
-TOP two-GEN area-to three-kind-GEN animal-NOM catch-NI
ik-e-ru. two areas > three animals; three animals > two areas
go-CAN-PRES
'Taro can go to two areas to catch three kinds of animals.'

(101) Structures available for *-sase/mi*



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b. Taro-wa hutatu-no tiiki-ni san-shurui-no doubutu-o tukamae-ni
-TOP two-GEN area-to three-kind-GEN animal-ACC catch-NI
ik-e-ru. two areas > three animals; *three animals > two areas
go-CAN-PRES
'Taro can go to two areas to catch three kinds of animals.'

Note that in (iia) the goal phrase is allowed to take narrow scope: therefore, the sentence can mean that 'there are three kinds of animals in total that Taro is able to go catch (between the two areas)'. On the other hand, in (iib), the goal phrase takes wide scope, and therefore the sentence can only mean that 'for each area, Taro is able to go catch three kinds of animals (six animals in total)'. These facts follow straightforwardly if the goal phrase undergoes scrambling in (iia) but not in (iib). However, see section 6.2 for complication with respect to scope of numeral quantifiers.

[49] I label both *-sase* and *-rare* as a verb in the structures in order to provide coherent structures for all the relevant verbs. Although choices between these morphemes as main verbs and as some other functional categories should not affect the analysis explored in the next chapter, I will still treat them as lexical verbs later for concreteness of the argument.

[50] The structures will vary in where Agr/Asp appears if the accusative Case comes from the higher clause in *sase* and *mi*. That is, the Case projection for *sase* and *mi* appears just below the second highest *v*P, whereas it appears below the lowest *v*P for the motion verbs.

The obvious question to be asked now is why in one case there are two structures available and not in another. I argue that the lowest *v*P is a transparent domain for both -*sase* and -*mi*, but the same *v*P is an opaque domain for the motion verbs. Given that the size of both structures is the same, I need to explain how the same domain sometimes becomes transparent and under what conditions, to which I return in Chapter 4.

The assumption that the nominative object is necessarily base-generated as an argument of -*rare/tai* in the motion verb construction amounts to saying that the restructuring tests for the motion verb construction from section 2.1 should be interpreted differently. In Section 2.1, I have presented nominative Case assignment as a test for restructuring under the assumption that nominative Case is assigned across clauses. However, the proposed structure for the motion verbs suggests that it is not across clauses, since the object is base-generated in the matrix domain where it obtains Case in the first place. This in turn suggests that nominative-Case assignment for the motion verb construction is different from other restructuring phenomena such as *sika-nai* constructions and scrambling, where the accusative object, a thematic argument of the embedded verb, exhibits transparency across clauses. The fact that the motion verb construction shows transparency effects for *sika-nai* and scrambling but not for nominative Case assignment is rather surprising, given that both -*sase* and *mi* show transparency across clauses in all of the restructuring configurations. The distribution of each restructuring test with each predicate is summarized below:

(102) The degree of restructuring

Verb	Nom Assignment	Sika-nai	Scrambling
ik/ku	*Long-Distance ✓ within a clause	✓	✓
sase	✓	✓	✓
mi	✓	✓	✓

(102) thus shows that only in the motion verb construction, nominative Case-assignment constitutes a different domain from other predicates and from other restructuring phenomena. In this respect, Wurmbrand (2001) claims that there are different 'grades' of restructuring for cases where some restructuring diagnoses apply but not others. According to her view, then, the motion verbs in Japanese would be categorized as 'reduced' non-restructuring predicates because they do not pass all the diagnoses but also show some transparency. The scope fact thus provides us with a new insight that the motion verbs should not be simply categorized as restructuring predicates even though they superficially show all the restructuring properties. It suggests, then, that nominative Case assignment or scope itself has a different domain from other restructuring phenomena, which is worth exploring.[51] I will later argue that the domain for nominative Case assignment is tied to head movement, and that the motion verbs have a more rigid domain than *sase* and *mi*.

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[51]However, a high base-generation structure for the nominative object is obviously not available in non-restructuring contexts, which requires an explanation. For example, non-restructuring verbs like *kime* 'decide' do not allow nominative Case assignment (i), which means that the base-generation configuration like (ii) is not available (recall Miyagawa's (1987a) example from Section 2.1.1 stating this point):

(i) Taro-wa ringo-o/ *ga tabe-ru-to kime-rare-ru.
-TOP apple-ACC -NOM eat-PRES-C decide-CAN-PRES
'Taro can decide to eat apples.'

(ii)[SUBJ OBJ$_{NOM_1}$ rare [pro$_1$ eat-PRES decide]]

I suspect that the unavailability of (ii) is due to a case mismatch between the nominative object and the pro. In other words, I speculate that while the nominative object is assigned nominative Case in the matrix clause, the pro is assigned accusative Case in the embedded clause. Since *kime* 'decide' is a non-restructuring verb, the assumption is that it involves accusative Case assigner such as Asp/Agr in the embedded clause. As a consequence, the pro is assigned accusative Case, which is then bound by the nominative object, which causes a Case mismatch. This line of analysis will then amount to saying that *pros* in Japanese do not need Case in order to explain grammatical examples of base-generated high nominative objects. See Saito (2007) for licensing of *pro* without an uninterpretable Case feature.

Alternatively, the structure (ii) might be syntactically well-formed (Takano p.c.) but will be ruled out for a pragmatic reason. In other words, somehow the nominative object is not able to establish an aboutness relationship with the rest of the sentence (i.e. #As for apples, Taro can decide to eat them). This line of explanation allows one to be agnostic about Case properties of *pro*. However, this alternative will unwelcomely rule in (embedded) non-restructuring constructions with nominative objects. I thus take the first possibility to rule out the nominative object in (i).

In Chapter 4, I will argue that the structural optionality that I proposed in this section in fact represents transparency that is derived via an independent syntactic operation, which I claim is head movement. However, before proceeding to the next chapter, I would like to make it clear what I leave aside with respect to the scope facts in the following section. This is an attempt to clear up some issues that are simply disregarded or overlooked in the literature.

6. Difficulties with Scope

6.1 Scope Ambiguities from Entailment

So far, I have simply assumed that scope ambiguity comes from different syntactic structures. This is a fairly standard assumption, and all of the previous analyses on nominative objects are based on that assumption. However, there is another possibility that yields apparent narrow and wide scope interpretations; and that is, entailment relationships. The two interpretations in entailment are thus not independent from each other, but rather one entails the other. If we consider our simpler examples such as (103) again, it is easy to isolate the wide scope reading of the object, but it is difficult to isolate the narrow scope reading because the wide scope entails the narrow scope:

(103) a. John-wa salada-dake-ga tabe-rare-ru
John-TOP salad-only-NOM eat-can-PRES
'John can eat only salad.'
Interpretation 1 (only > can):
It is only salad that John can eat.
(John can eat salad & it is not the case that John can eat things other than salad.)
Interpretation 2 (can > only):
It is possible for John to be able to eat only salad.
(John can eat salad & not things other than salad.)

b. John-wa salada-dake-o tabe-rare-ru
John-TOP salad-only-ACC eat-can-PRES
'John can eat only salad'
#Interpretation 1 (only > can):
It is only salad that John can eat.
(John can eat salad & it is not the case that John can eat things other than salad.)
Interpretation 2 (can > only):
It is possible for John to be able to eat only salad.
(John can eat salad & not things other than salad.)

In the examples above, the wide scope reading would be false if John could eat things other than salad. Thus, a follow-up statement as follows will be false under the wide scope reading (recall Nomura's (2003, 2005) scope generalization from Chapter 2, Section 2.1.2):

(104)a. John-wa salada-dake-ga tabe-rare-ru.
John-TOP salad-only-NOM eat-CAN-PRES
Demo, hanbaagaa(-dake)-mo tabe-rare-ru.
but hamburger(-only)-also eat-CAN-PRES
'John can eat only salad, but he can also eat (only) hamburgers.'
b. John-wa salada-dake-o tabe-rare-ru.
John-TOP salad-only-ACC eat-CAN-PRES
Demo, hanbaagaa(-dake)-mo tabe-rare-ru.
but hamburger(-only)-also eat-CAN-PRES
'John can eat only salad, but he can also eat (only) hamburgers.'

The follow-up above will contradict the wide scope reading but be consistent with the narrow scope reading. Thus it is possible to show that the wide scope reading is unavailable by manipulating the context. On the other hand, the wide scope entails the narrow scope, and thus it is very difficult to isolate the narrow scope. Since the narrow scope reading is merely to say that 'John is able (permitted, allowed etc.) to not eat non-salad things,' it could be simply true if the wide scope interpretation is true: that is, if salad were the only thing he could eat, it is also true that he can eat salad and not other things. For this reason, I do not speculate any further about the obligatory narrow scope reading of the accusative object reported in the literature and instead focus on cases where there is no narrow scope reading of the nominative object. In fact, as Koizumi (1994; 1995) reports,

the wide scope reading is also available under certain circumstances such as focused interpretations. Thus, the obligatory narrow scope of the accusative object requires further research.

Even if we leave aside the obligatory narrow scope of the accusative object, however, as long as there is an entailment relationship between the wide and the narrow scope, it is difficult to say that there are two different semantic interpretations, and that each interpretation corresponds to a different syntactic structure. Although I do not have a direct answer to this problem, and it is beyond the scope of this thesis, I would like to make a few points against this alternative. First, if scope ambiguities follow entirely from entailment, it is unclear to me why the entailed narrow scope of the nominative object suddenly disappears with the motion verbs. If the wide scope reading were available, we would expect the narrow scope reading to be also available via an entailment relationship. Second, it appears to be possible to set up two readings where neither of them entails the other, once we add another predicate such as the causative *-sase*. Consider the following two scenarios:[52]

(105) **Context E**
Andrea wants to control what her cat Midnight eats, but usually, he just eats whatever he wants and not what Andrea wants. For some reason she is only able to make Midnight eat bread. She cannot make him eat other things.

(106) **Context F**
Midnight usually eats all sorts of things at the same time. But Andrea is able to make Midnight only eat bread. She manages to make him not even look at the fish.

Context E forces the wide scope reading of the object, whereas Context F the narrow scope reading. As we already know, both wide and narrow scope readings are available with the sentence below:

[52] I am very grateful to Michael Wagner for suggesting the possible scenarios for no entailment relationships.

(107) Andrea-wa Midnight-ni Pan-dake-ga tabe-sase-rare-ru.
-TOP -DAT bread-only-NOM eat-CAUS-CAN-PRES
'Andrea is able to make Midnight eat only bread'
Interpretation 1 (only > can):
It is only bread (and nothing else) that Andrea is able to make Midnight eat.
Interpretation 2 (can > only):
Andrea is able to make Midnight eat only bread without eating anything else.

A situation where *can* > *only* is true and *only* > *can* is false would occur if Midnight ate something other than bread (without eating anything else). A situation where *only* > *can* is true and *can* > *only* is false would also arise if the following story holds:

(108) **Situation: only > can is True & can > only is False**
Midnight eats all sorts of things, but usually he refuses to eat whatever Andrea wants to make him eat. Therefore, if she wants to make him eat fish, he eats bread, cheese, and everything else except fish. The one thing that Andrea can make Midnight eat whenever she wants to is bread. But he then always eats other things along with the bread which Andrea did not try to make him eat.

In this situation, although it is only bread that Andrea can make Midnight eat, it does not guarantee that Midnight is able to eat only bread without eating anything. Since he always eats things that Andrea did not try to make him eat, it is not the case that Andrea is able to make him eat bread without eating anything else. Hence, the two readings do not entail each other.[53]

[53] Although this is the closest example against entailment I could provide, it is not without a problem. First, let us assume that the causative expression 'X makes Y eat Z' yields the meaning 'X directly/indirectly causes Y to eat Z'. Then the wide scope of *only* in (107) under the situation (108) is false because *Midnight* always eats other things along with the bread, which consequently means that 'Andrea is able to indirectly cause him to eat other things than bread (while she is able to directly cause him to eat bread).' Second, let us instead suppose 'X makes Y eat Z' means 'X directly causes Y to eat Z.' Let us further assume that the wide scope of *only* is true in (107), which means that 'Andrea is able to directly cause Midnight to eat only bread and she is not able to directly cause him to eat any other food.' Suppose also that the narrow scope of *only* means that 'X is able to directly cause Y to eat Z and nothing else.' Assume further that this is false in (107), which then means that 'there would be at least one accessible world where Andrea is able to directly cause Midnight to eat more than bread.' This consequently means that 'there would be more than one food x such that Andrea directly causes Midnight to eat x',

From these two points that I have made, I thus conclude that deriving scope ambiguities solely from entailment is not as easy as it looks. Although the entailment issue exists in general for ruling out the wide scope of the accusative object, it does not stand in the way of ruling out the narrow scope of some nominative objects.

6.2 Scope with Other Quantifiers

So far, I have based my arguments solely on the scope of *dake* 'only' with respect to *-rare* '*can*' and *-tai* 'want' and not of other quantifiers. In fact, to my best knowledge, the scope of *dake* has always been the center of arguments on nominative objects, and very few studies have been done on other scope-bearing elements. Among these few studies, Takano (2003) has used other quantifiers such as universal and numeral quantifiers as seen in Section 3.2. Let us consider Takano's examples again:

(109)a. Mary-wa sanin-no gakusei-ga subete-no sensei-ni
-TOP three-GEN student-NOM all-GEN teacher-DAT
susume-rare-ru.
recommend-CAN-PRES
'Mary is able to recommend three students to every teacher'
three > every
?*every > three

b. Mary-wa sanin-no gakusei-o subete-no sensei-ni
-TOP three-GEN student-ACC all-GEN teacher-DAT
susume-rare-ru.
recommend-CAN-PRES
'Mary is able to recommend three students to every teacher'
three > every
every > three

Takano's data point is that the nominative object with a numeral quantifier necessarily takes wide scope over the dative object with a universal quantifier, while the accusative object with the same numeral quantifier can take ambiguous

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which then contradicts the wide scope of *only*. It thus seems that assuming the narrow scope of *only* forces one to assume the wide scope of *only*, which means that the wide scope entails the narrow scope (thanks to Luis Alonso-Ovalle for pointing this out).

scope relative to the universal quantifier. Here, I agree with Takano's judgments. Although nominative objects are expected to take narrow scope, it seems quite difficult to obtain narrow scope with the nominative QP in (109a). However, my task is to find out the scope interaction between the object and the modal and not to compare the scope of two arguments. Let us then consider the following examples where the dative argument is omitted:

(110)a. Mary-wa sanin-no gakusei-ga susume-rare-ru.
-TOP three-GEN student-NOM recommend-CAN-PRES
'Mary is able to recommend three students'
three > can
?*can > three
b. Mary-wa sanin-no gakusei-o susume-rare-ru.
-TOP three-GEN student-ACC recommend-CAN-PRES
'Mary is able to recommend three students'
three > can
can > three

Even if we omit the dative argument, the nominative object still takes obligatory wide scope, whereas the accusative object takes ambiguous scope. The fact clearly differs from the examples with *dake*, where the nominative object takes ambiguous scope, whereas the accusative object takes unambiguous scope.

The same pattern carries over to our restructuring predicates. First, consider an expected pattern with the motion verbs:

(111)a. Mary-wa sanin-no gakusei-ga susume-ni ik-e-ru.
-TOP three-GEN student-NOM recommend-NI go-CAN-PRES
'Mary is able to go recommend three students.'
three > can
?*can > three
b. Mary-wa sanin-no gakusei-o susume-ni ik-e-ru.
-TOP three-GEN student-ACC recommend-NI go-CAN-PRES
'Mary is able to go recommend three students.'
three > can
?can > three

The nominative object under the motion verb *ik* in (111a) cannot take narrow scope, as expected. Thus, the sentence can only mean that 'There are three

specific students, and Taro is able to go recommend them'; and it cannot mean that 'Taro is able to go recommend three students.' As for the accusative object, although there is a contrast between (111a) and (111b), the narrow scope reading of the object still seems to be a little odd. Now, consider cases with *-sase*:

(112)a. Taro-wa Hanako-ni sannin-no gakusei-ga
-TOP -DAT three-GEN student-NOM
susume-sase-rare-ru.
recommend-CAUSE-CAN-PRES
'Taro is able to make Hanako recommend three students.'
three > can
?* can > three

b. Taro-wa Hanako-ni sannin-no gakusei-o
-TOP -DAT three-GEN student-ACC
susume-sase-rare-ru.
recommend-CAUSE-CAN-PRES
'Taro is able to make Hanako recommend three students.'
three > can
can > three

Our prediction is that the nominative object with *sase* takes ambiguous scope relative to *-rare*. Contrary to our prediction, however, the nominative object does not seem to take narrow scope. The accusative object, however, can take ambiguous scope, similarly to other examples. The examples with *mi* below also show contradicting scope facts:

(113) a. Taro-wa sannin-no gakusei-ga susume-te-mi-ta-i.
-TOP three-GEN student-NOM recommend-TE-try-WANT-PRES
'Taro wants to try recommending three students.'
three > can
?* can > three

b. Taro-wa sannin-no gakusei-o susume-te-mi-ta-i.
-TOP three-GEN apple-ACC recommend-TE-try-WANT-PRES
'Taro wants to try recommending three students.'
three > can
can > three

Again, based on our earlier observation that *mi* behaves the same way as *-sase* with respect to the scope of *dake* nominative objects, the object in (113a) is

expected to take ambiguous scope, which is not the case here. The nominative object unexpectedly takes wide scope, behaving the same way as the nominative object with *-sase*. Similarly to other examples, both the narrow and the wide scope of the accusative object seem possible.

What becomes more striking with numeral quantifiers is that if we place the numeral quantifiers post-nominally as opposed to pre-nominally, the narrow scope reading of the nominative object in all of the examples above becomes available. First, consider (114):

(114) Post-Nominal Quantifiers + One Verb + *rare*

a. Mary-wa gakusei sannin-ga susume-rare-ru.
-TOP student three-NOM recommend-CAN-PRES
'Mary is able to recommend three students'
?three > can
can > three

b. Mary-wa gakusei sannin-o susume-rare-ru.
-TOP student three-ACC recommend-CAN-PRES
'Mary is able to recommend three students'
?three > can
can > three

Recall that in (110a) with the pre-nominal numeral quantifier, the nominative object did not take narrow scope. However, in (114a), the object clearly takes narrow scope. In fact, it seems more salient than the wide scope reading. As for the accusative object, it behaves consistently in that it takes ambiguous scope, but again, the narrow scope reading of the object seems more prominent here as well. The scope fact becomes more subtle and obscure when there are two verbs involved in a sentence. Consider examples with the motion verb:

(115) Post-Nominal Quantifiers + Two Verbs (V + *ik*) + *rare*

a. Taro-wa gakusei sannin-ga susume-ni ik-e-ru.
-TOP student three-NOM recommend-NI go-CAN-PRES
'Taro is able to go recommend three students.'
?three > can
can > three

b. Taro-wa gakusei sannin-o susume-ni ik-e-ru.
-TOP student three-ACC recommend-NI go-CAN-PRES
'Taro is able to go recommend three students.'
?three > can
can > three

What is surprising in the examples above is that the narrow scope reading of the nominative object suddenly becomes available; and in fact, it seems more salient than its wide scope reading. Moreover, not only the nominative object, but also the accusative object behaves differently in that the narrow scope reading is more salient than its wide scope reading. Now consider examples with *-sase*:

(116) Post-Nominal Quantifiers + Two Verbs (V+*sase*) + *rare*

a. Taro-wa gakusei sannin-ga Hanako-ni
-TOP student three-NOM -DAT
susume-sase-rare-ru.
recommend-CAUSE-CAN-PRES
'Taro is able to make Hanako recommend three students.'
?three > can
can > three

a. Taro-wa gakusei sannin-o Hanako-ni
-TOP student three-ACC -DAT
susume-sase-rare-ru.
recommend-CAUSE-CAN-PRES
'Taro is able to make Hanako recommend three students.'
?three > can
can > three

With *-sase*, the narrow scope reading again seems more salient than the wide scope reading with both nominative and accusative objects. Examples with *mi* below confirm the same point: in (117) the narrow scope reading of the object is more salient than its wide scope reading:

(117)a. Taro-wa gakusei sannin-ga susume-te-mi-ta-i.
-TOP student three-NOM recommend-TE-try-WANT-PRES
'Taro wants to try recommending three students.'
?three > can
can > three

b. Taro-wa gakusei sannin-o susume-te-mi-ta-i.
-TOP student three-ACC recommend-TE-try-WANT-PRES
'Taro wants to try recommending three students.'
?three > can
can > three

Thus, the scope of numeral quantifiers is not as straightforward as that of *dake*, and above all, sentence judgments suddenly become more difficult and fuzzy, compared to the *dake* objects. It is probably why it is often the case that discussions of scope with respect to nominative objects are confined to *dake* phrases. There seems to be a general tendency that pre-nominal numeral quantifiers prefer wide scope, whereas post-nominal quantifiers prefer narrow scope. However, this generalization does not capture the narrow scope of the accusative object from (109) through (113) or the available-though-not-salient wide scope reading of both nominative and accusative objects with post-nominal quantifiers. Based on these undesirable confusions, I will thus solely focus on *dake* objects, which show more clear-cut scope patterns and leave studies of other quantifiers for future research. [54]

[54] The fact that the nominative object allows narrow scope with post-nominal numerals does raise a problem for Case-licensing of the object proposed in Chapter 4. Even if leaving the scope issue aside, the fact that these objects could obtain nominative Case remains to be explained under my analysis.

7. Summary

In this chapter, we have learned that the obligoatory wide scope effect could not be easily reduced to the lexical/functional distinction of a restructuring predicate. We have also learned that restructuring infinitives should at least project to a *v*P based on Takahashi's (2010) finding, contrary to Wurmbrand (2001) and Bobaljik & Wurmbrand's (2005) VP-complementation approach. However, I have not completely dismissed their VP-complementation approach and instead adopted Wurmbrand's (2001) view that the presence or absence of a Case-projection such as AgrP or AspP is responsible for the accusative/nominative Case alternation.

Based on the finding that the motion verbs exhibit the obligatory wide scope effect, whereas the causative and *mi* do not, I have argued that where the nominative object is licensed differs depending on the predicate. I have then proposed that a combined account of both the movement approach and the base-generation approach is necessary. I have claimed that the motion verbs necessarily yield the base-generation structure, and therefore the nominative object must take wide scope as a consequence. On the other hand, *-sase* and *mi* have the option of both the base-generation and the movement-based structure, hence the nominative object takes either wide or narrow scope.

In the next chapter, I will argue that the structural optionality is only available through applications of head movement. Building on the work on domain extension via head-movement from Chapter 2, I will propose that head movement induces transparency in nominative Case assignment, which in turn provides structural optionality.[55]

[55] However, Wurmbrand (2001) has convincingly argued against the head movement analysis for German restructuring. I will also not be applying my analysis to German at this point and leave this for future research.

Chapter 4 Domain Extension via Head Movement

1. Introduction

In the previous chapter, we saw that the motion verbs only allow wide scope of the nominative object, whereas the causative and *mi* allow ambiguous scope. I proposed that the motion verbs necessarily yield the base-generation structure, whereas the causative and *mi* can have both the base-generation and the movement-based structure.

In this chapter, I argue that the structural optionality is tied to the application of head movement. In doing so, I argue that morphology plays a significant role in scope interactions, based on the fact that certain morphemes block head movement while others do not, which in turn correlates with the presence or absence of scope ambiguity. In section 2, I discuss some important issues in verb raising in Japanese, particularly focusing on the issue of whether Japanese employs VP-ellipsis. I then develop three types of diagnoses for head movement in section 3, which involve elliptical answers, reduplication, and focus particles. The finding there is that both *sase* and *mi* constructions utilize head movement of the embedded verb, whereas the motion verb construction does not employ such head movement. In section 4, I explore what blocks head movement in the motion verb construction on the one hand and what allows head movement in the *sase* and *mi* constructions on the other. I specifically propose that the intervening morpheme *ni* under the motion verbs blocks head movement, whereas the intervening morpheme *te* under *mi* and the null morpheme under *sase* do not. Based on this proposal, I provide a mechanism for domain transparency under the head movement approach in section 5, proposing that what head movement does is to extend domain for assigning Case to the object along the lines of den Dikken (2007). I then show that only under such a condition can the object stay in its canonical object position. I further show that a lack of head movement will fail to extend domain, which blocks licensing of the object's Case, yielding a derivational crash. Hence as a salvation strategy, the object under the motion

verbs must be base-generated in the matrix domain, where its Case is licensed. Section 6 summarizes this chapter.

2. Verb Raising in Japanese

Whether Japanese has verb raising or not has been a long-standing issue in the literature (Fukui & Sakai 2003; Fukui & Takano 1998; Koizumi 1995; Otani & Whitman 1991 among others). In this section, I review some important issues on verb raising in Japanese, particularly focusing on the issue of whether Japanese has VP-ellipsis, as it will become crucial in Section 3. In Section 2.1, I discuss Otani & Whitman (1991), who argue that Japanese has VP-ellipsis with the verb stranded outside of the elided constituent, and who use availability of VP-ellipsis as an argument for verb raising. In Section 2.2, I introduce Hoji (1998) and Oku (1998), who argue against Otani & Whitman by showing that the apparent VP-ellipsis is an instance of null objects (i.e. argument drop). However, I ultimately argue in Section 3 that Japanese employs both argument drop and VP-ellipsis. This section is thus aimed to overview both accounts before proceeding to Section 3.

2.1 Argument for VP-Ellipsis: Otani & Whitman (1991)

Otani & Whitman (1991) argue that Japanese has verb movement, based on their data on VP-ellipsis and availability of sloppy readings in the elided VPs. Consider the familiar example from English VP ellipsis first:

(1) John threw out his letter. Mary did ~~[$_{VP}$throw out his letter]~~ too.
Interpretation 1: Mary threw out John's letter.
Interpretation 2: Mary threw out Mary's letter.

In the example above, the elided VP has two interpretations, as indicated above. Interpretation 1 where the antecedent of *his* refers to *John* is often called a 'strict identity reading,' while Interpretation 2 where *his* is interpreted as a bound pronoun which in turn refers to *Mary* is often called a 'sloppy identity reading.' The sloppy identity reading is assumed in the literature to involve a lambda

expression (Sag 1976, Williams 1977), which requires that a VP be elided as opposed to a noun phrase being elided, which only denotes an individual.[1]

Otani and Whitman claim that Japanese counterpart of (1) also exhibits ambiguity in its interpretation:

(2) a. John-wa zibun-no tegami-o sute-ta.
-TOP self-GEN letter-ACC discard-PAST
'John$_1$ threw out self$_1$'s letter.'
b. Mary-mo [*e*] sute-ta.
-also discard-PAST
'Mary also threw out.'
Interpretation 1: Mary also threw out [John's letter].
Interpretation 2: Mary$_1$ also threw out [self$_1$'s letter].
(Otani and Whitman 1991:346-347)

In (2), the elliptical element can be interpreted either as *John's letter* or *Mary's letter*. The first interpretation is a strict identity reading, whereas the second interpretation is a sloppy identity reading. Given this fact, Otani & Whitman claim that the elided element in (2b) is a VP, parallel to English VP ellipsis, only with the difference that the verb appears outside of the VP. Otani & Whitman thus argue that Japanese has overt verb raising to tense, and that the VP after V raising is subject to ellipsis, yielding (3):

(3)Mary-mo ~~[$_{VP}$ zibun-no tegami-o t_V]~~ sute-ta.

There is a further similarity between English and Japanese elliptical constructions. It is known that English VP ellipsis exhibits 'locality effects' with respect to sloppy identity readings. Consider (4) first:

[1] The strict identity reading in (1) is thus obtained when the elided VP is interpreted as (ia) where the pronoun refers to *John*, whereas the sloppy identity reading is obtained when the elided VP is interpreted as (ib) where the pronoun is interpreted as a bound pronoun:

(i) a. John [λx (x throw out his letter)] (strict identity)
b. John [λx (x throw out x's letter)] (sloppy identity)

(4) a. John thinks that Bill likes him.
b. …and Mary does too.
Interpretation 1: Mary thinks that Bill likes John.
Interpretation 2: Mary_1 thinks that Bill likes her_1.

In the above examples, (4b) can be interpreted under either the strict identity reading or under the sloppy identity reading. However, in (5), when the elided part is only the embedded clause, only the strict identity reading is available:[2]

(5) a. John thinks that Bill likes him.
b. …and Mary thinks that Bill does too.
Interpretation 1: Mary thinks that Bill likes John.
#**Interpretation 2:** Mary_1 thinks that Bill likes her_1.

Otani & Whitman show that the same locality is observed in Japanese ellipsis. In (6), only the strict identity reading is available, and the sloppy identity reading is not possible:

[2] Availability of the strict identity reading in (4) and unavailability of the sloppy identity reading in (5) are explained as follows in Williams's (1977) framework: in (4) either the lambda expressions in (ia) or (ib) can be copied into the elided VP, each of which yields the correspondent readings, as shown in (iia) and (iib):

(i) a. John [λx (x think that Bill [λy (y like him)])]
b. John [λx (x think that Bill [λy (y like x)])]
(ii) a. Mary does [λx (x think that Bill [λy (y like him)])] too. (strict identity)
b. Mary does [λx (x think that Bill [λy (y like x)])] too. (sloppy identity)

However, in (5) the lambda abstraction first applies to the matrix VP in (5b), yielding the following representation:

(iii) Mary [λz (z think that Bill does [e])] too

Then the embedded VP in (ii) is copied into the elided VP above to obtain both the strict and the sloppy identity readings:

(iv) a. Mary [λz (z think that Bill does [λy (y like him)])] too (strict identity)
b. Mary [λz (z think that Bill does [λy (y like x)])] too (sloppy identity)

However, (ivb) is an illegitimate representation since the bound variable x is unbound. Thus, only the strict identity reading is available.

(6) a. John-wa [$_{CP}$ NY Times-ga zibun-no kizi-o inyoosi-te
-TOP -NOM self-GEN article-ACC quote-TE
i-ru to] kii-ta.
be-PRES C hear-PAST
'John1 heard that The NY Times is quoting self1's article.'

b. Bill-mo [$_{CP}$ NY Times-ga [*e*] inyoosi-te i-ru to] kii-ta.
-TOP -NOM quote-TE be-PRES C hear-PAST
'Bill also heard that The NY Times is quoting [*e*].'
Interpretation 1: Bill also heard that The NY Times is quoting John's article.
#**Interpretation 2:** Bill$_1$ also heard that The NY Times is quoting self$_1$'s article.

(Otani and Whitman 1991:353)

Thus, based on the parallelism between English and Japanese elliptical constructions, Otani & Whitman conclude that Japanese employs VP ellipsis in the same way that English does, only with the difference that Japanese also has verb raising, leaving the verb stranded outside the VP. In the next subsection, we will see Hoji's (1998) and Oku's (1998) analyses of ellipsis in Japanese, which argue against Otani & Whitman's view.

2.2 Argument against VP-Ellipsis: Hoji (1998); Oku (1998)

Hoji (1998) argues against Otani and Whitman (1991) by showing that sloppy identity readings are only apparent, and Japanese does not employ VP Ellipsis. Consider Otani and Whitman's example again:

(7)a. John-wa zibun-no tegami-o sute-ta.
-TOP self-GEN letter-ACC discard-PAST
'John$_1$ threw out self$_1$'s letter.'

b. Mary-mo [*e*] sute-ta.
-also discard-PAST
'Mary also threw out'
Interpretation 1: Mary also threw out [John's letter].
Interpretation 2: Mary$_1$ also threw out [self$_1$'s letter].

We have seen that (7b) has both strict and sloppy identity readings. However, Hoji claims that a case like (7b) is not a true instance of a sloppy reading. He

shows that once the verb *sute* 'discard' is replaced by another verb such as *nagusame* 'to console,' the sloppy identity reading suddenly disappears:

(8) a. John-wa zibun(zisin)-o nagusame-ta.
-TOP self-ACC console-PAST
'John$_1$ consoled self$_1$.'
b. Bill-mo [*e*] nagusame-ta.
-also console-PAST
'Bill also consoled [*e*]'
Interpretation 1: Bill also consoled [John].
#Interpretation 2: Bill$_1$ also consoled [self$_1$].

The same pattern is observed if we replaced the subject *John* in (8) by a universal quantifier. As shown in (9b), the sloppy reading is still unavailable:

(9)a. Subete-no nihonzin huuhu-ga otagai-o nagusame-ta.
all-GEN Japanese couple-NOM each other-ACC console-PAST
'Every Japanese$_1$ couple consoled each other$_1$. '
b. Subete-no Amerikazin huuhu-mo [*e*] nagusame-ta.
all-GEN American couple-also console-PAST
'Every American couple also consoled [*e*]'
Interpretation 1: Every American couple consoled Japanese couples too.
#Interpretation 2: Every American$_1$ couple consoled [each other$_1$] too.

In contrast to (8), where the antecedent of the pronoun is a proper noun *John*, in (9) the antecedent is a quantificational element *subete* 'all', which clearly allows bound-variable interpretations. The fact that (9b) still does not allow a sloppy identity reading thus further confirms that the ellipsis is not subject to the canonical bound variable convention, which in turn argues against the VP-Ellipsis in Japanese elliptical constructions.

Although Otani & Whitman (1991) base their arguments for VP-ellipsis on the parallelism between Japanese and English elliptical constructions, English does in fact allow sloppy identity readings that are not allowed in Japanese, as shown in (10):

(10) John consoled himself, and $Bill_1$ did too.
Sloppy OK $Bill_1$ did (console $himself_1$) too.

(11) Every Japanese couple consoled each other, and every American couple did too.
Sloppy OK Every American $couple_1$ did (console $each\ other_1$) too.

Based on the facts above, Hoji argues that English VP ellipsis is not exactly parallel to Japanese elliptical constructions. According to Hoji, what is elided is not a VP but just an object, which then serves as a null argument in establishing coreference with its antecedent. He claims that the null argument's reference can be supplied contextually, and that the null argument can then function either as an indefinite or definite NP. The latter is based on the fact that a bare noun in Japanese like *kuruma* 'car' can be any of the following: *a car, the car, cars, the cars,* and possibly more. Hoji claims that when the null argument functions as a definite NP, it provides a strict-identity reading, whereas when it functions as an indefinite NP, the value of the possible possessor may vary.

Returning to Otani & Whitman's example, Hoji assumes that the null argument in (12b) is thus analogous to [$_{NP}$ tegami] 'letter,' which can then be interpreted as either a definite or indefinite NP. The apparent sloppy-reading emerges when the NP serves as an indefinite NP, where the possessor of *the letter* is interpreted as *Mary* in the same manner that the possessor of *the letter* can be interpreted as *Mary* in *Mary threw out a letter*:[3]

(12) a. John-wa [zibun-no tegami]-o sute-ta.
-TOP self-GEN letter-ACC discard-PAST
'John threw out self's letter.'
b. Mary-mo [*e*] sute-ta.
-also discard-PAST
'Mary also threw out'

[3] Hoji (1998) in his footnote 14 states that the ungrammaticality of (8), where the verb is *nagusamer* 'to console', is probably due to the fact that it seems difficult 'to assign two different guises to the coarguments that share the same denotation' for presumably their semantico-functional properties. Thus, the same kind of null object structures that are available in (12) or (13) are not available in (8).

This line of analysis is further confirmed by the fact that an example like (13) is grammatical:

(13) a. John-ga John-o suisensi-ta.
-NOM -ACC recommend-PAST
'John recommended John.'
b. Bill$_1$-mo [e_1] suisensi-ta.
-also recommend-PAST
'Bill1 also recommended e1'
Sloppy OK Bill also recommended himself.

In (13a) the 'bindee' *zibun* is replaced by a proper noun *John*. Nonetheless the apparent sloppy identity reading is still available: that is, the null argument can be interpreted as *Bill*. Since Hoji does not posit variable binding in the 'sloppy' identity reading, the fact above follows straightforwardly.

Since Hoji shows that sloppy-like readings do not involve bound pronouns, and that English VP-ellipsis and Japanese elliptical constructions are not exactly parallel, Otani & Whitman's argument for VP-ellipsis has lost its strong empirical status. In fact, Oku (1998) and others (Goldberg 2005 and Tomioka 1998) have subsequently shown that Japanese elliptical constructions do not involve VP-Ellipsis.

Oku (1998) observes that manner adverbs such as *sizukani* 'quietly' or *teineini* 'carefully' are not eligible for ellipsis. Consider the following examples:

(14) a. Bill-wa Gohan-o sizukani tabe-ta.
-TOP rice-ACC quietly eat-PAST
'Bill quietly ate the meal.'
b. John-wa [e] tabe-nakat-ta.
-TOP eat-NEG-PAST
'John didn't eat [e].'

(15) a. Bill-wa kuruma-o teineini arat-ta.
-TOP car-ACC carefully wash-PAST
'Bill carefully washed the car.'
b. John-wa [*e*] arawa-nakat-ta.
-TOP wash-NEG-PAST
'John didn't wash [*e*].'
Oku (1998:171)

In both (14) and (15), the interpretation of the elliptical site cannot include the adverb. Thus, the sentence cannot mean that 'John did not eat the meal carefully' in (14b), or that 'John did not wash the car carefully' in (15b). The sentence instead means that 'John did not eat the meal at all', or that 'John did not wash the car at all.' With English ellipsis in (16), however, the intended interpretation is readily available:

(16) Bill washed the car carefully, but John didn't.

Since English employs VP-ellipsis, the intended configuration is available by copying the VP onto the elided cite, as in (17):

(17) John didn't [VP carefully[VP wash the car]]

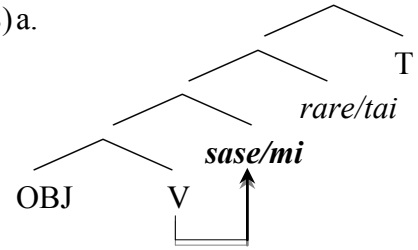
Thus, Oku treats cases like (14) and (15) as instances of argument ellipsis, with the assumption that manner adverbs cannot be independently realized as null (Park 1997).

Summarizing this section, we have seen that while Otani & Whitman (1991) argue that Japanese employs VP-ellipsis, Hoji (1998) and Oku (1998) argue against this view. However, in the next section, I will argue that Japanese has both VP-ellipsis and argument drop, based on the fact that Japanese has elliptical answers in yes-no questions. I will accordingly argue that Japanese has verb movement; however, I will show that the availability of head movement depends on the predicate.

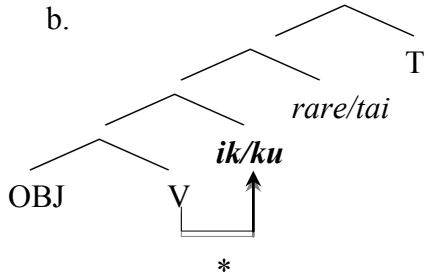
3. Head Movement of Restructuring Predicates

In this section, I will first argue that Japanese has instances of VP-ellipsis, contrary to what has been argued by Hoji (1998) and Oku (1998). Based on this claim, I will further construct the argument that Japanese has verb movement though not all verbs are eligible for movement. More specifically, I will show that verbs under the causative and *mi* are subject to head movement, while verbs under the motion verbs are not. The relevant configurations are illustrated below:

(18) a.



b.



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This pattern leads us to an intriguing generalization on scope ambiguity of nominative objects: that is, whenever head movement is available, scope ambiguity emerges.

In the following subsections, I develop three tests for head movement that are based on (a) elliptical answers in question-answer pairs; (b) reduplication; and (c) focus particles. These syntactic tests will reveal that verbs under *sase* and *mi* form appropriate syntactic constituents via head movement, whereas verbs under the motion verbs do not.

3.1 Elliptical Answers in Question-Answer Pairs

Let us first start with our first diagnostic for head movement, elliptical answers. As shown below, a question in Japanese is generally answered by repeating the verb:

(19) a. Kinoo Taro-ni at-ta-no?
yesterday -DAT meet-PAST-Q
'Did you meet with Taro yesterday?'
b. Un, at-ta.
AFFIRM meet-PAST
'Yeah, I did.' *lit*. 'Met.'

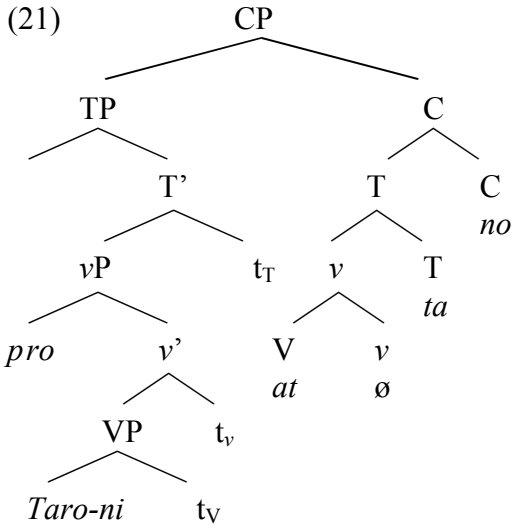
A bi-clausal question can be answered by repeating the matrix verb:

(20) a. John-ni [damar-u yoo-ni] it-ta-no ?
John-DAT shut up-PRES C tell-PAST-Q
'Have you told John to shut up?'
b. Un, it-ta.
AFFIRM tell-PAST
'Yeah, I have.' *lit*. 'Told.'

Manning, Sag & Iida (1999) view question-answer pairs as evidence for a lexical analysis of word-formation. Under their view, an input for answer forms is identified as a word that is formed in the lexicon. Thus, both in (19) and (20) *at-ta* 'met' and *it-ta* 'told' are words created in the lexicon, which in turn serve as an answer form.

However, Distributed Morphology (Embick and Noyer 2007; Hale & Marantz 1993; Heidi & Noyer 1999 among others) has developed the idea that words are derived through iterated applications of syntactic operations, and thus there is no longer a lexical component where word formation is taken care of. Adopting this framework, I assume that word-formation is part of the syntax, and that a complex word is derived via application of head movement. Thus, I assume that a simple question like (19a) is derived as in (21), where the verb raises to T and then to C (McCloskey 1991):

(21)



Under this assumption, a morphological element that can or cannot stand alone as an answer form may provide evidence for (non-)head movement. More specifically, if a morpheme that is only part of a word were to be input for an answer form, the output would be illegitimate. I argue that this is because Japanese employs VP-ellipsis in elliptical answers. Thus, elliptical answers such as (19b) and (20b) are derived via VP-ellipsis, with the verb being outside of the VP:[4]

(22) [TP ~~[vP pro [VP Taro-ni [VP tV]]~~ at-ta]] = (19b)
(23) [TP ~~[vP pro [VP John-ni [CP [TP [vP [VP damar]]]yoo-ni] tv]~~ it-ta]]= (20b)

Recall from Section 2.2 that Oku (1998) observes that manner adverbs are not eligible for argument drop on the assumption that they cannot independently appear as null elements. However, in elliptical answers such as (24) and (25) below, manner adverbs can be successfully elided:

[4] Alternatively, it could just be that what is pronounced in elliptical answers must be morphological words. Under the assumption that head movement derives a word, such analysis is also compatible with the assumption that elliptical answers provide a diagnostic for head movement.

(24) a. Ha-o shikkari migai-ta-no?
teeth-ACC thoroughly brush-PAST-Q
'Did you thoroughly brush your teeth?'
b. Un, migai-ta.[5]
AFFIRM brush-PAST
'Yeah, I did (I thoroughly brushed my teeth).' *lit*. 'Brushed.'

(25) a. Hanako-ni ie-ni kaer-u yoo-ni hakkiri it-ta-no?
-DAT home-to return-PRES C clearly say-PAST-Q
'Did you clearly tell Hanako to go home?'
b. Un, it-ta.
AFFIRM tell-PAST
'Yeah, I did (I clearly told her to go home).' *lit*. 'told.'

Thus, the above facts confirm that VP-ellipsis is available in Japanese elliptical answers, yielding the following configurations:[6]

(26) [TP ~~[*v*P pro [VP ha1-o [VP sikkari [VP t1 tV]]]]~~ migai-ta] = (24b)
(27) [TP ~~[*v*P pro [VP hakkiri [VP Hanako-ni [CP [TP [VP ie-ni kae] ru]yoo-ni] tV]]]~~ it-ta] = (25b)

However, elliptical answer forms with the adverbs above are also possible, as shown below:

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[5] The fact still holds when the answer is negative:
(i) a. Ha-o shikkari migai-ta-no?
teeth-ACC thoroughly brush-PAST-Q
'Did you thoroughly brush your teeth?'
b. Uun, migak-anakat-ta.
NEG brush-NEG-PAST
'No, I didn't (I did not thoroughly brushed my teeth, but did brush them).'

[6] I assume that *v*P is targeted for Japanese elliptical constructions unless there is evidence to the contrary. As shown in (i), the high adverb *iyaiya* 'unwillingly' can be elided with the rest of the predicate, which suggests that elliptical answers could target something larger than VP (eg. *v*P).
(ii) a. Bill-wa iyaiya gohan-o tabe-ta-no?
-TOP unwillingly rice-ACC eat-PAST-Q
'Did Bill unwillingly eat the meal?'
b. Un, tabe-ta.
AFFIRM eat-PAST
'Yeah, he did (He ate the meal unwillingly).'
However, there could be dialectal variations with respect to the omission of high adverbs (Miyagawa p.c.). In the remainder of this chapter, I use the term VP-ellipsis for a reason of convention.

(28) a. Ha-o shikkari migai-ta-no?
teeth-ACC thoroughly brush-PAST-Q
'Did you thoroughly brush your teeth?'
b. Un, shikkari [*e*] migai-ta.
AFFIRM thoroughly brush-PAST
'Yeah, I did (I *thoroughly* brushed my teeth).' *lit*. 'Thoroughly brushed.'

(29) a. Hanako-ni ie-ni kaer-u yoo-ni hakkiri it-ta-no?
-DAT home-to return-PRES C clearly say-PAST-Q
'Did you clearly tell Hanako to go home?'
b. Un, hakkiri it-ta.
AFFIRM clearly say-PAST
'Yes, I did (I clearly told her to go home).' *lit*. 'Clearly told.'

(28) seems to suggest that argument drop is also possible in elliptical answers (30), while (29) could be derived if the higher VP is targeted for ellipsis (31):[7]

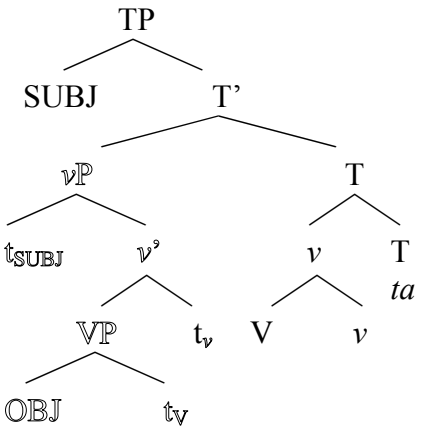
(30) …[VP sikkari [VP pro tV]]] migai-ta = (28b)
(31) …[VP hakkiri ~~[VP Hanako-ni[CP [TP [VP ie-ni kae]~~ ~~ru]yoo-ni] tV]~~]it-ta
= (29b)

Based on these facts, I argue that Japanese elliptical answers employ both VP-ellipsis and argument drop, suggesting that it is not the case that VP-ellipsis is unavailable across the board in Japanese.[8] Moreover, the fact that only the higher predicate can constitute an answer form in bi-clausal sentences suggests that VP-ellipsis is responsible for elliptical answers, with the higher predicate moved to T and with the remaining VP being elided. Accordingly, I argue that Japanese has verb raising, which successfully yields elliptical answers via VP-ellipsis.[9] I thus

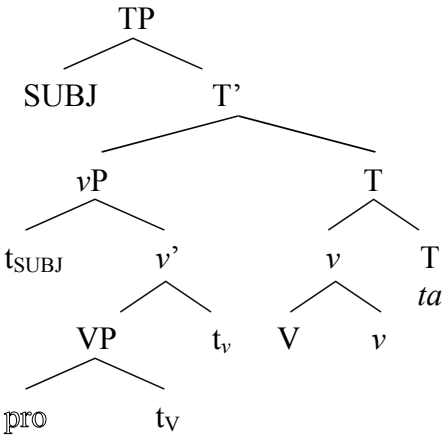
[7] I remain agnostic about the exact nature of argument elliptical constructions. Whether the null argument is *pro* or ellipsis is discussed in Saito (2007).
[8] Koopman (2005) in her footnote also makes the same claim: 'Japanese and Korean probably have both VP-ellipsis and argument drop; it is difficult to see how argument drop could be responsible for the fact that adjuncts and the like can be dropped in precisely those contexts that license VP-ellipsis, such as elliptical answers to yes/no questions (McCloskey 1991).' Holmberg (2007) independently suggests the same (thanks to Shigeru Miyagawa for pointing this out).
[9] I have raised the verb in (30), although the argument drop strategy does not guarantee the verb movement. However, the null hypothesis is that verb movement applies

take elliptical answers as a diagnosis for head movement, assuming the following two configurations, where the VP is elided after V raises to T (32a), and where the object serves as a null object (32b):

(32) a. *Elliptical Answers via VP-ellipsis*



b. *Elliptical Answers via Argument Drop*



The VP-ellipsis analysis of Japanese elliptical answers now serves as a good diagnosis for (verb) head movement. It suggests that the smallest possible elliptical answer such as (24b) and (25b) would have as one option a VP ellipsis strategy, and therefore must be a unit (i.e. a word) created via head movement. It also suggests that what fails to be an answer form is part of a unit that has been

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generally unless there is evidence of the contrary.

created via head movement. Thus, on the one hand, the fact that in bi-clausal sentences the matrix verb alone can provide an elliptical answer means that the matrix verb is a separate unit from the embedded verb. This in turn suggests that the embedded verb has not undergone head movement across the embedded clause to the matrix domain. On the other hand, the fact that the matrix verb alone cannot be an answer form means that the matrix verb and the embedded verb together from a word, with the embedded verb moving to the matrix verb. However, in the remainder of this section, I will omit the argument drop strategy unless it becomes necessary to discuss it, and base my argument on the VP-ellipsis strategy.

Let us now consider the causative examples below in the context of elliptical answers:

(33) a. Hanako-ni (isoide) gohan-o tabe-sase-ta-no?
-DAT fast meal-ACC eat-CAUSE-PAST-Q
'Did you make Hanako eat the meal fast?'
b. Un, tabe-sase-ta.
AFFIRM eat-CAUSE-PAST
'Yeah, I did (I made her eat the meal fast)' *lit.* 'Made eat.'
c. *Un, sase-ta. lit. 'Made.'[10]

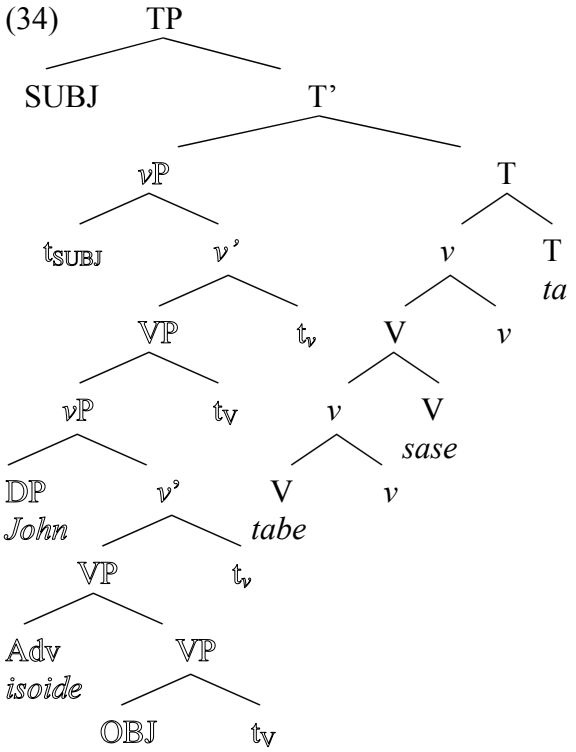
In (33b), the entire verbal complex *tabe-sase-ta* 'eat-CAUSE-PAST' needs to be provided as an answer for (33a). Thus, answering the question by repeating only

[10] While Kitagawa (1994), Manning et al. (1999), Miyagawa (1989a) judge (33c) as ungrammatical, Kuroda (1990; 2003) finds it acceptable. I assume Miyagawa's view that the acceptability of (33c) to some speakers is due to the fact that (33c) is interpreted as involving another independent word *sase* 'do-CAUSE' that has the same morpho-phonological shape as the causative *sase*. But even then, it seems quite mysterious that the answer form such as (33c) is fairly bad when the causativized verb stem is consonant-final as follows (see also Arikawa (2010) for pointing out the ungrammaticality of the answer form like (ic) depending on the predicate):

(i) a. John-o hasir-ase-ta-no?
-ACC run-CAUSE-PAST-Q
'Did you make John run?'
b. Un, hasir-ase-ta.
AFFIRM run-CAUSE-PAST
c. Un, *(s)ase-ta.
AFFIRM run-CAUSE-PAST

sase as in (33c) is bad. Under our assumptions about elliptical answers and about word-formation, this means that *tabe-sase-ta* 'eat-CAUSE-PAST' forms a unit via application of head movement of the lower verb *tabe* all the way to the past tense. I attribute this fact to the assumption that *sase* cannot stand on its own, and therefore needs to be attached to a verb. Thus, (33c) is bad either because there is no target VP for ellipsis to obtain the elliptical answer, or because only part of the word has undergone vocabulary insertion in the DM sense. The configuration for the elliptical answer in (33b) is as follows:

(34)



In (34), the optional adverbial phrase *isoide* 'fast' ensures that VP-ellipsis is involved to provide an elliptical answer with the embedded verb *tabe* moving to T, creating a complex head. The higher VP then undergoes ellipsis, which then provides the complex head as an answer form in (33b). Thus, I take the illegitimate form (33c) as evidence for obligatory head movement of the embedded verb *tabe* 'to eat' under *sase*.

Let us next consider examples with *mi*:[11]

(35) a. nimono(-o) (yowabi-de) tukut-te-mi-ta-no?
stew-(ACC) with.low.heat make-TE-try-PAST
'Did you try making the stew with low heat?'
b. Un, tukut-te-mi-ta.
yeah make-TE-try-PAST
'Yeah, I did. (I tried making the stew with low heat)'
Lit. 'Tried making.'
c. *Un, mita.
'Yeah, I did.' *Lit* 'Tried.'

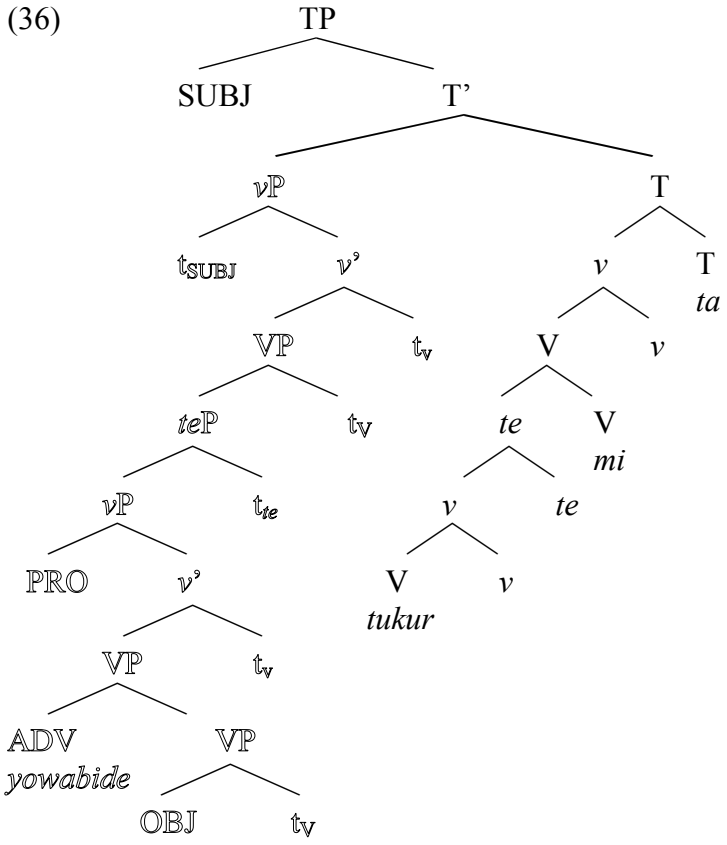
As shown by the grammatical contrast between (35a) and (35b), *mi* patterns with *sase* in that the embedded verb *tukur* 'make' forms a unit with the matrix verb *mi*, which in turn suggests that *tukur* has undergone head movement to the matrix domain, as shown below:

[11] Other V-*te* forms also confirm the same point. Recall that V-*te*-*ok* 'V-*te*-put' yields the meaning of 'to do something in preparation'. Another form V-*te*-*morau* 'V-*te*-receive' means 'to receive a favor of someone's act.' In the following examples, the elliptical answers in all the V-*te* forms must contain the embedded verb:

(i) a. Asitano gohan tukut-te-oi-ta?
tomorrow rice make-TE-put-PAST
'Did you prepare tomorrow's meal?'
b. Un, tukut-te-oi-ta.
yeah make-TE-put-PAST
'Yeah, I did.
c. *Un, oi-ta.
yeah put-PAST
'Yeah, I did.'

(ii)a. Sensei-ni suisenjoo kai-te-morat-ta?
professor-DAT letter.of.recommendation write-TE-receive-PAST
'Did you ask the professor to write a letter of recommendation?'
b. Un, kai-te-morat-ta.
yeah write-TE-receive-PAST
'Yeah, I did' Lit. 'Received a favor of writing'
c. *Un, morat-ta.
yeah receive-PAST
'Yeah, I did.'

(36)



Let us finally consider examples with the motion verbs:

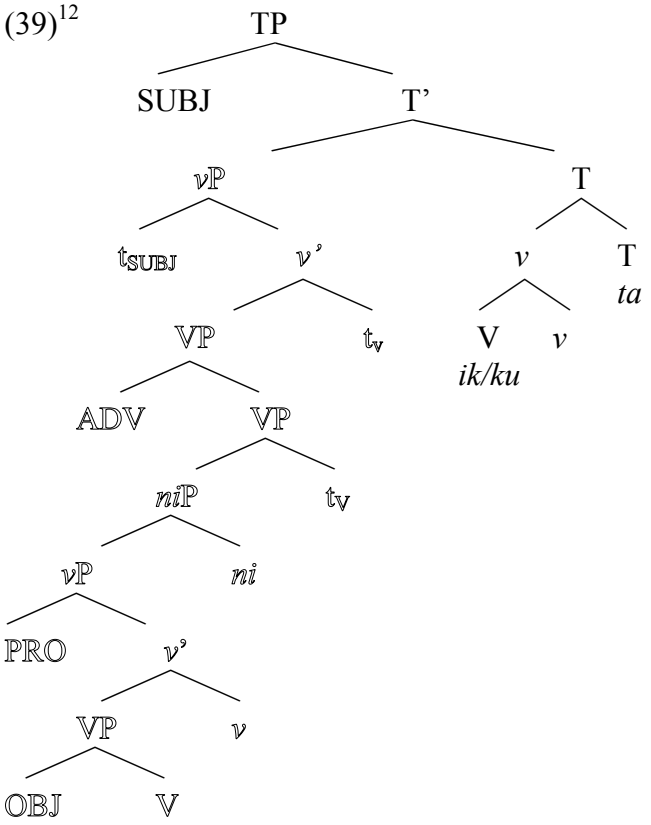
(37) a. (Aruite) hon-o kai-ni it-ta-no?
by foot book-ACC buy-NI go-PAST-Q
'Did you go to buy books by foot?'
b. Un, itta.
'Yeah, I did. (I went to buy books by foot)' *lit*. 'Went.'

(38) a. Yuubinyasan, (aruite) nimotsu-o todoke-ni ki-ta-no?
mailman by foot package-ACC deliver-NI come-PAST-Q
'Did the mailman come to deliver the package by foot?'
b. Un, kita.
'Yeah, he did (he came to deliver the package by foot).' *lit*. 'Came.'

In contrast to the examples with *sase* and *mi*, the answer forms where only the higher predicate *ik* or *ku* is provided are available with the motion verbs, as shown in (37b) and (38b). This means that the motion verbs undergo head movement by themselves, and that the embedded verb stays in the lower *v*P domain. As a

consequence, the embedded *v*P/VP undergoes ellipsis with the verb inside, yielding elliptical answers as illustrated below:

(39)[12]



Interestingly, however, instead of repeating only the motion verbs, an elliptical answer can also be provided by a bigger constituent, as shown below:

[12] Verb movement in the lower *v*P domain is omitted here.

(40) a. Hon-o kai-ni it-ta-no? [13]
book-ACC buy-NI go-PAST-Q
'Did you go to buy books?'
b. Un, kai-ni itta.
AFFIRM buy-NI go
'Yeah, I did.' *lit*. 'Went to buy.'

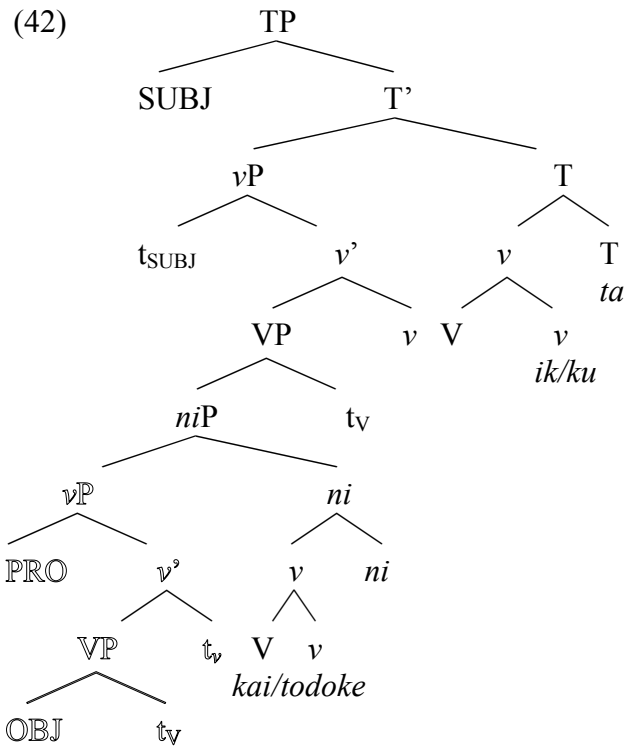
(41) a. Yuubinyasan, nimotsu-o todoke-ni ki-ta-no?
mailman package-ACC deliver-NI come-PAST-Q
'Did the mailman come to deliver mail?'
b. Un, todoke-ni kita.
AFFIRM deliver-NI came.
'Yeah, he did.' *lit*. 'Came to deliver.'

The fact that the answer forms in (40b) and (41b) are available appears to undermine the proposal that the embedded verb under the motion verbs does not undergo head movement outside of the lower VP domain. However, I suggest that there should be two possible derivations that are responsible for such answer forms. One possibility is that the lower *v*P undergoes ellipsis, with the verb being stranded outside the *v*P, as shown below:

[13] Some speakers find (40b) and (41b) redundant, but the answers are certainly grammatical. The same holds for other bi-clausal questions such as (20a) repeated below, although it does not sound as good as (40b) or (41b):

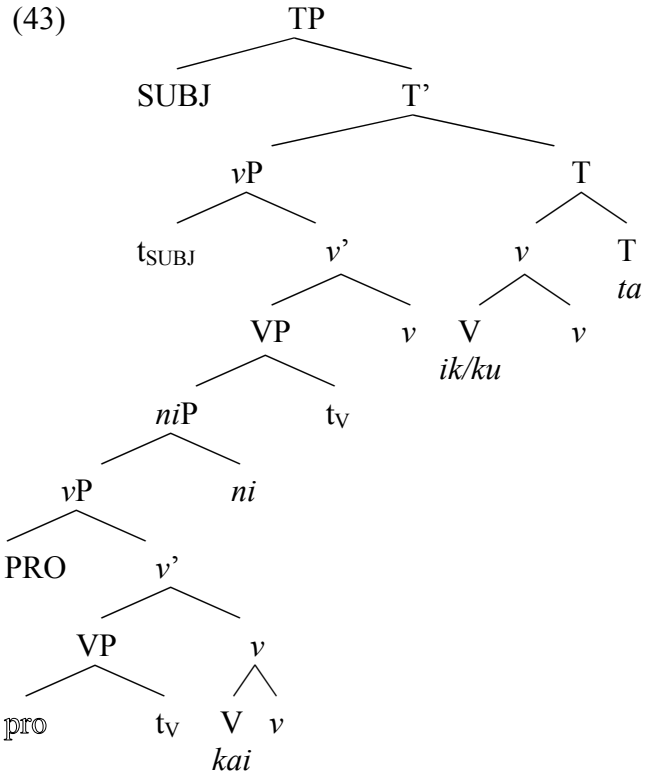
(i) a. John-ni [damar-u yoo-ni] it-ta-no ?
John-DAT shut up-PRES C tell-PAST-Q
'Have you told John to shut up?'
b. Un, it-ta.
AFFIRM tell-PAST
'Yeah, I have.' *lit*. 'Told.'
c. ?Un, damar-u yoo-ni it-ta.
AFFIRM shut up-PRES C tell-PAST
'Yeah, I have.' *lit*. 'Told to shut up.'

(42)



The other possibility is that the object serves as a null object via argument drop:

(43)



In both possibilities, the embedded verb stays in the lower domain, yielding the intended answer forms.[14]

[14] Although it would be ideal to distinguish between the VP-ellipsis and the argument drop strategies, the task is not easy. One way of distinguishing is to place an adverb that clearly modifies the embedded predicate and see whether the adverb can be elided along in elliptical answers. If it could, in that context, the VP ellipsis should be at work because null adverbs should be incompatible with the argument drop strategy.

However, it has been observed that the embedded modification is not possible in the motion verb construction (Tsujimura 1993). While Tsujimura illustrates her observation in restructuring contexts, she implies that the embedded modification is impossible in general in the motion verb construction. Thus, the adverb intending to modify the embedded predicate below renders the sentence infelicitous:

(i) ??Taro-ga genkin-de hon-o kai-ni it-ta.
-NOM with cash book-ACC buy go-PAST
'Taro went to buy books with cash.'

The above sentence cannot mean that 'Taro went somewhere to buy books with cash,' and the only available interpretation is that 'Taro went somewhere with cash (i.e. by paying the transportation fee with cash) to buy books.'

Thus, while it should be theoretically possible to distinguish the VP-ellipsis and the argument drop strategy by forcing the VP-ellipsis, the embedded modification is independently excluded, thus making the task not straightforward. I do not have an account for the impossible embedded modification, but see Tsujimura (1993) for her speculation on this.

However, when the VP-ellipsis strategy is forced by placing an adverb, only the answer forms with the motion verbs alone are acceptable:[15]

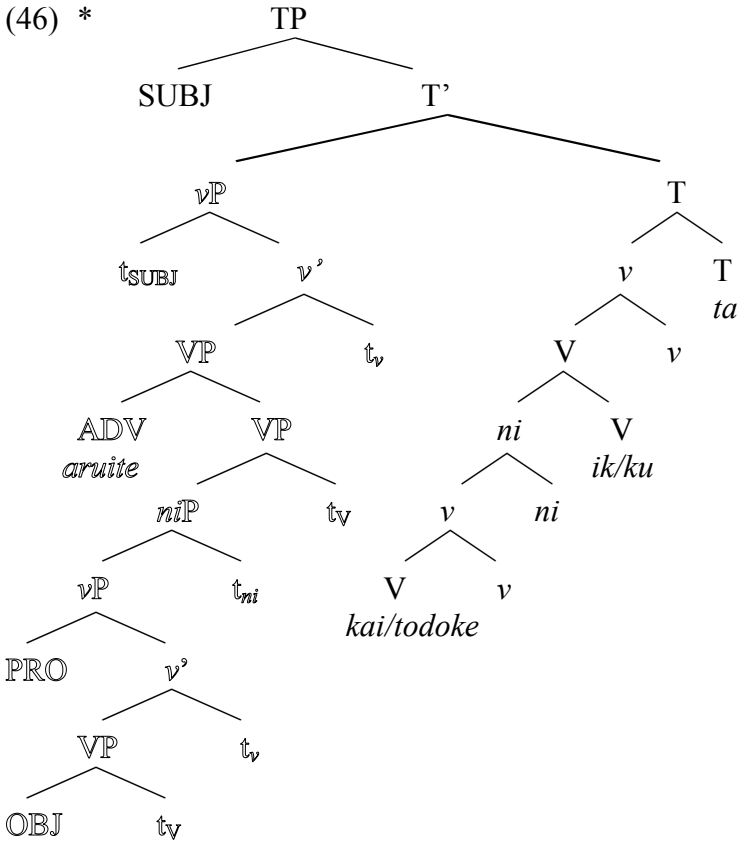
(44) a. Aruite hon-o kai-ni it-ta-no?
by foot book-ACC buy-NI go-PAST-Q
'Did you go to buy books by foot?'
b. Un, (aruite) it-ta.
AFFIRM by foot go-PAST
'Yeah, I did. (I went to buy books by foot)' *lit*. 'Went.'
c. Un, *(aruite) kai-ni it-ta.
AFFIRM by foot buy-NI go-PAST
'Yeah, I did. (I went to buy books by foot)' *lit*. 'Went to buy.'

(45) a. Yuubinyasan, aruite nimotsu-o todoke-ni ki-ta-no?
mailman by foot package-ACC deliver-NI come-PAST-Q
'Did the mailman come to deliver mail by foot?'
b. Un, (aruite) ki-ta.
AFFIRM by foot come-PAST.
'Yeah, he did.'
c. Un, *(aruite) todoke-ni kita.
AFFIRM by foot deliver-NI came.
'Yeah, he did'

In the above examples, the answer forms (44c) and (45c) are unacceptable unless the adverb is repeated. This means that the derivation in which the embedded verb moves to the matrix domain, with the highest VP being elided is not available:

[15] Recall that *sase* and *mi* allow elliptical answers of the equivalent of (44c) and (45c) without the adverb (see examples in (33a) and (35a)).

(46) *



The above fact strongly supports my claim that the embedded verb under the motion verbs does not undergo head movement to the matrix domain.

Summarizing this section, I have shown that *sase* and *mi* show the same properties in that the embedded verb under these predicates undergoes head movement to the matrix domain. I have also shown that contrary to these predicates, the motion verbs do not allow the embedded verb to undergo head movement to the matrix domain. In the next subsections, I will provide additional support for these conclusions.

3.2 Reduplication

In this section, we will see reduplication as another diagnosis for head movement. It has been agreed in the literature (Marantz 1982) that reduplication generally copies all or part of a word. In Japanese, repetition of a certain action can be expressed by reduplicating a verb:

(47) gohan-o tabe tabe
rice-ACC eat eat
'repeatedly eating rice'
(Manning, Sag & Iida 1999:41)

Other examples of reduplication are provided below:

	Verb Stem	Reduplication		Gloss
(48) a.	nak	naki naki		'cry'
b.	tabe	tabe tabe		'eat'
c.	yorokob	yorokobi yorokobi		'rejoice'
d.	s	sii sii	(*si si)	'do'
e.	mi	mii mii	(*mi mi)	'see'

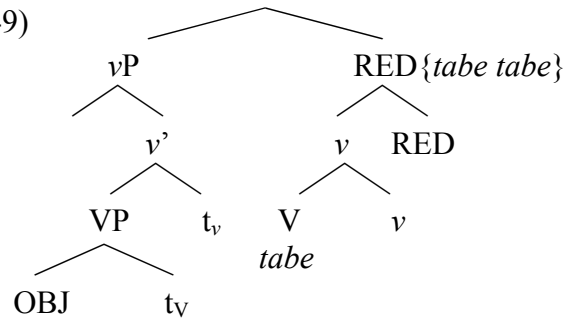
(Poser 1990)

In the examples above, the base of the reduplication takes the form called *renyookei*, a non-finite form that consists of either just a vowel-ending stem or a consonant-ending stem plus *i*.[16] As shown by (48d) and (48e), when the *renyookei* form consists of one mora, the vowel is lengthened so that both the reduplicant and the base contain two morae.

Following Marantz (1982), I assume that reduplication is a morpheme. I further assume, following Skinner (2009), that a reduplicative head situated higher than a *v*P is responsible for a reduplication process.[17] Skinner argues that the reduplicative head copies the phonological features of its sister head to create reduplicants. Thus, it follows that the base that is the target of reduplication is a sister of the reduplicative head. The relevant configuration is presented below:

[16] I will examine the nature of this *i* later in this chapter.
[17] Skinner (2009) makes this claim for Tagalog reduplication. I assume here that it applies to Japanese reduplication as well.

(49)



Thus, I argue whether a verb has undergone head movement or not could be detectable from whether the verb can be reduplicated or not. Bearing this in mind, consider the *sase* examples below:

(50) a. ?gohan-o tabe-sase tabe-sase[18]
rice-ACC eat-CAUSE eat-CAUSE
'by repeatedly making someone eat rice'
b. *gohan-o tabe-sase sase
rice-ACC eat-CAUSE CAUSE
(Manning, Sag & Iida 1999)

As shown by the reduplicative form in (50a), reduplication needs to target both the verb stem and *sase* and thus cannot target only *sase* (50b).[19]

As shown below, *mi* behaves the same way in that both the lower verb and the higher verb need to be reduplicated:

(51) a. ? sono doresu-o ki-te-mi kite-te-mi
that dress-ACC wear-te-try wear-te-try
'By repeatedly wearing that dress…'
b. * sono dress-o ki-te-mii mii
that dress-ACC wear-te-try try
'By repeatedly trying wearing that dress…'

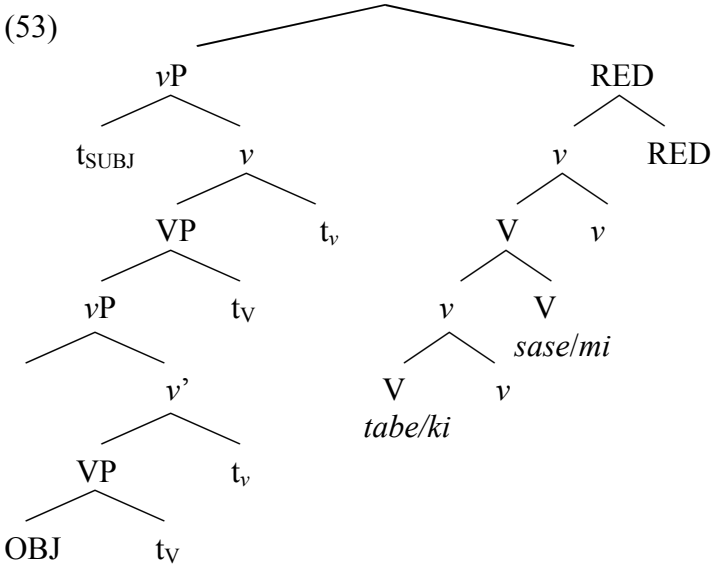
[18] Manning et al. report that the reduplicative form sounds somewhat more unnatural than other reduplicative forms with a simple verb stem for presumably pragmatic reasons. In what follows, I place '?' for reduplicative forms that are grammatical but sound somewhat unnatural.

[19] The reduplicative head cannot target the lower *v*P, making **tabe-tabe sase* not possible.

(52) a. ?ajimi-o si-te-mi si-te-mi
taste-ACC do-te-try do-te-try
'By repeatedly trying tasting…'
b. *ajimi-o si-te-mii mii
taste-ACC do-te-try try

Thus, the reduplication data with *sase* and *mi* suggest the following derivation, where the embedded verb moves to the higher predicate:[20]

(53)



However, with the motion verbs, reduplication only targets the motion verb by itself, in contrast to *sase* and V-*te mi* constructions:

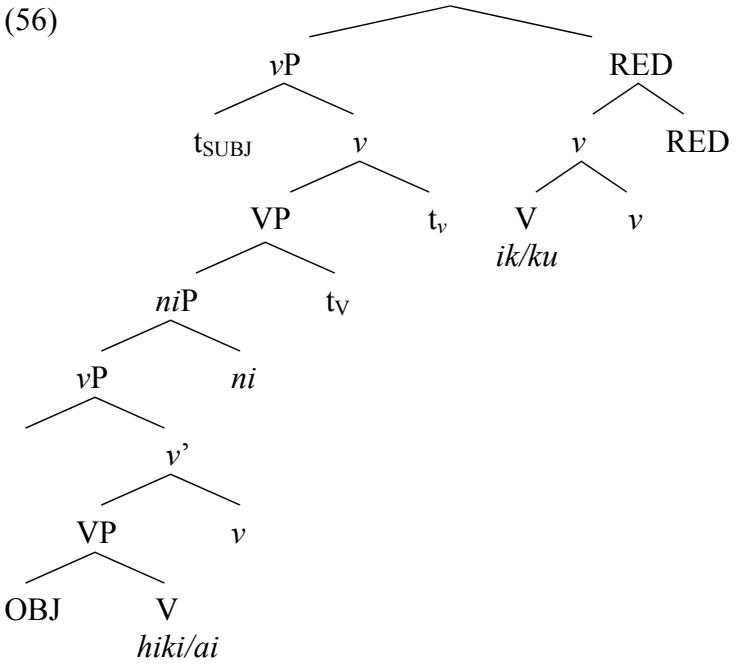
(54) a. ?mainichi gitaa-o hiki-ni iki iki
everyday guitar-ACC play-NI go go
'By repeatedly going to play guitar every day...'
b. *mainichi guitaa-o hiki-ni iki hiki-ni iki
everyday guitar-ACC play-NI go play-NI- go

[20] I simply omit the *te*P to have a simpler comparison between *sase* and *mi*. However, I will later show that both structures have an intervening functional category.

(55) a. ?sitsukoku ai-ni kii kii[21]
relentlessly see-NI come come
'By repeatedly coming to see me relentlessly...'
b. *sitsukoku ai-ni ki ai-ni ki
relentlessly see-ni come see-NI come
'By repeatedly coming to see me relentlessly...'

The above data thus suggest that the motion verbs have the following derivation, where only the motion verb undergoes head movement:[22]

(56)



The reduplication process thus indicates that head movement of an embedded verb applies to *sase* and *mi*, whereas it does not apply to the motion verbs, suggesting the same conclusion from the previous section. In the next subsection, we further confirm this conclusion using another diagnosis for head movement.

[21] According to some speakers, there seems to be a preference with reduplication with *k* over that with *ik* for some reason.
[22] I will later propose that the embedded verb undergoes head movement, but this head moves no further than *ni*.

3.3 Focus Particles

Our third type of diagnosis for head movement comes from placement of a focus particle on the lower verb. Kishimoto (2005; 2007) argues that raising of a predicate with a focus particle such as *sae* 'even' or *mo* 'also' is not possible. Kishimoto assumes that a focus particle is head-adjoined to the right of a lexical head. He claims that a focus particle marks the right-edge of a word, and thus it cannot be placed within a complex lexical head:

(57) a. kaigai-mo
overseas-also
'overseas also'

b. *kaigai-mo-ryokoo
overseas-also-travel
'overseas also travel'

(cf. kaigai-ryokoo-mo)

(Kishimoto 2005: 130)

Kishimoto argues that a focus particle cannot appear on a moving head. This is so because head movement of a predicate with a focus particle would yield an illegitimate complex head like that in (57b) with the focus particle embedded inside.

Now consider the following examples:

(58) a. John-ga hon-o yon-da
-NOM book-ACC read-PAST
'John read books.'

b. John-ga hon-o yomi-mo/sae si-ta
-NOM book-ACC read-also/even do-PAST
'John also/even read books.'

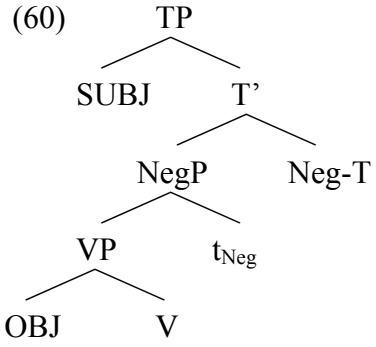
Although the past tense is realized on the verb itself in (58a), when a focus particle is attached to the verb, the dummy verb *su* is inserted and the tense is realized on the *su* instead.

Consider next the following examples:

(59) a. John-ga hon-o yoma-nakat-ta
-NOM book-ACC read-NEG-PAST
'John did not read books.'
b. John-ga hon-o yomi-mo si-ta/si-nakat-ta
-NOM book-ACC read-also do-PAST/do-NEG-PAST
'John also read/did not even read books.'
c. *John-ga hon-o yoma-naku-mo at-ta.[23]
-NOM book-ACC read-NEG-also be-PAST
'John also did not read books.'

In (59), although the focus particle *mo* can intervene between the verb and the negation as in (59b), it cannot break up the Neg-T sequence as in (59c). Kishimoto claims that the grammatical contrast between (59b) and (59c) follows if the Neg head undergoes head movement, whereas verbs do not, as shown below (*v*P is simply omitted):[24]

(60)



Since Kishimoto assumes that a focus particle cannot break up a complex head, the ungrammaticality of (59c) follows if we assume that Neg moves to T. The

[23] When a focus particle is attached to an adjectival head, the dummy verb *aru* 'be' is inserted, as in (i):

(i) Mary-wa kawaiku-sae/mo aru.
-TOP cute-even/also be.
'Mary is even/also cute.'
(Kishimoto 2007:250)

Since the negation *nai* exhibits the same conjugation pattern with adjectives, *aru* is inserted in (59c) even though the embedded predicate is a verb. The grammaticality judgment does not change even if *su* 'do' is inserted instead:

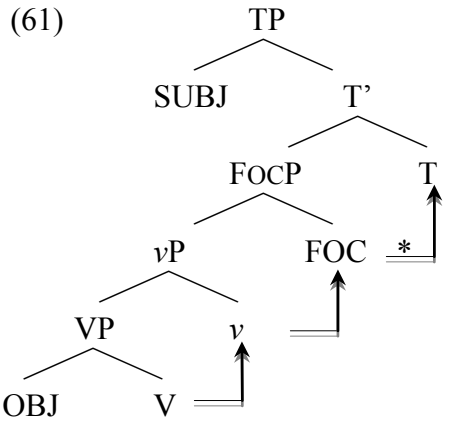
(ii) *John-ga hon-o yoma-naku-mo si-ta.
-NOM book-ACC read-NEG-also do-PAST
'John also did not read books.'

[24] I will shortly argue that V indeed moves.

grammaticality of (59a) also follows because the verb does not move, allowing the focus particle to attach to it. For the same reason, the verb in (58b) also does not move due to the presence of a focus particle. Because of this, the past tense cannot be realized on the verb itself and the dummy verb *su* is inserted. Kishimoto thus claims that the distribution of a focus particle is a diagnosis for head movement.

Departing from Kishimoto, however, I argue instead that focus particles block head movement, rather than arguing that they diagnose whether a given head moves or not (see also Miyagawa 2001).[25] Accordingly, I propose the following structure, where a focus particle heads its own projection:

(61)



Under this view, on the one hand, all verbs regardless of the presence of focus particles undergo head movement, contra Kishimoto. On the other hand, verbs like in (58b) and (59b) move up to a focus particle, but further movement up to T is blocked, and *su*-insertion occurs as a consequence.[26]

Assuming that focus particles block head movement, I will show in the following section that this assumption enables us to test if it is indeed head movement that correlates with the structural optionality, and by extension, with scope ambiguity, which is the main claim of this chapter.

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[25] Matsui (2009) also supports this view based on her research on NPI licensing in Japanese.

[26] I assume with Kishimoto (2005) that Neg must move to T; hence the grammatical contrast between (59b) and (59c).

3.4 Focus Particles as an Intervener for Head Movement

With the aid of focus particles as an intervener for head movement, we now have a way to test if, as I claim, scope ambiguity correlates with availability of head movement. We have seen so far that the embedded verb under *sase* and *mi* undergoes head movement, whereas the embedded verb under the motion verbs does not. We have also seen in Chapter 3 that both *sase* and *mi* allow the narrow scope of the nominative object, whereas the motion verbs only allow the wide scope of the nominative object. The scope and head movement thus seem to interact with each other: that is, the narrow scope reading of the nominative object is only available when the embedded verb undergoes head movement. If this is so, we may predict that when a focus particle is placed between the embedded verb and the matrix verb, the embedded verb should not be able to move. This means that even the embedded verb under *sase* and *mi*, which I have claimed moves, should not be able to move due to the presence of a focus particle. Meanwhile, the verb under the motion verbs should behave the same and do not move regardless of the presence of a focus particle. This predicts that the narrow scope of a nominative object is no longer available even with *sase* and *mi*, while the same fact should hold with the motion verbs, and the nominative object should not be able to take narrow scope.[27] The prediction is in fact borne out, as shown below:[28]

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[27] Many thanks to Haruko Matsui and Hideki Kishimoto for pointing out this fact.

[28] The same prediction should in fact apply to simple sentences such as (i):

(i) Taro-wa ringo-dake-ga tabe-rare-ru.
-TOP apple-only-NOM eat-CAN-PRES
'Taro is able to eat only an apple'
only > can; can > only

Recall that the nominative object in (i) takes ambiguous scope. Given the discussion of focus particles with *sase* and *mi*, we would predict that adding a focus particle after the verb in (i) would only yield a narrow scope reading of the nominative object. However, focus particles cannot appear in between a verb and *rare*, and instead nominalization of the verb occurs. Moreover, another adjectival predicate *deki* conveying the meaning of *rare* is used in place of *rare*:

(ii) Taro-wa ringo-dake-ga tabe-ru koto-mo/sae deki-ru.
-TOP apple-only-NOM eat-PRES NM-also/even can-PRES
'Taro is able to even/also eat only an apple'

Although (ii) seems to have only the wide scope reading of the object as we predicted, the

(62) *sase*

(?) Taro-wa Hanako-ni ringo-dake-ga tabe-sae/mo
-TOP Hanako-DAT apple-only-NOM eat-even/also
sase-rare-ru.
CAUSE-CAN-PRES
'Taro is able to make Hanako even/also eat only an apple'
Interpretation 1: It is only an apple that Taro is able to make Hanako even/also eat.
Interpretation 2: It is possible for Taro to make Hanako even/also eat only an apple.

(63) *mi*

(?) Taro-wa ringo-dake-ga tabe-te-sae/mo mi-re-ru.
-TOP apple-only-NOM eat-TE-even/also try-CAN-PRES
'Taro is able to try also/even eating only an apple'
Interpretation 1: It is only an apple that Taro is able to try even/also eating.
Interpretation 2: It is possible for Taro to try even/also eating only an apple.

(64) *ik*/*ku*

Taro-wa ringo-dake-ga tabe-ni-sae/mo
-TOP apple-only-NOM eat-NI-even/also
ik-e-ru/ko-re-ru.
go-CAN-PRES
'Taro is able to go/come even to eat/also to eat/ only an apple'
Interpretation 1: It is only an apple that Taro is able to go/come even/also to eat.
#**Interpretation 2:** It is possible for Taro to go/come to even/also eat only an apple.

In all of the examples above, only the wide scope reading of the nominative object is available, regardless of the type of the higher predicate.[29] The fact that the

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structure of (ii) is not clear, and thus it may not be a fair comparison with other cases.

[29] One might argue that the impossibility of narrow scope is due to some pragmatic difficulty for the interaction between 'only' and 'even': that is, the interpretation that 'It is possible for Taro to even eat only an apple' is difficult to obtain for independent reasons. Hopefully, such confusion should not arise for the interaction between 'only' and 'also'. The fact that the object can take narrow scope with the presence of *mo* 'also' at least confirms that the narrow scope in the relevant context is possible in principle:

narrow scope reading disappeared from the *sase* and *mi* examples thus indicates that head movement indeed correlates with domain for scope. This in turn supports the view that focus particles are syntactic heads rather than adjuncts, contra Aoyagi (1998) and Sakai (1998).

Summarizing so far, I have argued that certain heads such as focus particles block otherwise available head movement, which in turn correlates with scope ambiguity. In the following section, I will further explore this assumption, arguing that the scope facts indeed correlate with a morphological variance, rather than the lexical/functional split, as Bobaljik and Wurmbrand (2005) argue.

4. Blocking Head Movement and Different Types of Heads

In the previous subsection, we have seen that certain heads such as focus particles block head movement. I have shown that absence of head movement correlates with absence of narrow scope. In this section, I further explore the types of heads that block or allow head movement. I argue that the obligatory wide scope of the nominative object with the motion verbs is due to the fact that head movement of the embedded verb is blocked by the intervening head *ni* situated in between the embedded verb and the matrix verb. I then argue that there is no such intervener with *sase* and *mi*, and thus head movement of the lower predicate is available with these predicates. The comparison between the motion verbs and *mi* is interesting since the surface strings of the morphemes in both constructions seem to be the same, and yet the intervening morpheme behaves differently. This in turn strengthens my claim that scope interacts with a morphological variance.

(i) Taro-wa ringo-dake-mo tabe-rare-ru.
-TOP apple-only-also eat-CAN-PRES
'It is possible for Taro to eat only an apple (but it is possible to eat only an banana, too.)'

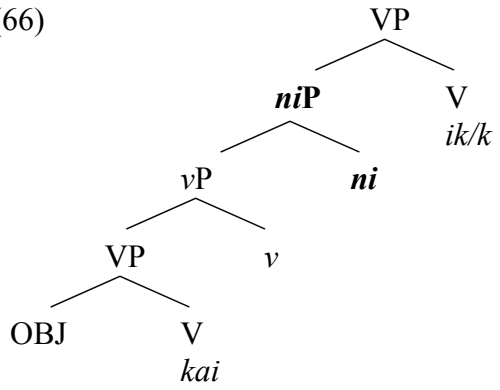
However, the focus particle in (i) replaces the Case marker of the object, and thus the sentence cannot be a control example for the possible narrow scope of the nominative object.

4.1 Nature of *Ni*

I argue that the morpheme *ni* that is situated between the embedded verb and the motion verbs in (65) blocks head movement of the embedded verb, assuming the structure in (65):

(65) Taro-ga ringo-o kai-**ni** it-ta/ki-ta.
-NOM -ACC buy-NI go-PAST/come-PAST
'Taro went /came to buy apples'

(66)



The proposal that *ni* of this type heads its own projection is rather new. The particle *ni* of this type, to the best of my knowledge, has never been assigned any independent syntactic position, and has been simply analyzed as a clitic-like element hosted by the embedded verb. Interestingly, there are other well-known homophones of *ni*, which are the dative Case marker *ni* and the postposition *ni*, and extensive study on the nature of these two types of *ni* has been presented by Sadakane & Koizumi (1995). However, even in their work, exactly the same type of *ni* is not found. In order to argue that *ni* in fact blocks head movement, it is necessary to investigate the nature of this intervening head. In the following two subsections, we first examine whether our *ni* patterns the same way with either of Sadakane and Koizumi's *ni*s by applying their syntactic tests. We will find out that our *ni* does not quite behave like either of them. I then discuss *ni* in terms of its morpho-phonological properties and propose that *ni* is a noun-selecting head, which blocks head movement.

4.1.1 Two Types of *Ni*: Dative *Ni vs.* Postposition *Ni*

According to Sadakane & Koizumi (1995), the case marker *ni* and the postposition *ni* behave differently with respect to certain syntactic licensing conditions such as numeral quantifiers and clefting. They claim that while Case markers in general can appear with numeral quantifiers, postpositions cannot:

(67) *Case markers and Numeral Quantifiers*
a. [$_{NP}$ gakusee-ga] 3-nin piza-o tabe-ta.
student-NOM 3-CL pizza-ACC eat-PAST
'Three students ate pizza.'
b. John-ga [$_{NP}$ piza-o] 2-kire tabe-ta.
-NOM pizza-ACC 2-CL eat-PAST
'John ate two slices of pizza.'

(68) *Postpositions and Numeral Quantifier*
a. * John-ga [$_{PP}$ gakusee-kara] 3-nin purezento-o morat-ta
-NOM student-from 3-CL presents-ACC receive-PAST
'John received presents from three students.'
b. * Mary-ga [$_{PP}$ konpyuutaa-de] 2-dai ronbun-o kai-ta.
-NOM computer-with 2-CL paper-ACC write-PAST
'Mary wrote a paper with two computers.'
(Sadakane & Koizumi 1995:8)

As for clefting, postpositions can tolerate clefting, whereas case markers cannot:

(69) *Clefting with Postpositions*
a. John-ga tegami-o morat-ta-no-wa [$_{PP}$ Mary kara] da.
-NOM letter-ACC receive-PAST-NL-TOP from COP
'It is from Mary that John received a letter.'
b. John-ga keeki-o kit-ta-no-wa [$_{PP}$ kono naihu de] da
-NOM cake-ACC cut-PAST-NL-TOP this knife with COP
'It is with the knife that John cut the cake.'

(70) *Clefting with Case Markers*[30]

a. * Kinoo piza-o tabe-ta-no-wa [$_{NP}$ Mary-ga] da
yesterday pizza-ACC eat-PAST-NL-TOP -NOM COP
'It is Mary that ate pizza yesterday.'

b. ??Kinoo Mary-ga tabe-ta-no-wa [$_{NP}$ piza-o] da
yesterday -NOM eat-PAST-NL-TOP pizza-ACC COP
'It is pizza that Mary ate yesterday.'

(Sadakane & Koizumi 1995:9)

Moreover, the grammaticality of the sentences in (69) will be degraded if the postpositions are omitted, whereas the sentences in (70) will improve their grammatical status if the Case markers are dropped:

(71) *Clefting without Postpositions*

a. * John-ga tegami-o morat-ta-no-wa [$_{NP}$ Mary] da.
-NOM letter-ACC received-NL-TOP Mary COP
'It is from Mary that John received a letter.'

b. *John-ga keeki-o kit-ta-no-wa [$_{NP}$ kono naihu] da
-NOM cake-ACC cut-PAST-NL-TOP this knife COP
'It is with the knife that John cut the cake.'

(72) *Clefting without Case Markers*

a. Kinoo piza-o tabe-ta no-wa [$_{NP}$ Mary] da
yesterday pizza-ACC eat-PAST-NL-TOP Mary COP
'It is Mary that ate pizza yesterday.'

b. Kinoo Mary-ga tabe-ta-no-wa [$_{NP}$ piza] da
yesterday -NOM eat-PAST-NL-TOP pizza COP
'It is pizza that Mary ate yesterday.'

(Sadakane & Koizumi 1995:10)

With the facts above in mind, let us turn to behaviors of the two types of *ni* with respect to licensing numeral quantifiers and clefting. As shown below, *ni* in (73) allows a numeral quantifier, whereas *ni* in (74) does not:

[30] As Sadakane & Koizumi note in their footnote 5, clefting of an accusative object is somewhat better than clefting of a *ga*-subject for obscure reasons. The same holds with dative objects, which we will see shortly.

(73) *Ni Allowing Numeral Quantifier*

a. Emi-wa tomodati-ni 3-nin bara-no hanataba-o age-ta
-TOP friend-Nl 3-CL rose-GEN bouquet-ACC give-PAST
'Emi gave a bouquet of roses to three of her friends.'

b. Kanta-wa yuuenti-de uma-ni 3-too not-ta
-TOP amusement park-at horse-NI 3-CL ride-PAST
'Kanta rode three horses at the amusement park.'

(Sadakane & Koizumi 1995:12)

(74) *Ni Disallowing Numeral Quantifier*

a *Mika-wa sensee-ni 3-nin inu-o home-rare-ta.
-TOP prof.-NI 3-CL dog-ACC praise-PASS-PAST
'Mika was affected by three teachers' complimenting her dog.'

b. *Kanta-no ronbun-wa riron-ni 2-tu motozuiteiru.
-GEN paper-TOP theory-NI 2-CL based on
'Kanta's paper is based on two theories.'

(Sadakane & Koizumi 1995:13-14)

The same *ni* in (73) does not tolerate clefting (75), whereas the *ni* in (74) does (76):[31]

(75) *Ni Disallowing Clefting*

a. ?? Emi-ga bara-no hanataba-o age-ta-no-wa Mika-ni da.
-NOM roses-GEN bouquet-ACC give-PAST-NL-TOP Mika-NI COP
'It is to Mika that Emi gave the bouquet of roses.'

b. ?? Kanta-ga yuuenti-de not-ta no-wa uma-ni da.
-NOM amusement park-at ride-PAST-NL-TOP horse-NI COP
'It is a horse that Kanta rode at the amusement park.'

(Sadakane & Koizumi 1995:12)

(76) *Ni Allowing Clefting*

a. Mika-ga inu-o home-rare-ta-no-wa Tanaka sensee-ni da.
-NOM dog-ACC praise-PASS-PAST-NL-TOP prof.-NI COP
'It is by Prof. Tanakaj that Mika was affected by his complimenting her dog.'

b. Kanta-no ronbun-ga motozui-te-iru-no-wa GB riron-ni da.
Kanta-GEN paper-NOM based on-TE-be-NL-TOP GB theory-NI COP
'It is the GB theory that Kanta's paper is based on.'

(Sadakane & Koizumi 1995:12)

[31] As is the case with clefting of an accusative object, clefting of a dative object would only yield marginality, compared to that of a nominative subject.

As we predicted, omission of *ni* improves the grammaticality of (74), but renders (75) ungrammatical:

(77) *Omission* of *Ni in Clefts in* (74)

a. Emi-ga bara-no hanataba-o age-ta-no-wa Mika da.
-NOM roses-GEN bouquet-ACC give-PAST-NL-TOP Mika COP
'It is to Mika that Emi gave the bouquet of roses.'

b. Kanta-ga yuuenti-de not-ta-no-wa uma da.
-NOM amusement park-at ride-PAST-NL-TOP horse-NI COP
'It is a horse that Kanta rode at the amusement park.'

(78) *Omission* of *ni in clefts in* (75)

a. * Mika-ga inu-o home-rare-ta no-wa Tanaka sensee da.
-NOM dog-ACC praise-PASS-PAST NL-TOP Tanaka prof. COP
'It is by Prof. Tanaka that Mika was affected by his complimenting her dog.'

b. * Kanta-no ronbun-ga motozui-te-iru-no-wa GB riron da.
Kanta-GEN paper-NOM based on-TE-be-NL-TOP GB theory COP
'It is the GB theory that Kanta's paper is based on.'

(Sadakane & Koizumi 1995:12)

The data above suggest that there are two types of *ni*, one which behaves purely as a case marker, and another which behaves as a postposition. In other words, the postposition *ni* does not allow a numeral quantifier but tolerates clefting, while the case marker *ni* behaves oppositely.

Sadakane and Koizumi also suggest that the most crucial defining factor to tease the two *ni*s apart is 'affectedness.' What they mean is that the DP with the dative *ni* is more affected by the action of a verb than the DP with the postposition *ni*:[32]

[32] English equivalent of (un)affected NPs are provided below (Tenny 1987; Levin and Rappaport 1986; Green 1974 among others):

(i) a. Mary loaded *the truck* with hay.
b. Mary loaded hay *onto the truck*.

(ii) a. Joni taught *the students* French.
b. Joni taught French *to the students*.

In the above examples the NP object of the verb seems to be more affected than the PP. For example, (ia) implies that the truck is full of hay, whereas (ib) does not. Similarly, (iia) implies that the students learned French, whereas (iib) does not guarantee that they

(79) *Case-Marker Ni*
Emi-wa Mika-ni bara-no hanataba-o age-ta.
-TOP -NI rose-GEN bouquet-ACC give-PAST
'Emi gave Mika a bouquet of roses'

(80) *Postposition Ni*
Kanta-no ronbun-wa [PP GB riron-ni] motozui-te-iru
Kanta-GEN paper-TOP GB theory-NI based on-TE-be
'Kanta's paper is based on the GB theory.'

In (79), the dative DP *Mika* is affected by the actions denoted by the sentences: thus, (79) 'entails that the bouquet reached Mika and that she came to possess it'. In contrast, in (80), the non-dative DP is not affected at all: that is, the *GB theory* is not affected by *Kanta*'s writing paper on it.

However, all of the *ni*s that Sadakane & Koizumi tested are post-NP *ni*s, except for one particular type of *ni*, which they call the copula *ni*.[33] Note that the *ni* under the motion verbs seems to directly attach to a verbal stem, which clearly differs from the post-NP *ni*.[34] Interestingly, however, Sadakane & Koizumi examine what seems to be the closest to the *ni* being discussed here, categorizing it as a post-position:

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learned anything. Thus the NP/PP difference with respect to 'affectedness' could be a universal tendency.

[33] This type of *ni* typically attaches to adjectives, as in (ia):
(i) a. Mika-wa heya-o kiree-ni katazuke-ta.
-TOP room-ACC beautiful-NI cleaned up-PAST
'Mika cleaned up her room beautifully.'
b. Heya-ga kiree-da.
room-NOM clean COP
'The/her room is clean.'
(Sadakane & Koizumi 1995:17)
As shown by (ib), *ni* in (ia) is clearly related to a copula construction, and the *ni* marked NP acts as a resultative predicate. This type of *ni*, according to their test, fails all of the syntactic tests that divide *ni*s into the case maker and the postposition, and thus it is treated differently as a copula.

[34] I will shortly (in Section 4.1.2) propose that *ni* does not directly attach to a verb, and that there is an *n* head below *ni*.

(81) *Purpose ni*:
Kanta-wa Mika-no tokoro-e [$_{NP}$ soodan-ni] ik-ta.
-TOP -GEN place-to consult-NI go-PAST
'Kanta went to Mika to consult with her'
(Sadakane & Koizumi 1995:28)

As shown in the translation, this type of *ni* introduces a purpose expression, and it is selected by the motion verb. This type of *ni* does not allow a numeral quantifier but tolerates clefting, behaving as a postposition:

(82) *Kanta-wa Mika-no tokoro-e soodan-ni 3-tsu it-ta.[35]
-TOP -GEN place-to consult-NI 3-CL go-PAST
'Kanta went to Mika to consult about three things with her'

(83) Kanta-ga Mika-no tokoro-e it-ta-no-wa, soodan-ni da.
-NOM -GEN place-to go-PAST-NL-TOP consult-NI COP
'It is to consult her that Kenta went to Mika'

As shown below, this type of *ni* does not tolerate clefting without the *ni*, behaving again as a postposition:

(84) * Kanta-ga Mika-no tokoro-e itta-no-wa, soodan da.
-NOM -GEN place-to went-NL-TOP consult COP
'Kanta went to Mika to consult about three things with her'

Now, it is important to see if the *ni* under the motion verbs could also be treated the same way. Since the *ni* under the motion verbs appears to directly attach to a verb, which is not countable in contrast to a noun, the numeral quantifier test is automatically not applicable. As for the cleft test, the *ni* behaves the same way as the postposition *ni*:

[35] The noun *soodan* 'consult' can be modified by the same numeral quantifier in a simple sentence as follows:
(i) Soodan-ga 3-tu aru
consult-NOM three-CL be
'There are three things to consult.'

(85) *Cleft with Ni*[36]

Taro-ga	Tokyo-e	it-ta-no-wa	hon-o	kai-ni	da
-NOM	-to	go-PAST-NL-TOP	book-ACC	buy-NI	COP

'It is to buy a book that Taro went to Tokyo'

(86) *Cleft without Ni*[37]

*Taro-ga	Tokyo-e	it-ta-no-wa	hon-o	kai	da
-NOM	-to	go-PAST-NL-TOP	book-ACC	buy	COP

'It is to buy a book that Taro went to Tokyo'

Finally with respect to the affectedness, since the *ni* attaches to a verb that denotes the action itself, it is not testable whether the *ni*-phrase is affected or not by the action denoted by the sentence. Therefore, it seems that other than the cleft test, the *ni* of this kind does not belong to either the dative *ni* nor the postposition *ni*. Although its distribution seems to suggest that *ni* under the motion verb belongs to its own category, I instead pursue another direction and simply stipulate that it is in fact a P(ostpositional) head. I will further argue that the *ni* has the same subcategorization as P and takes a noun as its complement: that is, what has been assumed to be a VP to which the *ni* attaches is in fact an NP. On this view, *ni*, whether it is dative or postposition *ni*, consistently takes a noun as its complement.

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[36] The fact that the embedded clause is cleftable in the motion verb construction is compatible with the claim that the embedded verb does not incorporate into the higher verb. The embedded clause of the causative (i) and *mi* (ii), on the other hand, is not cleftable:

(i) *Taro-ga Hanako-ni sase-ta-no-wa ringo-o tabe-da.
-NOM -DAT make-PAST-NL-TOP apple-ACC eat-COP
Lit. 'It is to eat an apple that Taro made Hanako'

(ii) *Taro-ga mi-ta-no-wa ringo-o tabe-te-da.
-NOM try-PAST-NL-TOP apple-ACC eat-TE-COP
Lit. 'It is to eat an apple that Taro tried'

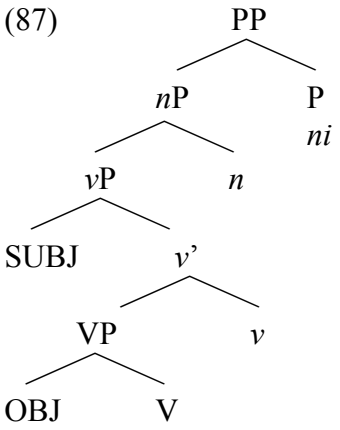
Although the above facts are compatible with the claim that the embedded verb under *sase* and *mi* incorporates into the higher verb, the copula *da* does not select a verb stem even in a non-cleft sentence. Thus, the ungrammaticality of (i) is not directly tied to the verb movement of the embedded predicate.

[37] Again, the copula *da* does not select a verb stem, and thus the ungrammaticality of (86) is not the same as other cleft examples. But I will shortly claim that what appears to be a verb stem is some type of nominal.

4.1.2 *Ni* as a Noun-Taking P Head

In this subsection, I argue that the *ni* in the motion verb construction takes a noun as its complement. In doing so, I claim that what appears to be a VP to which the *ni* attaches is actually an *n*P. Under this claim, all the morphemes realized as *ni* consistently take *n*Ps as their complement. As we will see shortly, several nominalization facts in Japanese confirm taking this direction. Thus, the structure that I assign to *ni* and its complement clause is as follows:

(87)



In (87), there is a nominalizing head *n* that takes a verbal complement, which projects its own *n*P, and this *n*P is then selected by the P head *ni*. Crucially, the extra *n*P layer above *v*P is supported morpho-phonologically. Consider the phonological shape of verbal stems that appear below *ni* in the following examples:

(88) a. tabe-ni ‘to eat’
b. ne-ni ‘to sleep’
c. tazune-ni ‘to ask’

In the above examples, *ni* seems to be directly attached to a vowel-final stem. However, when *ni* attaches to a consonant-final stem, the segment *i* appears between the verb stem and *ni*:[38]

[38] The same morpheme *i* appears when the desiderative morpheme *-tai* attaches to a verbal stem.

(89) a. yom-**i**-ni ‘to read’
b. kak-**i**-ni ‘to buy’
c. hanas-**i**-ni ‘to talk’

I argue that the vowel *i* between the stem and *ni* is a phonologically conditioned allomorph of an *n* head morpheme, which alternates with /ø/, in the sense of Distributed Morphology (Embick & Noyer 2007; Halle & Marantz 1993 among others).[39] I propose that when the exponent of the *n* head occurs after a consonant-final stem, it is realized as /*i*/, whereas it is realized as /ø/ after a vowel-final stem. The claim that *i* is an *n* head is supported by the fact that the same morpho-phonological pattern is observed with deverbal nominals. As shown below, there is no overt suffix marking nominalization after a vowel-final stem:[40]

(90) Vowel-Ending Stems		Deverbal Noun Form
a. kangae	‘think’	e. kangae
b. kari	‘borrow’	f. kari
c. tasuke	‘help’	g. tasuke
d. mooke’	‘profit’	h. mooke
		(Tsujimura 2007)

However, a suffixed vowel *i* appears when nominalizing a consonant-final stem:

(91) Consonant-Ending Stems		Deverbal Noun Form
a. tanom	‘request’	e. tanom-**i**
b. ugok	‘move’	f. ugok-**i**
c. kurusim	‘suffer’	g. kususim-**i**
d. kimar	‘decide’	h. kimar-**i**

It is important here to note that the vowel *i* does not replace an intransitive/transitive morpheme on a verb stem. The following list shows some of the roots that exhibit intransitive/transitive alternation accompanying

[39] Although one might argue that *i* is an epenthetic vowel, I would like to point out that normally, epenthetic vowels are *u* in Japanese (e.g. Christmas→ k**u**ris**u**mas**u**). I therefore assume that *i* is a category-changing suffix *n* rather than a purely phonological element.
[40] Examples using these deverbal nominals will be presented shortly.

(in)transitivizing morphemes attaching to the roots:[41]

(92)	Intransitive		Transitive	
a.	ka-**ri**	'borrow'	d. ka-**s**	'lend'
b.	kae-**r**	'return'	e. kae-**s**	'return'
c.	ot-**i**	'fall'	f. ot-**os**	'drop'

When *ni* attaches to these verbs, it appears after a vowel-final form but is preceded by a vowel *i* after a consonant-final form:

(93)	Intransitive		Transitive	
a.	ka-ri-ni	'to borrow'	d. ka-s-**i**-ni	'to lend'
b.	kae-r-**i**-ni	'to return'	e. kae-s-**i**-ni	'to return'
c.	ot-i-ni	'to fall'	f. ot-os-**i**-ni	'to drop'

Note in the examples above that intransitive/transitive morphemes (eg. kae-**r**/kae-**s** 'to return') are followed by the vowel *i*. Assuming that intransitive/transitive morphemes are *v* heads (Harley 2008), the morpheme order indicates that *i* is clearly above *v*, which is consistent with the proposed structure of *ni* in (87).[42]

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[41] Deverbal nominals exist for *kari* (92a), *kaer-i* (92b), *kas-i* (92d), but not for *oti* (92c), *kaesi* (92e), and *otosi* (92f).

[42] However, *i*-nominalization under *ni* is more productive than pure nominalization for deverbal nouns. Although any verbs can be nominalized by the suffixation of *i* (or ø) and appear under *ni*, it is not the case that these nominalized verbs pattern exactly the same as deverbal nouns. For example, deverbal nouns in general can be accompanied by demonstratives or be modified by genitive Case-marked elements, as shown in (i):

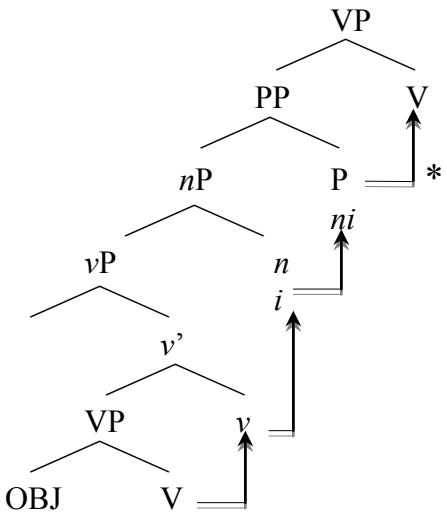
(i) a. kono/Taro-no kangae
this -GEN thought
'this/Taro's thought'

b. sono/Taro-no ugok-i
that -GEN move-i
'that/Taro's move'

However, not all nominalized verbs under *ni* share this property, as shown in (ii):

Going back to the proposed structure of *ni* at the outset of this section, I assume that the P head *ni* selects an *n*P, where the *n* head *i* nominalizes a verb. Furthermore, I argue that *ni* blocks movement of the verb. Thus, in (94), the lower verb can move up to *ni* through the *n* head, but not past *ni*:

(94)



Although the exact nature of *ni* (and of a focus particle) needs to be further investigated, I raise two possibilities for the ban on head movement. One possibility is that the *ni* head (P) is a functional head in the sense that it does not select arguments, and that the relevant head movement is banned due to Proper Head Movement Generalization (Baker 1996; Li 1990):[43]

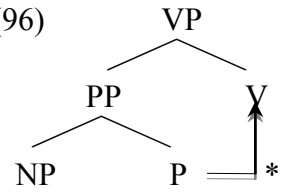
(ii) a. * kono/sono/Taroo-no kak-i (√kaki-ni)
this/that/Taro-GEN write-i
'this/that/Taro's writing'
b. * kono/sono/Hanako-no tabe (√tabe-ni)
this/that/Hanako-GEN eat
'this/that/Hanako's eating'

The ungrammaticality of (ii) suggests that although *i* serves some nominalizing function, it is not enough to derive a pure nominal. I tentatively assume that *i* is an intermediate stage of the nominalization process and leave the exact function for future research.

[43] However, PHMG does not quite explain why focus particles block head movement in a simple sentence since V-to-FOC-to-T movement does not violate PHMG, which means that a FOC head must block head movement for independent reasons. PHMG thus accounts for some cases where head movement does not occur, but additional restrictions must be invoked in other cases. This is shown by cross-linguistic variations of P-incorporation: some languages allow P-incorporation (Baker 1988), while others like

(95) *Proper Head Movement Generalization (PHMG)*
A lexical category cannot move into a functional category and then back into a lexical category (Baker 1996: 284).

The other possibility is that P-to-V movement is independently excluded simply because there is no P incorporation in Japanese due to cross-linguistic variability:

(96)


Although the exact nature of the improper P-to-V movement requires a principled explanation, it should be excluded for at least two possibilities: the first, a PHMG violation, and the second, a lack of P incorporation.[44]

In the next subsection, we will examine the morpheme *te* that appears under *mi* 'try', showing that *te* does not block head movement of a verb, and thus the verb movement does not violate PHMG.

4.2 Nature of *Te*

I have argued in the previous section that the intervening morpheme *ni* is a P head that blocks movement of an embedded verb. In this section, I will examine the nature of the other intervening head *te* under *mi*. Since we have already established that V-*te*-*mi* constructions allow head movement of an embedded verb, it is natural to conclude that the intervening morpheme *te* does not block head movement, contrary to *ni*. Thus, despite the fact that the surface strings of the words in both *te* and *ni* constructions look the same, they should be different types of heads which show different characteristics. In the following subsections, I will

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Japanese do not.

[44] I will leave what derives PHMG and constraints P incorporation in Japanese for future research.

speculate that *te* is an E(vent) head, following Uesaka (1996), and present the phonological properties that would support this claim.

4.2.1 *Te* as an Event head

It is widely acknowledged in the literature (Kindaichi 1976; Teramura 1982, among others) that *te* encodes aspectual information. Many of the studies on *te* have been devoted to what is generally called *te-i(ru)* constructions which denote roughly two types of aspects: progressive (97) and perfect (98):

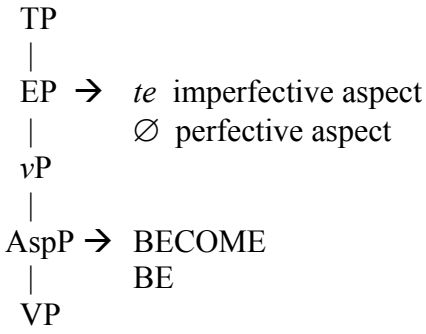
(97) John-ga hasit-te-i-ru.
-NOM run-TE-be-PRES
'Taro is running.'

(98) Ki-ga taore-te-i-ru.
-NOM fall-TE-be-PRES
'The tree has fallen down (and it is still on the ground).'

While (97) describes an ongoing situation of Taro's running, (98) describes a state of affairs resulting from a past event (i.e. perfect of result).

Uesaka (1996) proposes that despite the interpretive difference, *te* consistently encodes the imperfective aspect. Uesaka assumes that morphemes that determine perfectivity of events are generated under E, and further proposes that *te* is an E(vent) head which encodes the imperfect aspectual information. She assumes that when E is realized as *te*, it denotes the imperfect aspect, whereas when it is phonologically null, it denotes the perfective aspect, which is an unmarked case. According to Uesaka, the two different interpretations of *te* arise depending on the type of Asp(ect) head (Travis 1994) which encodes information of aspectual class of verbs. She assumes that Asp carries information on whether the VP involves a change of state, which is then identified with either BECOME or BE. When the Asp is BECOME, it entails "a change of state and the resultant state as its consequence," whereas when it is BE, no change of state or the

resultant state is involved.[45] Thus, while *te* consistently signifies the imperfectivity, the presence of BECOME on the Asp ensures the 'perfect of result' reading, whereas BE ensures the progressive reading. The proposed structure by Uesaka is as follows:

(99)


Uesaka's analysis correctly captures the morpheme order between the causative morpheme and *te* since E is structurally higher than *v*. Although I will omit the Asp projection in the remainder of this chapter unless it becomes crucial, I assume with Uesaka that *te* is an Event head.

In the following subsection, I will also assume that E is a phase head (Dobler et al. in press; Travis 2010) based on the assumption that (i) phonological domains and syntax domains correlate (Marvin 2002; Samuels 2009; Piggott & Newell 2008 among others), and that (ii) E functions as a boundary of phonological domain (Dobler et al. in press; Travis 2000). I will then show that assuming *te* as an E head has the theoretical advantage of E allowing verbal head movement through it.

4.2.2 E as a Phase Head

Dobler et al. (in press) and Travis (2000) show that E serves as a boundary for the phonological domain. Causative examples from Malagasy illustrate this point. First, consider (100):

[45] I will leave the exact function of the Asp head open, aside from the fact that it is responsible for assigning accusative Case.

(100) (*-amp- = an + f*)[46]

a. Lexical Inchoative — m-i-fatra (m+i+fatra)
AT-INCH-measure
'X is measured'

b. Lexical Causative — m-**am**-atra (m+an+fatra) N.B. an+f → am
AT-CAUSE-measure
'Y measures X'

(Dobler et al. in press)

In (100), the root *fatra* 'to measure' can have either the inchoative morpheme *i* (100a) or the causative morpheme *an* (100b). I call the former 'lexical inchoative' and the latter 'lexical causative' just for the sake of terminology. Note that in (100b) the initial segment /f/ of the stem and the final consonant /n/ of the causative morpheme become fused and constitute a single segment [m].

As shown in (101a), the causative morpheme *an* can be added to lexical inchoatives. It can also be added to lexical causatives, allowing iteration of the same causative morpheme, as shown in (101b):

(101) a. Syntactic Causative of (100a) — m-**am**-p-i-fatra (m+an+f+i+fatra)
AT-CAUSE-E-INCH-measure
'Z make X be measured'

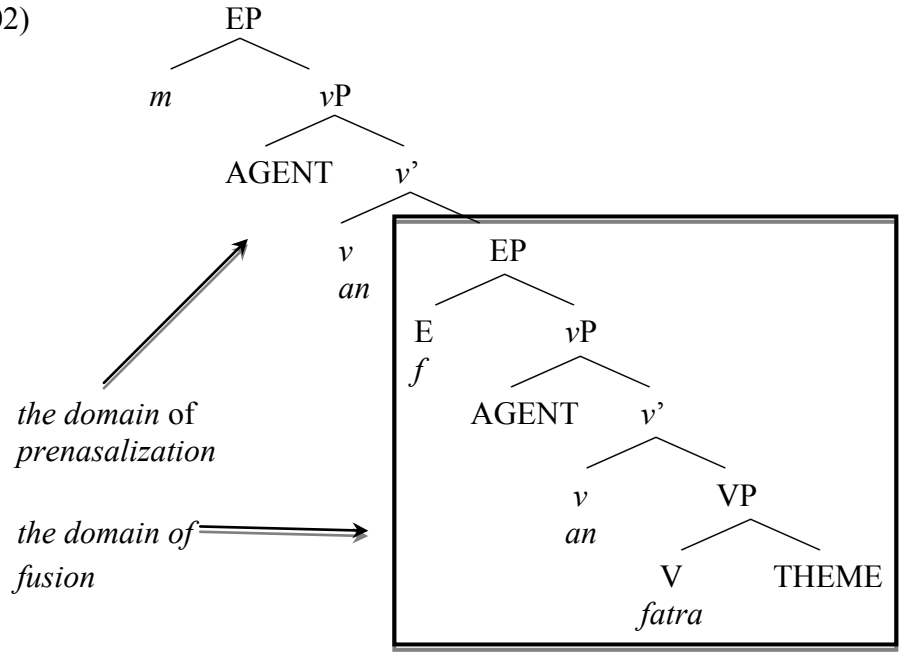
b. Syntactic Causative of (100b) — m-**am**-p-**am**-atra (m+an+f+an+fatra)
AT-CAUSE-E-CAUSE-measure
'Z make Y measures X'

I call these forms 'syntactic causatives,' again for the sake of terminology. When creating syntactic causatives, an additional morpheme *-f* is added. Travis (2000) analyzes it as an E head, which marks the edge of an event. Note that in (101a), the phonological process that the stem undergoes is different from the phonological process of the lexical causative (100b). Instead of undergoing fusion which would yield */amifatra/, the initial consonant of the stem /fifatra/ becomes prenasalized, yielding /a^{m}pifatra/.

[46] The word initial *m* is called the actor topic marker (AT), which appears when the agent is in the subject position.

Travis argues that the application of fusion and prenasalization is determined whether the stem is below or above E. She argues that E marks the edge of a phonological domain, and that what is inside the domain of E exhibits 'destructive' phonology such as fusion, whereas what is outside of the domain of E exhibits structure-preserving phonology such as prenasalization:

(102)



Dobler et al. (in press) and Travis (2010) argue that the fact that E demarcates the edge of a phonological domain can be explained if a phase plays a role in phonology as well as syntax. They assume that EP is a phase, and that the phase head E undergoes spell-out *with* its complement, unlike the conventional assumption that the spell-out head sends off its complement to spell-out (Chomsky 2001a,b; Nissenbaum 2000). Given this assumption, they argue that the material within the same spell-out domain is allowed to interact and possibly trigger destructive phonology. On the other hand, any material added after the spell-out is now outside of the EP, and the material that is already assigned phonology upon spell-out retains its phonology as much as possible, resulting in prenasalization. I assume, following Travis and Dobler et al., that E is a phase head, which undergoes spell-out with its complement.

Having shown that E demarcates a phonological domain, Dobler et al. (in press) further show that this E has undergone head movement after spell-out. In Malagasy, the effect of head movement is visible when there is an overt non-subject Agent since the language is V-initial. In fact, the verb must raise higher than the agent argument, as shown by the following example:[47]

(103) n-am-p-am-arana ny mpampianatra ny ankizy
PAST.CT-CAUSE-E-CAUSE-measure DET teacher DET child
ny varavarambe.[48]
DET door
'The teacher made the child measure the door.'
(Dobler et al. in press)

Recall now from Section 4.2.1 that I assume that *te* is an E head. Recall also that *te* allows head movement of the embedded verb through it. What this means is that E, by its nature, is able to pass up head movement from the lower domain to the higher domain. In Section 4.1.2, I suggested that one possibility of *ni* as a head movement blocker is that V-to-P-to-V movement violates PHMG, under the assumption that P is a functional head. If so, it should not be the case that V-to-E-to-V movement violates PHMG, since *te* allows head movement. If E is purely a functional element, the verb movement through this head to another verbal head should be banned due to PHMG, contrary to fact.

On this point, however, Travis argues that event-related 'functional' categories are of a different type of a functional element. More specifically, Travis assumes that the function of E is to bind an event variable (Higginbotham 1985) and enter into a theta-binding relationship with an event argument. On this view, E seems to also have a lexical or semi-functional property under the assumption that the functional/lexical split is based on theta assignment relationships. I thus claim that verb movement through the E head *te* is not a violation of PHMG, and

[47] See Dobler et al. (in press) for evidence that movement past the agent must be V-movement and not VP-movement.
[48] CT stands for Circumstantial Topic, which appears when the theme of the embedded predicate is in the subject position instead of the agent.

that for this reason *te* does not block head movement of the embedded verb. Thus, the assumption that *te* is an E head allows us to provide an explanation of why it allows verbal head movement, while maintaining the idea that PHMG determines the possibility of head movement depending on the type of intervening head.

If *te* is in fact an E head, and the role of E is to demarcate a phonological domain, we should be able to see some phonological effects exhibited by *te* and a verb stem. In the following subsection, I show that the phonological effect of *te* is in fact compatible with the assumption that *te* is an E head.

4.2.3 Phonological Properties of *Te*

So far in this chapter, I have claimed that the application of head movement depends on the type of intervening morpheme. I have suggested that while *ni* is a P head that blocks head movement, *te* is an E head that allows head movement. I have also shown that the presence of head movement yields scope ambiguity, while the absence of head movement leads to a rigid scope interpretation. My goal in this chapter is thus to show that head movement can interact with semantic scope, and that morphology plays a crucial role in determining whether head movement is possible or not.

In the previous subsection, I have assumed with Dobler et al. (in press) and Travis (2010) that E is a phase head, which undergoes spell-out together with the verb stem. We have seen that in Malagasy, the spell-out domain of E brings about certain phonological effects between the verb stem and the causative morpheme. In this section, I show that the same holds for Japanese: that is, affixation of *te* affects the verb stem in several ways. I show that the facts further support the claim that *te* is an E morpheme, and that E undergoes spell-out with the verb stem.

First, the phonological effect of *te* can be seen when a stem that ends in either /k/ or /g/ is followed by *te*. When this happens, the consonant becomes a glide as in (104a). Moreover, /g/ triggers voicing of /t/ of *te* as in (104b):

(104) a. kak-te → ka**i**-te ‘write’
b. kag-te → ka**i-d**e ‘smell’

Second, *r*-ending stems trigger gemination, whereas *s*-ending stems trigger /i/ insertion:

(105) a. kaer-te → kae**tt**e ‘return’
b. hans-te → hanas**i**te ‘speak’

Finally, *te* undergoes voicing when the final consonant of the stem is either /m/, /n/, or /b/. Moreover, /m/ and /b/ become /n/:

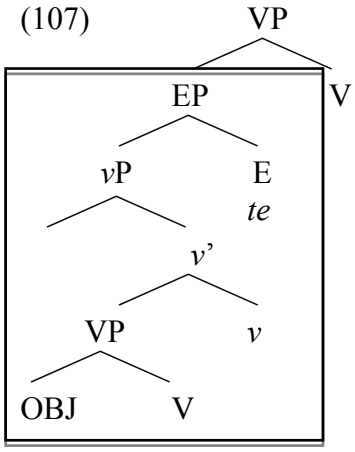
(106) a. sin-te → sin-**d**e
b. yom-te → yo**n**-**d**e
c. tob-te → to**n**-**d**e

Note that under the assumption that syntactic domains (i.e. phases) correspond to phonological domains (Dobler et al. in press; Marantz 2007; Marvin 2002; Piggott & Newell 2008; Samuels 2009), phonological effects of *te* are consistent with the assumption that a verb stem and *te* are in the same phase, and as such, undergo spell-out together.[49] The relevant structure is repeated below:[50]

[49]Note that what is important here is that a verb stem and *te* must be in the same domain when spell-out applies. Although I will later assume that they are in the same phase to begin with, an alternative analysis where a verb stem undergoes pre-spell-out movement to *te* across a phase boundary would also bring about the same effect. Unless there is evidence of the contrary, however, I will assume that a verb stem and *te* reside in the same phase.

[50] Recall that I assume that EP, not *v*P, is the phase, and that the phase head E undergoes spell-out with its complement.

(107)



Moreover, the assumption that *te* is outside of VP is also supported by the fact that a causativizing (transitivizing) morpheme (i.e. *v* morphology) appears below *te*:

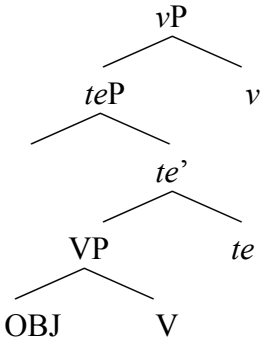
(108) a. ak-e-te — open-CAUSE-TE
* ak-te-e — open-TE-CAUSE

b. ok-i-te — get up-CAUSE-TE
* ok-te-i — get up-TE-CAUSE

c. tom-e-te — stop-CAUSE-TE
* tom-te-e — stop-TE-CAUSE

As shown above, the causitivizing *v* morpheme is followed by *te*, and the reverse order is ill-formed. Thus, the data suggest that the following structure is not available:

(109) *Illegitimate Configuration*



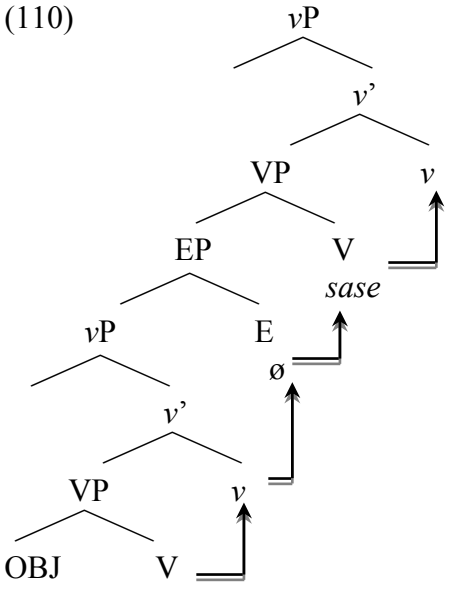
The ill-formedness should not be attributed to the illegitimate consonant clusters of [k.t] for a**k-t**e (108a) and for o**k-t**e (108b), or [m.t] for to**m-t**e (108c). Recall that /k/ before *te* becomes a glide and /m/ triggers voicing of /t/ of *te*. If the illegitimate forms in (108) are due to these phonological constraints, then we would expect that forms such as *a**i**-te-e, *o**i**-te-i, and *ton-**d**e-e be acceptable. But these forms are in fact still illegitimate. The fact that these forms do not exist further suggests that *te* follows *v*, which supports the claim that *te* is an Event head residing outside of the *v*P domain.

Summarizing this section, I have shown that the phonological effect of *te* supports the claim that *te* is an E head, which undergoes spell-out with its complement *v*P. In the next section, I suggest that this E head also allows head movement in the causative construction.

4.3 *Sase* with No Intervening Head

Assuming that an E head is situated between the embedded clause and the matrix clause, I posit the following structure for *sase*:

(110)



In the structure above, E occupies the same syntactic position that I assume for *te* and thus selects *v*P. I assume that the only difference between E for *te* and E for

sase is that the E head for *sase* is realized as null. In turn, I suggest that E here allows head movement of the embedded verb in the same way that E allows head movement in *mi* cases and in Malagasy causatives.

Although E itself is null in Japanese causatives, the domain below EP shows its own phonological behavior. Harley (2008) argues that causativizing morphemes appear in *v* in both lexical and syntactic causatives. While lexical causatives are identified with the lower *v*P domain, syntactic causatives are associated with the higher *v*P domain. Unlike Malagasy, in Japanese, the causative morpheme for lexical causatives is not the same as the morpheme for syntactic causatives. The lexical causative changes its form depending on the verb stem, while the syntactic causative is consistently *sase*, though it is subject to allomorphic changes (see Chapter 3, Section 2.2). Below are some examples of lexical causatives paired with their inchoative counterparts:[51]

(111)	*Lexical Inchoatives*	*Lexical Causatives*	
a.	ag-**ar**-u	ag-**e**-u	'rise/raise'
	root-INCH-PRES	root-CAUSE-PRES	
b.	hana-**re**-u	hana-**s**-u	'separate from'
	root-INCH-PRES	root-CAUSE-PRES	
c.	ok-**i**-ru	ok-**os**-u	'get up'
	root-INCH-PRES	root-CAUSE-PRES	
			(Harley 2008)

When these lexical causatives are further causativized, all forms take *sase*:

(112)	a.	ag-**ar**-ase-ru	ag-**e**-sase-ru
		root-INCH-CAUSE-PRES	root-CAUSE-CAUSE-PRES
		'make X rise	make Y raise X'
	b.	hana-**re**-sase-ru	hana-**s**-ase-ru
		root-INCH-CAUSE-PRES	root-CAUSE-CAUSE-PRES
		'make X be separated from	make Y separate X'
	c.	ok-**i**-sase-ru	ok-**os**-ase-ru '
		root-INCH-PRES	root-CAUSE-PRES
		'make X get up	make Y get X up'

[51] See Jacobsen (1992) for an extensive list of these pairs.

Thus, the assumption that E is involved in causative constructions is compatible with the phonological idiosyncrasy that is only observed in the domain below E. In other words, E consistently marks the edge of phonological domain as well as syntactic domain, and that E allows head movement of the embedded predicate both in *mi* and *sase* constructions.

4.4 Section Summary

Summarizing this section, we have seen that the presence or absence of head movement of an embedded verb is tied to the type of intervening head. I have claimed that while *ni* blocks head movement, *te* does not by assigning a different type of head to each morpheme. Elaborating on Uesaka's proposal, I have assumed that *te* is an Event head, which is a different type of functional element and which circumvents PHMG. In contrast, I have claimed that *ni* is a P head that does not incorporate. Although a theoretical account to derive PHMG is yet to be examined, I have argued that morphology crucially interacts with (im)possibility of head movement, which in turn influences scope ambiguity.

5. Head Movement and Structural Optionality

So far, we have established that head movement interacts with scope ambiguity. We have also examined the types of heads that block or allow such head movement. The aim of this section is to provide a Case-related mechanism to associate this head movement generalization to the scope facts on nominative objects. In Section 5.1, I will lay out my theoretical assumptions for Case-licensing and the spell-out system. I will then revisit nominative object constructions in Section 5.2, and show that head movement plays a role of extending the domain for Case licensing.

5.1 Theoretical Assumptions

So far, I have not taken a position on what licenses nominative objects. Two opposing views exist: the first assumes that stative predicates assign nominative Case (Kuno 1973; Tada 1992), and the second assumes that T is the Case assigner (Hiraiwa 2001; Koizumi 1995; Nomura 2005; Takezawa 1987 among others). Following the second view, I assume that the nominative Case on objects is assigned by T. Moreover, for concreteness of the argument, I assume with Pesetsky and Torrego (2001, 2004) that an unterepretable T feature on D [*u*T] is responsible for nominative Case, and that T's uninterpretable ϕ feature acts as a probe which searches for a matching goal DP with an interpretable ϕ feature. On this view, Case is valued as a reflex of a valuation of an uninterpretable ϕ feature on T. [52] What is crucial for us is that not only do subject DPs bear [*u*T], but object DPs may bear the feature as well. If the object enters the narrow syntax with [*u*T], it must enter into an Agree relationship with T, having the feature marked for deletion. Under this view, I assume with Hiraiwa (2001) that T simultaneously agrees with both subject DPs and with object DPs, which he calls Multiple Agree (113):

(113) Multiple Agree
Multiple Agree with a single probe is a single simultaneous syntactic operation; Agree applies to all the matched goals at the same derivational point derivationally simultaneously.

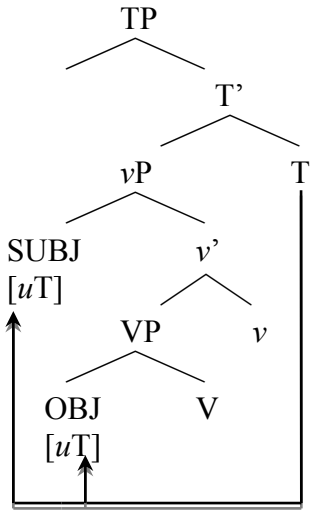
.

α > β > γ
|____↑____↑
(AGREE (α, β, γ), where α is a probe and both β and γ are matching goals for α)

(Hiraiwa 2001: 69-70)

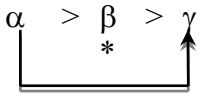
[52] Pesetsky & Torrego (2007) abandoned the standard notion (Chomsky 2000, 2001a,b) that it is always uninterpretable features that act as a probe, and they claimed that it is unvalued features that act as a probe. On this view, T is interpretable yet unvalued, which acts as a probe, searching for a goal DP. Thus, the ϕ-feature does not have a role to assign Case anymore under this system. However, I adopt their original view (Pesetsky & Torrego 2001, 2004), and assume that the ϕ-feature triggers the activation of T entering into an Agree relationship with a DP.

(114)



In (114) T enters into a Multiple Agree relationship with both the subject and the object. Contrary to normal Agree, the probe T does not stop probing for its matching goal even after locating the closest goal, the subject, because of its 'multiple' nature on T. Because of this, T continues to probe down to another matching goal, the object, and at that point, T enters into Agree with both the subject and the object, deleting both of the uninterpretable T features. Thus nominative Case on the object is licensed without causing any 'defective intervention effect' (Chomsky 2000) despite the presence of the subject. The defective intervention constraint (DIC) is schematized below, where β, an 'inactive' matching goal due to the prior Agree with some other probe, will still block the intended Agree between α and γ:

(115)Defective Intervention Constraint (DIC)

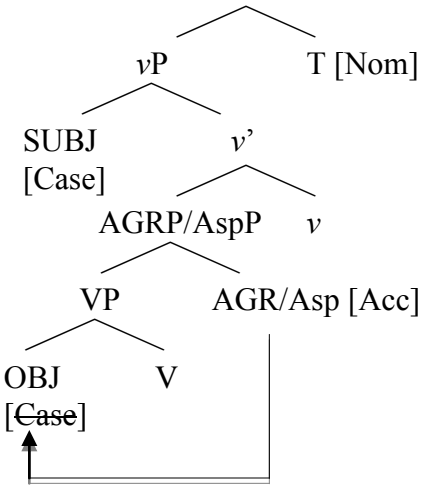


Note that Hiraiwa's Multiple Agree is a single instance of syntactic operations that apply derivationally simultaneously. When the probe has located all matching goals, Agree applies to every matching goal *simultaneously*. Thus, in (115) the subject does not cause a DIC violation because its uninterpretable feature is not

yet marked for deletion and is therefore still 'active' at the time that T agrees with the object.[53]

Note that Multiple Agree is not some special operation that only applies to stative constructions, and as such, (the Φ-feature of) T in Japanese would always probe down all of its matching goals. The reason that T does not agree with the object DP in non-stative constructions is that non-stative verbs always involve an accusative Case assigner, meaning that the object is already assigned Case by the time T enters the derivation. Even if T probes down all its matching goals including the object, the Case value of the object is already assigned, and thus the object is not subject to Agree with T:

(116)



Recall from Chapter 3 that I have assumed that the accusative Case assigner is crucially not a *v* head. Aside from its precise category, I assume that the accusative Case assigner such as AGR (Koizumi 1994; 1995) or Asp (Travis 2010) erases the uninterpretable Case feature on the object via Agree (i.e.

[53] Hiraiwa (2001) thus revises the DIC constraint derivationally as follows:

(i) *The Defective Intervention Constraint* (Hiraiwa 2001:71)
A syntactic operation AGREE must obey a strict locality condition. AGREE (α, γ) is prohibited if there is a closer matching goal that is already inactive *at the point of the derivation* where the probe is merged; thus the DIC is restricted to a case where a probe for γ and a probe for intervening β are *derivationally distinct*.

ϕ-feature agreement), and that its Case value (i.e. accusative) is subsequently assigned.[54]

Let us now turn to the spell-out system that I adopt. In Section 4.2.1, I have assumed that an E head and its complement *v*P undergo spell-out together, which has been supported by their phonological properties. Recall also that I have assumed that E is a phase head, and have adopted the spell-out system that a phase head and its complement undergo spell-out together (see Section 4.2.1, also Chapter 1 Section 2). This is contrary to the traditional spell-out where a phase head spells out its complement excluding itself (Nissenbaum 2000; Chomsky 2001a). I thus adopt the 'Triggered' Spell-Out model first proposed by Skinner (2009) and later modified by Dobler et al. (in press):

(117) *Triggered Spell-Out* (Dobler et al. in press)
A phase *n* only begins the process of spell-out once a head from phase *n*+1 is merged or the end of derivation is reached. No other head is merged until Spell-out of phase *n* is complete.

(117) ensures that a given phase undergoes spell-out upon merger of the next head. In other words, a phase can only know that it has exhausted its syntactic terminals after the merger of the next head.

Adopting (117), I assume that E is a phase head, and that it undergoes spell-out with its complement. I also assume that every *v*P is selected by E, which means that E appears consistently across constructions. The current assumptions of a phase head and of the spell-out model are thereby different from the standard view (Chomsky 2001a,b; Nissenbaum 2000). However, it is important to keep in mind that such a model could also be compatible with the domain extension via

[54] While Pesetsky & Torrego (2001) suggest the possibility that the uninterpretable *v* feature [*uv*] is responsible for accusative Case, Pesetsky & Torrego (2004) assume that the uninterpretable T [*u*T] feature is consistently responsible for both nominative and accusative Case. Under this analysis, the embedded T ('verbal' T^0 in their terminology) head is the AGR/ASP equivalent that is situated between *v*P and VP. On this view, the uninterpretable Case feature is consistently [*u*T], whose value is determined and with which T agrees. See Pesetsky & Torrego (2004) for details.

head movement that I will advocate shortly. What is important for us now is that whatever head constitutes a phase head or whatever undergoes spell-out, head movement will always extend the relevant domain under the adopted model, and certain types of heads (focus particles and *ni*) will always block such movement.

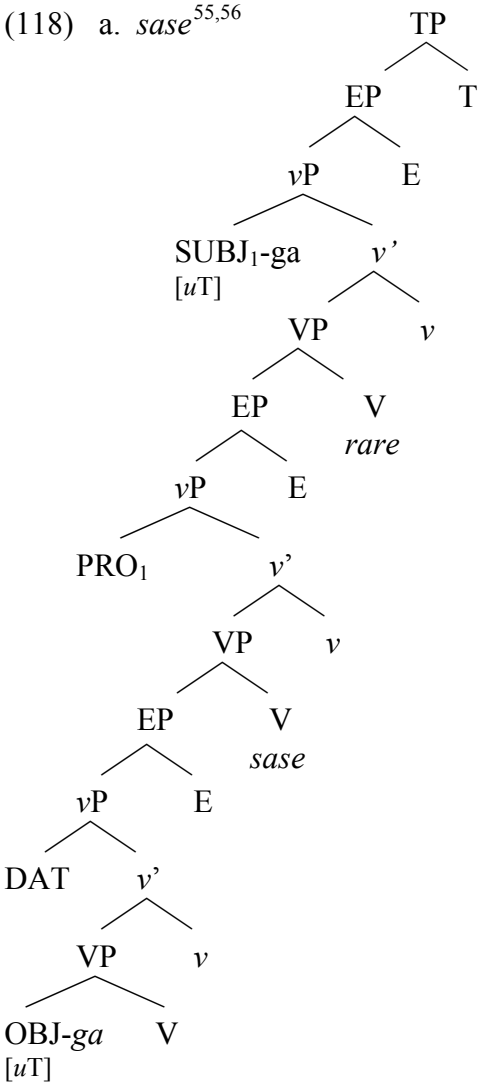
5.2 Domain-Extending Head Movement

In Chapter 3, I propose that *sase* and *mi* have two available structures for nominative objects: the base-generation structure and the movement-based structure. I also propose that the motion verbs *ik* and *k* do not have the movement-based structure as an option and thus necessarily yield the base-generation structure. So far in this chapter, I have shown that the difference between *sase* and *mi* on the one hand and the motion verbs on the other is that the former employs head movement of an embedded verb, whereas the latter does not. The question is how head movement correlates with the structural optionality. In Section 5.2.1, I argue that head movement plays a role of extending the domain for Case, along the lines of den Dikken (2007). I will then discuss how an alternative view under Kandybowicz's activation of Edge Feature does not quite explain this fact, concluding that den Dikken's view is superior.

5.2.1 Phase Extension for Case Licensing

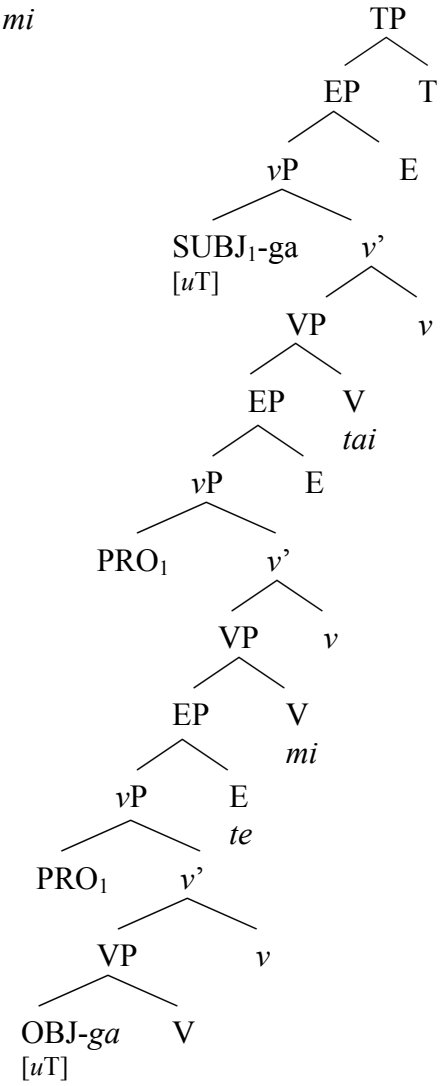
In this section, I argue that head movement extends a phasal domain as den Dikken (2007) proposes. Consider first the movement-based structures below with *sase* (118a) and *mi* (118b):

(118) a. *sase*[55,56]



[55] I remain agnostic on the exact position of the dative object. It could alternatively be in the Spec of *sase*-VP, which in turn controls PRO in the Spec of *v*P (Takahashi 2010).
[56] Recall that I assume that *rare* takes a control structure (Ura 1999, Takano 2003 among others). I also assume that the same holds for *tai*.

b. *mi*



In the above structures, each verb has a *v*P projection, which hosts a subject. Each *v*P is consistently selected by an EP, whose head is empty except for the lowest E head that is phonologically realized as *te* in the *mi* structure in (118b).

Note that in both structures, when T (i.e. the uninterpretable ϕ feature of T) probes down for its matching goals (i.e. the subject and the object with interpretable ϕ features), T can only access the subject. Owing to the triggered-spell-out system that we adopted, I assume that when T merges with an EP phase, T can access the subject DP before EP undergoes spell-out. Skinner (2009) assumes that only the spell-out triggering head can lower to a head in the domain marked for spell-out. I assume that the same logic applies to non-head material in the domain, and that the spell-out triggering head T in this case can access the

subject DP. However, the object DP which is further down the structure is not visible from T because the lowest EP has already undergone spell-out by the time that T enters the derivation.

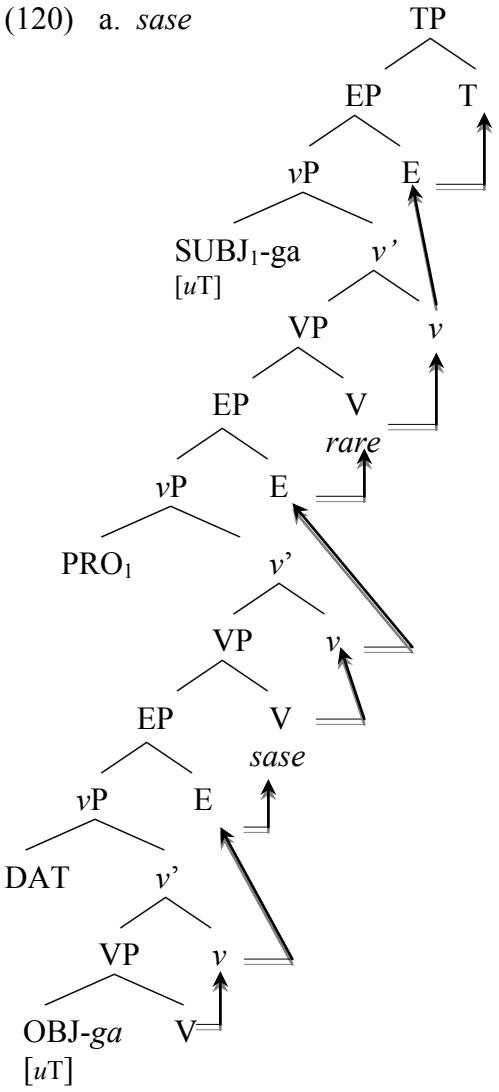
Nonetheless, I argue that a phase can be successively extended to the highest EP phase via head movement of the embedded verb. Recall from Chapter 2 that den Dikken argues that movement of a phase head to the next higher head extends the phase up to the projection of that head due to an operation that he calls Phase Extension, which is repeated below:

(119) *Phase Extension*
Syntactic movement of the *head* H of a phase α up to the head X of the node β dominating α *extends* the phase up from α to β; α loses its phasehood in the process, and any constituent on the edge of α ends up in the domain of the derived phase β as a result of Phase Extension.
(den Dikken 2007:1)

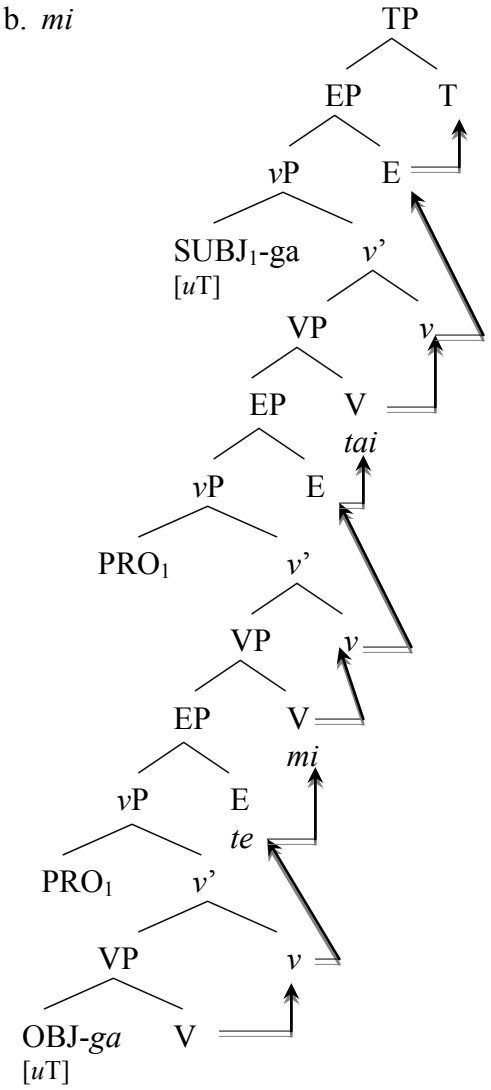
In Section 2, we have established that the lower verb under *sase* and *mi* has moved from its original position into at least *sase* and *mi*. Data from reduplication and focus particles both suggest this fact, while elliptical answers even suggest the possibility that the embedded verb moves all the way to tense. In fact, I argue that the head movement of the embedded verb successively continues to T, making every maximal projection on its way loose its phasehood:[57]

[57] See den Dikken (2007), where phase-extending head movement of V+*v* to T extends the phasehood to TP, and thereby the object is able to move outside of a phase up to TP. Under his view, TP as well as CP are thus derived phases.

(120) a. *sase*


TP
EP
T
vP
E
SUBJ1-ga
[uT]
v'
VP
v
EP
V
rare
vP
E
PRO1
v'
VP
v
EP
V
sase
vP
E
DAT
v'
VP
v
OBJ-ga
[uT]
V

b. *mi*



Due to the iterative head movement, the first phase EP is now extended up to TP. Because of this, the object is now visible from T, allowing T to simultaneously probe down to the subject and to the object in accordance with Multiple Agree. Thus the uninterpretable T feature on the object is licensed via Agree and its Case is subsequently valued. This in turn ensures that the object can take narrow scope in its base-generated position in both *sase* and *mi* constructions.

One might wonder about alternative derivations where the object moves successive cyclically to the middle EP edge from where the object can take scope below *rare*. Although this derivation is theoretically possible, I suggest that it is not an available derivation at least in the *sase* cases. Recall from Chapter 3 that object movement past the dative object is banned in Japanese:

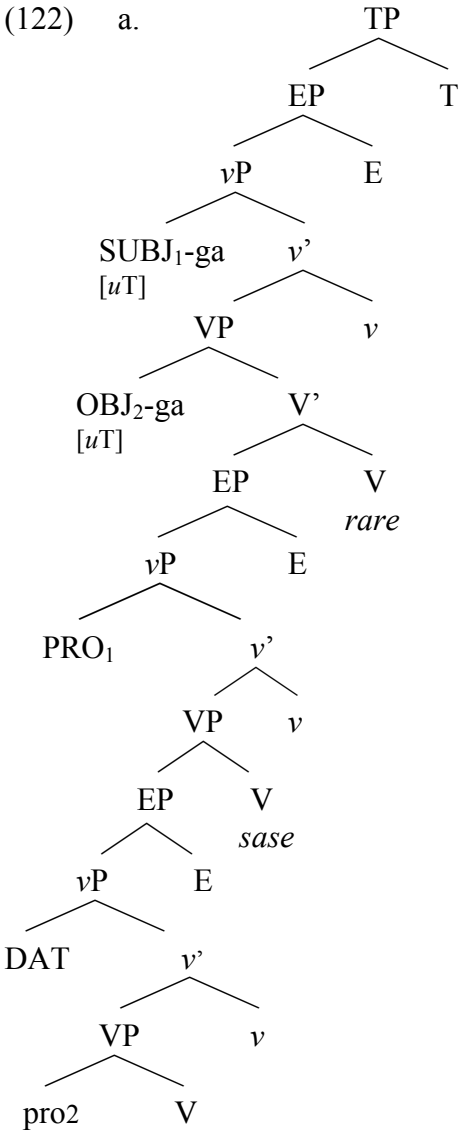
(121) a. Taroo-ga Hanako-ni kodomo-o yob-ase-ta.
-NOM -DAT child-ACC call-CAUSE-PAST
'Taro made Hanako call the child'
b. * Kodomo$_1$-ga Taroo-ni(yotte) Hanako-ni t_1
child-NOM -DAT -DAT
yob-ase-rare-ta.
call-CAUSE- PASSIVE-PAST
'The child was made to call by Hanako by Taro.'

Accordingly, A-movement of the object past the dative object should also be banned in the alternative configuration, which in turn suggests that the object Case is also licensed in its base-generated position. Moreover, if A-movement is not successive cyclic (Bobaljik & Wurmbrand 2005; den Dikken 2007), then the movement in general should also be impossible with *mi* constructions. Additionally, if Move is more costly than Agree (Chomsky 2000), then again, the fact that Agree suffices for licensing the object Case suggests that the object stays in-situ. This in turn suggests that dative DPs behave exceptionally to the locality of Agree: that is, dative DPs are transparent for Agree but not for Move (Hiraiwa 2001; Takahashi 2010). Although I do not have a direct answer for this exceptional behavior of dative DPs, I assume with others that dative DPs bear inherent Case (Ura 1999, Takezawa 1987), and as such do not block Agree for structural Case.

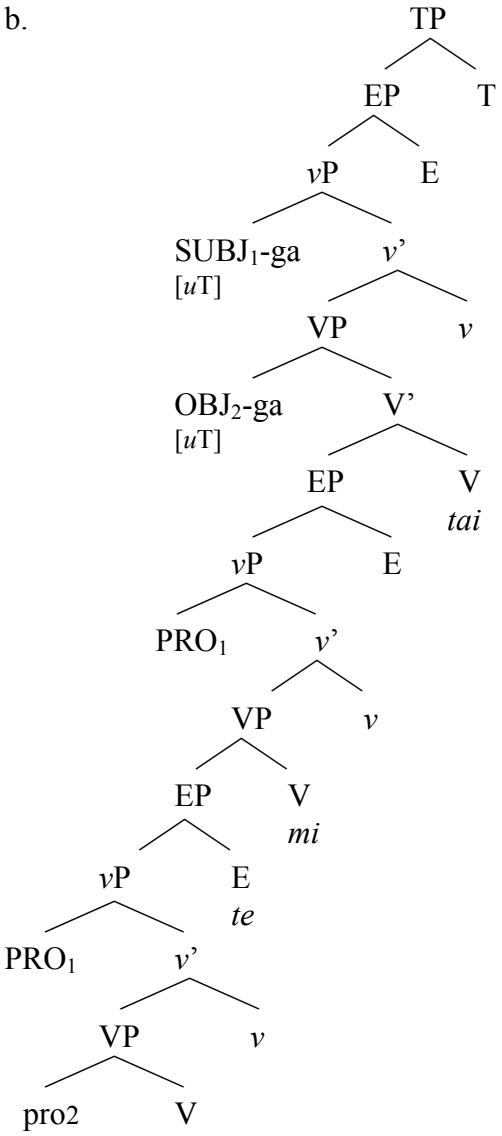
Assuming that (Case-related) movement of the object does not occur, I argue that the object taking wide scope obtains Case in the high base-generated position, and that from there it takes scope over *rare*.[58, 59] The relevant configuration is illustrated below:

[58] This, however, does not exclude the possibility that the nominative DP undergoes non-Case-related movement such as QR (Takahashi 2010) or A-scrambling.
[59] The assumption seems valid if neither *sase* nor *mi* allows long passives (see fn. 21 in Chapter 3).

(122) a.


TP
EP
T
vP
E
SUBJ1-ga
[uT]
v'
VP
v
OBJ2-ga
[uT]
V'
EP
V
rare
vP
E
PRO1
v'
VP
v
EP
V
sase
vP
E
DAT
v'
VP
v
pro2
V

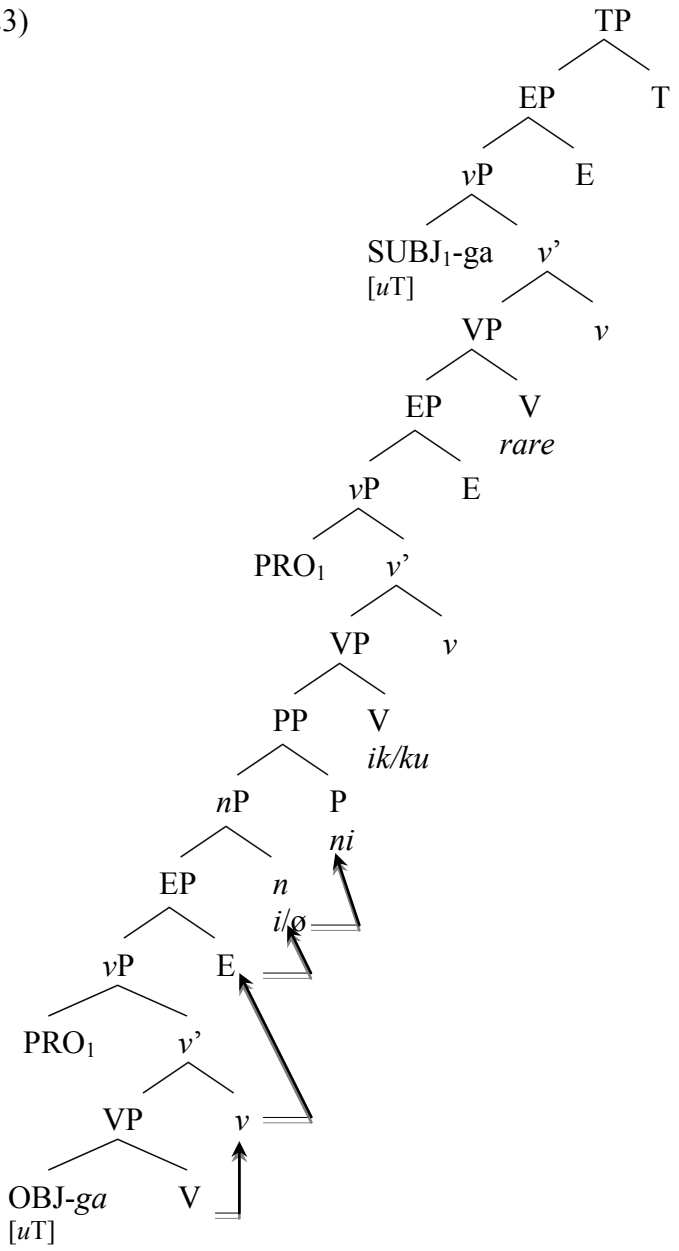
b.



In the configurations above, T can simultaneously agree with both the subject and the object, regardless of Phase Extension. Recall that under the adopted model of spell-out, DPs in the domain of the spell-out triggering head are accessible to that head (see Section 5.2.1). Note that in (122) both the object and the subject are in the same EP, which is the domain of the spell-out-triggering head T. Thus, EP undergoes spell-out upon merger of the next head T, which in turn is able to access both the subject and the object simultaneously, owing to Multiple Agree. Hence, the object in both *sase* and *mi* constructions can successfully take both wide and narrow scope relative to *rare/tai.*

Let us now consider the motion verb cases. Since the embedded verb under the motion verbs does not employ phase-extending head movement the way that *sase* and *mi* do, long-distance Agree between T and the object is not available in the relevant configuration below:

(123)

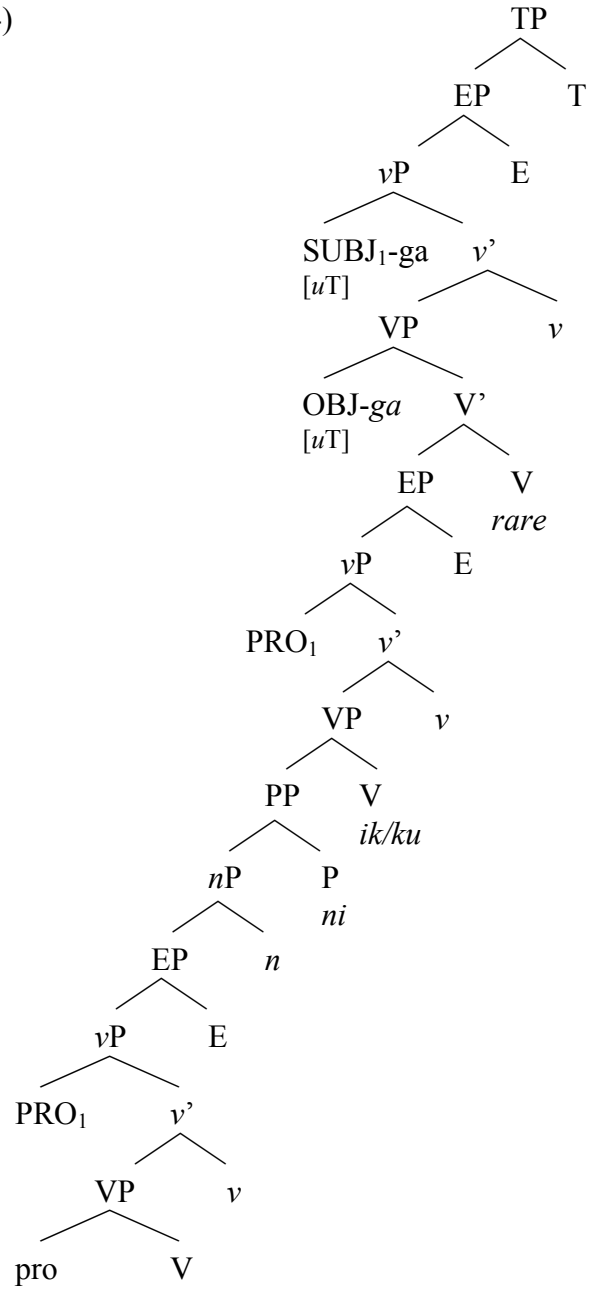


In the above configuration, V does not move out of PP since *ni* blocks head movement of the verb. Consequently phase extension does not proceed further up, and the object is trapped in the derived phase PP. T therefore cannot Agree with

the object, and the uninterpretable T feature on the object is unvalued. This yields a derivational crash, and the structure (123) is no longer available with the motion verbs.

The only way that the nominative object can be licensed is through base-generation in the matrix domain, as illustrated below:

(124)



In (124), the object is base-generated in the highest EP domain, and T can successively access both the subject and the object, valuing their uninterpretable T features.

Summarizing this section, I have argued that the role of head movement is to extend domain for Case-licensing on the object. This explains the correlation between head movement and scope ambiguity. Availability of head movement allows for a phase to be extended up to the higher phase domain, where T can license the Case of the object staying in-situ. This in turn allows the object to take narrow scope, which is an option for both *sase* and *mi*. Conversely, the ban on head movement is not able to extend the domain for Case, which consequently fails to license Case on the object and yields an illegitimate configuration for the object to stay in-situ. As such, the object must be base-generated in the higher domain to begin with, which accordingly only allows for wide scope reading of the object.

In the following subsection, we will explore the possibility under Kandybowicz' analysis on Edge Feature activation. We will see that his system does not quite explain the scope facts, which lead us to conclude that the exact mechanism of head movement is to extend domain but not to activate edge features.

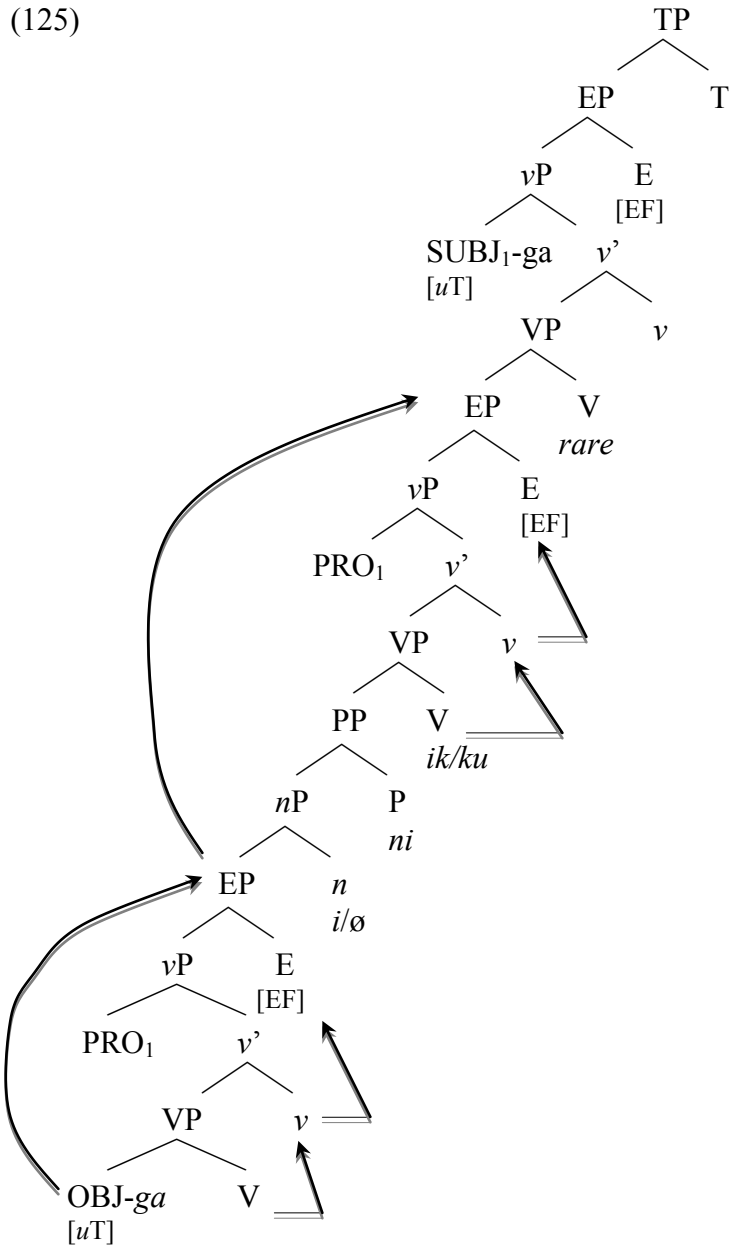
5.2.2 Phase Extension over Edge Feature Activation

In Chapter 2, we have seen another type of transparency effect via head movement; namely, Edge Feature activation by Kandybowicz (2009). In this section, I will show that his system incorrectly predicts that the motion verbs allow low scope reading of the nominative object. I claim that what head movement does precisely in our restructuring cases is *extend* the phase, as den Dikken argues, and not to activate Edge Features, which would enable the object to move to the relevant phase edge, as Kandybowicz claims.

Recall that under Kandybowicz's system, Edge Features on a phase head for Internal Merge (i.e. Move) need to be activated by head movement of a verb. With the aid of head movement, DPs are then allowed to move to and out of an

activated phase edge. This analysis wrongly predicts that nominative objects in motion verb constructions should be able to take narrow scope, contrary to fact. Consider the following configuration:

(125)



In (125), if the edge features on the first and the second phase head E are activated by the embedded verb and the motion verb, respectively, then the object should be able to successively move to the second EP edge, where it would take scope below *rare*. Although the object's Case itself must be licensed in the highest EP

edge, as long as reconstruction is available, the object should also be able to take scope at the intermediate movement site, which contradicts the scope fact in the motion verb cases. The fact that the Edge Feature activation incorrectly predicts narrow scope reading of the motion verbs suggests that the role of head movement is precisely to extend phase, as den Dikken argues, and not to activate Edge Features.

6. Chapter Summary

In this chapter, I have argued that morphology plays a significant role in calculating scope based on the fact that head movement derives transparency for Case-licensing, and that certain heads such as focus particles and *ni* block such head movement while others such as *te* or null morphemes do not. I have shown that diagnostics for head movement such as elliptical answers, reduplication, and focus particles support this claim. This is a claim which in turn suggests that (i) (at least some) word-formation employs head movement, and that (ii) morphology is part of syntax, and consequently can interact with semantics. This conclusion is important because it further shows that head movement is a syntactic operation, and not a PF operation. (Boeckx and Stjepanović 2001; Chomsky 2001b).

This claim provides further support for the head movement approach for domain transparency explored by Baker (1988) and den Dikken (2007), as opposed to size/selection-induced domain transparency advocated by Wurmbrand (2001) and Bobaljik & Wurmbrand (2005). I have first shown that scope ambiguity does not correlate with the lexical/functional dichotomy as Bobaljik & Wurmbrand argue. I have then made an alternative generalization that scope ambiguity correlates with the availability of head movement of an embedded predicate under a restructuring predicate. The finding is that both *sase* and *mi*, which exhibit scope ambiguity, employ head movement, whereas the motion verbs, which exhibit the obligatory wide scope of nominative objects do not. This claim brings about an important consequence for verb movement in Japanese. I have shown that at least in restructuring constructions, whether an embedded verb

moves or not depends on the types of morphemes that the relevant restructuring predicate accompanies.

Based on this generalization, I have provided a mechanism for domain transparency under the head movement approach by proposing that the function of head movement is to extend the domain for Case on the object. Failure to extend the domain would cause the object's Case to be unlicensed and would yield a derivational crash. Therefore, the object in such constructions must be generated in the position where its Case is licensed.

Comparing den Dikken's Phase Extension view to Kandybowicz' Edge Feature activation view, I have concluded that the Phase Extension view is more compatible with our restructuring cases since head movement successively extends the domain for Case. I have also shown that Edge Feature activation wrongly allows movement of the nominative object to the position where it can take narrow scope relative to *rare*. I thus conclude that what head movement does precisely in our restructuring cases is to extend phase and not to activate Edge Features.

Chapter 5 Remaining Issues: Domain Transparency for Nominal Domains and Two Different *Ga*-NPs

1. Introduction

In this last chapter, I will discuss a few remaining issues regarding my view on Domain Transparency. In a first part, I will do this in the context of nominal domains, and in a second part in the context of two different interpretations of the nominative *ga*. So far, we have only looked at transparency effects in the context of clausal domains. However, in Section 2, I will discuss what I find to be a parallel construction to the clausal transparency in the context of nominal domains. I will then point out that the head movement strategy does not seem to hold in the nominal domains. This fact guides us to a new observation: what has been assumed to be 'incorporation' is not really an instance of 'incorporation', but rather, is a direct merge of two words. In Section 3, I will shift my attention to two different interpretations of nominative objects that have been ignored so far. We will see that Matsui (2009) argues that these two *ga*s should be treated differently and should each be associated with a different structure. However, based on the findings of the nominative object constructions discussed in the previous chapters, I suggest that assigning different structures to the two different *ga* objects is not as simple as Matsui claims and requires more extensive research. Section 4 summarizes the entire thesis.

2. Transparency in Nominal Domains

In this section, I examine Japanese noun incorporation, where a verbal noun either optionally 'incorporates' into the light verb *su* 'do,' or appears independently from *su*. In Section 2.1, I first present the case where the noun obligatorily incorporates into *su*, and tie this incorporation to the domain-extending head movement developed in Chapter 4. However, in Section 2.2, I then present the data that contradicts the claim, which leads us to conclude that noun incorporation is in fact not an instance of incorporation (Kageyama 1999; Poser 1989). I suggest

that what has been assumed to be an instance of incorporation is in fact a direct merge of V and NP, and that obligatory 'incorporation' is attributed to the size of a nominal domain. However, I present an empirical problem for this alternative, showing that transparency in nominal domain is not as straightforward as it is in clausal domain.

2.1 The Optional and Obligatory Noun Incorporation in Japanese

Japanese seems to allow 'incorporation' in limited ways, where a verbal noun (VN) and the light verb *su* form a unit. As shown below, such incorporation is normally optional:

(1) a. Moti-ga benkyoo-si-ta.
-NOM study-do-PAST
'Moti studied.'
b. Moti-ga [$_{DP}$ benkyoo]-o si-ta.
-NOM study-ACC do-PAST
'Moti studied.'

In (1a) the VN '*benkyoo*' and the light verb *su* form a complex predicate that functions as a verb, whereas in (1b) the noun appears in accusative Case and *su* appears on its own. In previous literature, the form (1a) has been analyzed in one of the two ways: either as a product of syntactic incorporation (Kageyama 1982, Terada 1990, Tsujimura 1990) or as lexical compounding (Inoue 1976, Miyagawa 1987b). In either way of analysis, the noun in (1a) is not subject to Case-filter because it is not in the form of a noun. Moreover, despite the surface difference, the two sentences have the same meaning: in fact, what appears to be the argument of *su* is the argument of the noun. Thus, the subject *Moti* in (1) is not an argument of *su*, but rather is an argument of the VN *benkyoo*, and *su* merely functions as a category-changing suffix in (1a) and as an accusative Case-assigner in (1b).[1]

[1] The fact that *su* itself does not select an argument can be seen if we change the verbal

Although the two forms seem to be freely interchangeable, it is not always the case, as Miyagawa (1989b) and Tsujimura (1990) point out:

(2) a. John-ga butyoo-ni syoosin-sita.
John-NOM section chief-to promotion-did.
'John obtained a promotion to section chief.'
b. *?John-ga butyoo-ni [$_{DP}$ syoosin]-o sita.
John-NOM section chief-to promotion-ACC did.
(Tsujimura :1990)

Notice that in (2) the VN *syoosin* must appear in a VN-*su* form, and that a VN-*o su* form is unacceptable. Based on their own diagnoses for unaccusativity, Miyagawa and Tsujimura both independently conclude that *syoosin* is an unaccusative noun, and that unaccusative nouns are subject to obligatory incorporation while unergative and transitive nouns are not. Other nominals such as *toochaku* 'arrival' *tanjoo* 'birth' *kaitoo* 'thaw' *joohatsu* 'evaporation' *ryuukoo* 'popularity' among others are also members of unaccusative nouns, and are therefore also subject to the obligatory incorporation.

If *syoosin* is an unaccusative noun, then the subject *John-ga* in (2) is a derived subject since it is the internal argument of this noun. Let us then assume that the subject is derived from the nominal projection DP, as schematized below:

---

noun *benkyoo* 'study' to *kekkon* 'marriage', for example:

(i) a. Taro-ga Hanako-to kekkon-sita.
-NOM -with marriage-do-PAST
'Taro married Hanako.'
b. Taro-ga Hanako-to kekkon-o sita.
-NOM -with marriage-ACC do-PAST
'Taro married Hanako.'

In (i) *su* appears with the noun *kekkon* 'marriage', and accordingly, the clausal arguments *Taro* and *Hanako* are assigned θ-roles from the noun. The argument structure of a sentence thus varies depending on the noun, and *su* is thus assumed to be void of meaning and called the 'light' verb for this reason. The VN(*o*)-*su* construction is very productive, and other nominals such as *ryokoo* 'travel', *shokuji* 'dine', *kaiwa* 'conversation', and *zyooto* 'giving' also participate in this construction and can form both NV-*su* and NV-*o su* forms. See Grimshaw & Mester (1989) and Saito & Hoshi (2000) for their analyses on non-local θ-role assignment by the noun head to the clausal arguments. See, however, Terada (1990) who argues against this view and claims that *su* is a θ-role-assigning verb.

(3)[$_{TP}$SUBJ [$_{VP}$ [$_{DP}$ [$_{NP}$ t_{SUBJ} syoosin]]-si]-ta]
|_____|

In (3), suppose that DP is an opaque domain (Svenonious 2004), and that the internal argument of the noun cannot move to the subject position. Assuming that incorporation is an instance of head movement, and that N movement continues up to T, it follows that the series of head movement extends the domain for movement, which enables the extraction of the internal argument, yielding the VN-*su* form:

(4) [$_{TP}$SUBJ [$_{VP}$ [$_{DP}$ [$_{NP}$ t_{SUBJ} t_N]] t_V] syoosin-si-ta]
|_____| |____|___|

On the other hand, the lack of head movement traps the internal argument, which causes the Case of the internal argument to be unvalued. Suppose for now that this is exactly why incorporation is obligatory for unaccusative VNs.[2]

Recall that unergative and transitive nouns do not have the obligatory incorporation. I therefore assume that the subject is in an accessible position from T, and that the relevant position is the edge of DP:

(5) [$_{TP}$ T [$_{VP}$ [$_{DP}$ SUBJ [$_{NP}$ (INT) VN]]-si]-ta]]

In the above configuration, the subject is able to move with or without head movement of the VN. In the absence of head movement, the internal argument (INT) of a transitive noun stays in-situ and obtains Case from the N. The internal argument then obtains Genitive Case, whereas the VN itself obtains accusative Case:

[2] See also Saito & Hoshi's (2000) attempt to capture the obligatory 'incorporation' utilizing covert head movement of the noun. Although the details of their analysis are different, the assumption that the presence of head movement enables the internal argument to move is the same as the current assumption.

(6) a. Moti-ga eigo-no benkyoo-o si-ta.
-NOM English-GEN study-ACC do-PAST
'Moti studied English.'
b. [$_{TP}$ Moti-ga$_1$ [$_{VP}$ [$_{DP}$ t$_1$ [$_{NP}$ eigo-no benkyoo]-o] si]-ta]]

Summarizing so far, domain-extending head movement appears to apply in the context of nominal domains, which is an ideal direction to pursue for the current proposal. However, in the following subsection, we will see that it is too hasty to draw a parallelism between clausal and nominal domains via the same mechanism.

2.2 Noun Incorporation in Japanese is Not Incorporation

Recall that in the previous literature, VN-*su* forms have been analyzed as either a product of syntactic incorporation (Kageyama 1982, Terada 1990, Tsujimura 1990) or as lexical compounding (Inoue 1976; Miyagawa 1987b). Note that under either of these possible views on VN-*su* formation, VN and *su* are still expected to be non-isolatable from each other. As shown below, however, VN and *su* behave as separate elements (Kageyama 1999; Matsumoto 1996; Poser 1989):

(7) a. Eigo-o benkyoo-si-ta-no?
English-ACC study-do-PAST-C
'Did you study English?'
Un, si-ta. (✓benkyoo-sita)
AFFIRM do-PAST
'Yeah, I did.'
b. Eigo-o benkyoo sii-sii
English-ACC study do-do
'By studying English repeatedly' (*benkyoo-si benkyoo-si)
c. Eigo-o benkyoo-sae/mo si-ta.
English-ACC study-even/also do-PAST
'(I) even/also studied English'

Note that in (7a) and (7b), only *su* can form an elliptical answer or undergo reduplication, respectively. (7c), on the other hand, shows that a focus particle can in fact intervene between the noun and *su*. Recall that in Chapter 4, I developed syntactic diagnoses for head movement, which made use of all available constructions in (7). The fact that all of the examples in (7) are grammatical

suggests that the noun has not undergone syntactic incorporation, as incorporation involves head movement of the noun to the verb. Note also that presence of the accusative object *eigo-o* 'English-ACC' ensures that the VN-*su* form is what has undergone the head movement diagnoses. This is because of the double-*o* constraint, which prohibits more than one NP in a sentence (i.e. **eigo-**o** benkyoo-**o** su* 'English-ACC study-ACC do'). The grammaticality of (7) also does not follow from the lexical compounding analysis since under the lexicalists' view, the noun and the verb must form a word in the lexicon; hence they should not be isolatable.

A complication arises when considering unaccusative VNs, however. Unaccusatives VNs generally allow focus particles to intervene, and some unaccusatives such as *syoosin* 'promotion' also allow elliptical answers.[3] But other unaccusatives such as *tinbotu* 'sinking' do not seem to allow elliptical answers, and moreover, none of the unaccusative VNs allow reduplication:

(8) a. (butyooni) syoosin-si-ta-no?
(section.chief) promotion-do-PAST-C
'Did you get promoted (to the section chief)?
Un, si-ta. (✓ syoosin-sita)
AFFIRM do-PAST
'Yeah, I did.'
b.*Syoosin sii-sii
promotion do-do
'By getting promoted repeatedly' (*syoosin-si syoosin-si)
c. Syoosin-sae/mo si-ta.
promotion-even/also do-PAST
'(I) was even/also promoted.'

[3] Other unaccusative nominals that pattern with *syoosin* 'promotion' include *koozyoo* 'improvement', *zyoosyoo* 'ascent', *tanzyoo* 'birth', and nominals that pattern with *tinbotu* 'sinking' include *zensyoo* 'burning down', *antei* 'stability', *kakudai* 'enlargement'. But the judgments vary among speakers, and I do not find a consistent way to classify these nouns into two groups.

(9) a. Ano hune-wa tinbotu-si-ta-no?
that ship-TOP sinking-do-PAST-C
'Did the ship sink?
*/??Un, si-ta. (✓ tinbotu-sita)
AFFIRM do-PAST
'Yeah, it did.'
b.*tinbotu sii-sii
sinking do-do
'By sinking repeatedly'(*tinbotu-si tinbotu-si)
c. Tinbotu-sae/mo si-ta.
sinking-even/also do-PAST
'(It) even/also sank.'

I attribute the impossible reduplication with unaccusative VNs to some agentivity restriction of reduplication. In other words, reduplication of the kind here requires an agentive subject, and unaccusative VNs which do not assign an agent Θ-role are automatically disqualified for this requirement. However, I do not have a principled explanation for rather inconsistent behaviors of unaccusative VNs with respect to elliptical answers. Even if the impossible elliptical answers with certain unaccusative VNs were taken as evidence for N-V incorporation, the fact that these VNs still allow focus particles would remain unexplained. I thus base my argument against incorporation on non-unaccusative VN-*su* forms, leaving aside the fact about elliptical answers with unaccusative VNs.

Returning to the status of VN-*su* forms, Kageyama (1999), Matsumoto (1996) and Poser (1989) further point out that VN-*su* differs from syntactic V-V compounds in that VN-*su* cannot undergo nominalization such as *i*-nominalization (recall Chapter 4, Section 4.1.2) or *kata*-nominalization 'the way of Ving', while syntactic V-V compounds can:

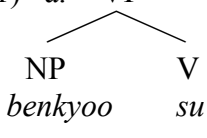
(10)

Syntactic V-V compounds	*VN-su*
a. tabe-sugi eat-overdo 'overeating'	c. *kasyoku-si overeat-doing 'overeating'
b. kaki-naosi-kata write-correct-way 'the way of rewriting'	d. *kaitei-si-kata revise-do-way 'the way of revising'

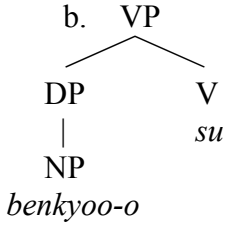
Moreover, Poser (1989) observes that VN-*su* forms bear a phrasal accent. Both of these facts indicate that syntactic V-V compounds have a more rigid wordhood than VN-*su* forms. VN-*su* also shows a phrasal status on the one hand, but the lack of Case-marking on the noun suggests that VN-*su* is a unit on the other. Kageyama (1999) concludes that VN-*su* forms maintain their phrasal status in the syntax but form a complex predicate post-syntactically, whereas Poser concludes that VN-*su* is a periphrastic construction and as such does not involve syntactic incorporation. Instead, VN-*su* is a direct merge of N and *su* under the phrase structure rule which governs introducing non-phrasal material N for VP-formation (e.g. VP → (NP)(NP)(N)V).

I agree with Poser that VN-*su* does not involve incorporation but somehow maintains a phrasal status. However, I propose that VN-*su* is a direct merge of V and NP instead of a merge of V and N. I also propose that VN is realized as a DP as opposed to an NP in VN-*o su* form. The relevant configurations are shown below:

(11) a.



b.



In (11a), NP is not selected by any other head, and thus is the maximal projection, whereas in (11b), NP is further selected by D, and thus the structure of the noun is 'bigger' than that of (11a). I thus claim that Case projection must be at least bigger than NP, and that NP is too small to be Case-marked in VN-*su* form. In other words, D (or at least a head above NP) is the locus for accusative Case. If this is so, then the fact that the internal argument of unaccusative nouns is able to undergo movement to the subject position must be due to the fact that the relevant domain is 'smaller' in the VN-*su* form than it is in the VN-*o su* form. This observation is similar to Wurmbrand's (2001) original claim of restructuring predicates. In other words, if the VN-*su* form takes NP, then movement of the

internal argument out of the NP should be allowed, assuming that DP, and not NP, is a phase. On the other hand, if VN-*o su* takes DP, then such a movement should be disallowed. Thus, the size-wise account seems to be more straightforward in explaining what I call 'transparency effect' in the nominal domain.

Summarizing what we have seen so far, our diagnoses for head movement developed in Chapter 4 have led us to conclude that what looks like incorporation is not in fact incorporation, but rather, an instance of a direct merge of a head and a phrase. Moreover, the absence of Case in the VN-*su* form follows from Wurmbrand's (2001) types of 'smaller' constituent, which in this case is an NP as opposed to a DP. Domain transparency in nominal domains therefore differs from that in clausal domain and follows solely from the size-wise account.

However, consider the following examples:[4]

(12) a. Taro-ga 5-nen buri-no syoosin-o si-ta.
-NOM -year for.the.first.time.in-GEN promotion-ACC do-PAST
'Taro was promoted for the first time in five years.'
b. *Taro-ga 5-nen buri-no syoosin-si-ta.
-NOM -year for.the.first.time.in-GEN promotion-do-PAST
'Taro was promoted for the first time in five years.'

(13) a. Tokyuu-ga 5-hun okure-no tootyaku-o si-ta.
express.train -minute late-GEN arrival-ACC do-PAST
'The express train arrived five minutes late.'
b. *Tokyuu-ga 5-hun okure-no tootyaku-si-ta.
express.train -minute late-GEN arrival-do-PAST
'The express train arrived five minutes late.'

Although the obligatory 'incorporation' is normally required for *syoosin*-type nouns, the above examples show that once the NP is modified, the VN-*o su* form suddenly becomes possible. In fact, as in both (b) examples, modified NPs render the VN-*su* form ungrammatical (Poser 1989).

Note that the fact above does not seem to be explainable even with the size-wise account. The modified NP is clearly bigger than the non-modified NP,

[4] Thanks to Yoichi Miyamoto for the data point.

and is in fact Case-marked. This means that the relevant nominal domain is a DP, given our previous assumptions. Nonetheless, movement of the internal argument is possible outside of this DP in both (12a) and (13a). Attaching a modifier seems to call for a bigger constituent than an NP since the VN-*su* form is simply unacceptable in (12b) and (13b). Even if we assume that modifiers can only project to an NP level, the fact that the subject movement is impossible in (12b) and (13b) remains unsolved. Thus, these data pose an empirical problem for the alternative account based on the size of a nominal domain. I leave this issue for future research.

3. Two Interpretations of *Ga*: Exhaustive and Neutral

Turning to the discussion of nominative objects, I have assumed in previous chapters that accusative elements in any environment can appear in nominative Case under *rare/tai*. However, Matsui (2009) points out that it is not always the case that accusative objects and nominative objects are interchangeable under the same interpretation. More specifically, she argues that even if the *ga/o* alternation itself is possible, there are two different *ga* interpretations for nominative objects which need to be distinguished.

Recall that Takano's base-generation analysis allows nominative objects to appear in a relative clause such as (14):

(14) Watashi-wa doitugo$_1$-ga [e_2 e_1 hanasu] hito$_2$-o
I-TOP German-NOM speak person-ACC
sagas-e-ru.
search.for-CAN-PRES
'I can search for a person who speaks German.'

Although Takano has treated the nominative object in (14) the same as other nominative objects in general, Matsui (2009) claims that the nominative object like that in (14) should be distinguished from the others. In the next subsection, I will discuss Matsui's claim regarding the two different interpretations of nominative objects, which assigns a different syntactic structure to each type of nominative object. While her observation is correct, and the two *ga*s should in fact

be distinguished, I will argue that, based on the observation from the motion verb constructions in Section 3.2., the structural analysis for each *ga* does not always follow.

3.1 Matsui (2009)

Although Takano has treated (14) from the previous subsection in the same way as he has treated other examples with nominative objects, Matsui points out that the sentence is only grammatical under the 'exhaustive' interpretation (Kuroda 1965, Kuno 1973) of the nominative object. The exhaustive interpretation is such that 'It is German that I could find someone who speaks it', which means 'the person that I can find applies exhaustively to someone who speaks German.' On the other hand, nominative objects in general can be interpreted under either the exhaustive interpretation or the 'neutral interpretation' (Kuroda 1965, Kuno 1973), where the neutral interpretation just describes the fact regarding the nominative object. The following sentence therefore has two interpretations of the nominative object:[5]

(15) Taro-wa ringo-ga tabe-rare-ru.
-TOP apple-NOM eat-CAN-PRES
'Taro can eat apples'

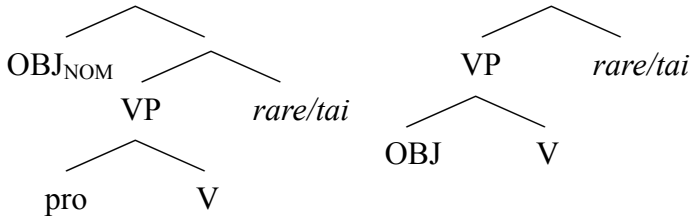
Under the exhaustive interpretation, it is interpreted as: 'It is apples that Taro can eat'. This means that what Taro can eat must exhaustively apply to apples, and if, for example, Taro can also eat bananas but bananas are not mentioned, the sentence would be false. On the other hand, under the neutral interpretation, the sentence just describes the fact that 'Taro can eat apples,' and the above restriction for the exhaustive interpretation does not apply.

Matsui made a generalization that the exhaustive interpretation results when the object is outside of the c-commanding domain of *rare/tai*, whereas the

[5] The neutral interpretation is the primary interpretation (Koizumi 1994).

neutral interpretation is obtained when the object is in the c-commanding domain of *rare/tai*, as schematized below:

(16) a. exhaustive *ga* b. neutral *ga*



It follows therefore that Takano's example in (14) must have the exhaustive interpretation, since the nominative object is outside of the c-commanding domain of *rare/tai*. On the other hand, sentences like (15) should allow both configurations, where the object is either above -*rare/tai* or below *rare/tai.*

Matsui's claim, therefore, is that two different interpretations of nominative objects should be possible, and that each interpretation corresponds to a different structure. This is something which none of the previous analyses on nominative objects has taken into consideration. In the following subsection, I will show that our findings on the obligatory wide scope of nominative objects in the motion verb construction contradicts Matsui's prediction, which suggests that differentiating nominative objects in their interpretations is not as straightforward as Matsui claims.

3.2 Neutral Interpretation of Nominative Objects in the Motion Verb Constructions

While I believe Matsui's finding is important and needs to be accommodated in the literature on nominative objects, I would like to point out that the correlation between the two interpretations of *ga* and its corresponding structure is not as straightforward as one may hope. Note that if Matsui's observation were correct, then the nominative object in the motion verb constructions under my analysis must have the exhaustive interpretation. This is so because I have argued in Chapter 3 and 4 that the nominative object in the motion verb constructions must

be generated above *rare/tai*. However, this prediction is not borne out: a sentence like (17) clearly has two different interpretations of the nominative object:

(17) Taro-wa ringo-ga tabe-ni ik-e-ru.
-TOP apple-NOM eat-NI go-CAN-PRES
'Taro can go eat apples'

The above sentence can be interpreted as 'It is an apple that Taro can go eat', or as 'Taro can go eat an apple'. Thus, both exhaustive and neutral interpretations are possible, contrary to Matsui's prediction.

Note, however, that in the previous chapters, I have confined my discussions to *dake* 'only' objects with respect to the scope facts and developed the structural analyses based solely on the data with *dake*. One might suggest that it is *dake* 'only' that forces the nominative object to be base-generated high, which is consequently interpreted as exhaustive. Under this hypothesis, even the nominative object in the motion verbs is structurally ambiguous between the exhaustive and the neutral interpretation, and only the *dake*-NOM object must be generated above *rare/tai*. However, this hypothesis makes a false prediction because *dake* objects in general can also have a neutral interpretation, as shown by an example like (15):

(18) Taro-wa ringo-dake-ga tabe-rare-ru.
-TOP apple-only-NOM eat-CAN-PRES
'It is only an apple that Taro can eat.'
'Taro can eat only an apple'

Thus, to the extent that my analysis of the motion verb constructions is correct, the fact that *ga* objects under the motion verbs have ambiguous interpretations does not fall under her observation. However, the two interpretations of the nominative object still need to be explained, as Matsui claims, and her observation therefore requires further research.

4. Conclusion

The primary goal of my thesis has been to explore what interacts with domain transparency, a configuration where an otherwise opaque domain becomes transparent for certain syntactic operations. In particular, I have examined configurations where there appears to be more than one clause, which nonetheless behaves as a unit. Amongst all such configurations, I have particularly focused on Japanese nominative object constructions and the scope of the nominative object, which exhibits rather different behaviors depending on the environment in which the nominative object appears.

The nominative object construction was first introduced in Chapter 2 along with the two different views on domain transparency. I first took up Wurmbrand's (2001) analysis, which attempts to capture transparency effects including long-distance nominative Case assignment by assuming a lack of the accusative Case-projection *v*P in the embedded clause. We saw that under her analysis, transparency directly follows from the smaller size of domain than the opacity-inducing domain. I then discussed Bobaljik & Wurmbrand's (2005) analysis, which is based on Wurmbrand's analysis with the additional assumption that lexical verbs as opposed to functional elements introduce opaque domain into their complement clauses. We saw that under their analysis, transparency is determined contextually, and the lexical/functional split of the domain-selecting head plays a significant role. I subsequently introduced another view on domain transparency, one which maintains the full-fledged clausal architecture but which utilizes head movement to expand an otherwise opaque domain. First I illustrated how Baker's (1988) Government Transparency Corollary has been a pioneer of such domain-extending analyses, and how it was later updated by den Dikken's (2007) Phase-Extension within the Minimalist framework. I also introduced Kandybowicz' (2009) Edge-Feature Activation, which makes use of head movement but from a different point of view.

In Chapter 3, I turned to a case study of Japanese to investigate transparency effects that certain predicates exhibit. I first examined the three types of predicates: the motion verbs *ik* 'go' and *ku* 'come', the causative *-sase*, and *mi*

'try doing'. I showed that all of these predicates on the surface exhibit typical restructuring properties such as: 'long-distant' nominative Case assignment, licensing of the discontinuous clause-mate morpheme *sika-nai* 'only', and cross-clausal A-scrambling. I then shifted our discussion to the scope properties of the nominative object, focusing on Nomura's observation that the nominative object can in fact take both wide and narrow scope relative to the modal *rare/tai* 'can/want'. We saw that this was contrary to the old scope generalization under which the nominative object must take wide scope.

I discussed two opposing views on nominative object constructions; one from Takano (2003) that places the nominative object in the object position of the embedded verb, and one from Bobaljik & Wurmbrand (2005) and Takahashi (2010) that base-generates the nominative object as an argument of *rare/tai*. I demonstrated that both Bobaljik & Wurmbrand's and Takano's analyses are based on the old scope generalization, and thus only explain the wide scope of the nominative object, whereas Takahashi's analysis is able to capture Nomura's observation but at the same time always predicts lack of the obligatory wide scope effect.

I then took a closer look at the scope of nominative objects that appear under the three predicates examined earlier, which led us to discover that each previous analysis alone faces an empirical problem. I showed that the motion verbs exhibit the obligatory wide scope effect of the nominative object, whereas *sase* and *mi* do not. I showed that while the nominative object under the causative *sase* and *mi* can take ambiguous scope, the object under the motion verbs must take wide scope. The finding was surprising since all of the three predicates should equally have the restructuring properties, but instead behave differently with respect to the scope of the object. Since this different behavior is tied to nominative Case assignment, I concluded that nominative Case assignment must be calculated differently from scrambling and from *sika-nai* constructions. Based on the finding of the obligatory wide scope effect, I suggested that there should be an account that combines the base-generation approach and the movement approach. I proposed that while the motion verb construction necessarily yields

the base-generation structure, *sase* and *mi* can have both the base-generation and the movement-based structures. As an additional issue, I discussed how the standard assumption that scope correlates with syntactic structures needs to be evaluated, showing that simply reducing scope to entailment relationships is not as straightforward as one may suppose.

In Chapter 4, I argued that there is a correlation between the obligatory wide scope of nominative objects and the absence of head movement in the motion verb construction. I claimed that the object's narrow scope is only available when the embedded verb extends domain for Case assignment via phase-extending head movement, along the lines of den Dikken (2007). I then argued that the phase-extending head movement is only available when there is no intervening head that blocks it. I proposed that the morpheme *ni* under the motion verbs blocks head movement of the embedded verb, whereas the null morpheme under *sase* and the morpheme *te* under *mi* do not. I then illustrated the different morpho/phonological properties of *ni* and *te*, and showed that *te* and the embedded verb stem are in the same Spell-Out domain, whereas *ni* and the verb are not. Following Uesaka (1996), I assumed that *te* is a realization of E(vent) head, and that both *te* and the null morpheme under *sase* are realizations of the same E head. I proposed that *ni* is a different type of head, and that it is a noun-taking P(ostposition) head. I claimed that E passes on head movement of the embedded predicate to the matrix domain, whereas P blocks such movement due to the fact that Japanese does not have P-incorporation. This claim steered us in a new direction by suggesting that morphology contributes to the calculation of scope, a connection that has never been made in previous literature of nominative objects.

While I have drawn the conclusion that head movement plays an important role in extending domain for nominative Case assignment, I have also pointed out that a smaller size of domain for transparency might be necessary for other domain issues such as noun incorporation. This would suggest that sentential domain and nominal domain are rather different in nature, and thus require both types of transparency-triggering mechanisms. Another complicating issue is that

there appear to be two types of *-ga* in the nominative object constructions, which my analysis is not able to distinguish. While such distinction is an important issue to be further explored, I have illustrated that reducing the interpretive difference to different structures is not as straightforward as Matsui (2009) argues.

The study of nominative Case constructions explored in this thesis should shed more light on the tight relationship between syntax and morphology, which in turn affects semantics. This study also contributes to the hypothesis that morpho-phonological domains correlate with syntactic domains, a study undertaken by a number of researchers (Dobler et al. in press; Marantz 2007; Marvin 2002; Newell 2008; Samuels 2009; Skinner 2009; Piggott & Newell 2008 among others). Finally, although the focus of this thesis is rather limited, I believe that the study of the nominative object construction has confirmed the 'reality' of head movement as a part of syntax, which is often argued to reside purely in PF (Boeckx and Stjepanović 2001; Chomsky 2001b). The domain-extending head movement supported in this thesis is necessarily part of the syntactic component, which in turn communicates with morphology. This study should therefore provide more observations for those pursuing this direction in the field of syntax/morphology interface.

APPENDIX: ABBREVIATIONS

AGREEMENT ABBREVIATIONS (Baker 1988)

Person	Number	Gender	Grammatical Function
1	s	M	S(ubject)
2	p	F	O(bject)
3		N	

OTHER ABBREVIATIONS

ACC	accusative
AFFIRM	affirmation
AGR	agreement
APPL	applicative morpheme
ASP	aspect
AT	actor topic marker
AUX	auxiliary
CAUS	causative morpheme
CL	classifier
COP	copula
CT	circumstantial topic marker
DAT	dative
DET	determiner
E	event head
FOC	focus
FUT	future
INCH	inchoative
GEN	genitive
NEG	negation
NOM	nominative
NL	nominalizer
OP	object agreement prefix
PASS	passive
PL	plural
PRES	present
PRF	perfect
Q	question marker
RED	reduplicative morpheme
SUF	nominal inflection suffix
SG	singular
SP	subject agreement prefix
TOP	topic

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