

Chapter 5

Multiple Specifiers vs. Multiple Heads

1 Introduction

So far in this dissertation, I have been assuming without discussion that multiple nominative and accusative phrases are licensed in a similar manner, namely in multiple specifier positions in the projection headed by the licensing heads, T and V respectively.^{1,2} This is the standard approach particularly for the multiple nominative constructions. However, the justification for invariably postulating this configuration is not immediately obvious. There is in fact a viable alternative configuration containing a multiple number of licensing heads, which has not yet been considered seriously. In this configuration, each head licenses no more than one phrase bearing the same case in its own projection and an additional head is introduced into the structure to license each extra phrase with the same case. This alternative can capture the data concerning the multiple nominative constructions equally adequately, since neither the operation of re-association nor the focus generalisation depends on whether the relevant phrases occupy positions within the same projection (cf. also Vermeulen 2003). The potential of such an alternative should therefore be examined properly. The two possible configurations are illustrated on the next page.

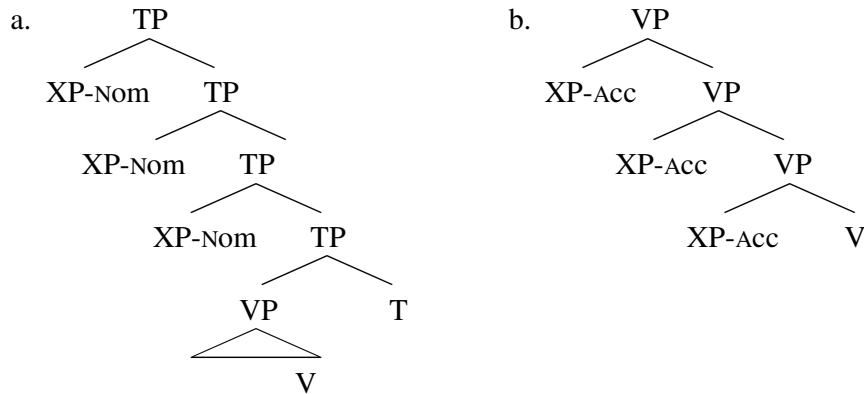
In this chapter, I will not address the typological issue of why Japanese and Korean permit this kind of licensing, while most other languages do not, but rather, the question of which licensing configuration is required by the constructions we have examined so far. It must be stated at the outset, however, that it is extremely difficult to find conclusive arguments for either one or the other configuration, since, as noted above, the two configurations cover the same empirical domain with respect to the constructions investigated in this thesis. Here, I will therefore explore what

¹ Although I claimed in Chapter 3 that adjunct *ga*-phrases and certain instances of the subject *ga*-phrase of a stative predicate are not nominative phrases, in this chapter, I will sometimes refer to all instances of *ga*-phrases as nominative phrases for convenience.

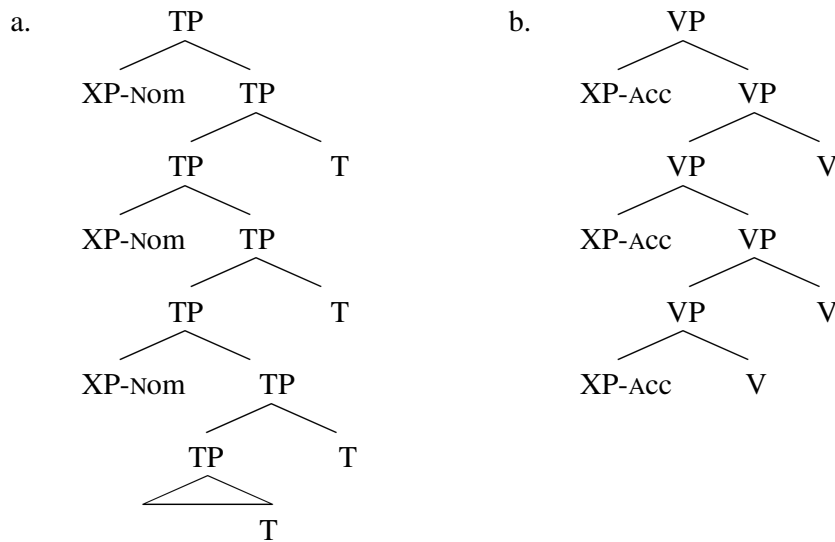
² I remain agnostic as to whether case is assigned or checked and refer to the operation involved as ‘licensing’ throughout the chapter.

structures may be possible for each type of construction given the analyses I have proposed in previous chapters. Chapter 6 offers some speculations on the typological issue.

(1) *Multiple Specifiers Configuration*



(2) Multiple Heads Configuration



Let us first consider the multiple specifiers configuration. This configuration allows recursion in the projection of a specifier within one particular projection, resulting in one projection containing multiple specifiers. One head therefore licenses multiple nominative or accusative phrases occupying multiple specifiers within its own projection. The structure conforms to the Universal Base Hypothesis, which essentially claims that the inventory and the sequence of functional categories

are properties of UG. As a result, clause structure is universally invariant: the entire set of functional projections is present and their sequence is identical in all languages. The hypothesis is most explicitly advocated by Cinque (1999 and subsequent work) and is generally adopted in the minimalist framework.

If we adopt the Universal Base Hypothesis, the only way in which the licensing of multiple nominative or accusative phrases could be achieved is for a single head to license them within one projection, as described in (1). If clause structure is universal, it is simply not possible to postulate additional TPs or VPs only in the presence of multiple nominative or accusative phrases. In other words, if, for instance, UG defines as a property of TP that it must immediately dominate a VP, a structure in which a TP dominates another TP, as in the alternative multiple heads configuration in (2), is disallowed.

Considering the expansion in the number of functional projections witnessed in recent theories, it may appear possible at first sight that the multiple nominative and accusative phrases each occupy a specifier position in a different functional projection and that the licensing head moves through the head positions of the projections. However, this option is also untenable under the Universal Base Hypothesis. The number of possible nominative or accusative phrase per clause is not pre-determined, as we saw in Chapters 2-4. Thus, it would, in principle, be possible for there to be more nominative or accusative phrases than there are projections, at least in the constructions involving external possessors. Postulating multiple specifiers within one projection therefore seems to be the most natural implementation of the idea that a head may enter into multiple licensing relations under the Universal Base Hypothesis.

Most analyses of multiple nominative constructions in Japanese and Korean and some accounts of the multiple accusative construction in Korean offered within the Government and Binding or minimalist frameworks project multiple specifiers (Saito 1982, Fukui 1986, 1995, Heycock & Lee 1989, 1990, Tateishi 1991, Heycock 1993b, Ura 1993, 1994 1996, Koizumi 1995, Takahashi 1994, 1996, Hiraiwa 2001 for the multiple nominative constructions; J. H.-S. Yoon 1989, 1990, J.-M. Yoon 1997 for the multiple accusative construction). The multiple nominative constructions are often taken to be a convincing piece of evidence for the existence of this kind of licensing mechanism (Koizumi 1995, Ura 1994). Since what is being licensed in every specifier is the same particle, the idea that one head can license its

occurrence more than once in its own projection appears plausible. Other constructions have also been argued to lend further support for licensing involving multiple specifiers. They include Transitive Expletive Constructions in Germanic languages (Chomsky 1995b), grammatical instances of Super-raising (Ura 1994), embedded topicalisation and negative preposing in English (Koizumi 1995) and *wh*-islands (Sabel 2002). I will argue however in Section 2.2 that some of these constructions can be given alternative analyses without assuming multiple specifiers.

The multiple heads configurations illustrated in (2), on the other hand, allow recursion in the projection of a head of the same category, each of which projects its own projection. One head licenses no more than one phrase with identical case-marking within its own projection. Multiple nominative and accusative phrases are each licensed in a separate projection. Crucially, as noted above, the structure does not conform to the Universal Base Hypothesis, since the number of projections headed by the licensing head depends on the number of nominative or accusative phrases in the sentence. Functional structure cannot be invariant across languages, simply because some languages allow multiple nominative and accusative constructions, while others do not. Under this approach, the existence of each functional category must be motivated in each language. I assume that the licensing of an additional phrase is sufficient motivation for introducing another licensing head.

There are two further possibilities with respect to the manner in which the multiple heads are created. This is particularly relevant when the licenser is a tensed head, as in (2a). One possibility is that the tensed heads in the structure are all distinct heads, while the other is that they are copies of one tensed head. The first possibility implies that there are always at least as many distinct tensed heads as there are *ga*-phrases in a clause, yielding multiple tense interpretations. It should therefore be possible for each *ga*-phrase to refer to different points in time. However, this prediction is not borne out. Thus, (3a) cannot mean that the rabbits which were in the Northern Hemisphere last year and are in the Southern Hemisphere at present have long ears. Similarly, (3b) cannot imply that students used to buy books at a particular bookshop last year, but they no longer do so, although the shop still exists. The same observation obtains with the stative construction.

- (3) a. Kitahankyuu-ga usagi-ga mimi-ga naga-i.
 N.Hemisphere-GA rabbit-GA ear-GA long-Pres
 ‘It is the N.Hemisphere, where rabbits have long ears.’
- b. ano mise-ga gakusee-ga hon-o yoku ka-u.
 that shop-GA student-GA book-Acc often buy-Pres
 ‘It is at that shop that students often buy books.’

The second possibility involves creating multiple copies of one head. Multiple copies of a head can be created by means of self-attachment proposed initially by Ackema, Neeleman & Weerman (1993). Self-attachment allows a head to move and merge with the top node of its own projection and then to project again. As a result, the moved head takes as its complement the maximal projection of its own trace. It is generally claimed that when movement takes place, it is the target that projects (Chomsky 1995a). However, in the case of head movement, there appears to be no reason, why the moved head cannot project. The structures in (2) satisfy the principles of endocentricity and head uniqueness, the core principles of Phrase Structure theory. Assuming a copy theory of movement (Chomsky 1995b), each TP and VP is headed by exactly one (copy of) T and V, respectively (see Ackema, Neeleman & Weerman 1993, Koenenman & Neeleman 1999, Neeleman & Weerman 1999, Bury 2003 for further discussions).³

This operation is potentially recursive and applies only in order to satisfy some syntactic condition which would otherwise be violated. I assume that the relevant condition is the same as the condition that allows projection of an additional specifier position in the multiple specifier structure. In contrast to the first possibility in this configuration, self-attached heads are not distinct heads, but are copies of the same head created by movement. It follows then that there is only one tense interpretation in a clause containing multiple copies of a tensed head.

The derived structure in (2b) is similar to VP-shells in the sense of Larson (1988). However, they differ in two crucial respects. Firstly, in the case of self-attachment, verb movement is not to an already existing position. There is therefore

³ See also Nash & Rouveret (1997) and Haeberli (2001) who derive similar effects with postulation of a proxy category, which is a feature-less functional category, which inherits features from a contentful head by movement of the latter to the former.

no restriction on the number of copies of the verb that can be created. Secondly, the phonetically null light verb in a VP-shell is associated with causal semantics. A derived verb, on the other hand, does not acquire any additional semantics as a result of self-attachment, since it is merely a copy of the verb in its base position.

Thus, there are, in principle, two configurations in which a tensed head and a verb can license multiple nominative phrases and accusative phrases, respectively. In one configuration, one head licenses the phrases in multiple specifier positions in one projection, while in the other configuration, multiple copies of the head license the phrases in distinct projections.

At first sight, it may seem reasonable to argue that economy considerations would permit only one configuration for the purpose of licensing multiple phrases bearing an identical case in a particular language. However, if all instances of multiple nominative and accusative phrases are licensed exclusively in one of the configurations, an additional constraint must be stipulated so that the generation of the other configuration is prevented. In this chapter, I will argue that both configurations are in fact required by the grammar and that the thematic status of the phrase to be licensed dictates which configuration is employed.

In doing so, I will first claim that there is no independent support for adopting the Universal Base Hypothesis, which forces the projection of multiple specifiers and excludes the multiple heads configuration. Arguments which have been put forward in its favour are based on assumptions which are themselves rather questionable, and adopting the hypothesis has some undesirable repercussions in other components of the grammar. The multiple specifiers configuration is not contingent on the hypothesis, hence even if the hypothesis is weakened, its postulation is possible. Consequently, there is no reason to employ one of the two configurations exclusively.

I will then demonstrate that considerations concerning θ -theory ultimately determine in what configuration a certain nominative or accusative phrase is licensed. Multiple accusative phrases must be licensed in multiple specifiers, since they are licensed as internal arguments of the verb. It is well-known that a predicate cannot assign a θ -role from a moved position, a condition most explicitly stated as the Generalised Projection Principle (Brody 1995). Thus, licensing an additional internal argument in a projection headed by a functional, self-attached, head is disallowed.

The three types of multiple nominative constructions differ in the licensing configuration they require. Recall that the external possessor of a subject is licensed by predication. It is generally assumed that a predicate must be a maximal projection (Williams 1980, 1983, 1987, Marantz 1984, Rothstein 1983, Bowers 1993, 2001, Heycock 1994, Chomsky 1995b, among many others). It follows then that the external possessor of a subject must be licensed in a multiple heads structure, so that its predicate, which contains its possessee, is a maximal projection. Similarly, the nominative subject of a stative predicate is licensed by predication by virtue of its being subject. Its case must therefore be licensed in a distinct projection from the object. On the other hand, adjunct *ga*-phrases are not licensed by predication, requiring no maximal projection to be predicated of it. Although nothing prevents such a phrase from being licensed in a multiple heads configuration, reasons of economy favour a multiple specifiers configuration, since the latter generates less structure.

One prediction which the existence of the multiple heads configuration makes is that the licensing head undergoes movement, as extra structure is created only by movement of the licensing head. Since Japanese is a strictly head-final language, verb movement, if it exists, is necessarily string vacuous. String vacuous movement is usually disfavoured, since such movement does not change word order, which implies great difficulties in its acquisition (Chomsky 1986). This has led some linguists to conclude that Japanese lacks overt verb movement (Fukui 1986, 1995, Fukui & Takano 1998, Sakai 2000, Fukushima 2003, Takano 2002, Fukui & Sakai 2003, Takano 2004). However, I will argue, based on evidence provided by Koizumi (1995, 2000), that there is string-vacuous movement of tensed heads in this language.

The chapter is organised as follows. Section 2 demonstrates that there are no valid grounds to adopt the Universal Base Hypothesis in the theory of grammar. Section 3 claims that multiple accusative phrases are licensed in multiple specifier positions in VP, while Section 4 demonstrates how different types of *ga*-phrases require distinct licensing configurations. In Section 5, I will discuss evidence for verb movement and argue that Takano's (2002) and Fukui & Sakai's (2003) alternative analyses of Koizumi's data without assuming verb movement are flawed and untenable. Concluding remarks are noted in section 6.

2 The Universal Base Hypothesis

According to the Universal Base Hypothesis clausal architecture is universal. The only configuration in which multiple nominative or accusative phrases can be licensed by a single head is by postulating multiple specifiers as in (1). Thus, if such a hypothesis is part of Universal Grammar, the generation of the kind of multiple heads structures in (2) would be disallowed altogether. However, there are reasons to believe that the hypothesis itself does not hold. More specifically, various arguments which have been put forward in its favour do not actually lend support for its validity, and adopting the hypothesis implies a number of unwelcome repercussions in other components of the grammar. In this section, I will discuss these two issues in turn.

2.1 The validity of the Universal Base Hypothesis

I consider here three supporting arguments offered in the literature for the Universal Base Hypothesis. A first argument is that, coupled with the widely held view that semantic properties are encoded by particular functional heads, it allows the mapping between syntax and semantics to be maximally transparent at LF. The idea of transparent mapping between the two modules has also been employed in other areas of the grammar. An obvious example is the Uniform Theta Assignment Hypothesis, where θ -roles are each associated with a specific position in the syntactic structure (Baker 1988, cf. also Hale & Keyser 1993). From a theoretical point of view, such systematic mapping appears most restrictive and therefore attractive.

Moreover, Cinque (1999) points out that if clausal structure varies according to the interpretive properties expressed by the sentence, an extra convention is required to interpret correctly the absence of a functional head as the absence of the features associated with it. On the other hand, if clause structure is universal and if each functional head is associated with either a default feature or a marked feature, the absence of particular semantic features can be represented in the structure as the default feature of relevant functional heads. Thus, considerations of parsimony and elegance argue for a maximally transparent mapping between syntax and semantics and hence for the validity of the Universal Base Hypothesis, which facilitates it.

However, it is not entirely clear whether such a systematic mapping is actually desirable, especially because, as Koenenman & Neeleman (2001) observe, one semantic notion is not always encoded in a uniform manner in the syntax. For example, in Dutch, attaching a diminutive suffix to a noun expresses near-identical semantics as the modification of the same noun by an adjective meaning ‘small’. Similarly, Corver (1997), Doetjes (1997) and Doetjes et al. (2004) show that elements expressing the semantic notion of degree do not display a uniform behaviour in the syntax. Some behave like functional heads, while others demonstrate properties associated with adjuncts. In other words, there seems to be variation in the way that one grammatically encoded semantic notion is manifested in the syntax. Thus, although a rigid mapping between syntax and semantics appears attractive on theoretical grounds, it does not seem to reflect the nature of language most accurately.

Furthermore, it is also not clear whether an extra convention is really necessary to interpret correctly the absence of particular functional heads. It seems that the Elsewhere Principle can apply in such instances. The Elsewhere Principle essentially states that the most specific option must be chosen or else the default option applies (cf. Kiparsky 1973, Halle & Marantz 1993, also DiSciullo & Williams 1987, Williams 1997 for similar effects in terms of Blocking). For example, the default option for English verbs is that they are interpreted as unspecified for tense. However, there exists a rule in the grammar of the language, which instructs that the verbs should be interpreted as in the past tense if they are marked with the suffix *-ed* (abstracting away from irregular forms). The bare form cannot be used for past tense, because of the existence of the more specific form *V-ed*. In other words, verbs appear in the form *V-ed* if they are to be interpreted as in the past tense, or ‘else’ the bare form is used. The same reasoning can be applied to other functional notions such as mood and aspect. If no special markings or independent phrases associated with such notions are present, the Elsewhere Principle would instruct that the interpretation with respect to these notions be the unmarked one.

The Elsewhere Principle is independently motivated in various other components of the grammar such as morphology and phonology. Adopting this principle would not require any further assumption about the feature composition of a functional category or a more complex mechanism for interpretation. Thus, the argument that the Universal Base Hypothesis allows a maximally transparent

mapping between syntax and semantics does not support the validity of the hypothesis.

A second, empirical, argument for the presence of the universal set and sequence of functional projections is presented by Cinque (1999).⁴ A cross-linguistic investigation of the distribution of clausal adverbials reveals that the notions that they express and the order in which they appear are universally invariant. Although the sequence of adverbials reflects intrinsic logical relations to some extent, it cannot be reduced entirely to other components such as semantics. Thus, for example, within the available evidence, some logically conceivable orders are simply unattested and some attested orders are not explicable in terms of logical or semantic properties.⁵ Cinque claims that these observations are best captured if notions expressed by adverbials are represented in the syntax by functional categories whose architecture is a property of UG. If the structure of functional categories is identical in all languages, it follows straightforwardly that expressible notions and the order in which they appear do not vary cross-linguistically. Verbs move to various functional heads, which derives word order differences.

It seems reasonable that the order among the adverbials and hence the possible notions that they express are determined by UG. However, Cinque's approach does not seem to be the only possible option in accounting for the facts. It is equally plausible that adverbials and verbal elements obey separate universal principles which constrain their respective ordering. Furthermore, the fact that the notions expressible by adverbials are the same across languages is not necessarily best captured by the proposal that the whole set of functional projections associated with them are present in all languages. Since it must simply be stipulated under the Universal Base Hypothesis which semantic notions correspond to functional categories in the syntax, an independent principle stating which notions are expressible by human language in which order would also capture the observation. The latter approach does not require the entire functional categories to be present in

⁴ Cinque does not use the term 'Universal Base Hypothesis'. However, the idea that he proposes in his works is the strongest interpretation of the hypothesis. I will therefore continue to use this term (cf. Kayne 1994, Thráinsson 1996, Zwart 1997,

⁵ However, see Nilsen (2003) who argues that the ordering among adverbials is determined by semantic properties of the adverbials involved.

all languages. As argued above, the Elsewhere Principle can ensure that the absence of a particular functional category yields the unmarked interpretation of the associated semantic notion. Thus, in accounting for the universal properties of adverbials, it is not crucial that clause structure is universal. In other words, Cinque's observations do not provide direct support for the validity of the hypothesis.

Finally, an argument which has often been put forward for the Universal Base Hypothesis is based on considerations about language acquisition. If clausal architecture were a property of UG, a child would be presented with a pre-determined set and sequence of functional categories. Thus, the existence of a particular functional category in a specific language need not be motivated and questions related to how a child acquires functional categories do not arise, resulting in a simpler theory of language acquisition.

It is questionable, however, whether such a theory of language acquisition is actually simpler than one based on a flexible approach to clause structure. It is true that if the entire set of functional projections is not a property of UG, the presence of each functional category must be motivated. On the other hand, if a child is presented with a full array of functional categories, he or she must still determine which semantic notions, hence functional categories associated with them, are never overtly realised in their language. Thus, regardless of whether the clausal structure is universal, a child must acquire which functional categories are grammatically encoded in their language.

In sum, since assuming the hypothesis does not provide any theoretical or empirical, there appears to be no reason to adopt it. Let us now turn to some unwelcome consequences of adopting the Universal Base Hypothesis.

2.2 Consequences of adopting the Universal Base Hypothesis

There are further reasons to doubt the validity of the Universal Base Hypothesis. More specifically, assuming the hypothesis has unwelcome repercussions in other components of the grammar. Here, I discuss three such instances. A first consequence of adopting the hypothesis is a proliferation of null heads (Iatridou 1990). If the inventory and the sequence of functional categories are uniform across languages, there will be categories which have overt realisation in some languages but not in others. Consequently, categories which are never spelled out in a certain

language must still be present and represented as null in that language. It is unclear how an analysis of a particular language benefits from this kind of approach. Claiming that all functional categories are present in every language would yield an account which is not optimal for every language. Thus, although there is never subject or object agreement on the verb in Chinese, consistently null AgrS and AgrO must still be projected, because in languages such as French, there is overt morphology associated with these functional categories. Representations with empty structures are not optimal, as they contain unnecessary material. Moreover, they are against the spirit of the minimalist framework. In particular, they are inconsistent with the general principle of Economy of Representation, according to which representations cannot contain any superfluous material (Chomsky 1991, cf. also Thráinsson 1996, Grimshaw 1997).

Even within one language, it is not obvious that clause structure should be uniform. For example, there are circumstances under which subject-verb inversion is found in English embedded clauses, which presumably requires extra functional structure (Grimshaw 1997, Vikner 2001, Bury 2003). According to the Universal Base Hypothesis, the extra structure should also be present in clauses without subject-verb inversion. This does not appear to be a desirable consequence. Since there is no independent motivation for introducing empty functional projections in embedded clauses in the absence of subject-verb inversion, they are redundant. Again, such structures are inconsistent with Economy of Representation. If, on the other hand, clause structure varied across languages and also from construction to construction within one particular language, no superfluous material would be postulated.

Sportiche (1993) points out that null heads are generally available in most theories to represent some features which are not overtly realised, such as English non-past tense. Consequently, he argues, the fact that an element is phonologically silent does not indicate its structural absence. However there is a crucial distinction between a consistently null head and a gap in a paradigm. In particular, from an acquisition point of view, postulating a null head for a gap in a paradigm is fully justified by the existence of other overt material in the paradigm. Thus, for instance, in Turkish, nominative case has no corresponding morphological realisation for singular nouns. In this instance, postulating a null head for nominative case is

warranted, as other cases in the paradigm are overtly realised.⁶ By contrast, a consistently null head cannot be identified in a similar manner, as no material in the relevant paradigm is ever spelled out.

Moreover, a structure that is based on the Universal Base Hypothesis is inevitably larger than a structure that is not. This implies that ungrammatical word orders can be derived with relative ease, since there are more positions to which elements can potentially move. A theory which projects larger structures and requires additional constraints only to rule out unwanted results produced by the structure is clearly sub-optimal and unattractive.

A second argument against adopting the Universal Base Hypothesis is that cross-linguistic variation can often be explained more directly in terms of variation in the architecture of functional categories than in analyses assuming the hypothesis. For example, Thráinsson (1996), Bobaljik & Thráinsson (1998), Koenenman & Neeleman (2001) argue for a correlation between the existence of verb movement and the possibility of Transitive Expletive Constructions in Germanic languages, where an expletive and a subject both appear in a clause headed by a transitive verb. Verb movement indicates extra structure, which provides positions for the expletive and the subject.⁷ Consequently, in languages without verb movement, no extra functional projections are present, explaining the absence of the constructions in these languages. The authors demonstrate that various other properties follow from their analyses in the relevant languages. Under the Universal Base Hypothesis, on the other hand, this correlation between verb movement and the constructions cannot be explained in terms of clause structure. It must simply be stipulated. Bobaljik & Jonas (1996) and Chomsky (1995b), for instance, suggest that some specifiers are unavailable in languages that do not allow the constructions. It seems rather peculiar

⁶ There are other ways of distinguishing nominative case from other cases. For example, Neeleman & Weerman (1999) argue that nominative case is not an instance of ‘case’ and does not feature in the same paradigm as other cases. However, the point advocated here can equally be made with any language, in which the case paradigm contains both overt and null morphology. Null heads can be postulated for cases with no morphology, as they can be identified by the existence of overt morphology for other cases.

⁷ The authors mentioned here differ in the details of their analyses. Thráinsson (1996) and Bobaljik & Thráinsson (1998) argue that verb movement is a result of extra functional projections, while Koenenman & Neeleman (2001) claim that verb movement creates extra functional projections.

that stipulations must be made about clause structure, if it is supposed to be universal.

Finally, the Universal Base Hypothesis simplifies phrase structure rules, hence its incorporation into the theory of grammar may at first seem attractive. However, this simplification leads to complications in other areas of the grammar. Firstly, if clause structure is universal, various possible word orders must be derived entirely by movement. On standard assumptions, movement must be properly motivated by triggering features on functional heads whose specifiers serve as landing sites for the moved elements. Moreover, these features must be associated with some independent semantic or grammatical notions. Considering the possible number of word order permutations attested in the world's languages, finding evidence for each such notion, and hence the presence of an associated functional projection, appears to be an impossible task.

Furthermore, it is likely that many of the heads which contain triggering features are consistently null categories. Besides the complications in acquiring such categories, as already noted above, they also cause difficulties in identifying the exact position of other overt material. For example, if some language had adverbials for functional notions expressed by the categories XP and ZP, but not by YP, in a pre-determined sequence, XP YP ZP, and if this language had verb movement which resulted in the verb appearing in a position between XP and ZP, it is impossible to determine whether the verb occupies the head of XP or the head of YP (Koenenman & Neeleman 2001). Such ambiguity seems highly undesirable in a formal system.

Another consequence of simplified phrase structure rules is complication in the theory of movement. Bobaljik (1999) points out, with particular reference to Cinque's (1999) account of the rigid ordering of adverbials, that serious technical problems arise if one assumes universal clause structure. For example, in Italian, an auxiliary may precede or follow a certain type of adverbials, which a past participle can also precede or follow. The relative ordering between the auxiliary and the past participle is fixed however: the former must precede the latter. The problem occurs when they both precede the adverb in question. Movement of the verbs unavoidably violates the Head Movement Constraint. The point is illustrated below. The movement of the participle must skip over the trace of the auxiliary and the movement of the auxiliary must cross the moved participle.

- (4) [_{FP1} Aux [_{FP2} Participle [_{ADVP} Adv t_{AUX} [_{FP3} t_{PART} [...

In response to this problem, Cinque proposes that two elements undergoing movement may sometimes skip over each other, but must retain the base order. Such a rule is *ad hoc* and therefore weakens his argument based on parsimony. It also introduces a type of movement which is not attested anywhere else, evidently an undesirable consequence.

Thus, not only are there no arguments which directly support the validity of the Universal Base Hypothesis, but assuming it has undesirable repercussions. The preceding discussion is summarised below.

- (5) (i) The hypothesis facilitates a transparent mapping between syntax and semantics, but such mapping itself is not necessarily desirable;
- (ii) universally invariant properties of adverbials may suggest the existence of universal principles governing adverbials, but this need not be explained by the presence of universal functional structure;
- (iii) assuming the hypothesis does not necessarily lead to a simpler theory of language acquisition;
- (iv) the hypothesis permits generation of structures which are against economy;
- (v) the hypothesis does not allow differences among languages to be reduced to variation in clausal architecture;
- (vi) a number of (potentially consistently null) functional categories, and features associated with them, must be introduced and a stipulative rule about movement must be postulated in order to trigger movements to derive grammatical word orders.

An approach which does not assume a universal syntactic structure does not face these difficulties. In such an approach, structures are postulated based on economy conditions. As a consequence, no extra features or constraints on derivable structures need be postulated. Furthermore, cross-linguistic variation can be captured in terms of variation in clause structure, when there is a generalisation to be made. Thus, a flexible approach to clause structure appears more promising.

This conclusion has some implications for the issue of licensing configurations for multiple nominative and accusative constructions. Recall that the Universal Base Hypothesis forces the postulation of multiple specifiers in order to account for the licensing of multiple nominative or accusative phrases by a single head. If the hypothesis is weakened however, there seems to be no reason why a configuration involving multiple specifiers should be preferred to another containing multiple heads. It may appear intuitive at first sight that grammar would employ only one of the two configurations due to economy considerations. However, if this were the case, additional assumptions must be made in order to prevent the generation of the other configuration. For instance, a theory allowing only the multiple specifiers structure must assume that no self-attachment for the purpose of licensing an additional phrase is permitted. Similarly, if the multiple heads configuration is employed exclusively, it must be stipulated that multiple specifiers cannot be projected. These assumptions do not seem independently motivated. It therefore is not entirely a desirable outcome that multiple nominative or accusative phrases are invariably licensed in a uniform manner. It could be that grammar makes both configurations available. In the next two sections, I will explore this option and argue that considerations related to θ -theory determine which configurations should be employed for a particular phrase. Specifically, whether the phrase is an internal or external argument appears to play a crucial role.

3 Licensing Multiple Accusative Phrases

In this section, I will argue that multiple accusative phrases must be licensed in multiple specifier positions within VP. Before I discuss the licensing configuration, it is necessary to clarify what the licensing head is for accusative case.

3.1 The licenser of accusative case

Within the Government and Binding framework, it was widely assumed that the verb assigns accusative case on the object in the complement position of the verb, where it is also assigned a θ -role. More recently, within the minimalist framework, it is assumed that the object undergoes movement to a specifier position of a particular

functional projection, such as AgrOP or vP, where its case features are checked by the head of that projection.

In Japanese and Korean, however, there appears to be no motivation for assuming that case on the object is licensed in a position distinct from the one in which it receives a θ -role. Koizumi (1995) argues with data concerning scope of the object with respect to a complex predicate that accusative case in Japanese is licensed in SpecAgrOP rather than by the verb in its base position. Relevant examples involve complex predicates headed by control verbs, which are derived in the syntax. A quantified object necessarily takes scope over the control verb, *wasure*- ‘forget’, as illustrated below.

- (6) John-wa ringo-dake-o tabe-wasure-ta
 John-Top apple-only-Acc eat-forget-Past
 ‘John forgot to eat only apples.’
- (a) only > forgot (Among many things John was supposed to eat, it is only apples that he forgot to eat.)
- (b) *forgot > only (It is eat only apples that John forgot to do.)

Koizumi claims that case on the object cannot be licensed in its base-position, but must be licensed in the specifier position of a functional projection, namely AgrOP, situated higher than the control verb, from where it also takes scope. Thus, the object receives a θ -role in the complement position of the verb and subsequently moves for case. A control verb such as *wasure*- can function as a transitive verb on its own and independently license an accusative object. In Koizumi’s system, it is essential that the accusative features of the object in the above example are checked against the accusative features of the control verb, as movement for case explains the wide scope reading of the object.

This approach predicts that when the object appears in the dative, it does not raise to SpecAgrOP to check its case against the control verb, since the latter only checks accusative features. In other words, a dative object should not take scope over the control verb. However, this prediction is not correct, as the following example illustrates. The sentence can only mean that among many groups of people John was supposed to meet, it is only children he forgot to meet.

- (7) John-ga kodomotati-dake-ni ai-wasure-ta
 John-GA children-only-Dat meet-forget-Past
 ‘John forgot to meet only children.’ only > forget; *forget > only

Thus, although the data such as those in (6) must of course be explained properly, they do not seem to lend support for an analysis in which case of the object is licensed in a functional projection rather than in VP.

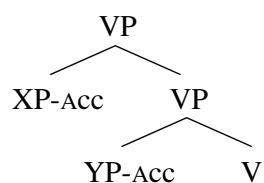
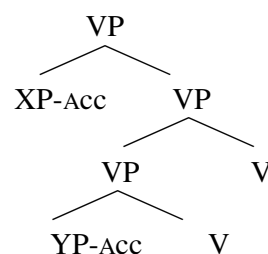
One may argue that licensing case in a functional projection, while restricting θ -role assignment to lexical projections accommodates an elegant split between a functional domain and a lexical domain in clausal structure. However, it is not entirely clear to me why this split is desirable. It creates extra structure only to allow checking of some features of an argument against relevant features of the selecting head, despite the fact that the two items are already in a local configuration in their base-positions. In the absence of independent motivation, I assume that a verb licenses accusative case on the object in VP in Japanese and Korean.

3.2 Possessive accusative phrases

The discussion in the previous subsection leaves us two options regarding the structure for a sentence with a multiple accusative construction, such as the following, repeated from Chapter 4.

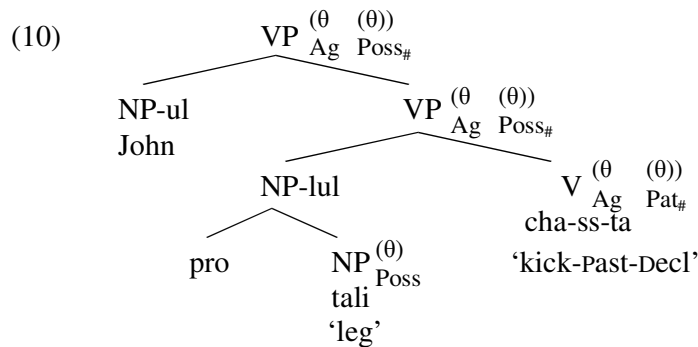
- (8) Mary-ka John-ul tali-lul cha-ss-ta
 Mary-Nom John-Acc leg-Acc kick-Past-Decl
 ‘Mary kicked John’s leg.’ (Cho 1992: 15)

One configuration involves postulation of an additional specifier position in VP, while the other projects separate VPs recursively. The two possibilities for the above example are illustrated below, where XP refers to the external possessor *John-ul*, while YP is the thematically selected direct object of the verb, *tali-lul* ‘leg-Acc’.

(9) a. *Multiple Specifiers Configuration*b. *Multiple Heads Configuration*

Recall that according to the analysis of this construction developed in Chapter 4, the internal θ -role assigned to the object is re-associated with a semantic representation present in the object, made available by the presence of a resumptive *pro*. The re-associated θ -role is then assigned to the accusative possessor. Thus, it is syntactically licensed as an internal argument of the verb, but is interpreted as a possessor of the object. Internal arguments are, by their very nature, licensed within the maximal projection headed by the predicate that selects them. It is well-known that a predicate cannot select its arguments from a moved position, a constraint most explicitly stated as the Generalised Projection Principle (Brody 1995). Thus, internal arguments should be licensed within VP projected by the verb in its base-position.

In the structure in (9b), the external possessors are licensed as internal arguments of a verb which has undergone movement. Licensing of internal arguments in such a configuration violates the Generalised Projection Principle and is hence disallowed. On the other hand, in the structure in (9a), the external possessor is base-generated and assigned a θ -role within the projection of the verb in its base-position, which legitimately licenses it as the verb's internal argument. Thus, the multiple specifiers configuration must be employed in licensing multiple accusative phrases rather than the multiple heads configuration. The structure proposed in Chapter 4 is therefore not affected by the present discussion. The relevant part of the structure is repeated below.



Let us now consider in which configuration multiple nominative phrases should be licensed.

4 Licensing Multiple Nominative Phrases

In Chapters 2 and 3, I considered three types of multiple nominative constructions in Japanese: the possessive multiple nominative construction, the adjunct multiple nominative construction and the stative construction. In this section, I will argue that although they all involve licensing of the same particle, which is licensed by the same licensing head, namely a tensed head, the configuration employed is not necessarily identical. It depends on whether the phrase in question is an argument and if so, whether it is an external or internal argument. I will discuss constructions in turn.

4.1 Possessive multiple nominative construction

Recall that in Japanese, the possessor of a nominative subject can be licensed in the nominative externally to the projection headed by the subject. An example is repeated below.

(11) Taroo-ga titioya-ga nyuuin-si-ta.

Taro-GA father-GA be.hospitalised-Past

‘It is Taro whose father was hospitalised.’ (modified from Tateishi 1991: 270)

I argued in Chapter 2 that the external possessor of a subject is licensed by predication mediated by re-association. It receives an external θ -role which has undergone re-association with a semantic representation present in the external argument of the verb. Since it is not licensed as an internal argument, it need not be licensed in the same projection as its possessee, unlike possessive accusative phrases. However, at first sight, the multiple specifier configuration may appear preferable to the multiple heads configuration, since it generates less structure and hence is more economical. Nevertheless, there are reasons to believe that the multiple heads configuration should be employed in licensing external possessors of external arguments.

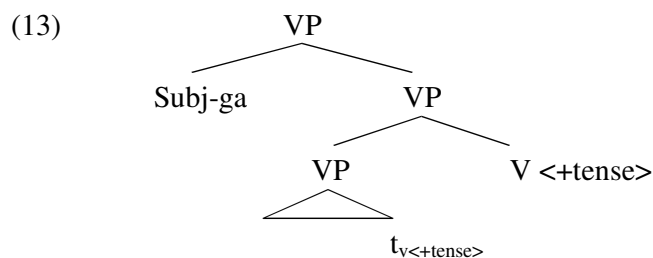
It is widely assumed in the contemporary literature that external arguments are base-generated outside of the maximal projection headed by the lexical predicate (Heycock 1994, Chomsky 1995b, Bowers 1993, 2001, Williams 1994, Kratzer 1996, cf. also Williams 1980, 1987, Rothstein 1983 and Marantz 1984).⁸ In most instances, it is base-generated in a specifier position of a particular functional projection, such as vP or TP. Let us state this assumption explicitly as a structural condition on predication as below. It seems reasonable to assume that the notion ‘predicate’ is part of Universal Grammar and that a condition such as (12) therefore holds cross-linguistically.

(12) Predicates must be maximal projections.

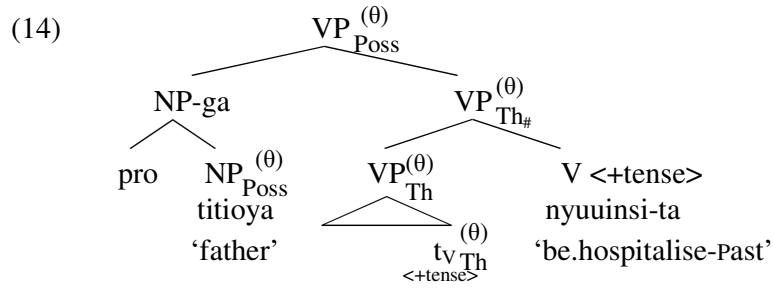
For a simple intransitive sentence in Japanese, I assume that the VP containing the verb in its base-position functions as a predicate for the subject. The subject must therefore be base-generated in a projection higher than the VP. I have assumed so far that this projection is TP. However, it is in fact unclear whether TP is projected in Japanese, as its role seems rather inactive, particularly if one assumes that verb is inserted into the structure fully inflected for tense (Fukui 1986, Kuroda 1988, Fukui

⁸ In the period from mid-1980’s to mid-1990’s, there was much debate as to whether subject originates within the lexical VP projection. However, with the increase in the role played by functional projections, it seems a fair generalisation to make that subjects are now generally introduced into the structure by some functional category outside of VP that contains a verb and its internal arguments. See Bowers (2001) for an overview of the development of this issue and further discussion.

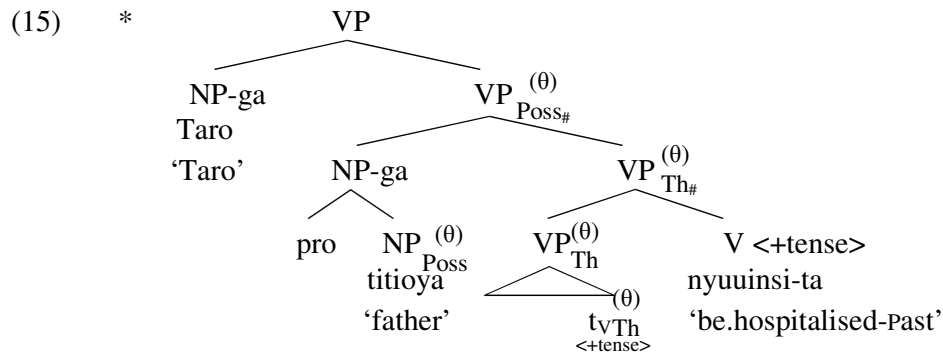
& Sakai 2003, among others). I propose instead that in order to achieve the desired effect, the verb undergoes self-attachment and projects, taking the maximal projection of its own trace as its complement. The subject is base-generated in a specifier position of this VP, as shown below. Note that the structure in (13) contains two distinct maximal projections, one headed by the trace of the verb and the other by the moved verb. The higher VP is not a projection of the trace of the verb, but is an extended projection of it in the sense of Grimshaw (1990). Moreover, I assume that tense features are always directly generated on the verb and, adopting the copy theory of movement, tense features are also present on the moved verb. Implications of this assumption for non-stative transitive verbs will be discussed in Section 4.3.



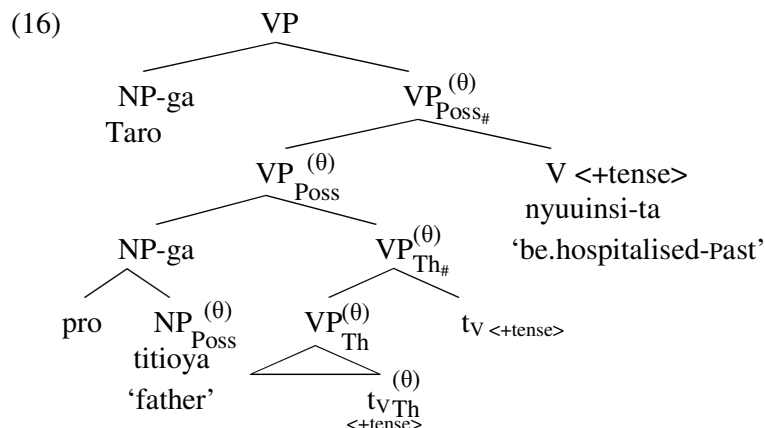
Since the external possessor of a subject receives an external θ -role, some maximal projection must function as its predicate. The predicate in question cannot correspond to the VP headed by the lower copy of the verb, however. The only reason why the verb's external θ -role can be assigned to the external possessor in addition to the verb's thematic subject is because it is re-associated with a distinct semantic representation present in the subject, made available by the presence of *pro*. Thus, the subject plays an integral part in assigning the verb's external θ -role to the external possessor. In this sense, the *pro* contained in the subject functions like a predicate variable in the sense of Williams (1980) (cf. also Browning 1987). The maximal projection which is predicated of an external possessor should therefore minimally contain the possessee. The following structure represents one such maximal projection.



In Chapter 2, the analysis of the possessive multiple nominative construction was presented in terms of multiple specifier positions in TP. Translating the TP into a self-attached VP, the structure is illustrated below. However, this structure is in conflict with the condition in (12). The VP which corresponds to the structure in (14) is not a maximal projection, hence cannot function as the predicate for the external possessor *Taro-ga* 'Taro-GA'.



On the other hand, the desired effect can be achieved if a multiple heads structure is employed. Such structure can be created if the head of the VP in (14) undergoes self-attachment, taking the maximal projection of its trace as its complement, yielding structures like the following. Below, the VP in (14) is a maximal projection and can function as the predicate for the external possessor.



Here, the external possessor is base-generated in the specifier position of VP which is projected by the moved tensed head. In this position, it is assigned the re-associated θ -role and its case is also licensed by the moved tensed head.

A structure containing multiple copies of a tensed head derived by self-attachment predicts that a tensed head undergoes movement, since extra structure for licensing *ga*-phrases including the subject can only be created if the licensing head moves and subsequently projects. As Japanese is a strictly head-final language, such movement is necessarily string-vacuous and may therefore be disfavoured, because it entails great difficulty in acquiring the language. However, I will provide evidence in Section 5 suggesting that tensed heads indeed do undergo movement in Japanese. Let us first consider the remaining two types of constructions.

4.2 Adjunct multiple nominative construction

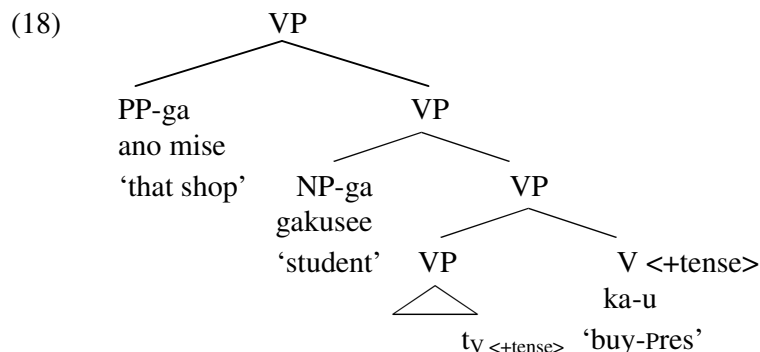
An example of an adjunct multiple nominative construction is repeated below from Chapter 3, where *ano mise-ga* ‘that shop-GA’ is an adjunct *ga*-phrase.

- (17) *ano mise-ga* *gakusee-ga* *hon-o* *yoku* *ka-u*.
 that shop-GA student-GA book-Acc often buy-Pres
 ‘It is at that shop that students buy books.’

Recall that in contrast to possessive nominative phrases, re-association is not involved in licensing adjunct *ga*-phrases. The latter are independent of other arguments in the clause and are not licensed by predication. Thus, although it appears in a superficially similar position to a possessive *ga*-phrase, no maximal

projection need be predicated of an adjunct *ga*-phrase. The clause-initial positioning of adjunct *ga*-phrases is related to the fact that *ga* on an adjunct must be interpreted as a focus marker rather than a case marker, since adjuncts do not usually require case.

It appears then that an adjunct *ga*-phrase can be licensed either in the same maximal projection as the subject *ga*-phrase or in a distinct projection headed by a self-attached tensed head. It seems extremely difficult to test which configuration is the correct structure for licensing an adjunct *ga*-phrase, as the two configurations cover the same empirical domain with respect to this construction. Furthermore, since the multiple heads configuration is required independently by the possessive multiple nominative construction, as we saw above, the existence of other properties in the language predicted by the multiple heads approach such as verb movement, which is discussed in Section 5, is accounted for. However, considerations of economy dictate that a structure containing multiple specifiers should be employed, since it generates less structure than a structure containing multiple heads, as shown below, and as assumed in Chapter 3.

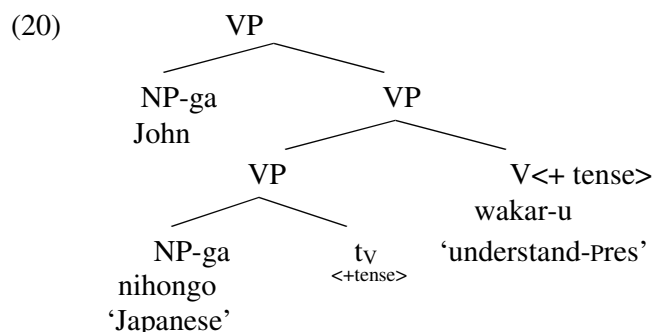


4.3 Stative construction

Let us finally consider the licensing of *ga*-phrases in the stative construction. An example of the construction is provided below.

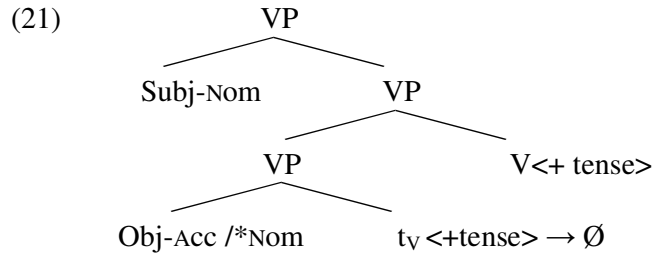
- (19) John-ga nihongo-ga wakar-u.
 John-GA Japanese-GA understand-Pres
 'It is John who understands Japanese.'

Nihongo-ga ‘Japanese-GA’ is an internal argument and therefore must be licensed within the VP headed by the verb in its base-position, as required by the Generalised Projection Principle. On the other hand, *John-ga* is an external argument and hence must be licensed in a projection outside of the VP. The verb undergoes self-attachment and projects from the moved position so that the subject can be legitimately licensed, in accordance with the condition in (12), yielding structures like the following for the sentence in (19). Moreover, since tense features are directly generated on the verb, nominative case on the object can be licensed in the lowest VP, while nominative case on the subject is licensed by tense features on the moved verb.



The proposed structure has repercussions for the analysis of sentences with transitive non-stative verbs. As we saw in Chapter 3, the objects of such verbs cannot appear in the nominative. I suggested there that tense features can only be directly generated on stative verbs and not on non-stative verbs, due to the lack of aspectual properties entailed by the former. This explained the possibility of marking the object in the nominative only if the verb is stative. It is possible to provide a re-interpretation of this idea in terms of the approach suggested here.

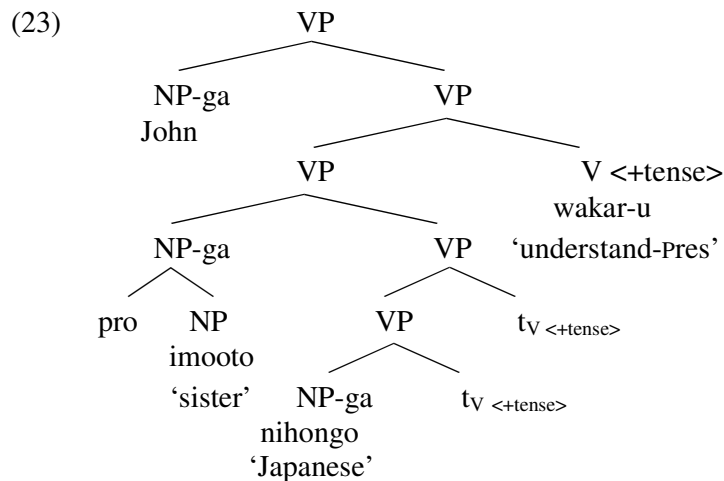
I maintain that verbs are introduced into the structure with tense features. However, when the verb is non-stative, tense features cannot be present in the VP that contains the verb and its object, as the aspectuality of the sentence is determined by the combination of the two elements. I propose, following Neeleman & Weerman (1999), that under such circumstances, the tense features on the lowest copy of the verb are deleted. This does not imply that sentences with non-stative transitive verbs are tense-less. Tense features are still present on the moved verb. A sentence headed by a transitive non-stative verb therefore has the following structure.



Returning to the stative construction, recall that this construction can interact with the other two types of multiple nominative constructions in three respects. Firstly, a possessor of the subject may be realised in the nominative externally to the subject, as shown below.

- (22) John-ga imooto-ga nihongo-ga wakar-u.
 John-GA sister-GA Japanese-GA understand-Pres
 ‘It is John whose sister understands Japanese.’

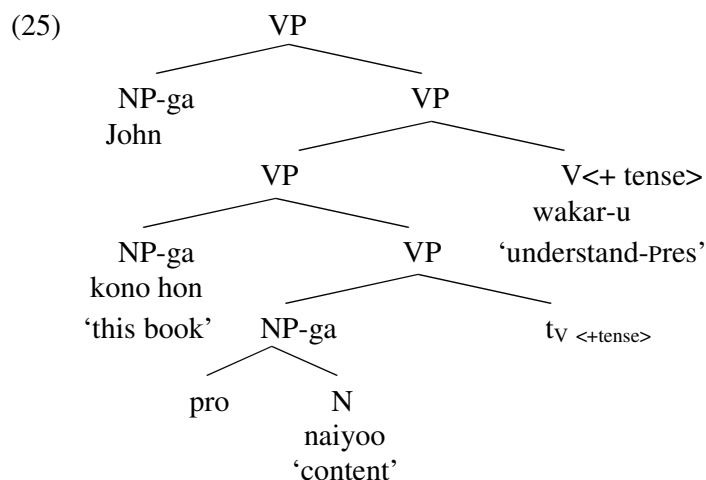
An external possessor of a subject *ga*-phrase in the stative construction is licensed by predication mediated by re-association, as in the general instance of an external possessor of a subject discussed in Section 4.1. The fact that the object also appears in the nominative has no significance. Thus, the external possessor should be licensed in a projection distinct from the subject *ga*-phrase, yielding structures like the following for the example in (22). I omit below details of re-association, as the process involved is identical to that in (16), a normal instance of external possession.



Secondly, a possessor of the object may also be realised in the nominative externally to the object, as the following example illustrates.

- (24) John-ga kono hon-ga naiyoo-ga wakar-u
 John-GA this book-GA content-GA understand-Pres
 ‘John understands the content of this book at all.’

An external possessor of a nominative object must be licensed in a similar fashion to accusative possessive phrases discussed in Section 3. Since it is assigned an internal θ -role which has undergone re-association with a semantic representation present in the object, it is licensed as an internal argument of the verb. Consequently, it must be licensed within the projection of the lowest copy of V, resulting in a structure with multiple specifiers, as shown below.

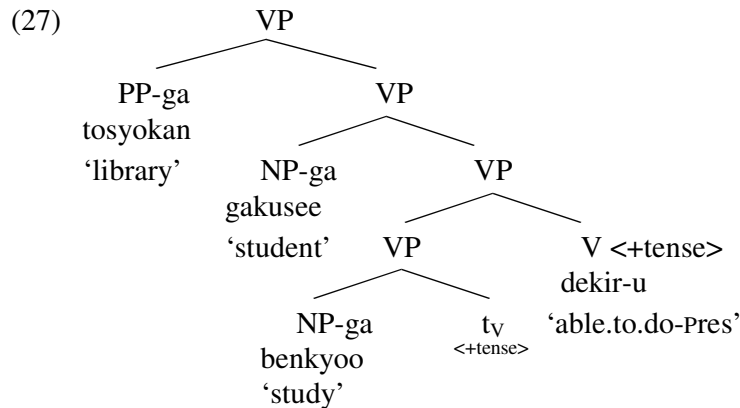


Finally, it is possible for the subject *ga*-phrase of a stative predicate to be preceded by an adjunct *ga*-phrase, as the following example demonstrates.

- (26) tosyokan-ga gakusee-ga benkyoo-ga dekir-u
 library-GA student-GA study-GA able.to.do-Pres
 ‘It is in the library that students can study.’

The structure proposed for the adjunct multiple nominative construction can be simply carried over to the sentences such as the above. The adjunct *ga*-phrase *tosyokan-ga* ‘library-GA’ is licensed within the same projection as the subject *ga*-

phrase, since the former is not licensed by predication and hence no maximal projection need function as its predicate. As a consequence, structures like the following obtain for the example in (26).



In sum, multiple *ga*-phrases are not licensed uniformly in either a multiple specifiers or a multiple heads configuration. Which structure is employed depends on the nature of the *ga*-phrase in question. If it is a subject or an external possessor of a subject and thereby is licensed by predication, a multiple heads configuration must be generated, so that it is licensed externally to the maximal projection which functions as its predicate. On the other hand, an adjunct *ga*-phrase is not licensed by predication, hence need not occur in a separate projection. Considerations of economy dictate that a multiple specifier structure should be employed. Finally, an external possessor of a nominative object is licensed as an internal argument of the verb and therefore must be licensed within the projection of the verb, yielding a multiple specifiers configuration.

The existence of multiple heads structure requires that a tensed head undergoes movement in Japanese, since without verb movement, the structure cannot be generated. Evidence for verb movement in this language is extremely difficult to find, since such movement is necessarily string-vacuous. However, I will argue in the next section that there is some evidence for movement of tensed heads in Japanese.

5 Movement of Finite Verbs

The question of whether or not finite verbs undergo movement in Japanese has been and still is a controversial issue.^{9,10} Otani & Whitman (1991) first argue for the existence of verb movement in Japanese based on certain interpretations obtained in VP-ellipsis constructions. Hoji (1998), however, demonstrates convincingly that the relevant readings are not due to verb movement. Koizumi (1995, 2000) provides different pieces of evidence for overt verb movement to T in Japanese, yet Fukui & Sakai (2003), Fukushima (2003) and Takano (2002) argue against Koizumi's treatment of the relevant data by providing counterexamples and offering alternative analyses for them assuming no verb movement. In this section, I will argue that the data provided by Koizumi are nevertheless best captured in terms of verb movement, as the alternative analyses face some theoretical and empirical problems. Moreover, in the appendix, I offer an account in terms of verb movement of some of the data which Fukui & Sakai present as counterexamples to Koizumi's analysis.

Koizumi provides three pieces of evidence for verb movement from coordination, long-distance scrambling and cleft constructions. Unfortunately, as Fukui & Sakai note, Koizumi's analysis of the cleft constructions is rather unclear and an alternative analysis suggested by Fukui & Sakai without verb movement seems more plausible. I will therefore not discuss evidence involving the cleft constructions. I will first discuss the remaining two pieces of evidence and then the alternative analyses offered by the aforementioned authors.

Before we move on, it must be noted that although Koizumi does not state explicitly that verbs are inserted into the tree fully inflected, he seems to make this assumption implicitly, as he does not generate the tense morpheme separately under T. Thus, I take Koizumi's evidence for verb movement to T to be evidence for movement of a tensed head.

⁹ See Fukui & Sakai (2003) for a comprehensive overview of the literature on the topic of verb movement to T and on functional projections in general in Japanese.

¹⁰ See Nakau (1973) who argues for the presence of movement of non-finite verbs in Japanese.

Support for this approach comes from observations related to elements which cannot usually undergo movement. Long-distance scrambling of a floating quantifier alone is generally prohibited, as shown in (30a), where it is associated with the embedded direct object *ringo-o* ‘apple-Acc’. If the host argument is also scrambled, the sentence is perfect, as in (30b). Interestingly, if the floating quantifier fronted with another embedded argument such as the indirect object, the sentence becomes grammatical, as illustrated in (30c).

- (30) a. *3-tu_i John-ga [_{CP} Mary-ga Bill-ni ringo-o t_i ageta to] omotteiru
3-cl John-Nom Mary-Nom Bill-to apple-Acc gave that] think
'John thinks that Mary gave three apples to Bill.'
- b. Iringo-o 3-tul John-ga [_{CP} Mary-ga Bill-ni ageta to] omotteiru
apple-Acc 3-cl John-Nom Mary-Nom Bill-to gave that] think
- c. IBill-ni 3-tul John-ga [_{CP} Mary-ga ringo-o ageta to] omotteiru
Bill-to 3-cl John-Nom Mary-Nom apple-Acc gave that] think
- (Koizumi 2000: 241-42)

The contrast between (30a) and (30c) can be accounted for, if the fronted elements are contained in a remnant VP in (30c), derived by movement of the verb and the direct object, yielding structures like (31). The trace of the direct object in the fronted remnant VP allows the floating quantifier to have a local antecedent.¹¹

- (31) [_{VP} Bill-ni t_i 3-tu t_v]_j John-ga
 Bill-to 3-cl John-Nom
 [_{CP} Mary-ga ringo_i-o t_j ageta to] omotteiru
 Mary-Nom apple-Acc gave that] think

Similar facts are observed with long-distance scrambling of true adjunct such as *naze* ‘why’.

¹¹ This analysis of course leaves the ungrammaticality of the example in (30a) unexplained. It is unclear what prevents all items other than the floating quantifier from moving out of the VP before scrambling. At present, I have no insightful account for this. See also Fukui & Sakai (2003, footnote 12) for similar comments on the issue.

It is impossible to tell whether the verb moves at all in the absence of long-distance scrambling. However, recall from the previous section that a multiple heads structure requires verb movement, as extra structure can be created only if the verb moves and subsequently projects. Thus, the above approach to long-distance scrambling predicts that multiple nominative constructions involving the multiple heads structure must be able to take part in long-distance scrambling of the above type. For instance, it must be possible for a nominative object and its external possessor to be fronted leaving the subject *ga*-phrase and the predicate in the embedded clause. This is predicted, because according to the general condition on predication given in (12), the subject must be licensed in a separate projection headed by the moved verb. As the grammaticality of the following example illustrates, this is indeed true.

- (32) ²[_{VP} kono hon-ga naiyoo-ga t_v]_i Bill-wa [John-ga t_i wakaru]-to
 this book-GA content-GA Bill-Top John-GA understand-that
 omot-ta
 think-Past
 ‘Bill thought that John understood the content of this book.’

A possessive multiple nominative construction, which involves a multiple heads structure can also undergo the same movement. However, for independent reasons, it is not possible to strand any *ga*-phrase. Recall from chapter 2 that a possessee cannot be moved to a position higher than its external possessor due to the nature of re-association. No *ga*-phrase can be scrambled out of the projection containing its possessor without occupying a position structurally higher than its possessor. Nevertheless, it is still possible to front all *ga*-phrases without the lexical predicate, as shown below, which would be disallowed, if verb movement was not permitted in this construction.

- (33) [kitahankyuu-ga usagi-ga mimi-ga t_v]_i Bill-wa
 N.Hemisphere-GA rabbit-GA ear-GA Bill-Top
 [kono monogatari-de-wa t_i nagai]-to itta
 this story-in-Top long-Comp said
 ‘Bill said that in this story, it is in the Northern Hemisphere where rabbits have
 long ears.’

A second piece of evidence for verb movement presented by Koizumi concerns coordination. A non-constituent such as [subject, object] or [indirect object, direct object] can be coordinated in Japanese, as (34a-b) illustrate. Furthermore, the coordinated elements can be scrambled, indicating that they form a constituent, as shown in (35) for (34b).

- (34) a. [John-ga ringo-o 2-tu] to [Mary-ga banana-o 3-bon]] katta
 John-Nom apple-Acc 2-cl and Mary-Nom banana-Acc 3-cl bought
 ‘John bought two apples, and Mary bought three bananas.’
 b. Mary-ga [[John-ni ringo-o 2-tu] to [Bob-ni banana-o 3-bon]]
 Mary-Nom John-to apple-Acc 2-cl and Bob-to banana-Acc 3-cl
 ageta
 gave
 ‘Mary gave two apples to John, and three bananas to Bob.’

- (35) [[John-ni ringo-o 2-tu] to [Bob-ni banana-o 3-bon]] Mary-ga ageta
 John-to apple-Acc 2-cl and Bob-to banana-Acc 3-cl Mary-Nom gave
 (Koizumi 2000: 228-231)

It is also possible to coordinate other non-constituents such as [object, locative], [subject, direct object], leaving an indirect object out of the coordination, and [subject, indirect object, direct object]. Koizumi argues that in these cases, the conjuncts are remnant VPs, derived by across-the-board movement of the verb. Thus, the examples in (34) have the following structures, respectively.

- (36) a. [_{TP} [_{TP} S DO FQ t_v] and [_{TP} S DO FQ t_v]] V-T
 b. S [_{VP} [_{VP} IO DO t_v] and [_{VP} [_{VP} IO DO t_v]] V-T

The sentences in (34) cannot be analysed as instances of gapping with the verb in the second conjunct. The possibility of scrambling the coordinated elements without the verb, as in (35), shows that the verb is necessarily outside of the second conjunct.

Verb movement thus seems to take place even when there is no additional *ga*-phrase to license, as in (36a), in which the verb moves to a position higher than the

highest *ga*-phrase, the subject. This is also the case in the long-distance scrambling example in (33). It must therefore be motivated even in the absence of a nominative phrase to license. It is not possible to ascertain whether the verb always moves to a position higher than the highest *ga*-phrase. However, as discussed above in connection with long-distance scrambling, those multiple nominative constructions which employ the multiple heads configuration must be able to take part in this kind of coordination. If no verb movement is permitted in these constructions, multiple nominative phrases cannot form a constituent without the verb. The following examples demonstrate that this prediction is borne out. In (37a), the conjuncts each contain a possessive multiple nominative construction, while those in (37b) contain an instance of the stative construction, where both the subject and the object appear in the nominative.

- (37) a. [[John-ga imooto-ga 2-ri]-to [Mary-ga itoko-ga 3-nin]]
 John-GA sister-GA 2-cl-and Mary-GA cousin-GA 3-cl]
 daigakusee-da
 university.student-Cop
 ‘John’s two sisters and Mary’s three cousins are university students.’
- b. [[John-ga gengogaku-no hon-ga 1-satu]-to
 John-GA linguistics-Gen book-GA 1-cl-and
 [Mary-ga rekisi-no hon-ga 2-satu]] wakar-u.
 Mary-GA history-Gen book-GA 2-cl understand-Pres
 ‘John understands one linguistics book and Mary two history books.’

Moreover, the coordinated structures can undergo scrambling, demonstrating clearly the constituency of the coordinate structure. Although my informants find the example less than perfect, they consider it still grammatical.

- (38) a. ?[[John-ga imooto-ga 2-ri]-to [Mary-ga itoko-ga 3-nin]]_i
 John-GA sister-GA 2-cl-and Mary-GA cousin-GA 3-cl]
 kono monogatari-de-wa t_i daigakusee-da.
 this story-in-Top university.student-Cop
 ‘According to this story, John’s two sisters and Mary’s three cousins are university students.’

- b. ²[[John-ga gengogaku-no hon-ga 1-satu]-to [Mary-ga
 John-GA linguistics-Gen book-GA 1-cl-and Mary-GA
 rekisi-no hon-ga 2-satu]]_i kono class-de-wa t_i wakar-u.
 history-Gen book-GA 2-cl this class-in-Top understand-Pres
 ‘In this class, John understands one linguistics book and Mary two history
 books.’

Thus, it seems that there is some evidence for the presence of string vacuous verb movement in Japanese. The existence of verb movement lends further independent support for the approach which employs the multiple heads structure for licensing some types of multiple *ga*-phrases, as the structure predicts such movement.

5.2 Alternative analyses

Takano (2002) and Fukui & Sakai (2003) propose alternative analyses involving no verb movement for the long-distance scrambling and coordination data provided by Koizumi. In this section, I will briefly discuss in turn how the two constructions are explained by the alternatives, pointing out some theoretical and empirical problems with them which are specifically relevant to the present discussion.

5.2.1 Long-distance scrambling

Fukui & Sakai (2003) offer an alternative account of the scrambling examples in (28), one of which is repeated below.

- (39) |Hawai-de_i Masami-ni_j purezento-o_k| John-ga
 Hawai-at Masami-Dat present-Acc John-Nom
 [Kiyomi-ga t_i t_j t_k katta to] omotteiru.
 Kiyomi-Nom bought that believe

In the spirit of Fukui (1986, 1995), they argue that Japanese is equipped with ‘free merger’, which allows phrases to be merged freely with an existing phrase, subject to other syntactic and interpretive constraints. This mechanism is available in Japanese due to the absence of active functional categories, i.e. functional categories that

induce agreement, which ‘close off’ projections. Fukui & Sakai argue that ‘complex constituents’ such as [*Hawai-de Masami-ni prezeunto-o*] ‘Hawaii-at Masami-Dat present-Acc’ in (39) are first formed by the process of ‘free merger’, before undergoing scrambling together as a constituent. Thus, the example in (39) would presumably have a structure like the following. The ungrammaticality of fronting the floating quantifier alone, as in (30a), is attributed to processing difficulties.

- (40) [_{PP} *Hawai-de* [_{NP} *Masami-ni* [_{NP} *purezento-o*]_k]_j]_i *John-ga*
 Hawaii-at Masami-Dat present-Acc John-Nom
 [_{CP} *Kiyomi-ga* *t_i t_j t_k katta* *to*] *omotteiru*.
 Kiyomi-Nom bought that believe

There are two problems with this approach. Firstly, it seems that deriving the correct word order involves instances of right-adjunction, as demonstrated below. However, as Japanese is a strictly head-final language, adjunction takes place from the left.¹² The proposed adjunction therefore appears rather unmotivated.

- (41)
-
- ```

graph TD
 PP1[PP] --- PP2[PP]
 PP1 --- NP1[NP]
 PP2 --- Hawai-de[Hawai-de]
 PP2 --- Hawaii-in["(Hawaii-in)"]
 NP1 --- NP2[NP]
 NP1 --- NP3[NP]
 NP2 --- Masami-ni["Masami-ni"]
 NP2 --- Masami-Dat["(Masami-Dat)"]
 NP3 --- purezento-o["purezento-o"]
 NP3 --- present-Acc["(present-Acc)"]

```

Secondly, the acceptability is degraded if the order among the fronted elements is altered from the neutral order observed in (39). Thus, (42) is considerably worse than (39).

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<sup>12</sup> K.-W. Sohn (1994) argues that it is possible to overtly adjoin an element to an argument from the left or from the right in Japanese and Korean. However, Koizumi (2000) points out empirical problems with this assumption and demonstrates that Sohn’s relevant data can be accounted for in his Verb-Raising approach.

- (42) <sup>???</sup>purezento-o<sub>k</sub> Masami-ni<sub>j</sub> Hawai-de<sub>i</sub> John-ga  
 present-Acc Masami-Dat Hawai-at John-Nom  
 [Kiyomi-ga t<sub>i</sub> t<sub>j</sub> t<sub>k</sub> katta to] omotteiru.  
 Kiyomi-Nom bought that believe (Koizumi 2000: 239)

The observed contrast in the acceptability is difficult to capture under Fukui & Sakai's approach. Since the order in (42) would be derived by left-adjunction, the reversed order with structures like the following is in fact the expected order.

- (43)
- ```

      PP
     /  \
    NP   PP
   /  \   Hawai-de
  NP   NP (Hawaii-in)
 /  \
purezento-o Masami-ni
(present-Acc) (Masami-Dat)
  
```

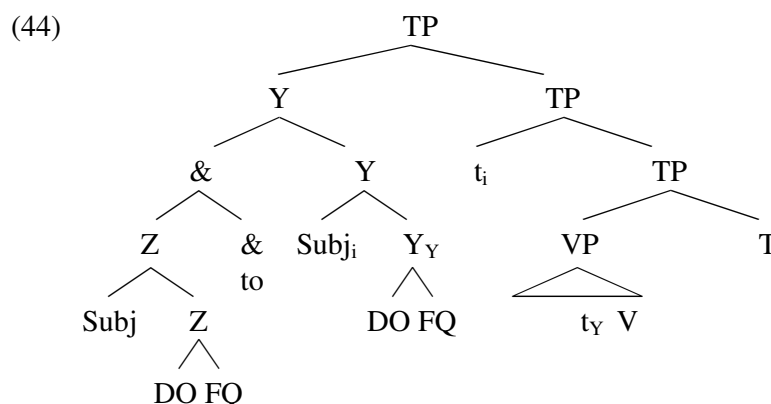
By contrast, under Koizumi's approach, the reversed order in (42) would require extra scrambling of *purezento-o* 'present-Acc' and *Masami-ni* 'Masami-Dat' to a position preceding *Hawai-de* 'Hawaii-in' prior to long-distance scrambling of the remnant VP containing these three phrases, while no movement is required in (39). Thus, I propose that the degraded acceptability results from the application of long-distance scrambling to a constituent in which elements have been scrambled.¹³ Let us now consider alternative analyses for the coordination facts.

5.2.2 Coordination

Takano (2002) proposes that the whole coordinate structure is one complex phrase formed by scrambling of all the elements, where the phrases are successively adjoined to the last phrase in the second conjunct. Thus, a coordinate structure where each conjunct contains a subject, a direct object and a floating quantifier associated with the direct object, as in (34a), has the structure in (44) and is derived as follows. The direct object and the floating quantifier of the second conjunct, *Y* in the

¹³ The question as to why this must be so of course remains to be answered. Although I have no concrete analysis, this may be a language-specific peculiarity, as no comparative degraded acceptability obtains in Korean.

structure, undergo scrambling together and adjoin to TP. The subject of this conjunct then adjoins to the scrambled *Y*. The first conjunct is formed independently by adjoining the subject to the direct object and the floating quantifier, *Z*. This conjunct then adjoins to the coordinator *to* ‘and’. Finally, the complex containing the first conjunct adjoins to the second conjunct. Since the whole coordinate structure is one complex phrase, its constituency is expected. The traces are interpreted sloppily, ensuring proper interpretation at LF.



A number of general theoretical issues arise with this alternative. For instance, it is unclear whether permitting a phrase to adjoin to another phrase in such an unrestricted manner is desirable. However, there is one assumption directly related to the coordinate structure, which is particularly problematic. Although Takano is not entirely clear about whether the direct object or the floating quantifier heads each conjunct, considering that both kinds of constituents are nominal, the implicit assumption seems to be that the conjuncts are nominal projections.¹⁴ It is then predicted that no temporal or VP adverbials should be allowed inside the conjuncts. However, as the following examples demonstrate, this prediction is not borne out. Thus, analysing the conjuncts as nominal elements does not seem to be on the right track.

¹⁴ Floating quantifiers in Japanese are generally assumed to be nominal elements, as they can bear case-markers and function as arguments on their own, as shown below.

- | | | | | | | |
|-----|------------------------|------|------|-------------------------------------|----------------|--------------|
| (i) | 3-nin-ga | kita | (ii) | John-wa | sono 2-ri-o | nagusame-ta |
| | 3-cl-GA | came | | John-Top | these 2-cl-Acc | console-Past |
| | ‘Three (people) came.’ | | | ‘John consoled those two (people).’ | | |

- (45) [John-ga yukkuri to ringo-o 2-tu] to
 John-Nom slowly apple-Acc 2-cl and
 [Mary-ga isoide banana-o 3-bon]] katta
 Mary-Nom quickly banana-Acc 3-cl bought

Another alternative analysis of the coordinate construction has been offered by Fukui & Sakai (2003), who propose an operation called ‘Phrase-Level Merger’. This operation reanalyses a sequence of phrase-level units into a constituent in the PF component, provided that they are string adjacent and that the derived constituent complies with the head parameter. When the conjuncts each contain an indirect object and a direct object, as in (34b), they are VPs in the narrow syntax. The verb in the first conjunct is deleted under identity with that in the second conjunct, as shown in (46a). The string [indirect object, direct object] is subsequently reanalysed as an NP in the PF component, as shown in (46b). The verb in the second conjunct also undergoes morphological merger with tense.

- (46) a. Narrow Syntax: S [_{VP} IO DO FQ $\bar{V}$] and [_{VP} IO DO FQ V]
 b. After PF reanalysis: S [_{NP} [_{NP} IO DO FQ $\bar{V}$] and [_{NP} IO DO FQ]] V-T

As in Takano’s account, the conjuncts are treated as nominal projections under Fukui & Sakai’s analysis. However, the possible occurrence of temporal and VP adverbials inside the conjuncts is not problematic for the latter, since the reanalysis of VP as NP takes place only at PF. Presumably the properties of non-head elements contained in the constituent that undergoes reanalysis are irrelevant for this process.

Nevertheless, the approach faces some theoretical problems. Firstly, it in fact allows an analysis which is indistinguishable from Koizumi’s. If a VP with a deleted verb can be reanalysed as an NP, it is unclear how it differs from an analysis in which the second conjunct also contains a deleted verb in the narrow syntax, as indicated by (47a). Unless a deleted verb is somehow distinct from a trace of a moved verb for the purpose of PF reanalysis, the structure in (47a) is identical to a structure in which the verb moves across-the-board to T. In other words, it could be the case that verb movement takes place in the narrow syntax, after which remnant VPs undergo PF reanalysis to form NPs.

- (47) a. Narrow Syntax: S [_{VP} IO DO FQ Ψ] and [_{VP} IO DO FQ Ψ] V-T
 b. After PF reanalysis: S [_{NP} [_{NP} IO DO FQ Ψ] and [_{NP} IO DO FQ Ψ]] V-T

Furthermore, as the authors themselves note, considering that the coordinate structure can be fronted by scrambling and certain such instances of scrambling are sensitive to islands, some island constraints must be operative at PF. It seems highly undesirable, however, to claim that complex constraints based on purely syntactic structure are operative in the PF component, as this component is generally assumed to have little or no access to syntactic information.

In this section, I argued that Koizumi's (1995, 2000) uniform analysis of the data from long-distance scrambling and coordination provided some evidence for the existence of string vacuous movement of the verb in Japanese. Apparent long-distance scrambling of multiple elements from an embedded clause is a result of fronting a remnant embedded VP headed by a trace of the moved verb, rather than fronting of individual elements. Similarly, coordination of apparent non-constituents are in fact coordination of remnant VPs derived by across-the-board movement of the verb.

Alternative analyses by Takano (2002) and Fukui & Sakai (2003), which assume no verb movement, were shown to suffer from theoretical as well as empirical problems. Takano's implicit assumption that the conjuncts are nominal projections is problematic. Fukui & Sakai's analysis, which turns out to be potentially indistinguishable from Koizumi's analysis, must make undesirable assumptions about the PF component. Moreover, the latter must assume right-adjunction in accounting for the data involving long-distance scrambling, a kind which is otherwise not attested in Japanese. Fukui & Sakai in fact provide further data in support for the line of argument that the conjuncts are nominal elements at least at PF and are not derived by movement. I argue in the appendix, however, that the data do not support their position.

Thus, the data provided by Koizumi seem to be best captured in terms of verb movement. In other words, the relevant data provide independent evidence for the existence of movement of finite verbs and hence of the multiple heads configuration, which is derived by recursive movement of a tensed head.

6 Concluding Remarks

In this chapter, I have investigated two possible approaches in which multiple nominative and accusative phrases are licensed. One approach allows recursion in the projection of specifier positions within the maximal projection of the licensing head. The other approach assumes that the licensing head can undergo a potentially recursive operation, self-attachment, whereby it moves and projects, taking the maximal projection of its trace as its complement. Multiple nominative and accusative phrases are licensed in separate projections.

One crucial difference between the two configurations is that the multiple specifiers configuration is the only possible structure under the Universal Base Hypothesis, while the multiple heads structure does not conform to the hypothesis. I argued that there was in fact no motivation for adopting the Universal Base Hypothesis in the theory of grammar. Arguments which have been put forward in its favour are based on questionable assumptions and adopting the hypothesis has undesirable repercussions in other parts of the grammar. Consequently, although the multiple specifiers configuration has been predominantly proposed in the literature particularly for the multiple nominative constructions, there appears to be no reason to employ this configuration exclusively.

I argued that both configurations are in fact required. If a theory allows only one of the two configurations, it must also make an additional assumption to exclude the other. Which configuration is employed depends on the nature of the phrase to be licensed. Specifically, the choice between the two constructions is dictated by the widely held assumptions that only maximal projections can function as predicates and internal arguments are licensed within the maximal projection. Thus, since subjects and external possessors of subjects are licensed by predication, some maximal projection must be identified as their predicates, requiring the multiple heads configuration. On the other hand, adjunct *ga*-phrases and external possessors of an object, whether in nominative or accusative case, are licensed in the multiple specifier positions, as they are not licensed by predication.

Finally, I considered some evidence for the existence of string vacuous movement of a tensed head in Japanese, a prediction made by the multiple heads configuration. Data from coordination and long-distance scrambling provided independent evidence that finite verbs undergo such movement.

Appendix: Fukui & Sakai's (2003) apparent counterexamples to Koizumi's (1995, 2000) verb movement analysis

Fukui & Sakai (2003) put forward four sets of data as counterexamples to Koizumi's analysis of coordination in terms of verb movement. They involve, coordination with the particle *mo* 'also', the apparent possibility of case-marking the coordinate structure, coordination with the coordinator *katu* and coordination of conjuncts containing arguments from matrix and non-finite embedded clauses. In this appendix, I will consider the former two sets of data, because they may appear to be direct evidence for the nominal status of the conjuncts, which I argued against in the previous section. I will briefly mention how the other two sets of data may also be explained in terms of verb movement at the end of the appendix.

1 *mo*, 'also'

A first set of data involves the connective particle *mo* 'also'. Like *to* 'and', *mo* can conjoin two nominal elements, as the following examples show. *To* can appear optionally on the second conjunct.

- (1) a. Taroo-ga ringo-to banana-(to)-o tabe-ta.
 Taroo-Nom apple-and banana-(and)-Acc ate
 'Taro ate apples and bananas.'
- b. Taroo-ga ringo-mo banana-mo tabe-ta.
 Taroo-Nom apple-also banana-also ate (Fukui & Sakai 2003: 343)

However, unlike *to*, *mo* cannot coordinate two conjuncts each containing an indirect object and a direct object. The contrast is illustrated below.

- (2) Taroo-ga [Hanako-ni ringo-o 3-tu]-to/*mo
 Taro-Nom Hanako-Dat apple-Acc 3-cl-and
 [Kumiko-ni banana-o 2-hon](-to)/*mo ageta
 Kumiko-Dat banana-Acc 2-cl-and gave
 'Taro gave three apples to Hanako and two bananas to Kumiko.'
- (Fukui & Sakai 2003: 344)

Given the similarity between *to* and *mo*, observed in (1), Fukui & Sakai argue that if movement of the verb were responsible for the constituency of the conjuncts in (2), it is strange that the coordination is ungrammatical with *mo*. Moreover, *mo* can coordinate two conjuncts containing verbal stems and the verbs need not be identical, as demonstrated below.¹⁵

- (3) Sono hi-ni Taro-wa [hon-o 5-satu yomi] mo
 that day-on Taro-Top book-Acc 5-cl read also
 [sake-o 4-hon nomi] mo si-ta.
 sake-Acc 4-cl drink also did
 ‘On that day, Taro read five books and (also) drank four bottles of sake.’
 (Fukui & Sakai 2003: 344)

Fukui & Sakai provide an account for the contrast in (2), in which they claim that *mo* has its own semantic content, thus must be present in the LF representation. Consequently, a coordinate structure with *mo* must be formed in the narrow syntax. This explains why *mo* cannot conjoin two non-constituents each containing an indirect object and a direct object, since they are syntactically not a constituent. On the other hand, *to* lacks a comparable semantic content. It can therefore coordinate conjuncts which are not syntactic constituents, but are PF constituents after reanalysis. It is questionable, however, whether *to* really does not have a semantic content, since it can affect the interpretation of a sentence. In particular, when *to* occurs on both conjuncts, as in (1a) and (2a), the coordinated elements are interpreted as focused. It is therefore unclear whether the contrast between *mo* and *to* can be reduced to the difference in their semantics.

Nevertheless, at first sight, the data in (2) and (3) seem indeed problematic for the idea that the conjuncts are derived by across-the-board movement of the verb. However, a closer investigation reveals that, although Fukui & Sakai claim that *mo* is a connective particle, there are reasons to believe that it is not. *Mo* is generally referred to in the literature as a ‘focus particle’, rather than a connective particle, and

¹⁵ Although Fukui & Sakai claim that the conjuncts in (3) are headed by verbal stems, the verbs are in fact in a form traditionally known as *renyookei*. I will refer to this form as the non-finite form in the text.

grouped together with other quantificational particles such as *dake* ‘only’ and *sae* ‘even’ (cf. Kuroda 1965, Aoyagi 1998). Characterizing *mo* as a focus particle appears to be more accurate for two reasons. Firstly, a constituent marked with *mo* need not be followed by another constituent of the same semantic type. Secondly, when there is a second conjunct, as Fukui & Sakai note, the appearance of *mo* on the second conjunct is obligatory. These observations suggest that *mo* is modifying the ‘conjuncts’ rather than coordinating them. By contrast, *to* requires the presence of a second conjunct, but its appearance on the second conjunct is optional. This is demonstrated below. Thus, despite the superficial similarity observed in (1), *mo* does not appear to be a connective particle like *to*.

- (4) a. Taroo-ga ringo-to *(banana(-to)-o) tabe-ta.
 Taroo-Nom apple-and banana-and-Acc ate
 ‘Taro ate apples.’
 b. Taroo-ga ringo-mo (banana-*(mo)/*o) tabe-ta.
 Taroo-Nom apple-also banana-also/Acc ate
 ‘Taro ate apples too.’

If *mo* is a focus particle, it is conceivable that it can modify VPs and that when it does, it selects the verb in the non-finite form with the effect that the dummy *do* *su-* is inserted under T in order to realise the tense morphology.¹⁶ I propose that what have been coordinated in (3) are in fact TPs and that the dummy *do* plus the tense morpheme *si-ta* ‘do-Past’ has undergone across-the-board movement, yielding a structure like the following for the example in (3).

- (5) S [_{TP} t_S [_{VP} IO DO FQ V-non-fin.]-mo t_T](&)[_{TP} t_S [_{VP} IO DO FQ V-non-fin.]-mo t_T] did_T

This approach explains why *mo* cannot coordinate two sets of indirect object and direct object as in (2b). The sentence is ungrammatical, because what *mo* is attached to are not VPs which are headed by non-finite verbs. The structure in (5) predicts that the conjuncts cannot contain temporal adverbials referring to distinct

¹⁶ I claimed in this chapter that there is no TP in Japanese, but since Fukui & Sakai postulate it in their discussion, I will assume it here.

points in time. This is because features in T must be identical for across-the-board movement to be grammatical. The following example shows that this prediction is indeed correct.

- (6) *[Taroo-ga kinoo-wa uta-i-mo] (sosite)
 Taro-Nom yesterday-Top sing-Non.fin.-also and
 [Ziroo-ga kyoo-wa odor-i-mo] sita
 Ziroo-GA today-Top dance-Non.fin.-also did
 ‘Taro sang yesterday and Ziro dances today.’

For concreteness, I propose that when there is more than one NP with *mo*, it is an instance of NP-coordination with a null coordinator, as shown below. The idea of a covert coordinator is not so strange, since in numerous other languages including English, a coordinator is often covert except immediately before the last conjunct.

- (7) Taroo-ga [[_{NP}[ringo]-mo] Ø [_{NP}[banana]-mo]] tabe-ta.
 Taroo-Nom apple-also (and) banana-also eat-Past
 (Ø = a null coordinator)

Thus, *mo* is not a connective particle like *to*, and when it attaches to VP, it selects the verb in the non-finite form. Consequently, the issue of finite verb movement is irrelevant in the above data involving *mo*.

2 Case particles

Another piece of evidence against an analysis of coordination in terms of verb movement comes from the observation that case can apparently be assigned to the coordinated structure as a whole, as the following example demonstrates.¹⁷ Fukui & Sakai argue that the conjuncts cannot be remnant VPs derived by verb movement, since case particles do not attach to VPs in Japanese. They claim that case assignment takes place after PF reanalysis. Since the conjuncts are reanalysed as NPs, the coordinate structure as a whole can bear case.

¹⁷ Fukui & Sakai provide examples illustrating the same point for nominative case. I will restrict the discussion in this section to accusative case, but it also applies to instances with nominative case.

- (8) Taro-ga [[Hanako-ni ringo 3-tu] to
 Taro-Nom Hanako-Dat apple 3-cl and
 [Kumiko-ni banana 2-hon (to)]]-o ageta
 Kumiko-Dat banana 2-cl and-Acc gave
 ‘Taro gave [three apples to Hanako] and [two bananas to Kumiko].’
 (Fukui & Sakai 2003: 345)

It is interesting to note that in contrast to Koizumi’s examples and other examples of coordination Fukui & Sakai consider, the accusative case marker *o* has been dropped from the objects inside the conjuncts in the above examples.¹⁸ It is possible to realise the case markers on the relevant constituents in the first conjunct, but not in the second conjunct, as illustrated below.

- (9) Taro-ga [[Hanako-ni ringo-o 3-tu] to
 Taro-Nom Hanako-Dat apple-Acc 3-cl and
 [Kumiko-ni banana(-*o) 2-hon (to)]]-o ageta
 Kumiko-Dat banana-Acc 2-cl and-Acc gave
 ‘Taro gave [three apples to Hanako] and [two bananas to Kumiko].’

Regardless of whether the direct object in the first conjunct bears *o*, there seem to be potentially three elements on which *o* can be realised in the second part of the coordination. These elements are the direct object *banana*, the floating quantifier *2-hon* ‘2-cl’ and the coordinator *to* ‘and’. There are however some restrictions on its distribution. This is schematically illustrated below in (10). Firstly, as we already saw in (8), it can appear on *to*, in which case, it cannot also appear on *banana* or *2-hon*. Secondly, it can be realised on *banana*, if it does not also appear on *to* or *2-hon*. Finally, it can be realised on *2-hon* if it is not realised on *banana* and if *to* on the second conjunct is absent.¹⁹ Recall that *to* on the second conjunct is optional.

¹⁸ It is generally possible to drop case markers in Japanese provided that there is no intervening argument between the relevant NP and the verb. See Saito (1985), Takezawa (1987), Fukuda (1993) and Toyoshima (1998) for further discussion.

¹⁹ In Japanese, an argument and an associated numeral classifier may be realised in one of the following three forms. The classifier may precede the host noun, in which case it bears genitive case and forms a constituent with the noun, as in (i). It may follow the noun and bear case, still forming a

- (10) a. banana(*-o) 2-hon(*-o) to-o
 banana-Acc 2-cl-Acc and-Acc
 b. banana-o 2-hon(*-o) to(*-o)
 c. banana(*-o) 2-hon-o (*to(*-o))

A generalisation that emerges is that the accusative case marker can appear only once on one of the three elements and *to* must attach directly to a floating quantifier, disallowing a case marker to appear on the floating quantifier. A case marker is usually prohibited from appearing in a position immediately preceding *to*. Koizumi observes, *to* has a requirement to be realised on a nominal-like element. Even in a simple NP-coordination, case on the first NP cannot be overtly realised and when *to* on the second conjunct is realised, the case marker must follow *to*. This is illustrated below for nominative case and accusative case.

- (11) a. [John (*-ga)-to(*-ga) Mary(*-ga)(-to)-ga paatii-ni kita.
 John-Nom-and Mary-and-Nom party-to came
 ‘John and Mary came to the party.’
 b. John-wa ringo(*-o)-to(*-o) banana(*-o)(-to)-o tabeta.
 John-Top apple-Acc-and banana-Acc-and-Acc ate.
 ‘John ate apples and bananas.’

The fact that the realisation of *o* in a position following *to*, as in (10a), is in a complementary distribution with that on the host NP, as in (10b), suggests that *o* following *to* is an instance of the realisation of accusative case on the direct object in the second conjunct, rather than that of accusative case on the whole coordinated elements, as argued by Fukui & Sakai. I propose, therefore, that as far as syntax is concerned, *o* following *to* belongs to the floating quantifier in the second conjunct, but is realised in a position following *to*, due to a phonological constraint on the order of particles. Such mismatch between syntax and phonology/morphology is not rare. It is found for example in English *-er* nominalization with particle verbs. Thus,

constituent with the host noun, as in (ii). Finally, it may float and be realised as a distinct constituent lower in the structure, in which case the host noun must bear case.

- (i) [N.Cl-gen NP]-case (ii) [NP N.Cl]-case (iii) NP-case ... N.Cl

a person who passes by is realised as *[[pass]-er by]*, although as far as syntax is concerned, it should be *[pass by]-er*. Similarly, someone who picks up something is realised as *[[pick]-er [upp]-er]*, while the meaning suggests *[pick up]-er*. (cf. Ackema & Neeleman 2004, see also Schütze (1994), who makes similar observations regarding clitics)

This approach to the apparent case marking of the coordinated elements is perfectly compatible with the analysis that the conjuncts are remnant VPs. I propose the following structure for the example in (8).

- (12) Taro-ga [[_{VP} Hanako-ni ringo(-o) 3-tu t_v] to
 Taro-Nom Hanako-Dat apple-Acc 3-cl and
 [_{VP} Kumiko-ni banana 2-hon t_v](to)-o] ageta_v
 Kumiko-Dat banana 2-cl and-Acc gave
 ‘Taro gave [three apples to Hanako] and [two bananas to Kumiko].’

Thus, data such as (8), where the case marker appears externally to the conjunct, do not demonstrate that the conjuncts are NPs rather than remnant VPs. The case marker in question belongs to the floating quantifier inside the second conjunct, but cannot appear in a position preceding *to*, as *to* must attach to a nominal-like element. As a consequence, the case marker is phonologically realised outside of *to*, although syntactically, it occupies a position internally to the conjunct. The relevant data therefore do not constitute counterexamples to the analysis that conjuncts are remnant VPs.

Fukui & Sakai present two further sets of data as counterexamples to Koizumi’s approach. A first involves another coordinator *katu*. Like coordination with *mo*, verbs remain in the conjuncts. I propose that *katu*-coordination can be explained in a similar manner to the data involving *mo* discussed above. The other set of data involves a construction in which *to* coordinates conjuncts consisting of arguments from the matrix and embedded clauses, where the embedded verb is non-finite. I believe that such construction is derived by across-the-board movement of the matrix verb, which licenses further ellipsis of other elements in the conjuncts including those in the non-finite embedded clause in the sense of Williams (1997) and Ackema and Szendrői (2002).

In sum, the coordination data provided by Fukui & Sakai can be given alternative explanations and do not seem to constitute evidence against Koizumi's approach in terms of verb movement. The particle *mo* 'also' is a focus marker and not a connective particle like *to* 'and'. When attached to a VP, it selects the verb in the non-finite form. The case marker which seems to mark the whole coordinate structure in fact belongs syntactically to the object in the second conjunct. It is realised externally to the coordinate structure due to the phonological constraint that *to* must attach to a nominal-like element.