

Verb Phrase as Maximal Projection

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Verb phrases are often assumed to be nonmaximal projections of lexical category verbs. They are also assumed not to act as arguments of verbs. In this article, I claim that these assumptions are not correct. The analyses I propose are within the framework of Marantz (1984). Although I roughly review the systems of Marantz's theory which are relevant to the present discussion, the readers' familiarity with the theory of Marantz is assumed. Section 2 points out some problems of his analysis with regard to verb phrases. In section 3 I discuss the categorial status of verb phrases and their roles. In section 4 I discuss the categorial status of passivized verb phrases. In section 5 I present my proposals.

1. Introduction

In Marantz's system there are three levels of structural representation of a sentence : the logico-semantic (1-s) structure, the syntactic (s) structure, and the surface structure. The 1-s structure provides a representation of the semantic relations among the constituents of a sentence relevant to syntax. The s structure of a sentence displays the grammatical relations among constituents, such as the relation between a verb phrase and its subject or the relation between a verb and its object. The surface structure represents the surface phrase structure constituents of a sentence. The relations in the surface structure include the structural relations of constituent structure government, string adjacency, the case marking and agreement relations. These three levels of representation are related by a mapping principle.

The 1-s structure of a sentence displays the logico-semantic relations or interdependencies among the constituents of the sentence. Two types of 1-s relations are distinguished: the function-argument relation, and the semantic-role-assigner-semantic-role-assignee relations. For example, a verb may be a function which takes arguments into a verb phrase. It also assigns a semantic role to these arguments. A verb may assign a semantic role to the arguments which are not the direct arguments of the verb. Such arguments are called indirect arguments. The set of lexical items making a contribution to the compositional

semantics of a sentence (excluding quantifier scope) is restricted to just the set of items appearing as terminal nodes in a constituent structure representation of 1-s structure.

Following X-bar syntax (see, e. g., Jackendoff (1977)), Marantz defines that the lexical categories Nouns, Verbs, Adjectives, and Prepositions are the head of each projected phrases: Noun Phrases (NPs), Verb Phrases (VPs), Adjective Phrases (APs), and Prepositional Phrases (PPs). While the phrases NPs, APs, and PPs are maximal projections of the lexical categories, VPs are defined so as not to be maximal projections¹. Verb is defined as a function from arguments bearing certain specific semantic roles to a verb phrase. And a verb phrase is defined as the constituent that takes an argument into a sentence². Thus the maximal projection of a verb is a sentence, not a verb phrase. A VP, being a nonmaximal projection of a verb, acts as a function from an argument (usually the subject of the sentence) into a sentence. Thus VPs cannot be arguments of lexical categories because arguments of lexical categories are always maximal projections. This definition of VPs seems to cause a lot of problems in Marantz's system.

Another notion relevant to the present discussion is that of modifiers. Modifiers are functionally defined in the following way.

- (1) Modifiers are functions from constituents of type X to constituents of type X.

Since it is the modifiee that determines the category type of the constituent consisting of the modifier and modifiee, the modifiee heads the constituent immediately dominating modifier and modifiee. By definition (1), modifiers cannot project. Therefore, modifiers must be maximal projections. Being nonmaximal projections, VPs cannot be modifiers.

2. Problem

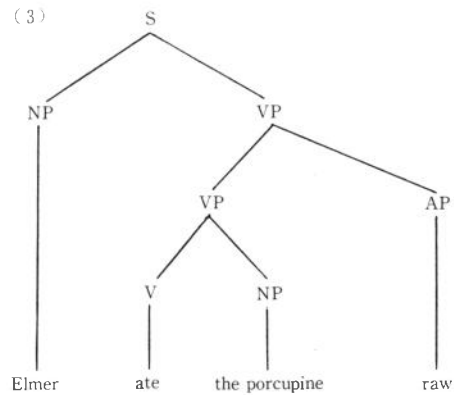
2.1. The italicized adjuncts in sentences (2) are accounted for as predicate modifiers in Marantz's analysis.

- (2) a. Elmer ate the porcupine *raw*.
 b. Hortense painted the porcupine *purple*.

The adjective *raw* in (2.a) is often said to be a depictive predicate and the adjective *purple* in (2.b) a resultative predicate. See, e. g., Bresnan (1982), Rotherine (1983), and Fabb (1984) for the semantic characterization of the adjectives in these constructions. Marantz does not

assume that these adjectives constitute a clause with a PRO subject, as is often assumed in the GB framework (see Stowell (1981) and Williams (1980)). In his analysis the semantic relations between the APs and the noun *the porcupine* are accounted for without the null element PRO. The APs assign a semantic role to *the porcupine* but do not take *the porcupine* as their argument. Rather, they act as predicate modifiers, taking the VPs as modifiees. The 1-s structural representation of sentence (2a) is shown in (3).

Since the "sisterhood" condition³ is satisfied between the NP *the porcupine* and the AP *raw*, the semantic-role-assigner-semantic-role-assignee relation between these constituents is properly represented, along with the modifier-modifiee relation between them. These predicate modifiers are distinguished from nominal modifiers. If the NP *the porcupine* of (2a), for example, were the modifiee of *raw*, *raw* would be acting as a restrictive



modifier on the nominal, creating a nominal with the meaning of 'raw porcupine.' Marantz says that (2a) does not claim that Elmer ate the raw porcupine ; rather, *raw* says something about the temporal location of the eating of the porcupine event ; the porcupine was eaten at the time when it was raw.

Now consider the following sentences.

- (4) a. *Naked*, Elmer entered the room.
- b. *Eating smoked salmon*, Elmer read the Sunday Times.

The italicized adjuncts also serve as modifiers. While the AP *naked* in (4a), being a maximal projection, acts as a modifier like the APs in (2a, b), the VP *eating smoked salmon* in (4b) cannot by itself serve as a modifier. Since VPs are nonmaximal projections, they cannot be modifiers. So Marantz has to assume that there is a null constituent PRO as the subject of the italicized VP in (4b). This null constituent is required in adjuncts just when adjuncts surface as VPs. Since other types of adjuncts, that is, AP adjuncts as in (4a) and PP adjuncts as in (5), are maximal projections, no such null element is required.

- (5) In a bad mood, Elmer ran into her room.

Even if this asymmetrical analysis is coherent in the system of Marantz, this makes his analysis a complicated one. As we will see later, the analysis of VP as maximal projection makes his system simpler.

2.2. In Marantz's analysis, the notion of modifiers also plays an important role in the analysis of raising constructions like the following.

- (6) a. Elmer seems fond of porcupine.
- b. Hortense considers Elmer fond of porcupine.

Since in the raising sentences like (6a, b), a constituent bears a grammatical relation outside the "clause" in which it bears its semantic relations, Marantz cannot analyze these sentences as containing "small clauses" consisting of *Elmer* and *fond of porcupines*, as the GB theory claims (see Chomsky (1981), Stowell (1981), and also Williams (1983)). Nor can the phrase *fond of porcupine* in (6) be analyzed as a predicate because only maximal projections can serve as arguments to verbs. Thus Marantz has to analyze this phrase as a modifier, which serves as the argument to the matrix verbs. *Elmer* cannot be analyzed as the argument of the modifier phrase because, as we have seen, modifiers of nominals is a function from nominals to nominals. Since, although the modifier does not take *Elmer* as its argument, it assigns *Elmer* a semantic role, Marantz calls such modifiers as in (6) a "predication." This characterization of the raising constructions is rather peculiar, even in Marantz's system. Obviously, the "modifiers" in (6a,b) do not function in the way defined in (1). I will argue that they are arguments of the matrix verbs and do not function as modifiers.

2.3. According to Marantz, raising sentences like (7) share the semantics of raising sentences with modifiers like (6), not the semantics of clausal complement constructions like (8).

- (7) a. Elmer seems to have sold his last porcupine.
- b. Hortense considers Elmer to have sold his last porcupine.

- (8) a. It seems that Elmer sold his last porcupine.
- b. Hortense considers that Elmer sold his last porcupine.

Marantz says that when *consider* takes a sentential complement, as in (8b), it has a meaning something like 'think over.' When it appears in raising constructions like (6b) and (7b), its meaning is close to that of *believe*. Compare the following sentences.

- (9) a. Hortense considered Elmer to have sold his last porcupine.
b. *Hortense considered Elmer to sell his last porcupine (today).
c. Hortense considered that Elmer sells his last porcupine today.

In (9a), Hortense is said to believe a predication, the property of having sold his last porcupine applied to Elmer. In (9c), the considerer is thinking over some statement. Marantz says that (9b) shows that the VP complement to *consider* must contain some tense/aspect (usually perfect, progressive, or habitual) that allows it to take on a property reading, which is also required for the complements in sentences like (6). I think that this characterization of conditions on the *to*-infinitival complement to raising verbs is not correct, as we will see later. In any case, Marantz claims that two uses of *consider* must be distinguished, based on the choice of complement, and he extends the analysis of raising verbs with modifiers, as in (6), to sentences like (7). (Note that Marantz seems to assume that no VP complements occur in sentences like (6), as is generally assumed. I will argue against this assumption later.) However, the complements in (7) and (9) are VPs. Since VPs are nonmaximal projections, they cannot be the arguments of verbs. Marantz thus says that English allows some verbs to take verb phrases as if they were modifiers and turn them into predications. As Marantz notes, however, this violates the general principle that only maximal projections can be arguments of verb. It also violates the principle that modifiers must be maximal projections. I think this is another problem of Marantz's system.

3. Verb Phrase as Maximal Projection

Jackendoff (1983) considers that every maximally projected constituent in the syntax of a sentence corresponds to a conceptual constituent that belongs to one of the major ontological categories in conceptual structure, that is, semantic structure⁴. Jackendoff does not treat VPs as maximal projections, either. However, Jackendoff analyzes that a VP expressing an action must be a major ontological category⁵. He observes that one can refer to actions by means of pragmatic anaphora, especially by using the *do this/do that* constructions.

- (10) a. You'd better not do *that* around here !
 b. Can you do *this* ?

He further shows that a VP expressing an action shows parallel properties of questionability and quantification with the other major phrasal categories. Thus a VP expressing an action is said to correspond to a conceptual constituent. Contrary to Jackendoff's analysis, I think that this fact alone sufficiently shows that VPs may be a major phrasal category.

Futhermore, VPs expressing other than actions can bear some of Jackendoff's tests on referentiality. Note that action verbs with the simple present tense express a generic property of the subject, not an action. Such VPs permit the formation of a *wh*-question as the VPs expressing actions do.

- (11) a. What did you do ? [ACTION]
 b. What do you do at five in the morning? [GENERIC PROPERTY]

According to Jackendoff, one can formulate a *wh*-question only if the gap in one's knowledge is a projectable gap in conceptual structure. In other words, the answer to a *wh*-question must be a phrase denoting a projectable entity in conceptual structure. So the answers to *wh*-questions must be referential. I think that the VP deletion phenomena also indicates that VPs can be a projectable gap. VP deletion occurs with a state verb phrase as well as an action verb phrase.

- (12) a. He went to the store and she did too.
 b. He hates his mother and she does too.

Although we need much more study, I assume that each lexical category at 1-s structure is a function from arguments to a maximal projection. Arguments are always maximal projections. Note that verbs can strictly subcategorize not only NPs but also APs, PPs, Ss, and VPs. (The relevant subcategorized phrases are italicized.)

- (13) a. You make me *very angry*.
 b. Harry put the clothes *in the attic*.
 c. We forgot that *the sun rises in the east*.
 d. Everyone saw the sun *rise in the east*.

- e. Bill tried to *convince Harry*.

Subcategorized phrases are always maximal projections and may act as an argument of a verb. Thus I think that VPs can act as an argument of a verb. They also can serve as modifiers because they are maximal projections.

4. Passivized Verb Phrases

Passivized VPs can appear in premodifier, complement to raising verbs, postmodifier, and adjunct positions. They can appear as depictive, but not as resultative adjunct.

- (14) a. the shattered glass
b. The vase seems broken.
c. The vase broken into pieces is this one.
d. Quickly eaten, the meal satisfied us.
e. I sent you the letter sealed.
f. *I hammered it broken.

Following Wasow (1977), Fabb (1983) says that these passivized verbs are statal passives, and treats them as adjectives. However, he himself observes several characteristics of these passivized verbs, which are distinguishable from those of (underived) adjectives. I think these differences really show that they are verbs, not adjectives. In terms of modification, for example, statal passives, unlike other adjectives, may only marginally be intensified, and may be modified by agentive adverbs like 'widely,' which are poor with other adjectives.

- (15) a. He was very popular.
b. ?He was very liked.
c. ?He was widely popular.
d. He was widely liked.

Statal passives take predicate complements, which adjectives do not.

- (16) a. Mick seems likely considered a fool.
b. Ronnie seems generally thought insipid.

As is often argued, Fabb says that the fact that statal passives appear in complement-to-seem position most clearly shows that these passives are adjectives. No other types of verbs appear in this position.

- (17) a. *He seems believing the answer.
 b. *He seems sleeping.

However, as we will see later, I do not think that this distributional fact demonstrates the adjectival status of these passives. Sentences like (17 a, b) merely show that the predicates which does not express some sort of properties cannot appear in this position.

Fabb also says that a special property of statal passives, which distinguishes them from other adjectives, is that they expresse a resultant state, a state which arises as the result of an event or act. Thus statal passives often imply a prior event or act. Contrary to Fabb's conclusion, I think this fact really shows that these passives are verbs, not adjectives. Consider the following sentences :

- (18) a. The window is broken.
 b. The window was broken.

Broken in (18a) may be considered a statal passive, while *broken* in (18b) may be considered an actal passive. Actually, however, sentence (18b) is ambiguous between the readings of statal passive and actal passive. It describes either a state of the subject in the past or a past event. There is no such ambiguity in sentence (18a). Why is there such a difference between the two sentences? The only difference between them is that sentence (18a) is in the present tense and sentence (18b) is in the past tense. Note that there is no such difference in ambiguity between the following sentences.

- (19) a. The window is being broken.
 b. The window was being broken.

Both (19a) and (19b) express an event in progress. That is, the passivized verbs in both sentences are actal passives. I do not think that these facts can be explained by merely distinguishing actal passives from statal passives.

Woisetchlaeger (1976) claims that semantically every sentence can only be either

phenomenal description of the world or structural description of the world⁶. Since phenomena are the objects of observation and structure is the object of knowledge, phenomena are what our perception of the world deals with and structure is what our conception of the world deals with. According to Woisetchlaeger, progressive sentences always deal with phenomenal description of the world. Thus sentence (20a) is a phenomenal description of an event, and sentence (20b) is a structural description of the subject.

- (20) a. The engine isn't smoking anymore.
- b. The engine doesn't smoke anymore.

After the repairment of the engine, for example, we can say (20b) with or without letting it run smokelessly, but to say (20a), we would have to start the engine first, and our claim would be based on an observation.

Since an event can be an object of observation, an event viewed in and of itself is something that takes place at the phenomenal level. So the description of an event as such is a description of a phenomenon, not of any structural properties of the sentence subject. Now consider the following sentences.

- (21) a. John is playing a superior game at centerforward.
- b. John was playing a superior game at centerforward.

Both (21a) and (21b) describe an event. Since they are in progressive forms, they are descriptions of incompleting events. Thus they differ only in their temporal reference, but are otherwise semantically parallel. The following nonprogressive versions of (21a, b) are not similarly parallel.

- (22) a. John plays a superior game at centerforward.
- b. John played a superior game at centerforward.

(22b) can be taken to refer to a single event, implying its completion in the past, but (22a) cannot be taken to refer to a single event, implying its completion in the present, since such an event as a unit cannot occur at the time of the speech event. Sentences like (22a) are said to have only a generic sense. That is, (22a) is a structural description of the subject. Sentences like (22b) often have that generic sense, too. So, while a sentence with the past

tense nonprogressive event verb can have phenomenal/structural ambiguity, as in (22b), a sentence with the present tense nonprogressive event verb can usually have only a structural sense, as in (22a).

The same situation obtains in the passive sentences. Sentence (18a) can only express a structural property of the subject.

- (18) a. The window is broken.
 b. The window was broken.

It cannot have a phenomenal sense ; that is, it cannot express an event. Thus the passivized verb in sentence (18a) can only be what Fabb calls a statal passive. However, there is no necessity to regard these passives as adjectives. Otherwise we might have to call the verb phrase in (22a) as adjectival phrase, since it describes the structural property of the subject, as the passivized verb phrase of sentence (18a) does. Note that sentence (23a) is ungrammatical. This, I think, is because the passivized verb phrase in (23a) does not express a structural property of the subject. On the other hand, (23b) is grammatical because the (completed) event expressed by the passivized verb phrase can occur in the past.

- (23) a. *The car is made.
 b. The car was made.
 cf. c. The car is being made.

The nonpassivized version of (23a) is also ungrammatical with the same reasons.

- (24) a. *He makes the car (now).
 b. He made the car.

These facts cannot be accounted for by merely distinguishing statal passives as adjectives from actual passives as verbs. Note that (18b) is ambiguous between phenomenal/structural descriptions just as (22b) is. The actual/statal distinction would not be able to explain such parallel phenomena of passivized and nonpassivized sentences. Thus it is better to regard passivized verbs as verbs and not as adjectives.

5. Proposal

5.1. As we have seen, VPs can be a maximal projection. I assume that VPs as maximal projections can occur as a modifier, as other types of maximal projections can. Following Marantz, I assume that modifiers like sentential adjuncts, VP adjuncts (predicatives and resultatives), and postmodifiers, but not premodifiers, must be maximal projections. In Marantz's analysis, these modifiers can take a nonmaximal projections as their modifiee. For example, predicative and resultative modifiers take the main verb phrase as their modifiee. VPs are not maximal projections in his analysis. However, VPs are maximal projections in my analysis. So, such modifiers (but not premodifiers) always take a maximal projection as their modifiee in my analysis. Although much more research would be required for this conclusion, there is evidence. Following Bolinger (1967) and Rothstein (1983), Fabb (1984) says that adjuncts, as in (25), and postmodifiers, as in (26), describe a transitory state of the logical subjects of these modifiers at the time defined by the tense of the matrix predicates.

- (25) a. Reading a book, I turned the corner.
b. He emerged sleepy.
c. He hammered the disc flat.
- (26) a. The officer responsible wasn't there.
b. The vase broken into pieces is this one.
c. The men running into the store were detectives.

Premodifiers are said to express a 'characteristic state' of the modifiee.

- (27) a happy man

Fabb attributes the transitoriness of the state expressed by adjuncts or postmodifiers to the existence of INFL element in these modifiers. I do not think that this is a correct generalization. There is no evidence that the adjective phrases in (28), for example, are tense carriers.

- (28) a. Elme ate the porcupine raw.
b. Hortense painted the porcupine purple.

c. Naked, Elmer entered the room.

When tensed, adjectives always occur with the copula *be*, which carries the tense feature. So it seems better to attribute the semantic difference in transitoriness between premodifiers and adjunct/postmodifiers to the difference of the categorial status of the modifiees. Although I'm not sure whether premodifiers always express a characteristic property of the modifiee (cf. 'the running man'), I do think that postmodifiers and adjuncts express a noncharacteristic properties of the logical subjects of the modifier. Unlike the modifiees of premodifiers, the modifiees of postmodifiers and adjuncts are always maximal projections. Since maximal projections correspond to ontological categories in conceptual structure, these modifiees are independently identifiable entities in conceptual structure. On the other hand, the modifiees of premodifiers are nonmaximal projections. Thus modifiees alone can not correspond to ontological categories in conceptual structure. I think that this difference in referentiality between the two types of modifiees causes the characteristic/noncharacteristic difference between them.

5.2. As we have seen in section 2, Marantz analyzes the adjectival phrase *fond of porcupines* in (29) as a modifier and permits raising verbs to take modifiers as their arguments. However, by definition, modifiers are functional operators, not arguments.

- (29) a. Elmer seems fond of porcupines.
 b. Hortense considers Elmer fond of porcupines.

Since adjectival phrases, as maximal projections, can also correspond to an ontological entity in conceptual structure (See Jackendoff 1983), they need not be considered as modifiers. Thus I believe that the adjectival phrases in (29a, b) serve as the arguments of the raising verbs, as NPs serve as arguments of verbs. The arguments indirectly assign a semantic role to *Elmer*, the semantic dependent of these phrases (the grammatical subject of the matrix verb in (29a) and the grammatical object of the matrix verb in (29b)). Since any maximal projections which can denote a property can be an argument of raising verbs, passivized verb phrases which can express a property of entities may occur as the argument of raising verbs.

- (30) a. It seems polluted with oil.
 b. The chairman considers the meeting closed.

As we have seen, these passivized phrases are VPs, maximal projections. There is no need to treat them as adjectives. As maximal projections, they act exactly like the adjectival phrases in (29). Thus the complements in sentences like (29) and (30) are not restricted to adjectives and predicative nominals. I think that sentences like the following are ungrammatical because the passivized verb phrases express events, not properties of entities.

- (31) a. *He seems given a warning.
b. *It appears challenged.

Similarly, progressive VPs cannot appear in these argument positions.

- (32) a. *He seems believing the answer.
b. *He seems sleeping.

Since progressives are phenomenal descriptions and hence do not express a property of things, they can not be an argument of raising verbs. There is one problem in my analysis. Uninflected verbs cannot appear in these positions. As we have seen, event verbs can express a structural property of things when they occur with the present tense. Although I do not clearly understand why this is so, one of the reasons may be that uninflected verbs cannot express a property of things. Note that even prepositional phrases can appear in these argument positions if they can express structural properties.

- (33) a. Everything seems(to be) in the muddle.
b. Now and then Carter himself seems on the verge of discouragement.

Thus maximal projections, including verb phrases and prepositional phrases, can appear in these complement positions if they can express a structural property of things.

5.3. The *to*-infinitival complements in sentences like (34) are predication modifiers in Marantz's theory, which, as we have seen, violates one of the principles in his theory.

- (34) a. Elmer seems to have sold his last porcupine.
b. Hortense considers Elmer to have sold his last porcupine.

In my analysis, the complements in these sentences are maximal projections, probably VPs⁷, and thus serve as an argument of the raising verbs. These complement VPs indirectly assign semantic roles to their logical subjects, which are grammatically the subjects or objects of the raising verbs.

Now consider Marantz's claim that the VP complements to the verbs like *consider* must contain some tense/aspect (usually perfect, progressive, or habitual) that allows it to take on a property reading. This claim does not seem to be correct. Consider the following sentences.

- (35) a. I didn't believe John to be dying.
 b. I believe John to be telling the truth.
 c. I consider him to be working very hard.

As we have seen, progressives are phenomenal descriptions. In the case of event verbs, progressives are descriptions of incompleting events and do not express a structural property of entities. Thus the complement verb phrases to raising verbs do not necessarily express a property of their logical subjects. I don't think that the *to*-infinitival complements to raising verbs contain tense, either. There does not seem to be any evidence for such a claim. The verbs following the *to* are always uninflected. Thus I conclude that the complement verb phrases to raising verbs can express events or actions, as well as properties.

Why, then, can't uninflected event or action verbs occur in such complement positions? I think that this is because of the meaning of the raising verbs. Raising verbs seem to require that the propositional content of their complements must be true, or realized, at the time specified by the tense of the raising verbs. However, events or actions expressed by nonprogressive complement verb phrases usually can not occur simultaneously with the time specified by the raising verbs.

- (36) a. *I believe John to make it now.
 b. I believe John to be making it now.

The complements in (36a, b) both express an action of *John*, an action as a unit in (36a) and an action in process in (36b). While such an action as a unit cannot realize simultaneously with the utterance of the sentence, the action in progress can be true at the time of the

utterance. Thus I conclude that Marantz's conditions on the *to*-infinitival complements to the raising verbs are incorrect and hence his analysis of such complements as modifiers serving as a predication is also wrong. Thus I conclude that the complements of raising sentences are VPs, maximal projections, serving as the arguments of the raising verbs.

6. Concluding Remark

In this article, I have seen some problems of Marantz's theory. I have argued that these problems are based on the wrong generalization on verb phrases. Verb phrases must be regarded as maximal projections. PRO need not be assumed to be their subject at 1-s structure. Verb phrases may act as argument of a verb. They can also serve as modifier.

Note that bare infinitive complements to verbs like *make* and *see* will cause another problem for Marantz's analysis, not for my analysis. These complements do not express the properties of their logical subjects, but must express events or actions. (See, e. g., Akmajian (1977) and Gee (1977) for the characterization of such complements.) So Marantz cannot extend the analysis of raising verb constructions to such constructions. His analysis also have problems in the analysis of the *to*-infinitival complements to passivized raising verbs. Event or action verbs freely occur in such complements. In Marantz's analysis no explanations could be provided. Since I do not require that the *to*-infinitival complements must be property descriptions, there is no such problem in my analysis. I think that the difference between the complements to passivized and nonpassivized raising verbs are based on the meaning differences caused by passivization of the matrix verb. I leave the details of this analysis for the future study.

Notes

- 1 Maximal projection is defined in the following way:
 - (i) A maximal projection is a constituent that will not by its definition alone determine the constituent type of a phrase of which it is an immediate constituent. All other categories are nonmaximal projections.
- 2 Verb phrase is called "predicate" at 1-s level.
- 3 The sisterhood condition is defined in such a way that if X bears a semantic relation with respect to Y, then X and Y must be sisters at 1-s structure.
- 4 Jackendoff (1977, 1983) uses the term "major phrasal category" instead of "maximal projection."
- 5 See also Jackendoff (1985).
- 6 See also Goldsmith and Woisetchlaeger (1982).
- 7 Although I treat *to*-infinitival phrases as verb phrases, I do not necessarily think that this is a correct analysis. We should consider the possibility of analyzing such phrases as prepositional phrases headed by a preposition *to*. See Binkert (1984) for such an analysis.

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