

# A Study of V NP Ing-phrase Construction

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## I

As is well known, there are four different non-finite verb forms which can appear in complement clauses. They are (i) those which take *to*-infinitive, e.g., I forced him to come; (ii) those with bare infinitive, e.g., I saw him die; (iii) those with *en*-form, e.g. I found the money stolen; and (iv) those with *ing*-form, e.g., I heard him singing. Of the four objective predicate constructions, the first one has been discussed most extensively since the appearance of Rosenbaum's *The Grammar of English Predicate Complement Constructions*, and the fourth, probably the least discussed and understood.

A closer examination shows us that, in spite of their superficial similarities, the accusative objects with *ing* objective predicates can be divided into two groups as in the following.

- (1) a. I remember his mother saying the same thing.  
b. I don't like him coming so early.
- (2) a. I saw them running.  
b. I found the children playing outside.

The two groups differ in three aspects. First, the verbs of the former group can take the direct object NP not only in the accusative form but also in the genitive form, whereas those of the latter group do not allow the direct object NP to be genitive.

- (3) a. I remember his mother's saying the same thing.  
b. I don't like his coming so early.
- (4) a. \*I saw their running.  
b. \*I found the children's playing outside.

Secondly, when the subject is coreferential with the direct object, the direct object NP is not expressed in the former group, but it is reflexivized in the latter.

- (5) a. I remember saying the same thing.  
b. I don't like coming so early.
- (6) a. I want to see myself singing on TV.  
b. I found myself walking along the river.

Thirdly, the direct object NP cannot appear as the matrix subject in passive forms in the former case, but it can in the latter group.

- (7) a. \*His mother is remembered saying the same thing.  
b. \*He isn't liked coming so early.
- (8) a. They were seen running.  
b. The children were found playing outside.

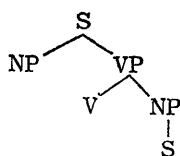
Because the complements of the verbs of the second group behave quite differently from those of the first group, a different treatment seems to be called for. There is a wide variety in their analysis because of their idiosyncratic behaviors. In what follows, we will restrict the study to some of the characteristics of the complements of the group of verbs shown in (2) and point out some of the particular problems involved in the analysis of their underlying structures. Akmajian (1977) has done the most extensive study of this verb construction; thus the present paper is mainly based on his analysis. We will make a tentative conclusion that those *ing* complements can be considered sentential.

## II

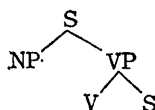
The main problems concerning the underlying structures of the *ing* complements of the verbs under the present discussion seem to lie in the following points.

- (i) Do they behave as single constituents? If they do, can they be considered as NP or as S? What are their internal structures, sentential or not?

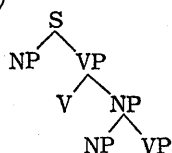
(A)



(B)

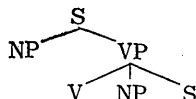


(C)

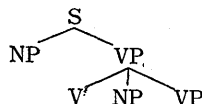


- (ii) If they are not single constituents, what are their constituents?

(D)



(E)



- (iii) Do they have gerundive sources or infinitival sources? Or is the *ing* merely transformationally inserted?

In his article (1977), A. Akmajian tries a purely syntactic analysis of perception verb complements within the framework of an autonomous syntax. He proposes an independently well-motivated syntactic structures for the complements of perception verbs without making any explicit attempt to link the syntactic description with the semantic description of them.<sup>2</sup> Through applying syntactic constituent tests, he concludes that the underlying structure of perception verb complements is a single NP constituent. His reasons are (i) that they can be clefted; (ii) they can be deleted by the rule of object deletion; and (iii) they can be fronted into derived subject position by the passive.

- (9) a. It was the moon rising over the mountain that we saw.  
 b. What we saw was the moon rising over the mountain.
- (10) The moon rising over the mountain was a breathtaking sight to see.
- (11) The moon rising over the mountain has been witnessed by many a lover here on Lover's Lane. (from Akmajian)

He argues that the verb phrase complement "the moon rising over the mountain" is an NP because what can appear in a clefted focus

position is a noun phrase. However, cleft and pseudo-cleft tests do not necessarily give direct evidence that the moved constituents are NP's. The examples in (12) show that they can be S's or VP's as well as NP's or PP's.

(12) a. What upsets him is for her to be late.(S)

b. What he is doing is writing a book. (VP)

Furthermore, the following examples seem to weaken the argument for the verb phrase complements in question as single NP constituents. The grammaticality of (15) and (16) suggests that they are not single constituents.

(13) \*It was the boys stealing apples from my garden that I caught.

(14) \*What I caught was the boys stealing apples from my garden.

(15) It was his wife that he found dying.

(16) What I heard breaking was the window of the house.

Of the three arguments that Akmajian gives, object deletion argument is the strongest. (10) and the following example (17) seem to suggest the adequacy of the single NP constituent analysis.

(17) My uncle happily taking pictures of his daughter is a delight to watch.

Object deletion rule can delete only NP's. Here, however, we can find an interesting thing. As well as (17), the following is also possible.

(18) My uncle's happily taking pictures of his daughter is a delight to watch.

(17) and (18) have identical meanings in spite of the difference in case. The subordinate subjects of the complements of the verbs of this group do not, as is mentioned above, take genitive forms, but the same complements, when they appear in the subject position, can take either an accusative or a genitive form for their subjects. This fact may suggest to us that the complements of this verb group have different structures according to their position in the sentence. In fact, it is to be added that J. Gee (1977 : 463) doubts Akmajian's NP

constituent analysis in terms of agreement problems. He points out the possibility of singular agreement as is shown in (19) and (20).

(19) The girls getting along together so well after these years is (?are) a sight to warm the heart.

(20) The children playing baseball is (are) fun to see.

The singular agreement of the complements in subject position at least does not exclude the possibility of the S status of the complements.

It is true that the passive rule can prepose only NP constituents. When we try the passive test to the complements of this verb group, we can find that what is preposed into the derived subjects is not the whole complement but the subordinate subject. Thus we can get

(21) The man was last seen walking in that direction.

(22) The little boy was caught entering a second story window on Church Street.

but the following sentences are ungrammatical.

(23) \*A funeral procession approaching was seen.

(24) \*The boy stealing the money was caught by the police.

The ungrammaticality of (23) and (24) proves that complements are not single constituents. Akmajian accepts the following passive sentences as grammatical and uses this as an evidence for the NP status of the complements.

(25) The moon rising over the mountain has been witnessed by many a lover here on Lover's Lane. (= (11))

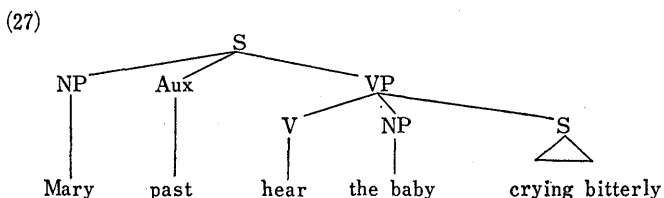
(26) The moon and Venus rising in conjunction have (\*has) often been observed by the astronomers at Kitt Peak.

However, (25) and (26) are not the passives of their corresponding active sentences with verb phrase complement structures but of the active sentences with relative clause structures. This is clearly shown by the plural number agreement in (26).

The reexamination of the results of the three syntactic tests to the complements of this verb group shows us that there is not such a strong motivation for the single NP constituent treatment as

Akmajian proposes. Moreover, the clefting of the subject NP of the complement independently of its VP (e.g., (15), (16)), the fronting of the subject NP (e.g., (21), (22)), may suggest that the complements behave as separate constituents rather than as one NP unit constituent. This is what leads Akmajian to postulate an optional vacuous extraposition which applies to the structure (C) and gives the resulting structure (E).

Now that the motivation is weakened for taking (A) as the underlying structure of the complements in the present discussion, (D) is another possible candidate. This is actually what is suggested by Rosenbaum (1967). He considers VP complements to such transitive verbs as *behold*, *catch*, *detect*, *feel*, *find*, *notice*, *keep*, *observe*, *see*, *watch*, *witness*, etc., as sentential. Thus he derives "Mary heard the baby crying bitterly" from the underlying structure (27) by Complementizer Placement T, Identity Erasure T and Be-Deletion.



This underlying structure is actually analogous to the one assigned to such infinitival constructions as "They commanded the doctor to examine John," "They persuaded the doctor to examine John." One of the motivations for setting up a deep structure object NP for this group of verbs is the semantic difference seen in the following pair.

(28) They persuaded the doctor to examine John.

(29) They persuaded John to be examined by the doctor.

The one who is persuaded in (28) is the doctor, whereas it is John in (29). Thus, it is not the whole activity "the doctor to examine John" but the doctor that is the object of the discussion in this sentence. The postulation of a deep structure object NP in the underlying structure is meaningful to bear out this clear semantic difference.

Now do the following sentences (30) and (31) have a different entailment just like the different entailment seen in (28) and (29) above?

(30) We saw Mary chasing Bill.

(31) We saw Bill being chased by Mary.<sup>3</sup>

It seems that either in (30) or in (31) what we saw is the event expressed by the whole complement. The two constituents "Mary" and "chasing Bill" together form logically a clause in which the first plays the role of subject and the second that of predicate, and this whole clause assumes the direct object of the main verb. We may say that there is not noticeable difference in entailment between (30) and (31). In addition to this, the difference in grammaticality in the following sentences argues against setting up a deep structure object NP.

(32) I persuaded Bill to paint the house.

(33) \*I persuaded the house to be painted by Bill.

(34) I watched Bill painting the house.

(35) I watched the house being painted by Bill.

Now we are in a position to examine the desirability or possibility of regarding the complements as sentential. In fact, many of the linguists, though with some differences in details, take the sentential analysis.<sup>4</sup> Akmajian rejects sentential analysis for several reasons. First, the complements of perception verbs do not have auxiliary as in (36) and (37).

(36) \*I didn't hear Mary having sung on the stage.

(37) \*I found my son being studying in his room.

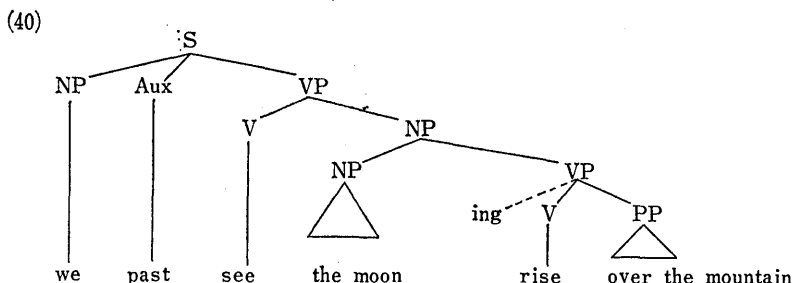
Second, although they have the affix *ing*, the complements do not have such overt complementizers as *that*, *for-to*, or *poss-ing*.

(38) \*I looked at the crowd and I sensed the mayor's losing support.

(39) \*Take care he does not catch for you to be napping.

Third, the obligatory reflexivization of the head NP of the complements can be accounted for by assuming the head NP and its ante-

cedent (i.e., the main subject NP) to be clause-mates. If the head NP is in S, the appearance of the reflexive form would not be accounted for. These facts lead him to reject the sentential source analysis. The internal structure of NP is considered not as  $[S]$ , but as  $[NP VP]$  in which the NP behaves as the head complement. Thus, the underlying structure suggested by Akmajian of "We saw the moon rising over the mountain" is (40).



As is shown in the above paragraphs, the (A) structure has some problems because the complements do not seem to behave as NP in some respects. The (D) structure is somewhat doubtful for semantic reasons. Then, how about the (B) structure? In what follows, we would like to look into the (B) as a possible deep structure. If the sentential analysis accounts for some other facts of the complements which (C) fails to explain or for whose explanation some modification has to be made in other parts of the description of the grammar, it may mean that sentential treatment is to be favored over  $[NP VP]$  analysis.

What the structure (B) suggests to us is that the complements are single constituents and that they are sentential. Consider the following sentences.

(41) \*A man chasing a girl we saw.

(42) \*The boys fighting with the girls we caught.

The sentences (41) and (42) result from topicalization rule. Topicalization has the operation of moving noun phrases to the front of the

sentence. The ungrammaticality of (41) and (42) suggests that the complements are not NP constituents when topicalization applies. If we assume that the complements are embedded in S node, we can account for the ungrammaticality of (41) and (42) in a rather simple way.

The sentential structure has another merit. As is pointed out by Gee (1977), the following sentences are possible.

(43) I can hear it raining hard.

(44) I saw it snowing outside.

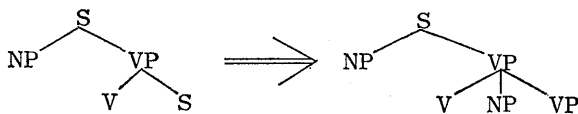
In (43) and (44) the complements take *it* as the surface direct objects which is considered to be the deep subject of the complement verb. This fact can be accounted for if we assume that "it raining hard" and "it snowing outside" are originally sentences.

In addition to the agreement argument shown in (19) and (20) above, the following point may serve to argue for the sentential analysis. The complements with an accusative NP V-ing structure cannot appear in the position after an inverted auxiliary. Thus, the following sentence is ungrammatical.

(45) \*Did Mary marrying Tom upset you?

If the complement here is supposed to have an S structure, the ungrammaticality of the sentence is automatically explained.

Considering the behaviors of the complements described above, we are tempted to accept the idea that the complements of this verb group are sentences in origin. If we take this position, all we need to explain is the independent behavior of the subordinate subject NP in (15), (16), (21) and (22). We will postulate an obligatory raising of the embedded subject NP into the matrix S. This will eventually produce the (E) structure.



Now that the complements are separate constituents, the NP constit-

uent can be clefted or fronted. Moreover, the reflexive form of the deep subject NP can also be accounted for, since it is in the same S with the matrix subject. Furthermore, if passive rule applies in the embedded S first, and then raising rule applies, we will get such sentences as (46) and (47).<sup>5</sup>

(46) I watched Mary being taught by Bob.

(47) I caught Mary being scolded severely by the teacher.

The last problem involved in the analysis of the complements under discussion is the status of the affix *ing*. Is the affix *ing* to be considered as a progressive *ing* or is it to be considered as a complementizer? Or, as a third possibility, is it to be treated as a special kind of complementizer which is transformationally inserted?

We cannot regard the *ing* affix as a poss-ing complementizer. The poss-ing complements behave differently in several respects. For example, they can have auxiliaries and they disallow reflexivization.

(48) Your having won the race surprised us.

(49) I regret having done such a thing.

(50) \*I forgot myself seeing the movie once.

(51) I forgot seeing the movie once.

Thus we cannot think that the accusative NP-ing complements derive from the poss-ing complements by the deletion of the complementizer *poss*. The poss-ing complements behave like nominals in many respects; consequently they had better be regarded as NP.<sup>6</sup>

Taking the *ing* affix as the progressive means regarding the complements as reduced progressive forms of infinitives. The motivations for this treatment lie mainly in two points. The first reason is a semantic one, as has been pointed out by many grammarians (e.g., Fillmore (1963), Emonds (1972)). Compared with (52) which has a bare infinitive construction, (53) has descriptive force, expressing "duration" or "repetition" (Curm, 1931).

(52) I heard the baby cry.

(53) I heard the baby crying.

The event is perceived in process in (53), namely, with imperfective

aspect. This underlying progressive nature can be accounted for if we consider the complements as infinitives in reduced progressive forms.<sup>7</sup> The second argument is that if we assume that (53) is an infinitive in progressive form and derives from “\*I heard the baby be crying” by be-deletion, we can explain the relation between (52) and (53). Although be-deletion is an ad hoc rule, the semantic argument is so strong that the reduced progressive infinitive analysis appears to be quite promising.

However, the progressive infinitive treatment is not without doubt. There remain some problems concerning the progressive status of the affix *ing*. The so-called perception verbs such as *see*, *watch*, *notice*, *smell*, *feel*, *observe*,<sup>8</sup> etc., have a contrast between *ing*-form and bare-infinitive form, whereas such verbs as *find*, *catch*, *leave*, *set*, *start*, etc., do not.

(54) a. I found my mother sleeping.

b. \*I found my mother sleep.

(55) a. The news set me thinking.

b. \*The news set me think.

The progressive infinitive analysis which emphasizes on this gerundive vs. bare infinitive contrast will find it difficult to explain the nonoccurrence of bare-infinitive forms of the latter group. They are a limited number of verbs, but their idiosyncratic behavior has to be explained in some way or other. Another problem of the progressive infinitive treatment of the *ing* concerns the progressive nature of the complements. It is true that in most cases the complements have imperfective aspects. Thus (56) implies (57), not (58).

(56) We saw the dog dying.

(57) The dog was dying.

(58) The dog died.

However, this does not seem to apply in every case.

(59) I just can't see myself needing any more drug. (from Akmajian)

(60) We saw them looking pretty sick. (from Akmajian)

(61) I found the lamp standing in the corner.

(59) and (60) do not imply (62) and (63), but they imply (64) and (65). *Need* and *look* do not occur in the progressive.

(62) \*I am needing some more drug.

(63) \*They are looking pretty sick.

(64) I need some more drug.

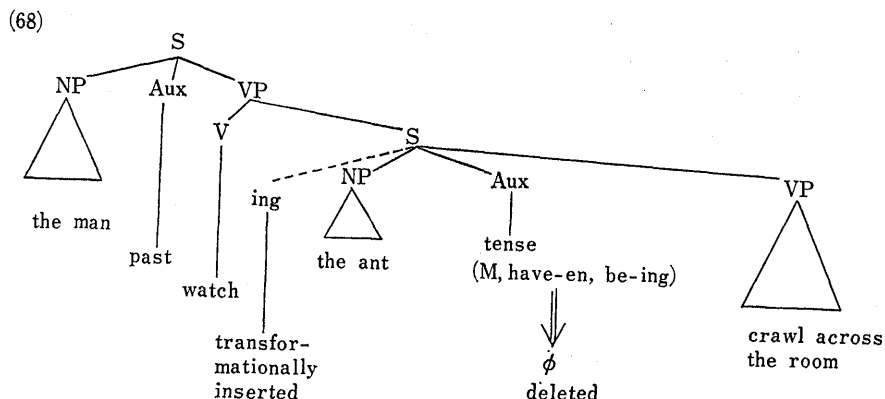
(65) They look pretty sick.

As for (61), it seems to imply both (66) and (67).

(66) The lamp is standing in the corner.

(67) The lamp stands in the corner.

As we can see that the *ing* can be suffixed to verbs which usually do not take the progressive, we had better not regard the complements as reduced progressive infinitive form from which *be* has to be deleted. Ad hoc as it may be, we suggest we postulate an *ing* placement transformation. The transformational rule inserts the affix *ing* into the embedded S as a special marker (i.e., a kind of complementizer), deleting the auxiliary at the same time. Thus the derivation of "The man watched the ant crawling across the room" is as follows:



The *ing* is not a progressive. It is a special complementizer transformationally inserted: it is not a part of poss-ing complementizer. We need not apply a complementizer deletion rule.

### III

The perception verbs and some other *find*-class transitive verbs have idiosyncratic properties and their syntax has been poorly understood. We have examined the analyses of the complements of those verbs proposed so far and we have presented a tentative conclusion that they can be analyzed as sentences, not embedded in NP node, and that complementizers *for-to* or *poss-ing* are not involved in their underlying structures. The treatment presented here may be quite ad hoc and there remain some problems and questions to be solved in future. However, it seems that the sentential analysis which Akmajian rejects is not completely inadequate.

#### Notes

1. The examples of the verbs of the first group are *enjoy, remember, afford, forget, regret, resent, risk, dislike, hate, like, love, prefer*, etc. The examples of the verbs of the second group are (i) *see, watch, notice, smell, feel, hear, observe, look at, listen to*, etc.; (ii) *find, catch, leave, set*, etc.
2. However, it is to be noted that he considers that, once established in a grammar, the syntactic structure must mesh with plausible semantic descriptions.
3. Fiengo (1974: 98—101) says that there is some contrast in entailment between the active form complements and the passive form complements of such verbs as *imagine, see* (perception verbs), etc. Thus he considers *Betsy* as the object of *imagine* in "Getting herself arrested on purpose is too crazy for me to imagine Betsy being willing to consider."
4. Fillmore (1963), Emonds (1972), Rosenbaum (1967), Stockwell, et al. (1973), Huddleston (1971).
5. Akmajian and Wasow (1975) argues that passive transformation inserts *be + en* into VP as its initial member rather than into AUX as its final member. This analysis is taken in this paper.
6. See Horn (1975).
7. Akmajian gives the following examples as an evidence that *ing* is not a progressive.

- (i) I just can't picture John  $\left\{ \begin{array}{l} \text{owning a mansion.} \\ \text{knowing the answer.} \\ \text{weighing 300 lbs.} \end{array} \right\}$

