

Syntactic and Semantic Analysis of
NP-to-VP Complements*

Kozo Iwabe

1. Three types of infinitival complement structure

In this paper, I will consider the syntactic structures of sentences with NP-to-VP complements:

(1) NP₁ V NP₂ to VP

I will propose the following three types of structure for the configuration in (1) and argue for their plausibility by providing both syntactic and semantic evidence:¹

(2) WANT-type (like, prefer, want, etc.)

I wanted [_S (for) him to leave early]

(3) TELL-type (ask, order, tell, (persuade)², etc.)

I told him [_S PRO to leave early]

(4) FORCE-type (compel, force, (persuade), etc.)

I forced him [_{VP} to leave early]

In transformational generative studies, the distinction between (2) and (3) (the latter includes (4), since (4) is not distinguished from (3) in them) has been well noticed and discussed extensively. This distinction is based on the grammatical status of the NP₂ in configuration (1): in the case of WANT-type verbs, NP₂ is the subject of the embedded clause; when the verb is of TELL-type or FORCE-type, NP₂ is the object of the main clause. Some arguments are as follows.

Firstly, WANT-type verbs do not allow passivization in the

main clause:

- (5) a. I wanted the doctor to examine the boy.
 b. *The doctor was wanted to examine the boy.
- (6) a. I told the doctor to examine the boy.
 b. The doctor was told to examine the boy.
- (7) a. I forced the doctor to examine the boy.
 b. The doctor was forced to examine the boy.

These examples show that the doctor is not the object of the main clause in (5a), whereas it is in (6a) and (7a).

Secondly, application of passivazation to NP-to-VP does not change the meaning when the verb is a WANT-type verb: (8a) and (8b) are synonymous. The same is not the case with (9) or (10):

- (8) a. I wanted the doctor to examine the boy.
 b. I wanted the boy to be examined by the doctor.
- (9) a. I told the doctor to examine the boy.
 b. I told the boy to be examined by the doctor.
- (10) a. I forced the doctor to examine the boy.
 b. I forced the boy to be examined by the doctor.

The synonymy of (8a,b) suggests that WANT-type verbs take only one argument --which is made up of NP-to-VP-- as its complement.

Thirdly, if an adverbial phrase is inserted between the main verb and NP₂, the complementizer for appears only in the case of WANT-type verbs:

- (11) I want very much for you to come.

This fact also indicates that the NP-to-VP complement of WANT-type verbs constitutes an S.

Traditional analyses are correct in distinguishing WANT-type verbs from TELL- and FORCE-type verbs, but the dichotomy is not sufficient. In fact, FORCE-type must be distinguished from TELL-type. The structure of the latter is the same as that assumed in the traditional theory. As for the former, the infinitive makes a VP rather than an \bar{S} . Hence, we assume no PRO in a FORCE-type complement.

Our tripartite distinction is semantically natural in that verbs are categorized into three natural classes: those that describe NP₁'s emotion (WANT-type), those that describe a speech act of NP₁ toward NP₂ (TELL-type), and those that describe NP₁'s enforcement of NP₂ (FORCE-type).³ A consequence of this classification will be presented in section 4. In section 2, I argue in favor of the tripartite distinction and the internal structures of the complements. In section 3, I discuss the (non-)existence of PRO from the viewpoint of thematic roles to be assigned to PRO.

2. Justification for the three structures

2.1. Pseudo-cleft constructions

Pseudo-cleft constructions provide us with clear evidence for the trichotomy:

(12) What I wanted was [\bar{S} for him to leave early]

(13) What I told him was [\bar{S} PRO to leave early]

(14) a. *What I forced him was [\bar{S} for him to leave early]

b. *What I forced him was [\bar{S} PRO to leave early]

The constituent \bar{S} (i.e. for NP to VP) comes in the focus in (12), and a to-infinitive comes in that place in (13). But the focus constituent of this type of pseudo-cleft must be an

\bar{S} in all cases, as suggested by (12) and the following:

(13') What I told him was that he should leave early.

(15) What I believed was that he was honest.

Therefore, the to-infinitive in (13) is an \bar{S} with a PRO as subject. FORCE-type verbs do not take for-NP-to-VP complements and (14a) is ungrammatical. The ungrammaticality of (14b) suggests that the infinitive is not an \bar{S} .

Note that when to do is added to the what-clause, all these verbs allow to-infinitives to appear in the focus position:

(16) What I wanted him to do was to leave early.

(17) What I told him to do was to leave early.

(18) What I forced him to do was to leave early.

These to-infinitives, however, are all VPs, because this type of pseudo-cleft is possible in (19), where the infinitives do not constitute sentential complements but VPs:

(19) a. What I'm going to do is to teach him a lesson.

b. What John did to his suit was to ruin it.

From the contrast between (14b) and (18), I conclude that the infinitival complement of a FORCE-type verb is VP, supporting the structure (4). (16) and (17) are also grammatical, since, needless to say, \bar{S} -infinitives contain VPs.

2.2. Parallelism with that-clauses

One of the reasons to regard all infinitives as sentential was the simplicity of the base component. Chomsky (1981) assumes the base rules in (20):

- (20) a. $\bar{S} \dashrightarrow \text{COMP S}$
 b. $S \dashrightarrow \text{NP INFL VP}$
 c. $\text{VP} \dashrightarrow \text{V NP } \bar{S}$

If we assume infinitival complements to be always sentential, we can generate both (21a) and (21b) by the single rule (20c), whereas if the infinitives are VP (or $\bar{\text{VP}}$), we need a more complex rule like (22):

- (21) a. I $\left\{ \begin{array}{l} \text{asked} \\ \text{told} \end{array} \right\}$ him to leave.
 b. I $\left\{ \begin{array}{l} \text{asked} \\ \text{told} \end{array} \right\}$ that he should leave.

- (22) $\text{VP} \dashrightarrow \text{V NP } \left\{ \begin{array}{l} \text{VP} \\ \bar{S} \end{array} \right\}$

This base-simplicity argument presupposes the parallelism between infinitives and finite clauses. But this parallelism does not hold in every case. Not all the verbs that take infinitival complements admit that-clauses. TELL-type verbs take that-clauses as in (21b), but the same is not true of FORCE-type verbs: hence there is no parallelism with infinitives:

- (23) a. I $\left\{ \begin{array}{l} \text{forced} \\ \text{compelled} \end{array} \right\}$ him to go.
 b. *I $\left\{ \begin{array}{l} \text{forced} \\ \text{compelled} \end{array} \right\}$ (him) that he should go.

If all infinitives are assumed to be sentential, it is necessary to explain why the sentences in (23b) are ungrammatical or, at least, enter the idiosyncratic specification

in the lexicon. In our theory, sentences (23b) are excluded simply because FORCE-type verbs do not take an \bar{S} . In fact, our theory establishes the true parallelism: verbs which subcategorize for \bar{S} always take an \bar{S} -complement whether infinitival or finite, and verbs which subcategorize for VP take an infinitive (without PRO) excluding that-clauses.

The assumption that some infinitive is an \bar{S} entails the existence of COMP in it. Certainly, TELL-type verbs may take a wh-complement, and it is reasonable to assume the complement to be an \bar{S} . FORCE-type verbs, on the other hand, do not take a wh-complement:

- (24) a. John asked Bill [_{COMP} whether [PRO to leave]]
 b. He told her [_{COMP} which dress [PRO to wear]]
 (25) a. *He forced her which dress to wear.

Therefore, there is no contradiction between these facts and our theory. Our theory may give an account of these facts, since complements of FORCE-type verbs are VP, which does not contain the COMP node.

Incidentally, the infinitival complements of WANT-type verbs are \bar{S} , as we discussed in section 1. Our theory predicts that the verb want may take a that-clause, which is not the case in the standard English. But in some dialects, it is possible. And as Bolinger (1972) points out, (26) is acceptable:

- (26) I want only that you be happy.

To the extent that this is a possible option (i.e. not a systematic gap), the parallelism between \bar{S} -infinitives (either for-NP-to-VP or PRO-to-VP)⁴ and that-clauses is

also true of the WANT-type verbs.

2.3. The time gap

In a sentence where a TELL-type verb is the main verb, the time reference of the complement may be different from that of the main clause. FORCE-type verbs require that the former be simultaneous with the latter (cf. Givón (1973)):

- (27) a. Yesterday John told Melva to shave legs today.
 b. *Yesterday John forced Melva to shave legs today.

This may be related to the fact that (27a) is made up of two \bar{S} s, and that FORCE-type verbs take a VP-complement, that is, (27b) is a simplex sentence. This evidence, of course, does not reveal the syntactic constituency of the complements in a direct way, since it is essentially semantic. But the contrast between TELL-type and FORCE-type is obvious, and we can use it as a test.

3. Thematic roles and the existence of PRO

We have assumed that the empty category PRO appears in the infinitival complement of a TELL-type verb, but not in that of a FORCE-type verb. I would like to support the classification in terms of the Θ (thematic)-roles to be assigned to PRO.

Before going into TELL- and FORCE-type verbs, let us turn to examples of want and try:

- (28) a. John wanted [\bar{S} PRO to win]
 b. John tried [\bar{S} PRO to win] (Chomsky (1981))

Chomsky's theory treats each infinitive as an \bar{S} with PRO, since all infinitives are sentential in his theory. Our tests, however, make a distinction between them:

- (29) a. What John wanted was [\bar{S} PRO to win]
 b. *What John tried was [\bar{S} PRO to win]
 (30) What John tried to do was [$_{VP}$ to win]

The infinitive of want is an \bar{S} , since the pseudo-cleft without to do is grammatical; that of try is a VP because to do is required. The time gap test also shows that the distinction does exist:

- (31) a. Yesterday John wanted to leave today.
 b. *Yesterday John tried to leave today.

The internal structures of these infinitival complements are quite parallel to those of TELL- and FORCE-type verbs:

- (32) John wanted [\bar{S} PRO to win]
 (33) John tried [$_{VP}$ to win]

As we noted above, want takes other \bar{S} -complements: for-NP-to-VP and, sometimes, a that-clause. A prediction will be made as to the complement of try: the verb try cannot take an \bar{S} -complement because it subcategorizes for VP. As a matter of fact, it does not permit either for-NP-to-VP or a that-clause, as required.

Now let us begin the discussion of θ -roles. Chomsky argues that PRO and its antecedent have independent θ -roles:

- (34) its [=PRO's] antecedent (if it has one) has an independent θ -role, as does PRO. (Chomsky(1981))

In view of this property of PRO, we will see that (32) and

(33) are correct:

- (35) a. John wanted PRO to be tall.
 | |
 Loc { Theme }
 { (Agent) }
- b. John tried to be tall.
 |
 Agent

In (35a), the complement predicate be tall assigns Theme to its subject, or perhaps it may assign Agent. On either reading, PRO has an independent θ -role of that of the main subject, which I tentatively identify as Location. On the other hand, be tall is agentive in (35b). The reading of Theme is excluded here. This fact will be automatically explained if (33) is adopted. Since there is no PRO, no independent θ -role is assigned. Only the thematic role dependent on that of the main subject survives. In fact, the complex predicate try-to-VP assigns Agent to the "main" subject.

The same is true of the examples in (36):

- (36) a. John wanted PRO to roll down the hill.
 |
 { Agent }
 { Theme }
- b. John tried to roll down the hill.
 |
 Agent

The predicate roll down the hill is potentially ambiguous. One can roll down the hill deliberately or it is possible for someone to roll down the hill by ill chance. While (36a) can be interpreted ambiguously, (36b) is unambiguously agentive.

The relation between TELL-type and FORCE-type is quite parallel to that between want and try:

be an Agent. On the other hand, (40a) is not ambiguous. The adverb modifies the main clause only. Mary is controlled by the main subject John and she cannot control her own action. Therefore Mary cannot be regarded as an Agent. The adverb deliberately, which implies the free will, cannot modify the embedded clause. (40c) is ungrammatical because of the semantic contradiction.⁵

If the "complement subject" of (37b) is not Agent, it must be Theme because it is the only possible reading left. Thus it is not independent of that of the main object. Our theory explains all these facts without any stipulation. Since PRO is not assumed, only one θ -role is assigned to Mary.

One may argue that the "complement subject" of a FORCE-type verb cannot be Theme because (41) is impossible, and because the act of writing a letter requires agency in some sense:

(41) *I forced John to be tall.

(42) John forced Mary to write a letter.

We might widen the concept of Agent so as to cover the cases in which the person in question has no free will, or we might establish another θ -role Actor, as distinct from Agent, which does not require free will in doing something, a matter of definition. Our concern is not to define θ -roles (all the θ -roles supposed in this paper are tentative) but to specify the positions which should be independently θ -marked.

It is important to note that we will not be forced to admit PRO in (37b) even if the two θ -roles (i.e. Theme and Agent (or Actor)) are assigned to Mary. In fact, the single argument Mary is dually θ -marked:⁶

relations. Therefore, the multiple θ -role assignment is required and independently motivated.

We may establish a condition on the multiple θ -role assignment to the effect that the multiple θ -role assignment is allowed only if the two (or more) semantic relations are simultaneous. The two actions involved in (46) are simultaneous. Sentence (45) is trivially simultaneous because there is only one action in it. Since the simultaneity condition is satisfied, the argument Mary in (43) may be dually θ -marked.⁹

Thus the dual θ -marking does not oblige us to admit the presence of PRO in the complement of FORCE-type verbs. On the contrary, our claim seems to be reasonable on epistemological grounds.

4. A consequence: the proper description of the act of requesting

As noted in section 1, our classification is semantically natural. In particular, the verbal complement NP-PRO-to-VP is confined to speech act verbs, excluding enforcement verbs. This is very significant because the proper description condition of the act of requesting, which we will formulate below, refers to that form of complement.

The verb shriek is a manner-of-speaking verb, and it does not contain the semantic feature of order or request, as is evident in the case of that-complement:

(47) Ann shrieked that there were Peruvians in the pantry.

(48) Ann shrieked to George PRO to purge the Peruvians.

(Zwicky (1971))

Sentence (48) is evidently a description of an order, however. The meaning of request (including order etc.) must be attributed to the form of the complement rather than the meaning of the main verb. Assuming the classification made above, we can formulate the following principle:

(49) Proper Description Condition

The act of requesting is properly described if and only if the following structure is used:

NP V (Prep) NP PRO to VP

The example in (48) can be accounted for by the if-condition of (49). The only if-condition predicts that (50) and (51), for example, are not proper, though the main verbs are speech act verbs:¹⁰

(50) I asked for John to meet Mary.¹¹

(51) I advised Hilda that Norman leave.

There is no addressee expressed in (50). If John were the addressee, synonymy would not be maintained when passivized. Compare (50') with (52b):

(50') I asked for Mary to be met by John. (synonymous with (50))

(52) a. I asked John to meet Mary.

≠b. I asked Mary to be met by John.

(52b) is not synonymous with (50a) because the addressee is changed. Thus (50) is a defective description of a request because of the absence of the addressee. (51) is defective in that the action to be performed by Hilda, the addressee, is not described. The content of the that-clause is not

the requested action, since Hilda cannot perform Norman's action. The proper description must be like (53), which satisfies the condition in (49):

(53) I advised Hilda PRO to get Norman to leave.

Since the formulation of (49) presupposes the classification we have justified above, this condition gives it another motivation.

5. Conclusion

In this paper, I proposed three types of infinitival complement structure. The tripartite classification is syntactically well motivated and semantically natural. Furthermore, it enables several generalizations: it provides us with the true parallelism between infinitival complements and that-clauses, some insights into the theory of thematic role assignment, and the condition on the proper description of the act of requesting.

NOTES

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1 I will not discuss the believe-type verbs, which also appear in the surface configuration in (1).

2 The verb persuade is ambivalent between TELL-type

and FORCE-type. For a detailed discussion, see Iwabe (1982).

3 The tripartite distinction may be universal. See the French examples corresponding to (2)-(4):

- i) J'ai voulu que Jean vienne. ("I wanted that Jean come")
- ii) J'ai ordonné à Jean de venir. ("I ordered Jean to come")
- iii) J'ai forcé Jean de venir. ("I forced Jean de venir")

The French syntax does not permit an NP-de("to")-VP complement for a WANT-type verb. It must be a que("that")-clause with subjunctive mood. Speech act verbs are distinguished from enforcement verbs by the occurrence of the preposition à("to") before NP₂. The syntactic structures of French seem to reflect their underlying semantic structures more explicitly than those of English. The three distinct syntactic forms in (i-iii) provide compelling evidence for our classification.

4 The verb want takes PRO-to-VP as well as for-NP-to-VP. See section 3.

5 The facts in (39) and (40) might be regarded as direct evidence for/against the presence of PRO. Since deliberately is a subject-oriented manner adverb, unambiguous (40a) and unacceptable (40c) might be explained in terms of the complement subject PRO:

- i) John forced Mary to break the vase deliberately
- ii) *John forced Mary to deliberately break the vase

6 We cannot maintain the θ -criterion in Chomsky (1981), which prohibits dual θ -marking. If one wants to maintain this criterion, one would have to pursue the theory of θ -role assignment along the line of (37b).

7 The same is true of the verb try. It seems absurd to suppose two objects, one for try and the other for the complement verb.

8 Note that FORCE-type verbs are implicative in the sense of Karttunen (1971).

9 Given the thematic theory that admits the multiple θ -role assignment under the simultaneity condition, the time gap test, introduced in section 2.3 merely as a test for the classification of the verbs, makes direct evidence for/against the existence of PRO.

10 (49) is not a grammatical condition. Although (50) and (51) are defective as descriptions of a request, they are grammatically impeccable. In fact, their complement sentences describe the idea or desire of the main subject (see Iwabe (1982)). This view is very suggestive because WANT-type verbs take such complements as for-NP-to-VP and perhaps a tenseless that-clauses.

11. For is a complementizer rather than a preposition.

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