

Particle Movement and Functional Implications

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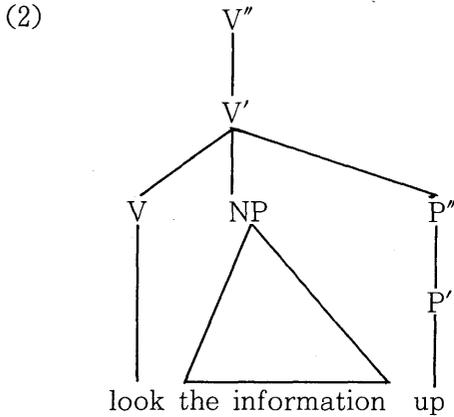
1. Introduction

Over a long period of time, many linguists have frequently noted that the English verb-particle¹ combinations exemplified in (1a) and (1b) can be structurally related by 'Particle Movement':

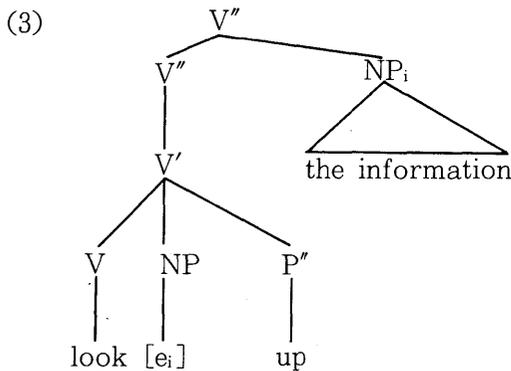
- (1) a. John looked up the information.
b. John looked the information up.

The early account of Particle Movement, for instance Chomsky (1957), was to posit an underlying structure with a paired lexical item Verb + Particle. The Particle is then moved by an optional transformation to the right of the object NP. According to this account, (1a) above reflects the base structure constituent arrangement and (1b) reflects the effect of the Particle Movement. Dixon (1982), by contrast, argues that the underlying constituent arrangement should be Verb + Object NP + Particle and he uses the term Particle Movement to the left dislocation of the particle.² This inconsistency with regard to the theoretical treatment of the verb-particle combinations has not been completely settled.

Kayne (1984) and other linguists (Beukema and Verheijen 1987; Hoekstra 1988) claim that the verb-particle combinations like (1a) above, in which the particle appears in a position adjacent to the verb, should be derived by moving the NP to the right and by adjoining it to V'.³ Inage (1991) also adopts this rightward movement analysis. First of all, Inage argues that the syntactic status of the particles in phrasal verbs should have P'' status, a phrase level category, and secondly, the internal D-structure of the VPs should be [_{v''} [_{v'} [V NP PP]]] as in (2):



Third, Inage stipulates that the rightward NP movement be applied to the D-structure like (2) in order to derive the alternative structure [v'' [v' [V [e_i] PP][NP_i]] as in (3):



The purpose of this paper is to argue for the rightward movement of NP analysis of verb-particle constructions, particularly from functional perspectives. In Section 2, I will give a brief overview of the various constructions which can be stipulated to be derived by the rightward application of Move XP and I will consider the relationship between these constructions and the functional notions of End-Focus and End-Weight. In Section 3, I will explore a little further the relationship between these functional notions and verb-particle constructions and make clear that Kayne (1984) and Aarts (1989)' analyses are far from satisfactory. In Section 4, I will consider the general condition that only [+semantic focus] XPs, which

are functionally featured, are licensed to move to the right and I will also claim that the value of functional feature [+semantic focus] may be computed and can be altered by contextual environment. We will see this functional perspective offers a principled account to the verb-particle constructions and many related phenomena in English.

2. Rightward XP Movement and the Principles of End-Focus and End-Weight

Quirk et al. (1979) stipulate the Principles of End-Focus and End-Weight as follows:⁴

(4) Principle of End-Focus (PEF);

Place new information towards the end of the clause

(5) Principle of End-Weight (PEW);

Reserve the sentence final position for the more complex parts of a clause or sentence

In terms of Communicative Dynamism (CD), these principles properly show that the longer an element is, the more likely it is to contain critical information and hence to take the normal position for semantic focus at the end. These principles seem to work as a strong apparatus when we explain the derivation of various English constructions in which rightward movement of NP may be involved.

First, let us consider the following double-object constructions:

(6) a. John gave her the book.

b. * John gave a boy the book.

(7) a. John sent her a book.

b. * John sent Mary it.

(Kuno (1979:281))

(8) a. Souella gave it to the dog.

b. * Souella gave the dog it.

(Samby and Baldi (1981:171))

The ungrammaticality of (6b), (7b) and (8b) is due to the violation of End Focus (=PEF) (4).

Secondly, PEF (4) seems to give a strong functional explanation to why subjects in small clauses cannot be moved to the right across the "heavy"⁵ (semantically focused) constituents:

- (9) a. I consider him a fool.
 b. * I consider a fool him.
- (10) a. I consider any man who smokes a fool.
 b. I consider a fool any man who smokes.
- (11) a. He claims he can make her very happy.
 b. * He claims he can make very happy her.
- (12) a. He claims he can make the woman who refused to marry
 him very happy.
 b. He claims he can make very happy the woman who refused
 to marry him.

(Aarts (1989:287))

In (9b) and (11b), the pronouns *him*, *her*, which usually carry given formation, are moved across the constituents having new information to the right, thus violating PEF (4). By contrast, in (10b) and (12b), the subjects of the small clauses can be moved to the right, since this movement properly observe the Principle of End-Weight (=PEW) (5).

Thirdly, let us examine the examples from "Extraction from NP":

- (13) a. The possibility that he is not going to recover remains.
 b. The possibility remains that he is not going to recover.

(Postal (1974:372))

- (14) a. The review of Kissinger's book appeared.
 b. The review appeared of Kissinger's book.

(Guéron (1977:21))

- (15) a. I saw a picture of Sally yesterday.
 b. I saw a picture yesterday of Sally.

(Huck and Na (1990:64))

The NP in (13b) and the PPs in (14b), (15b) can be extraposed since these constituents are 'heavy,' thus observing the PEF and PEW. Furthermore, the principles may predict the following (16b) and (17b) are acceptable, but actually they are not acceptable:

- (16) a. A book on the Pope's index was circulated.

b. * A book was circulated on the Pope's index.

(Guéron (1980:25))

(17) a. The guy that I met at Treno's yesterday just came in.

b. * The guy just came in that I met at Treno's yesterday.

c. The guy just came in that I met at TRENO'S yesterday.

(Ziv and Cole (1990:54))

(17c) above, in fact, is fully acceptable where an element of the extraposed clause is stressed in a contrastive context. Therefore, the extraposed NP can be interpreted as semantically heavy, thus observing the PEF and PEW. In contrast, some reason by which the extraposed NP cannot be interpreted as 'heavy' seems to cause the unacceptability of (17b).

Lastly, let us observe the examples from verb-particle constructions:

(18) a. I called up the man who left.

b. * I called the man who left up.

(19) a. The ogre ran down the sweet innocent little children.

b. * The ogre ran the sweet innocent little children down.

(20) a. The crooks bumped off the man returning from the movie.

b. * The crooks bumped the man returning from the movie off.

(Fraser (1976:19))

These examples suggest that when the direct object NP in verb-particle combination is long and complicated, that is, 'heavy,' the particle must remain exactly next to the verb. This point is further confirmed by the following examples:

(21) a. She pointed out that he was wrong.

b. * She pointed that he was wrong out.

(22) a. He blurted out that he was guilty.

b. * He blurted that he was guilty (right) out (to the judge).

(Kayne (1985:106))

(23) a. He gave away all the books that he collected when he was in Europe.

b. * He gave all the books that he collected when he was in Europe away.

(Chen (1986:80))

The ungrammaticality of (21b), (22b) and (23b) can be predicted by PEF

(4) and PEW (5); the heavier constituent (NP) must be put towards the end of the sentence, and the less heavy constituent (Particle) cannot be put at the end of the sentence.

Kayne (1984:127) gives the following condition on the rightward movement of an NP:

- (24) In ...[e_i] X NP_i ..., where NP_i binds [e_i], NP must be at least as heavily weighted as X.

Aarts (1989:285) also presents a similar, but a little modified condition, as in (25):

- (25) A maximal projection A may appear in an adjoined position after rightward movement across a maximal projection B if A is more heavily weighted than B.

(The weightings; heavy XP: 2, regular XP: 1, light XP: 0)

The condition (24), together with a more general condition (25), seems to explain the unacceptability of most of the sentences, but not every, listed in this section, where the rightward movement of NP is involved. Both conditions have a great deal to do with the notion "heavily weighted."

These Conditions (24), (25), however, fail to explain the acceptability of (26a):

- (26) a. I called all of my best friends up.
b. *I called the man who lft up.

(Fraser (1976:19))

The Conditions suggest that (26a) be unacceptable because the object NP is long and complicated and the 'heavier' constituent remains to the right of the 'less heavy' constituent *up*. It is important, however, to notice that the heaviness of an NP is not the only factor, since the object NP in (26b) above contains four words, while the NP in (26a) has five words and this sentence is quite acceptable. This fact is very important in considering the grammar of this construction.

In the next section, I will further go into the question of how adequately these conditions explain the various English constructions which would seem to be concerned with the rightward movement of XP.

3. Relative Heaviness of XPs

First, let us observe the following sentences:

(27)(=26)

- a. I called all of my best friends up.
- b. * I called the man who left up.

(Fraser (1976:19))

(28) a. Won't you total some of those larger figures up?

- b. Some charged the adding machine fire-loss off to the experience.

(Fraser (1976:19))

(27) and (28) clearly show that the acceptability of these sentences cannot be properly predicted by the general principles (4)(=PEF), (5)(=PEW) and the Conditions (24), (25) in Section 2.

The Conditions (24), (25) cannot explain the acceptability of the following sentences, either:

- (29) a. I didn't say to call up HER.
- b. Figure out THESE, not THOSE.
- c. Don't mix up HIM, he's already in a mess.

(Fraser (1976:17))

The Conditions predict that a pronomial object NP must remain next to the verb and hence cannot move across the particle to the right. The sentences in (29), however, are perfectly acceptable since the pronouns *her*, *these*, *those* and *him* are contrastively stressed (i.e. have extra stress).

A similar factor seems to have a great deal to do with in the following:

- (30) a. Who did you see a picture of yesterday?
- b. * Whom did you see a picture yesterday of?

(Huck and Na (1990:66))

- c. Okay, you saw a picture yesterday, but just whom did you see a picture OF?

(Ziv and Cole (1990:66))

Generally speaking, a sentence containing a stranded preposition which has been extraposed from NP is unacceptable, that is, cannot be syntactically licensed, as in (30b) above. (30c) is, on the other hand, acceptable because the preposition OF is contrastively stressed, and hence licensed by a certain

nonsyntactic rule of grammar.⁶

Another functional factor can be recognized in the following data:

- (31) a. The possibility that he is not going to recover remains.
 b. The possibility remains that he is not going to recover.
- (32) a. The possibility that he is not going to recover worries me.
 b. * The possibility worries me that he is not going to recover.

(Postal (1974:372))

Both (31b) and (32b) are concerned with the same syntactic operation, that is, the S' extraction from NP, but only (31b) is acceptable. Then, what factors make the crucial difference in the acceptability of these two sentences? Aside from the syntactic factors, we can recognize the semantic difference between the two; in (31b), the extraposed NP is semantically heavier than the predicate, while in (32b) the predicate *worries me* is semantically heavier than the extraposed NP. This relative heaviness of semantic content among the constituents seems to crucially influence the acceptability of these sentences.

The same semantic-functional perspective is also useful in explaining the difference in the acceptability of the following sentences:

- (33) a. The review of Kissinger's book appeared.
 b. The review appeared of Kissinger's book.
- (34) a. The review of Kissinger's book is off the point.
 b. * The review is off the point of Kissinger's book.

(Guéron (1977:21))

The unacceptability of (34b) can be predicted if we consider the relative value of semantic content of constituents, that is, the semantic value of PP (*of Kissinger's book*) and that of the predicate (*is off the point*). In (34), the predicate has a higher semantic value and thus can be a semantic focus⁷ but the PP cannot, hence the unacceptability of (34b). Here again, the relative semantic heaviness of an XP seems to influence the acceptability of the above sentences. In view of these considerations, let us tentatively hypothesize the following condition:

- (35) Condition for XP Rightward Movement: An XP is licensed to move rightward only when the XP has the feature [+semantic focus].

The acceptability of (27a), (28a), (28b), (29), (31b) and the unacceptability of (27b), (30b), (32b) seem to be straightforwardly explained by the Condition (35). In the next section, let us turn to the question of what sort of factor may determine or can be related with the relative heaviness of an XP.

4. Contextual Effect On Relative Heaviness of an XP

In this section, I would like to show briefly that the relative heaviness is in a function of a previous or following context. Thus, for instance, in the following (36), the word order *takes the pen out* may be determined by the preceding context:

- (36) a. Freddie touches one of two pens in Cade's jacket-pocket. Cade takes the pen out and hands it to Freddie.
 b.??Freddie touches one of two pens in Cade's jacket-pocket. Cade takes out the pen and hands it to Freddie.

(Shimada (1985:62))

In (36), the definite NP *the pen* is already referred to in the previous sentence and it carries a given information. In other words, the NP *the pen* cannot have a semantic focus in the second sentence. Therefore, (36a) is quite acceptable and more natural than (36b). This point is further confirmed by the following data, which also contain verb-particle combinations:

- (37) a. She put the mug on a little walnut tray and brought it to me. She smiled again and then brought the tray back.
 b.*She put the mug on a little walnut tray and brought it to me. She smiled again and then brought back the tray.

(Shimada (1985:62))

Here again, the definite NP *the tray* in the second sentence is coreferential with the NP *a little walnut tray* in the first; hence the NP *the tray* cannot be a semantic focus in the second sentence, which seems to cause the unacceptability of (37b).

A similar effect of the previous context on the verb-particle combination can be shown in the question-answer pairs as in (38) and (39):

- (38) a. What did he wear out?

- b. He wore out the valve.
 c.??He wore the valve out.
- (39) a. And then what happened to the valve?
 b. He wore the valve out.
 c.??He wore out the valve.

(Creider (1979:8))

In (38), the NP *the valve* can be a semantically focused element to the question (38a), but the particle *out* cannot, hence the unacceptability of (38c). In contrast, the NP *the valve* cannot carry a semantic focus to the question (39a) and therefore (39b) is more natural than (39c).

Take another pair of sentences, quoted from Chen (1986:81), where (40a) is more natural than (40b):

- (40) a. There is a dark-covered book under the dining table. John picked the book up and went upstairs.
 b. There is a dark-covered book under the dining table. John picked up the book and went upstairs.

In (40), the NP *the book* in the second sentence is coreferential with the NP *a dark-covered book* in the first and thus carries a given information. It is also worth noting that the following context *and went upstairs* requires the previous context to signify a series of John's action. Therefore, how John acted, i.e., the content of John's action would be more naturally focused than the semantic content of the NP. We then see in (40) that both the previous and following contexts affect the word order of verb-particle construction.

The last examples are from Extraposition from NP, where the VP *came into the room* can be considered to be assigned the feature [+semantic focus] by the succeeding context:

- (41) a. A man who wore a red tie did not come into the room. He went out.
 b.??A man did not come into the room who wore a red tie. He went out.

(Ziv and Cole (1974:775))

In (41), the semantic content of the second sentence seems to require the information about how he acted, rather than how he looks or what clothes

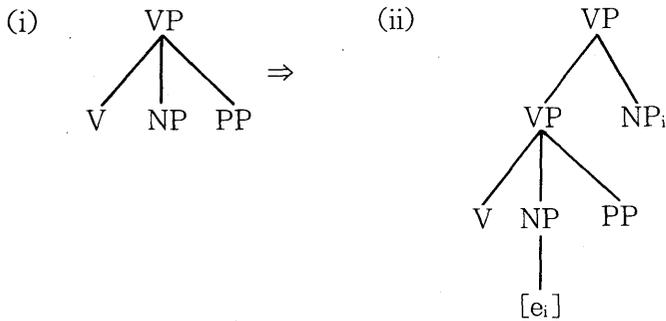
he wore. Therefore, the VP *did not come into the room* can be a focused constituent, while the relative clause *who wore a red tie* cannot; hence the (41b) is less acceptable.

5. Concluding Remarks

In this paper, I have shown that the general principles of End-Focus (4) and End-Weight (5), together with the general conditions (24), (25), fail to explain in a convincing way the constructions where the rightward movement XP is concerned. To account for this kind of phenomenon, I have instead proposed a functional constraint (35) and made clear that the only XPs having the feature [+semantic focus] can be primed to move rightward and any other constituent cannot move to the right across an element marked [+semantic focus]. Furthermore, I have also shown that the context plays a crucial role in deciding the acceptability of the phenomenon under discussion.

Notes

1. The term 'particle' is generally defined as "indeclinable or uninflected parts of speech." For example, such words as *away*, *off*, *on*, *up* can be referred to either as 'particle' or as 'preposition.' Therefore, the distinction is reflected not in the form itself but in how these words are used in sentences, that is, in their syntactic functions.
2. Kayne (1985:125) suggests that leftward particle movement to a position sister to V should be prohibited by the binary branching requirement; leftward particle adjunction to V would leave a trace not properly c-commanded by its antecedent.
3. Aarts (1989:20), for instance, stipulates the following derivation:



Aarts argues that this treatment is in accordance with Chomsky's (1986:6) claim that Adjunction is possible only to maximal projections in nonargument position.

4. See Quirk et al. (1972:943) for further discussion.
5. The notion of 'heaviness' seems to be difficult to define. However, it is empirically clear that a 'heavy' constituent is in accordance with a longer and a more complex constituent in a clause. The 'heavy' NP might also have a great deal to do with the number of main stresses it bears, but I will not go further into this issue in this article.
6. Takami (1990:19) proposes the More/Less Important Information Condition for Preposition Stranding:

An NP can be extracted out of a PP only when the NP may itself be interpreted as being more important than the rest of the sentence.

However, the mechanism is not discussed by which a certain constituent carries more or less important information.

7. Thus far, there has been quite radical disagreement as to what the 'focus' constituent might be. Chomsky (1971), for instance, assumes that a 'focus' is grammatically identified as a constituent containing the accent, or intonation nucleus, of the sentence. Culicover and Rochemont (1983) adopt the term 'c-construable' and claims that a constituent is 'focus' if, and only if it is not 'c-construable.' Halliday (1967) refers to the interplay of 'old' and 'new' information in discourse as the information structure of a discourse and suggests that the 'focus' constituent represent the 'new' information of the sentence. I will use the term 'focus' in this Halliday's sense.

It is empirically apparent that the notion 'focus' cannot be defined solely in terms of syntactic perspective. Rather, it should be captured in

terms of discourse-functional perspective; it may be closely dependent on the context of utterance, social conventions, speakers' idiosyncratic emphasis, and so on. I leave exploring this issue to further research.

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