AN EXAMINATION OF THE VERB-PARTICLE CONSTRUCTION IN ENGLISH

by

JAMES B. FRASER

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Certified by.....
Thesis Supervisor

.....
Chairman, Departmental Committee
on Graduate Students

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ABSTRACT

The verb-particle construction in English is defined as those verb-preposition and verb-adverbial combinations which pattern syntactically as a unit. The ways in which this construction differs from verb-prepositional phrase and other verb-adverbial combinations are indicated. Certain types of relationships shared by verb-particle combinations are defined and the phonological and semantic character of those verbs occurring in this construction is examined. A number of alternative approaches for the introduction of a verb-particle combinations into an underlying P-marker are presented. Certain apparent cases of verb-particle combinations are examined with respect to their similarity to this construction and to their actual derivation. An approach to deriving certain verb-particle combinations is presented and the effects of this construction on various syntactic transformations is indicated. Finally, a review of previous investigations into this area is given.

Thesis Supervisor: Noam Chomsky
Title: Professor of Linguistics

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Chapter 1 - Introduction

The notion of compound verbs or verbal elements in English has been suggested and discussed by practically every linguist who has seriously considered the verbal system of the language. For a variety of reasons--including in some cases nothing more than the intuition of the linguist--the sentences

(1-1) (i) He looked up the information

(ii) The alarm went off

(iii) John talked about the problem

(iv) The teacher spoke to the student

(v) The army pushed ahead

(vi) The chairman cut short the meeting

(vii) The man paid attention to the attractive woman

have been analyzed as containing a compound verbal element. There is no work in the literature at the present time which, in the opinion of the author, makes a satisfactory analysis of such sentences types in English.

In the following work we distinguish one type of compound verbal element, namely those illustrated by (1-1i) and (1-1ii), from the others in (1-1). Once this distinction is made in terms of the syntactic and phonological characteristics of the sentence types, we define this type of compound verbal element as a verb-particle construction. We then examine this construction with respect to such facets as the relationships between its parts, its constituent structure, how it is introduced

into an underlying P-marker, apparent cases of this construction, ways of deriving certain classes of these combinations, and how these combinations affect certain syntactic transformations. Following this investigation of the verb-particle construction, we present a synopsis of those attempts which have been made to analyze this type of compound verbal elements. Finally, in the appendix we present those verbs which combine with at least one particle as well as a number of classifications of verb-particle combinations.

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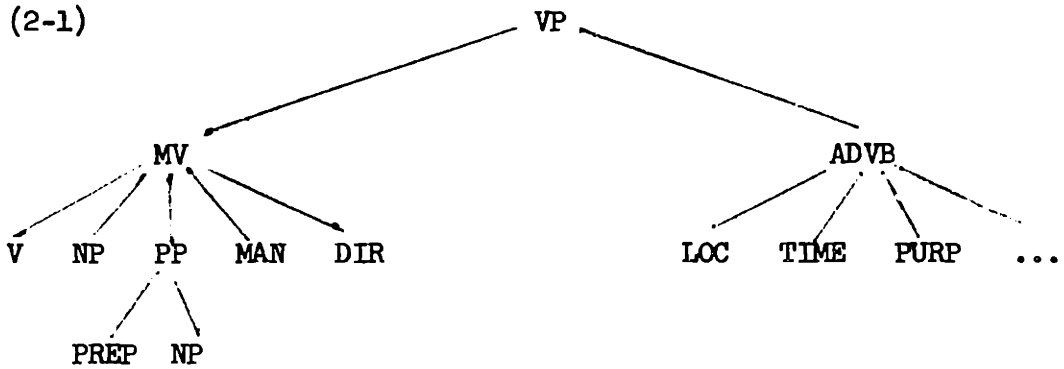
Chapter 2: Definition of the verb-particle construction

2.1 Constituent structure of the verb phrase. We take as our starting point the constituent structure of the verb phrase of English as shown in (2-1). This is essentially the constituent structure

(2-1)



suggested by Chomsky (1964) with certain non-essential modifications.[1] The verb phrase, VP, bifurcation was discussed in considerable detail by Chomsky, (1964), and the most relevant motivation is as follows. First, certain verbs co-occur with only certain constituents following; for example, reel in must have a following direct object noun phrase while dart must have some following directional adverbial. Second, certain verbs can never co-occur with certain types of constituent; for example, become never has a following manner adverbial while sleep cannot have a direct object noun phrase. Third, all verbs, including those falling into the classes referred to above co-occur with certain constituents like locative, time, and purpose adverbials though the content of these adverbials most certainly depends on the verbs with which they co-occurs. A suggestion made on the basis of these facts was that there should be two types of restrictions governing the

selections of verbs. First, strict subcategorization restrictions indicate in which syntactic frames a particular verb can occur. Second, selectional restrictions indicate the "acceptable content" of both the constituents mentioned in the strict subcategorization frames and the freely occurring constituents such as locative adverbial, subject noun phrase, and so on. Thus for the verb throw the strict subcategorization restrictions require a following direct object noun phrase and permit a directional and manner adverbial. The selectional restrictions require the subject noun phrase to be animate or machine-like, the object noun phrase to be concrete, and so on.

A further suggestion was to analyze those constituents playing a role in strict subcategorization frames of the verb as well as the verb itself as being dominated by a single node, MV. All those constituents not playing a role in these strict subcategorization frames but which nevertheless are a part of the verb phrase are to be analyzed as dominated by another single node, ADVB.[2] The result of these suggestions is the constituent structure of the verb phrase shown in (2-1). The constituent structure of the MV will be discussed below.

There are at least three manifestations of the MV-ADVB constituent break. The first is the fact that no noun phrase dominated by ADVB can ever become the subject of a passive sentence.[3] This fact we can see from considering sentence pairs like[4]

(2-2) (i) She walked in the house--*The house was walked in (by her)

(ii) The clock struck on the hour--*The hour was struck on (by the clock)

(iii) She swore for that reason--*That reason was sworn for (by her)

If we define the passive transformation as[5]

(2-3) NP - AUX - V+(PREP) - NP - X - by

1 - 2 - 3 - 4 - 5 - 6 ⟹ 4 - 2 BE+EN - 3 - ∅ - 5 - 6+1

Condition: MAN>6

we notice that it applies both to a direct object noun phrase and a noun phrase following a preposition, providing that the noun phrase precedes the manner adverbial. Stating the passive transformation in this way accounts for the sentences (2-4 i-iii) while ruling out those sentences where the noun phrase is dominated by the directional adverbial as in (2-4 iv).

(2-4) (i) The information was looked up (by the researcher)

(ii) The game was talked about (by the onlookers)

(iii) The ball was thrown (by the baseball players)

(iv) The stage was walked onto (by the actors)

The second manifestation of the VP break is the fact that no constituent dominated by MV can be preposed to the beginning of sentence without unusual intonation although many of those constituents dominated by ADVB can occur in this position. The sentence pairs in (2-5) illustrate this fact.

(2-5) (i) We left at three o'clock--At three o'clock we left

(ii) She lost her gloves in that house--In that house she lost her gloves

(iii) They talked over the problem--*Over the problem they talked

(iv) She wound up the conversation--*Up the conversation she wound.

It is not clear just what constituents dominated by ADVB can be preposed or if, in fact, it is possible to state the restriction in terms of constituent types at all.

Finally, there is considerable freedom of position among the constituents dominated by ADVB and to a lesser degree among the constituents dominated by MV. Between the two groups of constituents, however, there is little freedom, those dominated by MV almost always preceding those dominated by ADVB.

2.2 Constituent structure of the main verb

Let us now turn to the question of the constituent structure of the main verb. That all of the constituents analyzed as being dominated by MV do in fact play a part in the strict subcategorization of some classes of verbs seems beyond any doubt. The first NP is what is usually called the direct object noun phrase of the sentence while the second is part of a prepositional phrase.[6] It is clear that the preposition never occurs without a following noun phrase but the converse is apparently not true. For example we find sentences like

(2-6) (i) He struck the table a heavy blow

(ii) She envyed the woman her beauty

where the second noun phrase surely does not become introduced as part of a predicate complement as in elect John president. It is not clear

that either the first or second noun phrase could reasonably be introduced from some prepositional phrase as in sentences containing verbs like give, send, and so on. The correct solution for this problem is not relevant to the subsequent discussion, however, and we will not pursue it here. Actually, there are probably at least to two such prepositional phrases permissible in the expansion of the main verb as in sentences like

(2-7) (i) The settler traded whiskey to the Indians for furs

(ii) He argued with the man about politics

(iii) She gave the present to Harry for John

but we will assume for the sake of discussion that only one prepositional phrase occurs.

That the manner adverbial should be analyzed as a part of MV rather than ADVB can be seen from two considerations. First, as we have already mentioned above, it provides a relevant frame for the strict subcategorization of the verbal element. Second, it cannot be preposed as can at least some of those constituents dominated by ADVB.[7] It is not the case that the sentences

(2-8) (i) He has driven the car stupidly

(ii) He has stupidly driven the car

(iii) He stupidly has driven the car

(iv) Stupidly, he has driven the car

are all derived from the same underlying P-marker. Only in (2-8i) and (2-8ii) does the stupidly answer the question how? and is it to be analyzed as the manner adverbial modifying the verb drive. In (2-8ii)

there is ambiguity, however, for some speakers. In (2-8iii), and (2-8iv) (and possible (2-8ii)) the stupidly modifies the subject noun phrase of the sentence and in fact the sentence

(2-9) It was stupid of him to have driventhe car

is in exact paraphrase of these sentences. (See Rosenbaum, 1965, for a discussion of this type of sentence). As corroborating evidence for the analysis of the occurrences of stupidly in (2-8) we notice that there are also sentence in which both types of adverbial occur.

(2-9) Stupidly he has driven the car stupidly

The directional adverbial bears some comments. It was placed after the manner adverbial in the expansion of MV so that any noun phrase dominated by DIR would not become the subject of a passive sentence. This accords with the fact that sentences such as

(2-10) (i) *The stage was run onto (by the actors)

(ii) *The house has been run out of (by the frightened people)

(iii) *That country was fled away from (by the persecuted)

are generally not considered acceptable to native speakers of English. There are two forms of the directional adverbial which will prove to be relevant in the later discussion and we will discuss them now. The first type of directional adverbial consists of prepositional phrases like into the room, towards Boston, away from the party while the second type consists of single adverbial words like "down(ward(s)), southwesterly and so on. Among the prepositions occurring in the first type are those indicated in (2-11). Those items of the second type are in (2-12).

(2-11) across, after, against, away from, from, down, from, in, into, off of, on, onto, through, toward(s), up,

(2-12) down, forth, in, out, up, left, right, north, north-northeast,...[8]

As we would expect it is possible to conjoin two of these directional adverbials. In particular, when one of the type in (2-11) and one of the type in (2-12) are conjoined, the order must be (2-12) and (2-11). More important to the discussion at hand, however, is the fact that the coordinate conjunction and may be optionally deleted as the sentence pairs in (2-13) indicate.

(2-13) (i) The child looked down and at his feet--The child looked down at his feet

(ii) He drove south and towards Boston--He drove south towards Boston

It should be noted that the first sentence in the pairs above are ambiguous as to whether the subjects are doing two separate actions or one action where there is a specification of the actual direction relative to the subject. We will not comment further on this problem. The point to be made here is that there are two types of directional adverbials which can be combined and which might be mistakenly analyzed as some compound directional adverbial. We assert that this is not the case in the sentences in (2-13). It will be-come obvious later why we have labored even this long over this point. One final point about the directional adverbial. We have left the definition of this adverbial as an intuitive one, preferring not to force all sequences answering the question to where?, whither?, in which direction? or some such classifying means to be analyzed

as an adverb of direction. The reason for this will also become clear in a later section.

2.3 The verb-particle construction

Having now clarified in a general fashion the various constituents dominated by MV let us now examine certain sentences containing the sequence verb-element-noun phrase where the element-noun phrase combination is dominated by MV. The term "element" is used here to indicate any item traditionally analyzed as a preposition or a single word adverbial such as away, out, etc. Consider the sentences in (2-14) and (2-15).

(2-14) (i) He looked up the information

(ii) The fisherman reeled in the line

(iii) They worked out the problem

(iv) John thought over the example

(2-15) (i) They talked about the situation

(ii) She looked at (examined) the table

(iii) He argued with John

(iv) The student delved into the problem

We note first of all that all of these sentences have a passive counterpart thus indicating that the element-noun phrase sequence is in fact dominated by MV. We furthermore notice that there are at least six ways in which these two types of sentences pattern differently syntactically. The first way in which they differ can be seen by noting that in (2-14) but not (2-15) the element can be permuted to the position following the noun phrase. Thus we have the sentences

(2-16) (i) He looked the information up

(ii) The fisherman reeled the line in

(iii) They worked the problem out

(iv) John thought the example over

but not the sentences

(2-17) (i) *They talked the situation about

(ii) *She looked the table at

(iii) *He argued John with

(iv) *The student delved the problem into

Actually the element in the sentences (2-14) cannot be moved following the direct object noun phrase in many cases where the noun phrase is of considerable complexity. It must be moved if the following noun phrase is a pronoun. Whether this element may be moved is a partially function of both the structure of the following noun phrase and relationship of the element to the verb. (Cf. 7.1 for a thorough discussion of this point). This possibility of movement of an element around a direct object noun phrase can be found also in the cases of certain directional adverbials as the sentence pairs (2-18) show.

(2-18) (i) John threw the ball up--John threw up the ball

(ii) She tossed the burnt letter down--She tossed down the burnt letter.

These cases will be treated in Chapter 5 with some other similar cases.

Another way in which these two groups of sentences differ is the fact that in (2-15) but not (2-14) the element-noun phrase can be preposed in questioning the noun phrase. Thus we have the acceptable sentences

(2-19) (i) About what did they talk?

(ii) At what did she look?

(iii) With whom did he argue?

(iv) Into what did the student delve?

but not the sentences

(2-20) (i) *Up what did he drum?

(ii) *In what did the fisherman reel?

(iii) *Out what did they work?

(iv) *Over what did John think?

Clearly in (2-15) the element-noun phrase sequence should be thought of as some kind of a unit, for there is a much closer association between the two in than in the sentences in (2-14). We should mention here that the directional adverbial can be preposed in questioning in exactly the same fashion as the element-noun phrase sequences in (2-15). In all three cases, that is, the sentences in (2-14), (2-15) and in sentences containing directional adverbials the noun phrase alone can be moved forward in questioning it.

A third difference in the syntactic patterning of these two groups of sentences is the fact that only in (2-15) cases can a manner adverbial be positioned between the verb and the element-noun phrase sequence. This can be seen by observing that

(2-21) (i) They talked loudly about the situation

(ii) She looked quietly at the table

(iii) He argued forcefully with John

(iv) The student delved deeply into the problem

are perfectly acceptable English sentences while

(2-22) (i) *He looked quickly up the information

(ii) *The fisherman reeled quickly in the line

(iii) *They worked quietly out the problem

(iv) *John thought silently over the problem

are completely unacceptable. Again this points out the close association of the element-noun phrase sequence in the sentences in (2-15) and in this case indicates a strong verb-element association in the sentences in (2-14).

This "association" notion is corroborated by another syntactic difference. The element-noun phrase sequence of (2-14) can be interrupted by a short parenthetical phrase as shown in (2-23) but not for the sentences in (2-15) as (2-24) indicates.[9]

(2-23) (i) He looked up, without a reply, the information which I requested

(ii) The fisherman reeled in, broad grin on his face, the line from which then dangled a shark

(iii) They worked out, for the sake of argument, that last problem

(iv) John thought over, and why not, the problem

(2-24) (i) *They talked about, without a reply, the situation

(ii) *She looked at, a broad grin on her face, the table

(iii) *He argued with, for the sake of argument, John

(iv) *The student delved into, and why not, the example

Still another way in which these sentences differ can be seen by considering the effect of the action nominalization transformation on these sentences.[10] The first group of sentences (2-14) clearly requires an of be placed after the element as in

(2-25) (i) His looking up of the information pleased the teacher

(ii) The fisherman's reeling in of the line saved his life

(iii) Their working out of the problem annoyed the girl

(iv) John's thinking over of the example assisted him in passing the exam

On the other hand, those sentences in (2-15) don't have such an inserted of and thus the sentences in (2-26) are totally unacceptable.

(2-26) (i) *Their talking about of the situation pleased the dictator

(ii) *Her looking at of the table surprised the storekeeper

(iii) *His arguing with of John disrupted the conversation

(iv) *The student's delving into of the example doesn't make any sense

The sixth way in which the sentences differ is the fact that only in (2-15) do the element-noun phrase sequences conjoin. Thus we find

(2-27) (i) They talked about the situation and on the issues of the day

(ii) She looked at the table and at the small stool

(iii) He argued with John and against Peter

(iv) The student delved into the problem and into the other matters also.

but we certainly do not consider acceptable

(2-28) (i) *He looked up the information and over the files

(ii) *The fisher reeled in the line and in the fishnets

(iii) *They worked out the problem and over the records

(iv) *John thought over the problem and then out the problem

It seems certain, then, that the element-noun phrase sequences in the sentences (2-15) should be considered as a unit just as the other adverbials, in this case the constituent PP shown in (2-1). (Cf. footnote 6, Chapter 2)

A seventh way in which these sentences differ is in respect to the stress patterns assigned to the verb-element-noun phrase combination in normal speech. For the sentences in (2-14) we usually find a 2-3-1, 2-2-1, or 3-2-1 contour while for the sentences in (2-15) the contour is 2-4-1. The important point here is the fact that the element in the sentences (2-15) is always unstressed. We will see after the discussion in Chapter 4 that this difference in stress can be systematically accounted for by stress assignment rules of the sort presented by Halle and Chomsky, (1965), as they apply to the constituent structure we will finally assign to these two types of sentences.

On the basis of the syntactic differences in the two types of sentences which superficially have the form verb-element-noun phrase the following analyses seem well motivated. Those sentences which are of the type in (2-15) are to be analyzed as having the constituent structure indicated in (2-1) where items such as talk, argue are dominated by V, the elements such as about, with are dominated by PREP and the noun phrase is dominated by the NP constituent following the PREP.[11] The

sentences in (2-14), on the other hand, have a different analysis. The verbal element in these sentences, that is the element dominated by V in the constituent structure in (2-1), is in fact the verb-element combination and the following noun phrase, for example the information, the line, and so on, are to be analyzed as being dominated by the NP immediately following the constituent V. In short, the combinations look up, reel in, work out, think over are compound verbal elements and both parts are dominated by the node V. We will discuss in 4.2 the question of whether or not the second element of the two-word verbal element should actually be assigned any constituent structure. Tentatively, however, none is provided. We define this particular type of two word verbal element to be a verb-particle combination and the construction, a verb-particle construction. Section A3 of the Appendix contains a list of such verb-particle combinations having a following noun phrase.

Let us now turn to those sentences having the form verb-element. Here again the term element is used in the loose sense indicated above. With respect to the constituent structure in (2-1) we see that there are many possibilities. The element could be the PREP following the direct object noun phrase, it could be part of a directional adverbial or it could be any of the adverbials dominated by ADVB. Because of this we must make the following assumption. We will assume that although no formal definition is presented here that it is possible to precisely define when some item is to be analyzed as a locative adverbial, directional adverbial, purpose adverbial, and so on. Roughly speaking, all

locative adverbials answer the question where?, purpose adverbials answer the question why?, directional adverbials answer the question in what direction?. There are, however, difficulties with these rules of thumb but for the purposes of this discussion we will ignore them. We find, then, that by excluding all of those adverbials from consideration that we are left with but two possibilities. Either the element of the verb-element combination is a PREP or it is a particle of the sort discussed above. To see which analysis seems to be most reasonable, consider the following sentences.

(2-29) (i) The soup boiled away

(ii) His temper cooled down

(iii) The hole caved in

(iv) The metal cooled off

Reviewing the ways in which the sentences in (2-14) and (2-15) differ from each other we note first of all that the permutation around the noun phrase is not relevant in this instance nor is the preposing of the element-noun phrase sequence. It is clear, however, that the manner adverbial cannot be positioned between the verb and element in the above sentences. Thus none of the following sentences are acceptable.

(2-30) (i) *The soup boiled quickly away

(ii) *His temper cooled quickly down

(iii) *The hole caved silently in

(iv) *The metal cooled slowly off

The interruption of the preposition-noun phrase sequence is also not

applicable for the sentences in (2-29). The inclusion of the of in the action nominalization is relevant and though this transformation applies differently to sentences in which there is no direct object noun phrase, the of is required. (Cf. footnote 10, Chapter 2) Thus we have the sentences

(2-31) (i) The boiling away of the soup annoyed the housewife

(ii) The cooling down of his temper created a problem

(iii) The caving in of the hole caused many deaths

(iv) The cooling off of the metal was done slowly

With respect to conjunction, we find that there are apparently no cases of conjoined elements for the verbs in (2-29). It is difficult, however, to find the same verb occurring with two elements so this lack of conjunction should not be construed as conclusive. We do note, though, that the sentences

(2-32) (i) *The soup boiled away and up

(ii) *The metal cooled down and off

are without question unacceptable. Finally, the stress of the sentences in (2-29) is the same as for the sentences in (2-14). That is, the stress is the same as on verb-particle combinations. In conclusion, then, we will analyze sentences like those in (2-29) as containing the verb-particle construction. Section A4 of the Appendix contains a list of such verb-particle combinations having no following noun phrase.

There is another type of sentence which we must consider. We now examine sentences having the form verb-element element-noun phrase.

Again we will exclude from consideration those element-noun phrase or element-element-noun phrase sequences which are analyzed as directional adverbials. As we noted earlier, sequences such as down into the hole and south towards Boston fit the latter type of sequence. Consider now the sentences

(2-33) (i) The politician spoke out about the issues of the day

(ii) The dissatisfied husband carried on with the young woman

(iii) The runner kept up with the champion

It seems pretty clear by comparing the syntactic patterning of these sentences in terms of the observed differences between the sentences (2-14) and (2-15) and the patterning of the sentences in (2-29) that the element-noun phrase sequence in the above sentences should be analyzed as a PP and the verb-element sequence should be analyzed as a verb-particle combination. A list of such verb-particle combinations with the preposition with which they occur can be found in Section A5 of the Appendix.

We might point out here that the passive transformation as it is defined in (2-3) still applies to these sentences (2-33) and accounts for the acceptable sentences

(2-24) (i) The issues of the day were spoken out about (by the politician)

(ii) The young woman was carried on with (by the dissatisfied husband)

(iii) The champion was kept up with (by the runner)

There are relatively few verb-particle combinations occurring with following prepositional phrases as in the sentences

(2-35) (i) He put across the idea to the committee

(ii) They filled in the boss on the details

(iii) She dealt out the cards to the players

(iv) John handed over the deed to the rightful owner

where the elements (across, in, out, over) immediately following the verb in these sentences are clearly to be analyzed as a particle in terms of the preceding discussion. It is a rather interesting fact that none of these compound verbal elements having both a following noun phrase and prepositional phrase require that the prepositional phrase be present. This fact can be seen by considering the cases in (2-36) in which the verbs follow the accompanying particle and the co-occurring preposition.

(2-36) (i) ACROSS-TO; get, put

(ii) IN-ON; fill, cash, case

(iii) IN-TO; cable, call, give, hand, put, radio, send, telegraph, turn, wire, write

(iv) OFF-FROM; divide, keep, partition, section, split, tie

(v) ON-TO; coax, egg, goad, hound, hurry, hustle, prod, rush, spur, urge

(vi) OFF-TO; pack, send

(vii) OUT-TO; blurt, call, deal, dish, dole, give, hand, hold, ladle, lend, measure, parcel, pass, pay, pour, portion, read, rent, sell, serve, shell,

(viii) OVER-TO; deed, dish, give, fork, hand, pay, sign, turn, win

(ix) UP-TO; give

There is yet another type of sentence containing a verb-particle construction. For instance we have

(2-37) (i) The general ordered up the troops toward the front

(ii) The President threw out the ball to the waiting players

(iii) They set off into the woods

in which there is a directional adverbial. The verb-particle construction rarely co-occurs with the directional adverbial.

We see, then, that there are six different types of MV constructions in which the verb-particle construction occurs. These are, verb-particle, verb-particle-noun phrase, verb-particle-prepositional phrase, verb-particle-noun phrase-prepositional phrase, verb-particle-directional adverbial, and verb-particle-noun phrase-directional adverbial. The sentences in (2-38) illustrate these cases, respectively.[12]

(2-38) (i) The gun went off

(ii) He looked up the information

(iii) The politician spoke out about the issues

(iv) They filled in the boss on the details

(v) The men set off up the mountain

(vi) The President threw out the ball to the waiting players

We will devote the remainder of this work mainly to an examination of the verb-particle construction of English. A list of these particles is presented in (2-39).

(2-39) about, across, around, aside, away, back, by, down, forth, in, off, on, out, over, through, up

The criticism can be raised at this point that we have been unfairly restrictive in the selection of the area of concentration. It can be argued that there are a whole host of sentences types like

(2-40) (i) They lived it up in Boston last night

(ii) John must swear off alcohol

(iii) The Russians took advantage of our naiveness

(iv) The shutter banged shut

(v) The U.S.S. Blivit weighed anchor at 3 o'clock

(vi) Her face turned red

in which the verbal element is the same, nearly the same, or at least related to the verb-particle construction. We are not ignoring these sentence-types, however, and they will be considered in Chapter 5.

Footnotes for Chapter 2

1. The figure in (2-1) is obviously not the only expansion of the verb phrase but it is the fullest one which expands the MV as a verbal element V along with other constituents, not including a predicate PRED. Instead of V, the constituent BE could have been introduced with a PRED and other constituents. We are not concerned with these constructions and will not consider them. The verbal complements of the persuade John to go sort and other similar types are also not considered. For a detailed discussion of them see Rosenbaum (1965).

2. There is some question as to whether a single constituent ADVB can really be motivated or whether the various adverbials like locative, manner, purpose, etc. should be analyzed as dominated directly by MV. There is also the question of whether or not such a constituent structure is in any way universal. We will not attempt to answer these questions here.

3. Actually this statement should be modified to maintain that no noun phrase dominated by ADVB can ever become the subject of a normal unembedded passive sentence. While it is true that the passive sentences in (2-2) do not occur we do have perfectly good sentences like "This is a house which was built to be walked in" and "There is a floor which was made to be jumped on" in which what is the noun phrase of a locative adverbial can become the subject of the passive sentence in case the sentence is embedded as a relative clause. These

and other similar sentences are analyzed by Fraser (1965).

4. We use the asterick "*" to denote sentences which are not acceptable, the question mark "?" to denote those sentences for which we cannot decide. Acceptability as it is used in this work implies that the huge majority of the people asked about a sentence agreed that it represented good modern usage. This of course places such a definition as a relative term, depending to a large measure on who one asks and when. Such an approach implies that the facts we are accounting for represent a part of a hypothetical language which very closely resembles spoken English today and we refer to it as English throughout the text. Insofar as this hypothetical language correctly mirrors the English language we will have attacked a real problem.

5. The notation used in the statement of this and all other transformations has the following interpretation. The term "+" signifies that the items on either side are to be dominated by the same node. Thus by and the subject noun phrase analyzed as term 1 are now dominated by the constituent MAN; i.e. the term 1 is adjoined to the by. Similarly, the constants BE and EN are adjoined to the right of term 2. This results in the constituent S dominating these two constants. Whether or not this is a reasonable derived constituent structure is an open question but nothing following depends on where these two items are placed. The symbol "$\emptyset$" replacing any term of the proper analysis means

that this term and all of its constituent structure up to and including the constituent mentioned in the structure index are deleted. The replacing of term 1 by term 4 indicates the substituting of one term of the proper analysis by another. The substituted term and all of its constituent structure up to and including the constituent specified in the structure index are duplicated and replace the substituted-for term and all of its constituent structure up to and including the term mentioned in the structure index. The symbol ">" means that constituent to the left dominates the constituent(s) on the right. Thus the constituent MAN must dominate the by specified as the term 6 of the proper analysis. A detailed presentation of the notion of derived constituent structure and of elementary transformations can be found in Fraser, 1964 . For a detailed analysis of the passive construction, see Fraser, (1965).

6. That there should be a constituent PP representing the prepositional phrases dominated by MV seems clear. Such preposition-noun phrase combinations prepose like the locative, directional, and purpose adverbials in questioning the noun phrase, they take the same stress and intonation, the manner adverbial occurs before them as a unit, they conjoin like any other "major" constituent, and it is not possible to introduce elements such as parenthetical expressions in the middle of them.

7. It is possible that some speakers of English will accept sentences like "With a superior manner he simply ignored the honored guests", "About money I have talked with many people on numerous occasions",

"Through the wall he drove the car without a moment's hesitation", and other cases where a manner or direction adverbial or prepositional phrase has been preposed. If this turns out to be generally acceptable usage then it is simply not the case that the MV-ADVB bifurcation serves to distinguish those constituents which prepose from those which do not.

8. Note that all the items in (2-12) permit a following <u>-wards</u>, some a following <u>-wardly</u>.

9. It is certainly the case that the parenthetical expressions occurring in the sentences (2-15) cause these sentences to become unacceptable. The same has been argued for the sentences in (2-14). There is definitely some disagreement over sentences like those in (2-23) but we have found that by and large they are considered acceptable. It seems to be the case that those people who like any of these sentences like them all and vice-versa.

10. To better appreciate the significance of the characterization of these sentences in terms of the application of what we have referred to as the action nominalization transformation, let us examine this rule. The "action nominalization" was a name given by Lees (1960) to a particular type of nominalization in English and this must be distinguished from what he calls the "gerundive nominalization". There are the following formal differences between these two types of nominalizations:

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(1i) The action but not the gerundive nominalization has an of positioned between the verbal element and the following direct object noun phrase; John's negotiating of the contract--John's negotiating the contract.

(1ii) Only the gerundive nominalization can contain the Aspect part of the Auxiliary; *John's having negotiated of the contract--John's having negotiated the contract

(1iii) Only the action nominalization may have an adjectival modifier; John's rapid negotiating of the contract--*John's rapid negotiating the contract

(1iv) Only the action nominalizations have other than the verb-ING form; John's negotiation of the contract--*John's negotiation the contract

(1v) In this nominalized form, the possessive subject (John's) may be postposed with a preceding by; Negotiation of the contract (by John)--*Negotiating the contract (by John)

(1vi) Only the gerundive nominalization may delete the possessive subject noun phrase; *Negotiating of the contract--Negotiating the contract.

(lvii) In either the ING or non-ING forms, the action nominalization may have the possessive subject noun phrase transformed into an agentive by-NP sequence with this constituent (the determiner of the nominalization--see Chomsky, 1962) being replaced with the determiner the; The negotiating (tion) of the contract(by John)--*The negotiating the contract (by John).

(lviii) Finally, in some cases of the action nominalization the direct object phrase may be moved to the front of the nominalization to replace the determiner; The contract's negotiation (by John)--*The contract's negotiating (by John).

Although we have used only a transitive verb in the examples an action nominalization may be formed from any sentence which may occur with a manner adverbial.

To account for the various forms of the action nominalizations, we define the following transformations. The transformation

(2) $\triangle$ - $\triangle$ - # - NP - TNS - MV - X - #

1 2 3 4 5 6 7 8 ⟹ 4 - NML+6+7 - ϕ - ϕ - ϕ - ϕ - ϕ - ϕ

Condition: (i) DET > 1, (ii) N > 2

where the symbol NML is used as a general marker to signify the application of the action nominalization. Later rules will refer to this NML inserting an of when required (after a particle but not a preposition), in attaching the possessive marker to the preceding noun phrase, and in causing the nominalized verb to have either the ING or tion, al, etc. forms.

A second transformation

(3) NP - NML+V+((PREP)+NP) - by
1 - 2 - 3 ⟹ the - 2 - 3+1

accounts for the form in (lviii), i.e., what is eventually "The driving of the car by John". This form of the action nominalization very closely resembles the passive construction and it is a fact that only if the verb may be followed by a manner adverbial can it occur in the action nominalization in the form represented by the sentence (lvii). We do not derive the sentences in (lvii) from an underlying passive sentences for the following reasons. The BE-EN introduced by the passive never occurs in the action nominalization. Some verbs which never have a passive form--because they are never followed by a direct object or a prepositional phrase--occur in this form; for example, grow, shout. Furthermore, although we do have the passive sentence "The experiment was participated in by John" we do not have the action nominalization*" The participating (participation) in the experiment by John". Note, however, that the passive agent-deletion transformation correctly applies to the sentences generated by (3) above to produce thenominalizations "The driving of the car", "The negotiation of the contract" etc. It is from nominalizations generated by (3) in those cases where there is no direct object noun phrase in the underlying sentence that the forms of the action nominalization such as "the growling of the lions" "the shouting of the children" and "the shooting of the hunters" are derived. To accomplish this we define the transformation

(4) NPL+V - by - NP

1 - 2 - 3 ⇢ 1 - of - 3

It seems to be a fact about modern English that it has retained the agentive preposition of of Middle English. As Poutsma (1926) states on page 94:

> "In Older English of appears to have been the ordinary preposition before the inverted subject, by being used, by the side of through, in the sense of by the instrumentality or mediation of...the use of of before the inverted subject survives in the latest English chiefly in the higher literary style. Its partial preservation in this function may, to a certain extent, be due to the influence of the of-construction as an equivalent of the subjective genitive; a good many combinations with of in which it denotes a relation of agency or originating (such as) of one's own free will, of necessity. There is not anything surprising in the use of of after a passive participle, seeing that an action represented as performed by a person or thing may also be thought of as originating from a person or thing. In fact the two notions are inextricably mixed, with the result that in some connexions by which is now the normal symbol of the former varies with of which at one time was the normal symbol of the latter, but has not been largely superseded by from".

The interesting fact is that all and only these action nominalizations in which the underlying form has no direct object noun phrase or prepositional

phrase can take the of instead of the by. The presence of the of is in most cases obligatory, that is the by-NP is not considered acceptable, although there are some cases where either is alright.

There is one other form of the action nominalization which we must account for, namely, that in (lviii). Such forms occur only when the form of the nominalized verb is not verb-ING, that is, it must be a verb-tion, verb-al, etc. form. To do this we must define still another transformation which refers to the contents of the verb itself since only here is there indication as to the possible forms of the nominalized verb. In that little work has been done on which verbs occur with which nominalized endings, we will not attempt to state this transformation.

11. The constituent V dominates what we will call the verbal element of the sentence. In all cases the V will dominate a verb; for example, in the sentences (2-15) the verbs are talk, look, argue, delve. V will, as we will see below and in Chapter 4, also dominate other elements as well as the verb of the verbal element. In those cases where the verbal element is a compound we will define the other elements as we discuss them.

12. Ignoring the manner adverbial since it can co-occur with every verb-particle combination, we find no cases of the remaining possible MV constructions, namely, verb-particle-prepositional phrase-directional adverbial. It is not clear, however, that these two constructions even occur even when the verbal element consists of solely a verb. If they

do not then we could reasonably expect the presence of the particle to make no difference. The argument will be presented in 7.3 that the to-noun phrase combinations usually called the indirect object and associated with verbs like give, sell, and so on should be analyzed as directional adverbials. To the extent to which this can be motivated the two "non-occurring" constructions mentioned above do occur. The statement of the phrase structure rule expanding the constituent MV is certainly simplified if no restrictions need be placed on the introduction of the possible constituents.

Chapter 3: An examination of the verb-particle relationship

3.1 The types of verb-particle relationships

Having defined the notion of the verb-particle construction let us now turn to the question of the relationship between the particle and the verb. Looking first at the three groups of verb-particle combinations

(3-1) (i) dish out, give out, hand out, pour out, serve out,

(ii) hang up, nail up, paste up, screw up, tack up,

(iii) deed over, give over, hand over,

(3-2) (i) churn up, mix up, shake up, stir up,

(ii) bunch up, coil up, curl up, wind up,

(iii) die out, fade out, freeze out, tire out, wear out,

(iv) broaden out, even out, stretch out, lengthen, widen out,

(3-3) (i) look up, think up, buy up, offer up,

(ii) drown out, fake out, knock out, read out, test out,

(iii) auction off, carry off, dry off, show off, tip off, work off,

we see immediately that in the first group (3--1) the particle out up and over have retained essentially their "adverbial force" and that the verb-particle combination can be interpreted quite literally in terms of the meanings of the verb and the adverb. We will call this type of verb-particle relationship literal. The second group of verb-particle combinations do not possess this literal relationship. Rather, the particle seems to modify the meaning of the verb in a completive sense. We call the relationship between the verb and particle completive

just in case the combination has the meaning of bringing to a completion the action of the verb. The third group consists of verb-particle combinations sharing a figurative relationship. There is no apparent systematic way of associating the meaning of the verb and particle so as to derive the meaning of the combination in these cases.

Now consider, for the sake of example, the verbs in (2-4iii). We notice that in a sentence like

(3-4) The man hung (nailed, pasted, screwed, tacked) up the picture on the wall.

that the particle up can be deleted. It is clear that the meaning of the sentence changes somewhat but the acceptability of the sentence remains the same. We now make one further definition. The relationship between a verb and particle is systematic if it is the case that the strict subcategorization and selectional features of the verbal element are exactly the same whether or not the particle occurs following the verb. Stated another way, a verb-particle relationship is systematic if the co-occurrence relations of the verbal element remain unchanged by the presence or absence of the particle. In Section A2 of the Appendix are presented examples of systematic verb-particle combinations, listed first by the particle alphabetically and then broken down within each particle class into what seems to be rough semantic classes. If the relationship between a verb and particle is not systematic, then by definition it is unsystematic. It is easy to see that the sentences

(3-5) (i) He shook up the jar of soapy water

(ii) The woodsman lengthened out his step

(iii) The flower blossomed out

(iv) The people hurried up

all contain a particle but that the absence of it will not affect the acceptability of the individual sentences. On the other hand, the sentences

(3-6) (i) The scholar looked up the information

(ii) The lieutenant filled in his commander

(iii) The alarm went off

(iv) He finally cooled down

where there is also a particle are clearly unacceptable when the particle is deleted. These latter verb-particle relationships are, according to the definition above, unsystematic.

3.2 Some unusual effects of verb-particle combinations

At this point we have two ways of classifying verb-particle combinations. There are three classifications based on the semantic effect of the particle; literal, completive, figurative. There are two classifications based on the syntactic patterning of the verb with and without the presence of the particle: systematic and unsystematic. In theory, then, we have six possible classifications for verb-particle combinations. Actually they do not all occur as we shall observe below.

There are quite a number of verb-particle combinations in which the first element, that is the verb, is never functions as a verb without the presence of the following particle. Observe that in the sentences

(3-7) (i) The man auctioned off his household goods

(ii) The soldiers bolstered up their courage and went into battle

(iii) One should tone down his remarks for certain people

(iv) The small child was tuckered out from the long walk.

the elements auction, bolster, tone, tucker never occur singly as verbs in these or any other sentences. Such items in English occur in the verb-particle combination

(3-8) ante up, auction off, ball up, balloon up, bandy about, barge in, batten down, bed down, belly in, bib up, black out, blurt out, board up, bog down, bolster up, booze up, botch up, box off (up), bruit about, buff up, bum up, bung up, bunk up, buoy up, buttress up, cage up, cake up, cave in, chink up, clam up, cloud up, clown around, clutter up, coop up, cordon off, cork up, dole out, doll up, egg on, drum up, eke out, even up, fend off, ferret out, fog up, fork over, frost up, gum up, gun down, hollow out, horse around, jot down, keel over, leech out, limber up, lot out, mete out, mull over, parcel out, pension off, pep up, perk up, peter out, phase out, piece out, pine away, plank down, rev up, single out, soup up, spice up, sponge up, spout off, team up, tidy up, tone down, tool up, true up, trundle off, tucker out, wad up, ward off, well up, while away, wise up, wolf down, yoke up, zip up,

We will see in 6.3 that quite a few of these and other verb-particle combinations (other in the sense that the first element of the verb-particle combination does occur alone as a verb in some sentences) can

best be analyzed as being derived from some underlying form.

As one would expect, there appears to be an extremely close correlation between those verb-particle combinations sharing a systematic relationship and those sharing a literal relationship. Referring to the group of literal verb-particle combinations in (3-1) we see that they all have a systematic relationship. This systematic relationship also holds true for those verb-particle combinations sharing a completive relationship. The cases in (3-2) indicate this fact. And, as we might expect, there are no cases of verb-particle combinations sharing both a figurative and systematic relationship. The reason is obvious, of course, since for the figurative cases the meaning of the particle and for that matter the verb as well has become absorbed into the meaning of the entire verbal element. There is no theoretical reason why a verb-particle combination having a figurative relationship shouldn't also share a systematic one as it has been defined above. That is, it is conceivable that the co-occurrence restrictions would be the same though no such cases have arisen in our work. Little progress has been made on the verb-particle combinations in (3-3) in an attempt to distinguish the meanings of the individual parts of the combinations.

Although there is no reason to preclude them, no cases of verb-particle combinations sharing an unsystematic - literal or an unsystematic - completive relationship have been found. A combination of the first type would require the co-occurrence restrictions on the verb to be different

from those on the verb-particle combination while the particle would have an adverbial "force" on the meaning of the verbal element. For the second type (the verb-particle combination sharing the unsystematic - completive relationship), the co-occurrence restrictions would have to differ while the particle would have to alter the meaning of the verbal element from that of the verb alone to that of bringing the action of the verb to a "finished" condition. However, we do find the majority of the verb-particle combinations sharing the unsystematic - figurative relationship. It should be obvious that the most fruitful cases for us to look at in terms of finding regularities and writing a grammar of English are the systematic-literal and systematic-completive. We shall, therefore, concentrate on them.

It turns out that there are verb-particle combinations in which the particle appears to have a constant meaning yet for one reason or another we cannot call the relationship systematic and/or literal or completive. Consider the class of verbs

(3-9) butt, chime, break, tune, look, sit, work,

which all occur with the particle <u>in</u> and this combination is optionally followed by the preposition <u>on</u> followed by a noun phrase. For example, we have the sentences

(3-10) (i) He butted in on the conversation

(ii) She chimed in

(iii) They tuned in on the world series game

where the <u>in</u> "feels" as though it is functioning the same way in all these sentences. But there is at present no way to state in even quasi-

precise terms the effect of this particle on the meaning of the verb alone. Clearly the verb-particle combination is not systematic as can be seen by simply deleting the particles in the above sentences. The same sort of difficulty arises in the case of the verbs

(3-11) finish, kill, knock, murder, polish,

all of which co-occur with off as in the sentences

(3-12) (i) They finished off the ice cream

(ii) He polished off the work by 3 o'clock

(iii) The gangsters murdered off all the good guys

These two verb-particle classes do not exhaust such apparent completive or literal combinations by any means. There is, however, very little we can say about these cases in terms of the definition made in 3.1. We leave this subject, at least for the present.

With respect to the syntactic effect of the particles on the verbs with which they co-occur, we have already seen that for some combinations the particle may be deleted without changing the strict subcategorization and selectional restrictions on the verbal element. These are the cases we have defined as having a systematic relationship. All of the others have an unsystematic relationship. Let us look more closely at some of these unsystematic cases. In certain instances some verbs which are ordinarily transitive become intransitive by the addition of a particle. In the sentences

(3-13) (i) The weather cleared up

(ii) The planes stacked up over Kennedy Airport

(iii) The baby won't quiet down

(iv) The committee has thought out the problems in which the verbs bawl, look, point, and think occur as only intransitive verbs without the particle but the verb-particle combination functions as a transitive verbal element. Still another way in which the syntactic patterning of verb-particle combinations differ from the uncombined verb involves a quasi-passive sense attributed to the verb-particle combination with the usual object of the verb now becoming the subject of the verb-particle combination. This phenomena has been described by Kennedy (1920) in the following way.

"While the use of a verb of active form with the signification or connotation of a passive verb is general and by no means limited to verb-adverb (i.e. verb-particle) combinations, none the less the combinations seems to lend itself to such usage rather freely. A bill will figure up to a certain amount, dirt of a garment will brush off or clean off or rub off, a chair folds up, fresh bone will grind up easily, school lets out, a piece of cloth will make up nicely, a sleeping person will rouse up, a clock winds up easily, a plan works out well, material works up well, etc. This use of an active verb as a passive is especially characteristic of those verb-adverb combinations formed with the perfective (completive in our sense) up, such combinations as cake up, clog up, cook up, dent up, kink up, scuff up, streak up, etc." As far as we can tell, there is no systematic way to specify which verbs and which particles combine to form such quasi-passive verbal elements. An interesting discussion of this transferral of object to subject of

sort can be found in Hall (1965).

Although we have not stated it, it should be clear from the examples given thus far and from considering the list of verbs occurring with at least one particle as given in Section A of the Appendix that all particles do not co-occur with all verbs co-occurring with some particle(s). There are some verbs which co-occur with only one particle, for example:

(3-15) fizzle (out), jack (up), sober (up), pan (out), jot (down),

On the other hand, there are some verbs which form a verb-particle combination with almost every particle. (See (2-39) for a list of all particles we have discovered). Get is one such verb (as we would expect) and it combines with fifteen of the possible sixteen particles, forth being the sole exception. For example, we find the sentences representing the possible combinations

(3-16) (i) The cripple couldn't get about very well

(ii) Try to get across the main idea

(iii) He gets around better these days

(iv) Can you get him aside before the meeting?

(v) The schemers got away with the plan

(vi) Her brother got back at her

(vii) You will get by alright without Goldwater

(viii) Will you get down the blankets?

(ix) The beligerant arguer got in the last word

(x) They got off at 3 o'clock

(xi) We should get on with the work

(xi) The man got out his prize Scotch

(xii) The man got over on his side

(xiii) When will you get through with that book?

(xiv) He can't seem to get up his energy

There are other though not quite so productive verbs such as do, fall, go, keep, make, put, run, take, turn. As we would expect, there are some verbs occurring in different verb-particle combinations which have a whole host of meanings, the most productive verbs being take, put, go, get, turn, lay, set, run, make and fall. Reference to an unabridged dictionary will quickly indicate the large number of possible interpretations for these verbs when combined with particles.

Looking at all of this from another point of view, there are some verb-particle cases with an extraordinary number of associated meanings. For example, the combination make up has at least all of those indicated in (3-17) below, while put out, take up, set up, get up, take in, turn out, put up all have about as many interpretations.

(3-17) (i) to compose, compile, such as make up a piece of music

(ii) to constitute, as water is made up of two elements.

(iii) to wrap up, as in make up the package neatly

(iv) to arrange, to prepare, as in make up the bed

(v) to complete, as in make up the deficit

(vi) to paint, as in make up his face for the play

(vii) to reconcile, as in the lovers made up

(viii) to decide, as in make up one's mind

(ix) to make a play for, as in make up to the attractive woman

3.3 Some observations by Whorf

Whorf (1956) recognized that this systematic-completive verb-particle relationship exists as we have described it above although he did not speak of it in the same terms. On page 70 we find:

> "...the English particle "up" meaning 'completely, to a finish', as in break it up, cover it up, eat it up, twist it up, open it up can be applied to any verb of one or two syllables initially accented, excepting verbs belonging to four special cryptotypes. One is the cryptotype of dispersion without boundary; hence one does not say 'spread it up, waste it up, spend it up, scatter it up, drain it up, or filter it up'. Another is the cryptotype of oscillation without agitation of parts; we don't say 'rock up a cradle, wave up a flag, wiggle up a finger, nod up one's head', etc. The third is the cryptotype of nondurative impact which also includes psychological reaction: kill, fight, etc. hence we don't say 'whack it up, tap it up, stab it up, slam it up, wrestle him up, hate him up'. The fourth is the verbs of directed motion, move, lift, pull, push, put, etc., with which "up" has the direction sense, 'upward', or derived senses, even though this sense may be contradicted by the verb and hence produce as an effect of absurdity, as in 'drip it up'. Outside this set of cryptotypes, "up" may be freely used with transitive in the completive intensive sense."

Whorf is presently an interesting idea here. He is suggesting that there are classes of verbs (we can assume the generalization to classes of any type of grammatical category) which possess common semantic and common phonological features and pattern a particular way syntactically because of these features. This is not at all a trivial suggestion and has the following implications. Transformational grammarians have been almost universally agreed that the applicability of a transformation should depend totally on syntactic information. Chomsky (1957) and Lees (1960) took the position that all syntactic information was to be represented solely in the form of a tree structure. Later Chomsky (1963) suggested that this was too narrow an approach and suggested that a P-marker should not consist only of a tree with hierarchical branching relations but that there should be, in addition, a bundle of features associated with certain constituents after they had been introduced by phrase structure type rules. We have already discussed the nature of these features, namely, the strict subcategorization and selectional features. It was always made quite clear, however, that since these features were referred to by the base subcomponent of the syntactic component of the grammar that by definition these features were to be considered syntactic. Thus within the statement of the present theory a transformation can be defined only in terms of the constituent structure of the P-marker and these two types of features. Whorf is suggesting (implicitly) that there should be a rule of some sort which adjoins the completive particle up to certain classes of

verbs where these classes can presumably be defined only in terms of semantic features of the verbal elements. Actually this rule would not be a transformation such as the passive transformation (2-3) but rather would be a redundancy rule, a part of the lexicon. (See Chomsky, 1965, for a discussion of such a rule). It is also questionable whether or not those features which distinguish his cryptotypes should be considered semantic or syntactic.[1]

Whorf is going still further, however, because he places not only the semantic feature constraint on these classes of verbs but also a fact about their stress assignment. That is, he is suggesting that certain phonological facts are relevant in defining the applicability of this completive up. Here, as for the semantic features mentioned above, to the extent to which his observations are correct and should be reflected in the grammar, they must be accounted for within the lexicon. As we will see below, there is a remarkedly close relationship between the number of syllables of a verb, its stress, and its ability to be a part of a verb-particle construction.

We should point out that Whorf's definition of those verbs which will not take the completive up is not accurate. The verbs worship, covet, bury, candy, can (fruit), chide, and cancel, are among many which one can easily find which are not excluded by the being in one of the four cryptotypes yet which do not occur with the completive up. Perhaps Whorf just did not go far enough and exclude enough classes of

verbs. Or perhaps it is impossible to classify which verbs do and which do not occur with this up in any systematic way. Probably the answer lies somewhere between these two positions.

3.4 The phonological character of verbs which combine with particles Taking Whorf's suggestion that both the phonological and semantic characteristics of a verb determine whether or not it can combine with a particle, let us now turn our attention to an examination of the phonological character of the verbs with which the various particles combine. (We consider the semantic character of these verbs in 3.5) It has been pointed out by Kennedy (1920) that the majority of verbs occurring with particles are monosyllabic with the remainder made up primarily of bisyllabic words. (Recall also the passage from Whorf quoted above in which he placed the requirement on the verbs co-occurring with the completive up that they be monosyllabic or bisyllabic stressed on the first syllable). Kennedy finds in some 988 cases (not all of which are verb-particle combinations as defined here) that there is only one trisyllabic case, this being partition as in partition up and partition off. (There is also apportion out.) We find that while there are numerous phonetically bisyllabic verbs occurring in verb-particle combinations, almost all of these cases are to be analyzed as phonologically monosyllabic.[2] In particular, these phonologically monosyllabic verbs contain a final syllabic liquid or nasal /l/, /r/, /m/, /n/. In (3-18) those phonetically bisyllabic verbs are listed with respect to the final syllable form. The particle in parenthesis

following each verb in the list is one but not necessarily the only particle with which this verb co-occurs.

(3-18)

(i)
banter (about)
batter (around
blister (up)
bolster (up)
bugger (up)
butcher (up)
butter (up)
cloister (up)
clutter (up)
cover (up)
filter (out)
fritter (away)
gather (up)
hammer (out)
limber (up)
litter (up)
muster (up)
offer (up)
paper (up)
peter (out)
plaster (up)
powder (up)
pucker (up)
render (up)
simmer (down)
sober (up)
solder (up)
spatter (up)
splinter (up)
squander (away)
tinker (around)
water (down)
wither (away)
zipper (up)

(ii)
battle (out)
bottle (up)
buckle (down)
bundle (up)
bungle (up)
crumble (up)
diddle (away)
fiddle (away)
fizzle (out)
funnel (out)
gobble (up)
huddle (up)
hustle (on)
jiggle (up)
jumble (up)
knuckle (down)
ladle (out)
parcel (out)
pencil (out)
puzzle (out)
rattle (away)
saddle (up)
scribble (down)
settle (up)
shovel (up)
tangle (up)

(iii)
batten (down
blacken (up)
brighten (up)
broaden (out)
button (up)
curtain (up)
dampen (up)
darken (up)
fasten (down)
fatten (up)
flatten (out)
freshen (up)
frighten (away)
harden (up)
lengthen (out)
lessen (up)
loosen (up)
moisten (up)
neaten (up)
recken (up)
ripen (up)
siphon (off)
stiffen (up)
straigthen (out)
tighten (up)
widen (out)

(iv)
blossom (out)

There are, however, some initially stressed phonologically bisyllabic verbs which co-occur with particles. Arranged in groups according to the phonetic shape of their last syllable (with the exception of (vi) which is the residue) these other cases are:

(3-19) (i) ante (up)
carry (out)
curry (up)
dirty (up)
empty (out)
hurry (up)
muddy (up)
pretty (up)
tally (up)
tidy (up)

(ii) auction (off)
partition (off)
pension (off)
portion (out)
section (off)

(iii) buttress (up)
harness (up)

(iv) burnish (up)
finish (up)
polish (up)

(v) follow (out)
narrow (up)
swallow (down)

(vi) argue (out)
balance (up)
cancel (out)
cement (up)
collect (up)
conjure (up)
connect (up)
divide (up)
doctor (up)
explain (away)
measure (out)
murder (off)
package (up)
rationalize
total (up)

It has been suggested that this tendency for monosyllabism of verb-particle combinations (though these are usually referred to as verb-adverb combinations) arises from the monosyllabic nature of the Teutonic foundations of the English language. Others have attributed it to the stress requirements of the verbal elements (which requirements might possibly rely also on the Teutonic background but this is not clear). Still others choose the argument that it is easier to select a short word, the verb, modify it with some adverbs to form a number of other verbal elements rather than commit to memory an equal number of relatively long polysyllabic forms. The facts, however, are quite clear. Whether the verb-particle relationship is literal, completive, or figurative and systematic or unsystematic, with the exception of a handful of verbs, all verbs are monosyllabic or bisyllabic stressed initially. These finally stressed bisyllabic verbs are

(3-20) attach (up), balloon (out), cement (up), collect (up), connect (up), consign (over), divide (up), expand (out), explain (away), extend (out), extrude (out), secure (up),

There are also a few trisyllabic verbs, namely,

(3-21) partition (off), separate (up), summarize (up), telegraph (in),

We will treat these cases as exceptions and not consider them in the further discussion.[3]

3.5 The similarity between particles and prefixes

That the restrictions on verb combinations are phonological in at least some cases and not semantic can be seen from comparing the pairs

(3-22) make up--*fabricate up, think up--*generate up, work out--*develop out, think out--*contemplate out, try out--*attempt out

where we have tried to choose verbs having approximately the same meaning but where the second pair of verbs will not combine with the particle combined with the first. Notice that we have been careful to include both verbs with and without prefixes. For instance, fabricate and generate do not have prefixes according to the O. E. D. (1955) whereas the de in develop and the con in contemplate are the result of prefixation at some earlier stage in the language. But of course all bisyllabic verbs having the a prefix as the first syllable are stressed on the final syllable. Thus, if only monosyllabic and initially stressed bisyllabic verbs can combine in verb-particle combinations we would not expect to find many verbs with prefixes combining. This, in fact, is the case. We find, however, that there are two types of prefix-verb combination. The first

consists of those cases where the prefix no longer has a predictable effect on the meaning of the verb and thus the combination (analogous to the figurative verb-particle combinations) has a meaning as a whole. Cases of this type are divide, reject, convince, educe and so on where the main stress is on the last syllable where the first syllable is completely unstressed.[4] There are, on the other hand, other bisyllabic verbs with an initial prefix with main stress on the final syllable where the first syllable is not completely unstressed but is considerably less stressed than the final one. For example we find outrun, overthrow, rethrow, intertwine, and other cases. In order for the stress rules of English to naturally assign the different stress patterns to these two types of prefix-verb combinations there must be some natural or ad hoc way of distinguishing between them. Examination of the latter type show us that there is, in fact, a quite natural way to account for this difference.

Consider the sentences

(3-23) (i) A G.E. bulb will outburn any other type

(ii) That runner outlasted all the others in the race

(iii) Rubber outwears leather when used for shoe soles

where for each sentence the out has the effect of doing two things. First it causes the intransitive verbs (burn, last, wear) to become transitive. Secondly, it associates the notion of "comparison" to the verb. In fact, for each of the sentences in (3-23) there is an exact paraphrase

(3-24) (i) A G.E. bulb will burn longer than any other type (bulb)

(ii) That runner lasted longer than all the others in the race

(iii) Rubber wears longer than leather when used for shoe soles

The argument can be brought that the verbal element outwear in (3-23iii) has another meaning. For many people it also means to wear better. But notice that the comparative conjunction better could just as well been used in the comparative sentence (3-24iii) to provide the second semantic interpretation of (3-23iii). In short, we are suggesting that a whole host of verbs with out as a prefix are best derived from comparative sentences where the comparative morphemes (longer than, etc.) are dominated by the adverbial of degree. Notice that the comparative conjunctions longer and better are not the only ones possible as the following sentences indicate.[5]

(3-25) (i) outshout--He shouted louder than she did

(ii) outshine--The lamp can shine brighter than the candle

(iii) outspend--John's wife spends more money than Harry's

(iv) outthrow--The centerfielder threw the ball further than the pitcher

(v) outrun--The winner of the race ran faster than the others

(vi) outgrin--Few people grin more often than the Chesshire cat

This transformation from a comparative sentence to the out-verb form of the verbal element is not restricted to intransitive verbs. Sentence (3-25iii) with the verb spend and (3-25iv) with throw are examples of a transitive verb. Notice, however, that the object of the transitive verb becomes deleted under the action of the transformation. We discover,

though, that these transitive verbs are just those which permit the deletion of the direct object noun phrase with the action of the verb now being interpreted in a general sense. Examples are eat, drink, throw, sing, and so on. On the basis of these facts we define the transformation

(3-26) NP+AUX - $\begin{bmatrix} \\ +V \end{bmatrix}$ - Δ - ER - THAN - NP

1 - 2 - 3 4 - 5 = 1 - OUT + 2 - ϕ - ϕ - 5

Condition: ADJ$>$3

where the third term, analyzed as a dummy symbol dominated by the constituent ADJ, is the unspecified adjective mentioned in footnote 5.

There are verbs like outclass, outsmart, outrange which are not accounted for by the transformation in (2-26) at all. Yet they appear to have the same prefix out and the same stress assignment. The vast majority of verbs with the prefix out will be accounted for, however, and the others we will simply treat separately as special cases.

Now consider the sentences

(3-27) (i) He overthrew the base

(ii) The shopkeeper overcharged the woman

(iii) The bookkeeper overestimated the taxes that year

(iv) The man overeats

(v) He who oversleeps gets off to a late start

Interestingly enough we find that corresponding to the sentences in (3-27) there are corresponding sentences

(3-28) (i) He threw too far

(ii) The shopkeeper charged the woman too much (money)

(iii) The bookkeeper estimated the taxes that year too high

(iv) The man eats too much

(v) He who sleeps toolate gets off to a late start

which provide an exact semantic paraphrase. It seems quite reasonable to define another transformation analogous to (3-26) which derives the sentences in (3-27) from the corresponding sentences in (2-28).[6] The transformation

(3-29) NP+AUX - $\left[+V\right]$ - X - TOO - $\triangle$

1 - 2 - 3 - 4 - 5 1 - OVER + 2 - 3 - ϕ

Condition: ADJ $>$ 5

as stated is also inadequate for some cases as it is stated. The verbs overflow, overlap, override, overrule and others cannot be accounted for by (3-29) though, as in the case of out, the vast majority are quite nicely handled.

In a similar fashion it seems possible to derive the first sentence in each of the following pairs from the second.

(3-30) (i) She intertwined the ropes--She twined the two ropes together

(ii) They interconnected the phone systems--They connected the phone systems together

(iii) John interfolded the papers--John folded the papers together

(iv) Do not intermix water and acid--Do not mix water and acid together

There are clearly more difficulties associated with the inter prefix as a productive prefix than with the first two discussed. We are not attempting here to present all of the evidence for and against such a derivation of verbs with what we consider productive prefixes. The significance of such derived verbs will become clear in a moment.

Probably the most productive prefix is re. There are certain restrictions on this prefix, however, the most general one being that it can occur only with verbs which occur in sentences which permit a manner adverbial. Moreover, the re combines almost exclusively when there is a noun phrase immediately following the verb.[7] That is, verbs with a following prepositional phrase, a directional adverbial, or no noun phrase at all are excluded. Thus we do not accept

(3-31) (i) *He reargued with John

(ii) *She rewept

(iii) *The man redove into the water

A second restriction on the combination of re concerns the content of the verb itself. It is apparently the case that the re will not combine when the verb contains a productive prefix like out, over, inter and so on. That is, we do not find the verbs *reoutplay, *reoverthrow, *reinter-mingle acceptable while we do accept the verbs redivide, reexamine and other cases where the prefix is not of a productive nature. It is not clear why this should be so and we cannot offer any satisfactory explanation.

Derivation of the re-prefixed verbs can occur by transforming a sentence with a frequency time adverbial (again, once more, over again,

etc.). Furthermore, with these re verbs we can have a frequency time adverbial in the sentence. Thus we find

(3-32) (i) They replayed the game once more

(ii) Will you please redivide the marbles again

to be quite acceptable. In fact, there appears to be no theoretical limit on the number of re's which can be prefixed. We say theoretical since the difficulty in understanding sentences like

(3-33) (i) He re-re-re-reswept the floor

(ii) The man has had to re-re-re-re-re-repaint his storm windows

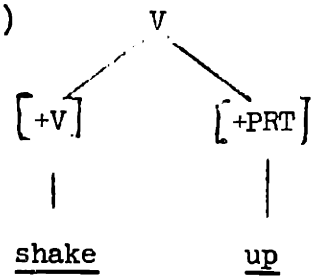
seems to be more in determining the repetitions associated with this left-branching structure as opposed to knowing what sort of structure one is encountering. Such a construction is similar to a group of possessive modifiers on a noun.

The question of whether or not the prefix re can combine with verbs having following particles is confusing. We find that most verb-particle combinations will not permit such prefixation but there are cases like rework out that some people want to claim as acceptable. If these do exist for some people, a rather doubtful situation, we will treat these cases as exceptions and make the claim that the existence of the prefix re is no different than any other prefix with respect to permitting verb-particle combination.

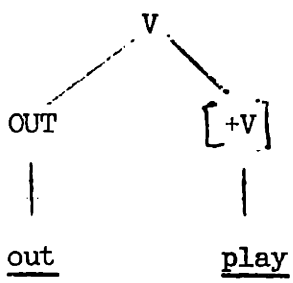
We have already mentioned that the stress assigned to the verb-particle combination and the productive prefix-verb combinations is

identical. This holds true even if the verb combining with the prefix is polysyllabic since only one syllable of the verb with will have main stress. In terms of the method of the applications of stress rules introduced by Halle and Chomsky, (1965), we would anticipate that the constituent structures, if any, associated with each combination to be the same. We have already assumed the constituent structure of the verb-particle combination to be that shown in (3-34i) while the structure of the prefix-verb combinations, by the action of the transformations (3-27) and (3-29), is that shown in (3-34ii) seems to reasonable. We will show in Chapter 4 that the verb-particle combinations must have the structure shown in (3-34ii). We find, then, that the constituent structures of the verb-particle and prefix-verb are identical and, as we have already noted,

(3-34) (i)



(ii)



take the same stress. In very much the same sense they both form a compound verbal element. There are both systematic prefix-verb and verb-particle combinations such as outplay and shake up and unsystematic combinations like outclass and figure out.[8]

3.6 The semantic character of verbs combining with particles

We might expect, taking Whorf's statements as a lead, that it would be possible to set up fairly rigorous semantic criteria designating when

a verb will or will not combine with a particle to form a verb-particle combination. It turns out, however, that even working intuitively, such criteria do not become immediately obvious. Certainly there are rough groupings of verbs occurring with one particular particle where the relationship is systematic-literal or systematic-completive. In Section A2 of the Appendix we have presented those systematic cases of verb-particle combinations listed first by the particle alphabetically and then broken down within each particle class into what seem to be rough semantic classes.

Take for the sake of example the class which includes

(3-35) bolt, cement, clamp, glue, paste, nail, rivet

where all of these items combine with the particle down. Intuitively we will agree that there is some common semantic thread running through this list of verbs. That this class of semantically similar verbs is in a real sense productive can be easily seen in the following way. If we define a new verb in English dute with the meaning of joining two pieces of material together by using a corkscrew-shaped shaft called a dute we can certainly accept the sentence

(3-36) He duted down the loose corner of the rug.

Such new verbs can be found for most of the classes of the systematic verb-particle combinations. Many of the verbs in the classes in the Appendix were uncovered by simply referring to the classifications in Roget's Thesaurus. It would not be surprising to find out in the process

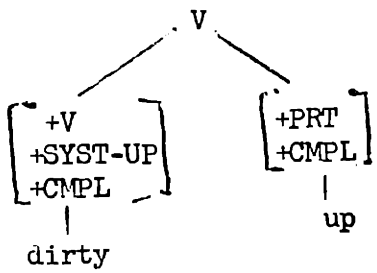
of making a semantic analysis of English that each of the systematic classes of verb-particle combinations contain some common semantic feature(s). To the extent that each class already co-occurs with some particle in a systematic sense without any differentiating syntactic feature accompanying the verbs seems to be corroborating evidence supporting this idea.

If this notion of a common semantic thread holds up, we should be able to extend all of these classes in much the same way as above. We are assuming here that we can agree upon a group of verbs falling into a class because of some common underlying feature(s). Such an assumption has to be made, lacking a semantic analysis. But we find numerous counterexamples to this approach. For example, while we have chase (hunt, track, trail) down, there is no follow down verb-particle combination. We find speak (talk,) out but no utter out. There are bake (cook, fry, broil, boil, brew) up but not roast up or braize up. And though we have cache (file, hide, hoard, pack) away we do not have keep away (with the same sense) or place away. This enumerating could go on for a long time. Unfortunately there is no obvious way to determine whether or not a verb, apparently closely associated semantically with the verbs in a verb-particle class, will combine with a particle.

Without even a partial semantic analysis of English--be it in the Katz and Fodor terms or otherwise-- there is little or nothing substantive we can say about the way in which the semantic effect of the systematic particle might be handled. Let us make a few assumptions, however,

and speculate about the results to which a complete syntactic and semantic analysis of English might lead us. The way in which the verb-particle combination is to be introduced into the base P-marker is discussed in Chapter 4 but let us assume that after all the rules of the base subcomponent have applied, that is, when the semantic component operates on the underlying P-marker to provide a semantic interpretation of the sentence, that the systematic verb-particle combination dirty up has the representation.[9]

(3-37)



The feature [+V] indicates that this element is a verb, the [+SYST] signifies that this verb may combine systematically with the particle up. The [+PRT] is the syntactic feature designating an element as a particle while the [+CMPL] means that this particle is combining with the verb in its completive sense and vice-versa. (We might, of course, have selected a verb-particle having a literal relationship instead of completive.) With the information in (3-37) as well as the relevant semantic information associated with the verb dirty it seems quite possible to define a Type-I amalagmation rule of the Katz and Fodor (1963) sort to assign a semantic interpretation to V which is roughly "to cause to become completely soiled and messed up" as opposed to the interpretation of dirty which

would be roughly "to cause to become soiled and messed up". Certainly these remarks should not be taken to be definitive, only suggestive.

The important question to ask here is just what does all of this achieve in terms of the grammar of a language. In other words, why is this way of handling the problem desirable. The answer to this question is actually not hard to find when one considers the consequences in terms of the size of the lexicon of the grammar if we treat all verb-particle combinations alike. This, of course, would mean that for dirty, dirty up, shake, shake up, and so on that there must be a separate lexical entry and set of semantic features for each verbal element. On the other hand, taking the suggestion of deriving the semantic interpretation of the systematic verb-particle combinations from the semantic information associated with the verb and other (probably syntactic) information associated with the particle, the lexicon need contain only one set of semantic features for each pair (dirty--dirty up) and probably, as we will see below, needs only one entry for these two related verbal elements. Such an approach effects a considerable simplification in the overall grammar, certainly a desirable consequence. But furthermore, this approach reflects an important fact about the English language, namely, that there are certain lexical items which are closely associated in semantic meaning and which pattern exactly alike.

3.7 Nominal and adjectival verb-particle combinations

Examination of the verb-particle combinations in the text thus far and those listed in Appendix I show that a considerable number of these

combinations can occur as nouns. We have, for example,

(3-38) cleanup, holdup, letup, lookout, lockup, shakeup, turnout, windup, throwaway, holdover, comeback, lockout, rakeoff, standin, walkout, frameup, roundup, showdown, kickoff, lineup, rubdown, takeoff, breakdown, breakup, cutout, smashup, getup, handout, slipover, turnover, writeup,

Other cases where the gerund form of the verb occurs in the noun include

(3-39) beating-up, bringing-up, dressing-down, falling-off, falling-out, slowing-up, stirring-up, thinning-out, chewing-out

where the of-noun phrase of the action nominalization from which these nouns were most probably derived is no longer required. There are even cases such as

(3-40) dugout, left-over

where the past participle form of the verb occurs in the noun formed from the verb-particle combination. There is apparently no linguistic explanation for why these and not other verb-particle combinations become nouns in one form or another.

Quite a few of the verb-particle combinations with the verb in the past participle form function as adjectives. For example we have worn-out shoes, littered-up sidewalk, thrown-away newspaper and so on. Which combinations, in fact which verbs in general (such as close, open, etc), permit this formation of the adjective is an open question. (See Fraser, 1965 for a discussion of these adjectives in relation to the passive construction in English)

Footnotes for Chapter 3

1. Within the present organization of a transformational grammar, there is no way to determine a priori what will be syntactic and what will be semantic features of the language. Such a distinction can be reached only in terms of what features are required by the syntactic and what for the semantic component to satisfactorily account for the sentences of the language. But such a distinction really depends on what tasks one places on the syntax, what on the semantics. Some discussion on this issue can be found in Chomsky, 1965, and Bever and Rosenbaum, 1964.

2. We are adopting the phonological conventions presented in Halle and Chomsky, 1965.

3. The verb-particle combinations like cement up, wall up, telegraph in, radio in and so on will be considered in Chapter 6. Notice that all of these verbs are also nouns, a fact which plays an important part in their derivation.

4. In terms of Halle and Chomsky, 1965, main stress is represented by "1", secondary stress by "2", ..., completely unstressed by "4".

5. The structure of the adverb of degree is not well defined and thus we cannot make any definitive statement. It seems clear, however, that the elements such as bright, loud, far do not appear as lexical items

in the underlying P-markers for the sentences in (3-25). Rather, the underlying comparitive sentences contain unspecified adjectives (or adverbials) in the same sense as the verb eat is followed by an unspecified direct object noun phrase which is then deleted.

6. The remarks of footnote 5, above, apply equally as well here.

7. There are a few cases of purely intransitive verbs such as appear which combine with this re. In addition certain middle verbs (in Lee's sense, 1960) such as organize also combine with re.

8. It is interesting to note that there are a number of prefix-verb combinations where the prefix seems to function as a particle. In the pairs

(1) wake up--awaken, fog up--befog, tangle up--entangle, mingle together--intermingle, rearm--arm up, wind down--unwind

the first verbal element with the particle can be substituted in many instances for the prefix-verb case. Historically, according to Kennedy, 1920, the particles arose from positioning following the verb the separable prefix in Old English and Middle English. After the fifteenth century the verb-particle combinations began to show considerable strength in texts though the overwhelming majority of interpretations were of the literal-systematic sense. Unfortunately there is very little which can be said today about these pair-types like those in (1) though by tracing them historically it might be possible to determine just

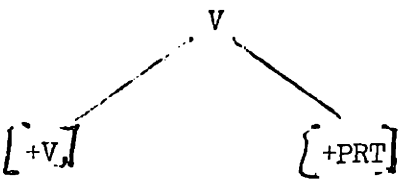
how closely associated they really are.

9. Clearly most of the syntactic features and a : semantic features would be included in a full representatic they are not relevant to the following discussion and are thus omitted.

Chapter 4: Introduction of the verb-particle combination into a P-marker

In the preceding discussion we have shown that verbal elements may consist of single items like throw, like, sing, or may be a compound. We have discussed two different types of compounds, namely, verb-particle and prefix-verb combinations. In our discussion we have been assuming that each part of a verbal element (compound or not) is composed of a complex symbol in the sense described by Chomsky (1965). The constituent structure of such a compound is that shown in (4-1). In this section we will examine this constituent structure

(4-1)



of a compound verbal element to determine whether or not it is the correct one, and then suggest how a verb-particle combination should be introduced into a P-marker.

4.1 Verb-particle constituent structure

That a verb-particle combination should be analyzed as a single constituent in the surface structure-- what we have called V in the preceding discussion--seems beyond question. We have already noted that a single verb or a verb-particle combination act exactly the same syntactically with respect to such facts as the questioning of the direct object noun phrase, the action nominalization, conjunction, the passive transformation and the positioning of the manner adverbial. Syntactically they function almost alike. (The difference will be pointed out below.) Semantically, in so

far as we can determine, they play the same role in the amalgamation rules proposed by Katz and Fodor (1962). Phonologically, the highest stress on the verbal element relative to a following direct object noun phrase is lower than that on the noun phrase irrespective of whether or not the verbal element is a compound or not. Thus, with respect to the three components of a grammar, there is every reason to analyze single verbs and verbal compounds of the verb-particle sort as being dominated by the same constituent, V. (The same arguments apply to the prefix-verb cases but we will not discuss them further.)

Taking the position that a verb-particle combination is dominated by V, we must determine whether or not there is any motivation for associating additional constituent structure with the combination. That is, should the constituent V be analyzed as simply the two complex symbols for combinations like look up, throw away as (4-1) indicates or should the constituent V be analyzed as dominating other constituents in the same sense as VP dominates V, NP, MAN, PP and so on.

As we mentioned above, the verb-particle and single verb cases pattern almost identically syntactically. The sole difference consists of the possibility of moving the particle away from the verb to the position following the direct object noun phrase. Thus both the sequence look up the information and look the information up are acceptable and must be accounted for. (Cf. 7.1 for a discussion of the conditions when such movement is possible.) To account for the second of the above sequences we tentatively define the transformation[1]

(4-2) $\begin{matrix}[+V] & - & +PRT & - & NP \\ 1 & & 2 & & 3\end{matrix} \Longrightarrow 1 - \emptyset - 3+2$

where both the verb and particle are analyzed as complex symbols. To account for the syntactic fact that the particle can be separated from the verb does not require any constituent structure beyond that shown in (4-1). We will see in 4.2 below that those base rules which must refer to the verbal element apply equally as well to the structure in (4-1) or one in which V dominates other constituents; that is, these rules are neutral also with respect to motivating any further constituent structure of the verbal element V. We conclude then that there is no (syntactic) motivation to increase the constituent structure of the verbal element beyond that shown in (4-1).[2]

4.2 Verb-particle introduction

Let us now consider the question of how to introduce a verb-particle combination into a P-marker. We first consider the systematic cases. The best possible situation would arise if it were possible to predict, on the basis of the semantic and/or phonological and/or syntactic character of a verb, with which particle it would combine and, in which way (that is, literal or completive). We would need only establish a small set of lexical rules which would introduce a particle after the lexical item corresponding to the verb. If such verb classification is possible on any basis it has not yet been discovered. There are certain groups of systematic verb-particle combinations based on what looks to be a semantic grouping but this is merely speculation. These are presented in Section A2 in the Appendix. Aside from these cases, there is little that can be

said. As a consequence it seems that the particle with which a given verb combines and the type of relationship shared by the two elements must be stated as a part of the lexical entry of the verb. There seem to be two viable alternatives.[3]

The first alternative requires that the lexical entry for a verb-particle combination consist of two parts. The first part consists of the verb with all of its syntactic, semantic and phonological features. The second part consists of the particle with syntactic and phonological features.[4] There would be no need to state with which particle this verb combines since the particle already forms a part of the lexical entry of the verb. Since this verb-particle combination is systematic, that is, the particle may or may not co-occur with the verb without changing the strict subcategorization and selectional restrictions of the verb, we must indicate that the introduction of the particle into the P-marker is optional. The feature [+SYS] will be used to indicate a systematic relationship and will also indicate the optional occurrence of the particle, the feature [+CMPL] ([+LIT]) will indicate that the relationship is completive (literal). Leaving out all irrelevant features, we might expect the systematic-completive verb-particle combination shake up to resemble[5]

(4-3) $[[+V], [+SYS], [+CMPL]\ldots]$ - $[+PRT]\ldots$

shake up

The substitution transformation (Cf. Chomsky, 1965) which introduces the verbal element would substitute both parts of the verbal element for the constituent V, thus resulting in the structure shown in (4-1).

The second alternative would have the lexical entry for a systematic verb-particle combination consist of only the verb with the particular particle indicated. Thus for the combination shake up the lexical entry would be

(4-4) [+V, (+SYS, +CMPL, +up)]

or in a form very similar. In this second case we would have to define additional lexical substitution rules which would optionally introduce the complex symbol corresponding to the completive-systematic particle up. On the face of it then in the first alternative we have a somewhat more complicated lexicon than in the second but the second alternative requires the definition of additional lexical substitution rules. Such a trade-off is impossible to evaluate at the present time. An evaluation would require the comparing of additional transformational rules against an increased size of the lexicon. Such a comparison has no meaning in terms of the simplicity criteria heretofore suggested. (See Chomsky, 1964, Halle 1963) for a discussion of the notions of simplicity and how they effect the structure of a grammar.)

Actually the difficulty resolves itself when we consider the following fact. There are many verbs which combine with more than one particle in a systematic fashion. For example, we find the verb-particle combinations give out, give over, hang up, hang out, clean up, clean out, and so forth. By the first alternative we would have to have a lexical entry for each systematic verb-particle combination. This is clearly a mistake. But by the second alternative we need only include in the lexicon either [+CMPL] (completive) or [+LIT] (literal) and the particular particle

associated with each feature. (Recall that the feature [+SYS], if it is necessary at all, can be derived.) Thus the lexical entry for the verb give might look like:

(4-5) [+V; (+LIT, +out); (+LIT, +over); ...]
give

where it is indicated that the verb give can combine systematically with the particles out and over. In view of the simplification achieved by this second method with respect to the size of the lexicon we must conclude that this alternative is to be preferred.

Let us now turn to the non-systematic verb-particle combinations. As we have already mentioned, it is not possible to derive the semantic interpretation of these combinations. This means, of course, that the lexical entry for the verb must carry, in addition to the specification of the particle(s) with which it combines, a statement of all the semantic features relevant to the interpretation of the verbal element. Obviously, then, the non-systematic verb-particle combinations must each be treated separately. That is, although there are three particles combining with look in a non-systematic way, (look up, look out, look over) it is not possible to systematically coalesce the three verbal elements into one compound lexical entry as it is for the systematic cases give out, give over.[6] Certainly we could contrive some ad hoc method of collapsing these and similar figurative combinations but they are without the generality of the systematic verb-particle combinations. Such a method of collapsing the figurative cases would undoubtably result in

considerable complication to the lexicon and to the rules of the semantic component of the grammar.

Aside from the non-coalescing feature of the non-systematic-figurative combinations, however, they can be treated exactly the same as the systematic-completive/literal ones. That is, these non-systematic verbal elements will be handled like those which are systematic. For example, look up might have the lexical entry

(4-6) $\left[\begin{array}{c} +V; \; \underset{\underset{\text{look}}{|}}{+\text{FIG}}, \; +\underline{\text{up}} \end{array}\right]$

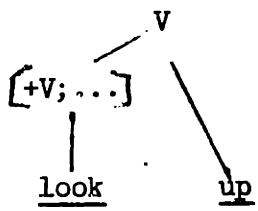
while the entry for look over would be identical except that, obviously, over would replace up. The particle would be (obligatorily) introduced in exactly the same way as for the systematic cases. The semantic rules when interpretating a verbal element will be defined to disregard the particle just in case the feature [+FIG] is a feature of the verb.

Footnotes for Chapter 4

1. The third term of this transformation will have to be restricted as we will see in 7.1. There are numerous cases in a grammar of English where transformations are defined on such complex symbols and thus there is no innovation here. See Katz and Postal, 1964, for a discussion of such notions.

2. Although we have shown that no more constituent structure than that shown in (4-1) is required, we have not justified this much structure. That we need the structure of the constituent V dominating the complex symbol +V;... which in turn dominates the phonological representation of some lexical item seems clear. Such constituent structure is required for verbal elements without any particle. Motivation for such structure can be found in Chomsky, 1965. The question is whether or not we need any complex symbol associated with the particle. It would certainly be possible to introduce the verb-particle combination (Cf. 4.2) so as to have the underlying form shown in (1).

(1)



The particle movement transformation (7-7) could presumably be defined on the small number (16) of particles rather than on some complex symbol. Here again it is not clear that the complicating of the particle movement rule is outweighed by the simplifying of the lexicon.

3. We will not be very specific about the nature of the lexical entries nor how they are to be introduced into the P-marker. For the purposes of this discussion we are assuming that each item the lexicon consists of a bundle of syntactic, semantic and phonological features which fully characterizes this item. What sort of formalism should be used and to what extent the rules of the base component develop the set of complex features associated with each constituent we leave open. A discussion of the alternatives and the concomitant problems can be found in Chomsky, 1965.

4. We are assuming here that there is no need to associate any semantic feature with the particle, only phonological and syntactic features. For the figurative cases discussed below, this is clearly a reasonable approach. Insofar as we can make any remarks about the literal and completive cases it seems possible to derive a semantic interpretation of the systematic combinations from only those features associated with the verb and the identity of the particular particle in combination.

5. Actually the occurrence of the feature [+CMPL] (or [+LIT]) implies the feature [+SYS] and we could define a rule deriving [+SYS]. This would certainly effect a saving in the size and complexity of the lexicon in this and the second alternative also.

6. Actually there is a nontrivial problem here since the meaning of the verb look does play some role in the interpretation of all of these cases.

Chapter 5: Cases of apparent verb-particle combinations

It may have appeared from the previous discussion that we have in a somewhat arbitrary way restricted the definition of verb-particle combinations. Obviously in a work such as this some limitation must be imposed and for our purposes the scope of the main investigation was restricted to the verb-particle construction as defined in Chapter 2. It is worthwhile, however, to examine a number of combinations consisting of a verb with other following elements to see just how they differ from verb-particle combinations. Some of the cases considered below have been analyzed by other linguists as verb-particle combinations while other cases have rather interesting syntactic properties which relate to the verb-particle construction. We shall see from the subsequent discussion that although the definition of a verb-particle combination seems to be well motivated and consistent, the definition can be altered to include some of these borderline cases.

5.1 The *live it up* cases

The first case of an apparent verb-particle combination we look at is illustrated by the sentences

(5-1) (i) They really lived it up in Boston last Saturday night

(ii) St. Louis whooped it up when the World Series was over

(iii) John doesn't drink it up during the weekends

Superficially these sentences look as if they contain a verb-pronoun particle sequence analogous to the sentences

(5-2) (i) He looked it up for me

(ii) They worked it out after trying for three days

Closer examination of the sentences (5-1) reveals, however, that the verb-it-up form is the only one which occurs. That is, no sequence verb-up-noun phrase exists with a noun phrase having a determiner, modifiers, a noun etc. For example, we do not find the sentences

(5-3) (i) *They lived up the night in Boston

(ii) *St. Louis whooped up the victory

Furthermore, this it cannot be the subject of a possive sentence nor can it be questioned.

It is rather interesting fact about English that most, although not all, intransitive verbs which can co-occur with a manner adverbial can occur in this construction.[1] Thus we find the following sentences to be perfectly understandable and acceptable

(5-4) (i) The students studied it up during exam period

(ii) The girls rode it up at the dude ranch

(iii) The young couple danced it up at their wedding

In a very intuitive sense, any verb whose meaning involves an action without specification of completion (not, for example, the verbs die, leave, arrive) can occur in what appears to be a productive construction.

There is good motivation on the one hand to treat these verb-it-up combinations much the same as systematic verb-particle combinations. Semantically the effect of the following it-up on the interpretation of the verbal element is predictable, namely that the activity designated

by the verb was intensified. (Recall that the completive particle affects the meaning of the verb by implying the completion of the activity. No such completiveness is implied by the it-up cases, merely intensification.) Phonologically we find that the stress on the sequence verb-it-up is exactly the same as on the verb-it-particle combinations. If we treat the live-it-up cases as being introduced initially as live up it similar to shake up it and shake up the jar of water then we must specify for most verbs having the feature (+___MAN)--this feature signifies that the verb cannot occur preceding a direct object noun phrase but can precede a manner adverbial--must also have the features $\left[+\text{CMPL}, +\underline{\text{up}}\right]$, $\left[+\_\_\_\ \underline{\text{it}}\right]$. That is, intransitive verbs such as sleep, live, study, permitting a following manner adverbial may also be transitive verbs in combination with a particle up as long as the noun phrase is the impersonal it. But there are some difficulties encountered in this approach. Notice that we do not find acceptable passive sentences associated with (5-1) though the passive transformation (2-3) would presumably apply. That is, the sentences

(5-5) (i) *It was really lived up (by them) in Boston last Saturday night

(ii) *It was whooped up in (by St. Louis) when the World Series was over

(iii) *It isn't drunk up (by John) during the weekends

are not acceptable. Furthermore, the action nominalization would produce the unacceptable sequences such as

(5-6) (i) *Their really living up of it...

(ii) *St. Louis' whooping up of it when...

(iii) *John not drinking up of it during...

while when applying to the "true" verb-particle-it combinations it produces acceptable sequences such as

(5-7) (i) His looking up of it in the library...

(ii) Johns working out of it...

The most reasonable solution to this problem appears to be the following. Those verbs which can occur in this construction will be treated just like all other intransitive and transitive verbs. This is to say, they will be introduced into the P-marker by lexical substitution rules. (Cf. Chomsky, 1965) We will define a new lexical substitution rule[2]

(5-8) X - V - (MAN) - Y

1 - 2 - 3 - 4 ⟹ 1 - 2+ [+PRON; +IMPR...] + [+PRT...] - 3 - 4

(it) (up)

It may or may not be necessary to include the complex symbols associated with the it and up in the transformation. The semantic component will obviously have to contain a special rule to handle just this construction. The phonological component can treat the structure resulting from the application of (5-8) exactly the same as the structure resulting from the application of the transformation (7-6) which moves the particle following the noun phrase. Since the it is not a noun phrase, the action nominalization, passive, and questioning transformations will not apply.

5.2 The cut short cases

In our initial considerations in 2.1 we examined a number of sentences containing verb-element-noun phrase sequences where the term element was used to designate the traditional notion of preposition as well as single word adverbials. Upon examining these and other type sentences we determined that certain of these elements shared a special relationship with the verb and we consequently defined the verb-particle construction. It turns out that by restricting the particle to only prepositions and single word adverbials we have ruled out a number of sentence-types which pattern syntactically and phonologically like verb-particle combinations. We will examine these cases now. Consider first the sentences

(5-9) (i) The President cut short his news conference

(ii) Please keep free the passageway

(iii) He will make good his note

where we have the items short, free, good functioning like particles. That this is true can be seen from the fact that these items will permute with the direct object noun phrase as do particles, cannot be preceded by a manner adverbial, and so on with respect to the syntactic factors characteristic of verb-particle combinations. The sentences in (5-10) illustrate these facts.

(5-10) (i) The President cut his news conference short

(ii) *He made his note quickly good

(iii) *He let alone and loose the prisoner

(iv) His setting free of the prisoners pleased the sheriff

(v) Please make clear, if you can, the ideas of Whitehead

(vi) *Short what did the President cut?

There are relatively few such combinations (that is, relative to the number of verb-particle combinations) and we have listed many of them in (5-11).

(5-11) blow open, blow shut, bore still, cut short, fling open, keep free, lay open, lay waste, let along, let loose, make clear, make fast, make firm, make good, make happy, make unhappy, prove false, prove true, push open, push shut, set free, sleep sober (refl.), strip naked, whisk open.

Note particularly that the stress on the sequence cut short the conference is exactly that on hear out the conference. We note also that the verb-element combinations cut short, keep free, make good, and so on are all intuitively a single verbal element with a unified meaning analogous to the non-systematic-figurative verb-particle combinations. This is, of course, not a formal motivation for treating these cases as verb-particle combinations but it seems to be corroborating evidence in view of the similar syntactic and phonological patterning. One interesting difference between the cut short the conversation combinations and the look up the information combinations is the following. In the former combination we find a "be" relationship between the element short and the direct object noun phrase. That is, the sentence

(5-12) The conversation BE (was, is,) short

is an acceptable sentence. Such a relationship does not hold between the figurative verb-particle combinations. The obvious suggestion is that such a "be" relationship could be utilized in accounting for the elements in (5-11). This would be analogous to the persuade John to go and elect John President constructions where the relationship John go John is President exist, respectively. This suggestion would be quite reasonable if there were a large number of the verb-item cases such as those in (5-11) and if there were any general systematic relationship between the direct object noun phrase and the element. We find, however, that whereas we can have cut short the conversation we cannot have cut interesting, cut lengthy, or cut animated the conversation. It is a fact that although this "be" relationship exists as described above, it exists for very few adjectives, given the verb and direct object noun phrase.[3] The difficulty in defining the necessary rules and restrictions on them far outweighs the complexity of stating these combinations as compound verbal elements in the lexicon, similar to the figurative verb-particle combinations. In the light of all of these facts we treat the cut short cases like the figurative verb-particle combinations. That is, there is a lexical entry cut short just as there is a lexical entry look up. This also means that a compound verbal element like cut short will be analyzed as $[+V]-[+ADJ]$ and that we will have to alter the definition of the particle moving transformation (7-6) to include the complex symbol $[+ADJ]$ as an alternative for the fourth term. We will see in 7.1 that the conditions of the $[+ADJ]$ movement are approximately the same as for the particles.[4]

5.3 The set fire to cases

Recall that we determined in 2.3 that there were verb-particle combinations followed by a prepositional phrase. As we have seen above there are cases of sentences with a verb-element-noun phrase combinations where the element is not analyzed as a particle because of the requirement that the particle be either a preposition or an adverb. This same is true of certain verb-element-prepositional phrase combinations. Let us consider the sentences

(5-13) (i) The children made fun of the small boy

(ii) The man put trust in the defunct bank

(iii) She gave birth to a small elephant

(iv) The troops opened fire on the people

The question is this: are the elements such as fun, trust, birth, fire direct object noun phrases or are they part of the verbal element and thus analogous to particles. The characteristics of particles discussed in 2.2 were for the purpose of distinguishing the particle from prepositions functioning as part of prepositional phrases and adverbials. Such features of particles do not distinguish particles from noun phrases, the problem we are essentially facing here. We notice that for the sentences (5-13), the placement of the manner adverbial before the element fun etc. cannot occur if the element is a particle or a noun phrase. Furthermore, the possibility of parenthetical insertion, for example the sequence and why not between trust and in in (5-13iii) sheds no light on the issue at hand. Similarly with respect to the questioning of the element-prepositional phrase sequence. The movement of the

particle around a following noun phrase is not relevant here. We would, however, expect the elements to conjoin if they are noun phrases. We do not find cases of such conjunction. Thus the sentences

(5-14) (i) *He lost track and hold of the man

(ii) *The remark gave substance and credence to their work

(iii) *He took advantage and care of the girl

(iv) *John set eyes and foot on the shore

are unacceptable. If we determine, however, that all of the above sentences do not have the same structure, this fact alone would account for the lack of conjunction in some of the cases. We shall comment further on this matter below. We further would expect these elements such as fun etc. to have a preceding of when transformed by the action nominalization. (Cf. footnote 10 Chapter 2 for a discussion of this transformation) Such is not the case as the following sentence strings show.

(5-15) (i) *His taking of advantage of the girl...

(ii) *Their setting of fire to the church

(iii) *John's leaving of word of the disaster...

(iv) *The soldier's making of way for the children...

There are certain interesting facts which are generally accurate with respect to these elements. If they are noun phrases at all, they are of a rather restricted sort. Their determiner system is limited to items such as no, little, much, some, and personal pronouns but not adjectives nor articles like the, these, those, that, this nor may they have following relative clauses. For example we find put his trust in...,

lay no stress on, lend much support to but not *put the trust in, *lay a stress on, *lend this support to. Furthermore, in many cases the element is used as a noun in other syntactic constructions in English though often it is impossible to "extract" a definite meaning for the noun in the verb-element construction. That is, the two parts of the verb-element combinations have joined together just like figurative verb-particle combinations coalesced. For example we have cases such as grab hold of, take issue with, lose sight of. On the other hand, in some of these combinations the integrity of the element is retained as in take pity on, lend support to, make mention of and so forth.

Actually there are too many different constructions underlying these superficially similar verb-element-prepositional phrase combinations to consider them all at once although the remarks above have tended to group them all together. Let us now consider these combinations in terms of how they passivize. The first classification consists of those verb-element-prepositional phrase combinations for which only the noun phrase of the prepositional phrase can be the subject of the passive sentence. These cases include[5]

(5-16) (i) catch hold of, catch sight of, get sight of, grab hold of, lay hold of, lose track of, lose hold of, lose sight of, keep track of, keep hold of, keep sight of, seize hold of, take hold of, take heed of,

(ii) get wind of, make fun of, poke fun at, shake hands with, take compassion on, take pity on, take part in, take precedence over, take a liking to,

In these combinations, the element-of combinations do not seem to have any close relationship in that the interposing of the manner adverbial is possible as is preposing in questioning the following noun phrase. These facts are illustrated by the following sentences:

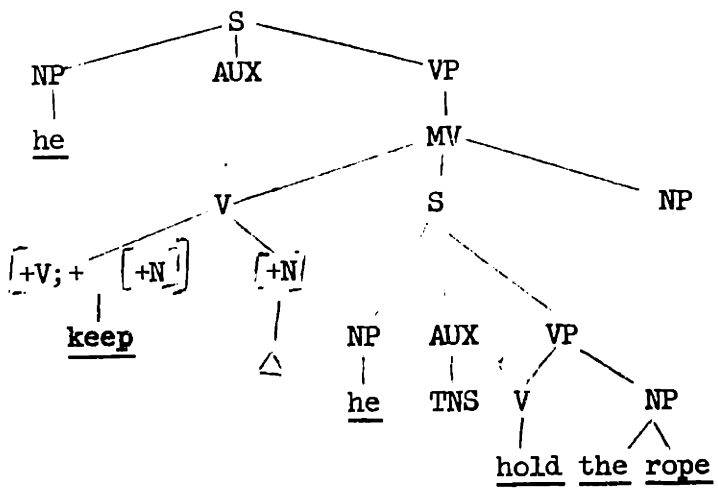
(5-17) (i) He took hold quickly of the rope

(ii) Of what did he take hold?

(iii) *Hold of what did he take?

We analyze these cases as V-of-NP where the verbal element V has two parts, a verb and a following noun element. We note, however, that in the cases in (5-16i) that not only do all of the noun elements also occur as verbs in other sentences of the language but also that there is a co-occurrence restriction between the noun element of the verbal element (e.g. held, sight) and the noun phrase following the of. This restriction is just that between the verb form corresponding to the noun element and its possible following direct object noun phrases. These facts suggest that the combinations in (5-16i) like keep hold of the rope should be derived from an underlying form.[6]

(5-18)



We define a new transformation

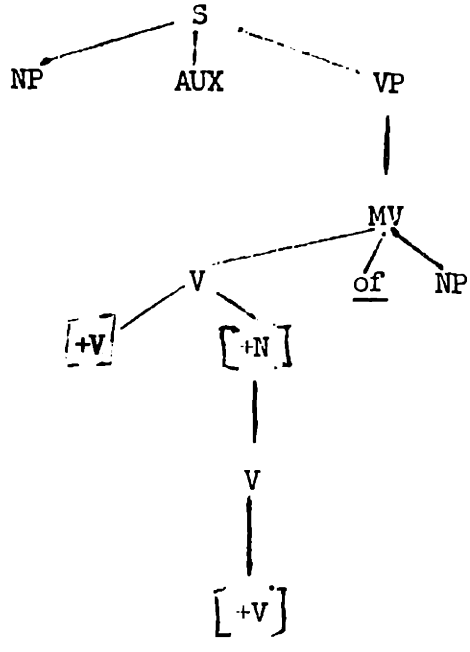
(5-19) NP-AUX+[+V]- Δ -NP-TNS-V-NP-NP
1 - 2 - 3 - 4- 5 -6-7 -8 $\Longrightarrow$

1 - 2 - 6 - $\emptyset$-$\emptyset$-$\emptyset$-$\emptyset$- of+7

Condition: (i) 1=4
(ii) 8 > Δ
(iii) [+N] > 3

which substitutes the verb of the embedded sentence for the [+N] of the verbal element and which produces the derived constituent structure

(5-20)



The transformation (5-19) as stated is too general since there is no restriction on the embedded verb. Clearly we do not want to generate sequences like "take throw of the ball", "take choose of the man", etc. It is not clear at this point how best to state the restrictions between the verbs such as keep, take, make, and so on and the verbs of the embedded sentence. We can find no evidence of systematicity between these two classes of verbs. The constituent structure in (5-20)

permits the noun phrase following the of to be questioned but not the noun element which is now a part of the verbal elements. It furthermore accounts for the lack of of in the action nominalization. Furthermore, the passive transformation (2-3) correctly applies to this constituent structure making the noun phrase following the of the subject of the passive sentence.

The other group of these combinations (5-15ii) will have the same constituent structure as in (5-20) but in so far as we can tell, these cases must be entered in the dictionary as compound verb-element combinations. That is, there is no way to derive them.

The second type of these verb-element-prepositional phrase combinations consist of those cases where the element may be the passive subject. There are two subclasses of this type; the first subclass includes the combinations

(5-21) bring word of, keep watch of, keep guard of, lose control of, leave word of, make allowance for, make allusion to, make mention of, make objection to, raise objection to, raise objection against, take account of, take advantage, take care of, take delight in, take leave of, take notice of, take offense at, take possession of, take aim at, take command of, take a dim view of, take little note of, take stock of,

where the element-prepositional phrase such as allusion to the problem and mention of the event themselves form a reduced noun phrase of the same sort generated by the application of the action nominalization. Note that just in case there is a preposition in the underlying sentence

(the to in the first example above) this preposition is carried over into the nominalization. In the cases (5-21), however, it is not possible for a manner adverbial to interpose between the element and the of-noun phrase sequence, just as such interposing is not possible in the usual noun phrase created by the action nominalization. It is possible, though, to question the noun phrase following the of in the same way as any other noun phrase in a prepositional phrase. It is not possible to question the entire nominalized noun phrase itself.

(5-22) (i) Of what did he keep control?

(ii) What did he keep control of?

(iii) *What did he keep?

Notice here that it is not customary for a noun phrase formed by the action nominalization to permit such division in questioning the noun phrase following the of though the nominalization itself can be questioned. Thus we accept (5-23i) and (5-23ii) and possibly (5-23iii) but not (5-23iv).

(5-23) (i) The contractor condoned negotiation of the contract

(ii) What did the contractor condone?

(iii) *Of what did the contractor condone the negotiation?

(iv) *What did the contractor condone the negotiation of?

The same results hold for other cases like permit mention of, consider appointment of, etc.

Because we are analyzing the element-of-NP combinations as a noun phrase generated by the action nominalization (the details will be

presented below) the application of the passive transformation (2-3) produces the sentences

(5-24) (i) Allusion to the problem was made by John

(ii) Mention of the difficulty was made during the meeting

(iii) Control of the spaceship was lost for only a very few minutes

The significance of these cases, however, is the fact that the following sentences exist:

(5-25) (i) Allusion was made to the problem by John

(ii) Mention was made of the difficulty during the meeting

(iii) Control was lost of the spaceship for only a very few minutes

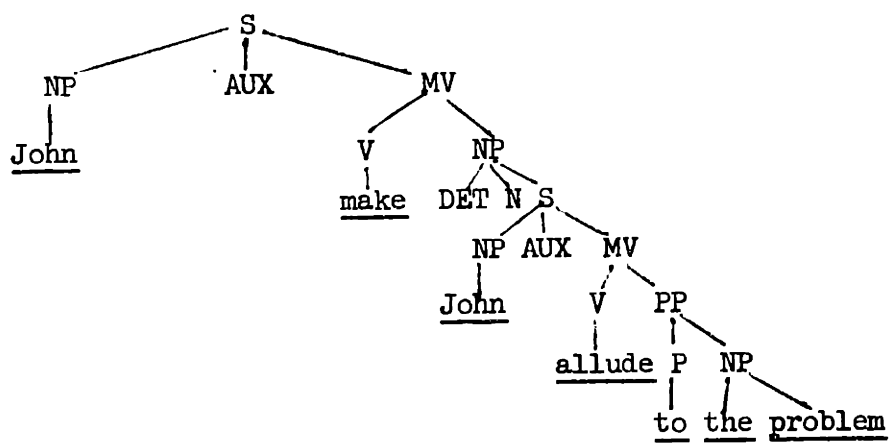
To account for these sentences we define a new transformation

(5-26) NML+V-(PREP)+NP-X+BE-EN+V

$$1 - \quad 2 \quad - \quad 3 \quad \Longrightarrow \quad 1 - \emptyset - 3 + 2$$

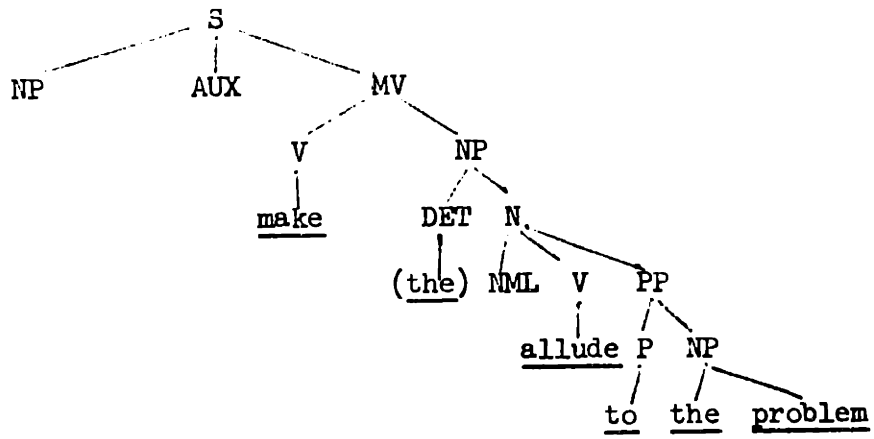
The combinations in (5-21) are derived in much the same way as were those in (5-13i). The underlying constituent structure for a sentence such as (5-24i) is

(5-27)



After the application of the action nominalization transformations (Cf. footnote 10, Chapter 2) the derived constituent structure is

(5-28)



The other members of this type of verb-element-prepositional phrase combinations include

(5-29) do harm to, do violence to, attach importance to, give chase to, give birth to, give credence to, give no quarter to, give substance to, give thought to, give support to, give voice to, lend support to, pay attention to, pay homage to, pay heed to, find fault with, ask no quarter of (from), catch hell from, do battle with, keep in contact with, keep peace with, lay stress on, have recourse to, lay money on, lay odds against, lose sleep over, lose time over, make amends for, make contact with, make peace with, make book on, make headway with, make headway on, make small talk with, put faith in, put a stop to, show cause for, take liberties with, take issue with, take refuge from, take interest in, take pleasure in,

In these cases the element is analyzed as a defective noun phrase and the following prepositional phrase is always a constituent like a directional adverbial, adverbial of accompaniment, adverbial of purpose,

etc. The give, lend, pay cases are clearly patterned after the usual indirect object combinations; the to deletion and the concomitant moving of the following noun phrase to the position following the verbal element is even possible here. That is, we find the sentences

(5-30) (i) They did the man harm

(ii) He lend the rebels support

(iii) She gave the teacher her attention

quite acceptable. There is, however, often only one passive sentence associated with some of these combinations, namely the passive where the defective noun phrase (defective in that its determiner system is limited) becomes the subject of the sentence. For these cases a special marker will have to be included as a feature of the verb. They are relatively few, however, and we will not concern ourselves with them here. Those other cases listed in (5-29) will have only a single passive since their preposition do not delete and the noun phrase following the preposition is never moved to the position immediately following the verbal element. Thus the passive transformation will never make this noun phrase the subject of the passive sentence. The fact that these elements never permit questioning is nicely accounted for if we consider that the determiner of a noun phrase introduces or at least contains the interrogative morpheme WH. Since these defective noun phrase will be analyzed as not having a full determiner system--to exclude adjectival modifiers, relative clauses, articles, and so forth--the noun phrases will also never contain a WH, thus never be questioned.

There is another class of combinations, all containing the verb make. These cases include

(5-31) make a fool of, a butt of, an end of, an example of, a show of, a target of, a victim of, an exception of, an honest woman of, a muddle of, a mess of, a mockery of, much of, something of, nothing of, a lot of, a great deal of, little of, a man of, mincemeat of,

for which the of is clearly a reduced case of the compound preposition out of. There is no passive sentence having the a-N sequence as its subject. There are, however, passive sentences in which the out has been deleted and the NP following the of is the subject. Thus we find the sentences

(5-32) (i) The man was made a fool of

(ii) She was made an example of

(iii) The exam was made a mess of

quite acceptable. Unlike the combinations in (5-21), the combinations like a fool of the man, an example of the boy, etc. are not analyzed as noun phrase and cannot be the subject of the passive sentences. We notice also that there are many cases that are superficially similar to those in (5-31), for example make a statue of iron, make a case of the incident, make an issue of the prejudice but that these have no passive sentences with the NP following the of becoming the subject of the sentence. It is important to note that combinations in (5-31) all have a be relationship between the full NP following the of and the elements like a fool, a lot, etc. That is, we have the sentences

(5-33) (i) The man BE a fool

(ii) She BE an example

(iii) The exam BE a mess

Furthermore, there are no co-occurrence restrictions between the verb make and the noun phrase following the of. In light of these facts we analyze a sentence such as (5-32i) to have the underlying constituent structure and define the transformation

(5-34) make - NP - TNS+BE - PRED - $\triangle$

1 - 2 - 3 - 4 - 5 $\Rightarrow$ 1 - ϕ - ϕ - 4 - out+of+2

Condition: NP $>$ 5

which when applied a string having the constituent structure in (5-33) accounts for the sentences of which (5-32) are examples. It is clear that associated with the verb make are the set of nouns such as fool, example, lot and so on which can occur in the combinations in (5-31). No conditions are placed on the subject noun phrase of the complement sentence, however, since in its derivation the agreement in the embedded sentence between the predicate and subject noun phrase are accounted for.

There are relatively few of these verb-element-prepositional phrase combinations for which there is no passive sentence although the passive transformation (2-3) should presumably apply. These cases include

(5-35) bear witness to, bear testimony to, bear a grudge against, fall prey to, fall heir to, keep faith to, keep company with, keep house for, give ear to, give g ound to, give way to, give rise to, give rein to, lay seige for, lay seige to, lose touch with, set eyes on, set foot on, rub shoulders with, make way for, make eyes at, open fire on, take root

in, take example by,

It is not clear for what reason these combinations permit no type of passive sentence either of the type presented in (5-16) or (5-21). We will not attempt here to pursue this question further.

5.4 The bring in cases

We find that certain prepositions consist of not just one but a series of morphemes though the orthography of English is not consistent in representing this polymorphemic composition. We can identify

(5-36) into (not in the sense of against), out of, onto, inside of, off of, ahead of, off of, throughout, alongside of, infront of, abreast of, touching on,

as well as many more but this list will suffice for the present. We will call the individual morphemes of these compound prepositions P_1, P_2, etc. with P_1 being the left-most morpheme. For the case of into, in is analyzed as P_1, to as P_2. What is rather interesting about these compound prepositions is the fact that when they occur as a part of a prepositional phrase in a sentence we find that there are also acceptable sentences consisting of the same sentence with the prepositional phrase reduced to only the P_1. We can see this by considering the sentence pairs:

(5-37) (i) The butler brought the dinner into the room--The butler brought the dinner in

(ii) She took her book out of her purse--She took her book out

(iii) The child ran ahead of his mother--The child ran ahead

Consideration of the pairs leads us to conclude that the second of the pair can always be derived from the first by what we shall call prepositional phrase reduction. Such a conclusion has as its basis two facts. The first is that for each of the second type of the pairs of sentences in (5-37) a sentence of the first type exists. Second, and this is not a formal but rather an intuitive argument, each of these reduced sentences imply some object of the preposition as well as implying the remainder of the compound preposition. These cases can be considered as similar to verbs like eat, drink, smoke, which may or may not have a direct object noun phrase. In cases there is no noun phrase present, the verb is interpreted in a general way without specification of the action. Thus the interpretation for the sentence

(5-38) John smoked on Saturday night

is that John, on Saturday night, performed the action of smoking a cigarette, a cigar, a pipe or some combination of these but exactly what is not specified. Accordingly, for the sentence types illustrated in (5-37) we define the transformation[7]

(5-39) $[+V] - (NP) - P_1 - P_2 + NP$

$1 - 2 - 3 - 4 \Longrightarrow 1 - 2 - 3 - \phi$

which derives the reduced sentences from the original full prepositional phrase. Note that the verbal element may not contain a particle or any other element and that although no direct object noun phrase is necessary (Cf. 5-37iii) no prepositional phrase is permitted between the verbal element and the compound preposition. These restrictions thus rule out

the generation of the sentences

(5-40) (i) *The general ordered up the troops in (to the battle).

(ii) *She went off ahead (of her mother)

(iii) *He drove with the man in (to the garage)

What is especially interesting about these compound prepositions with respect to the study of verb-particle combinations is the fact that for the prepositions

(5-41) into, out of, onto, off of, upto

(that is, those compound prepositions which occur as the prepositions of a directional adverbial) the single remaining preposition P_1 functions syntactically much like a particle. Let us now examine the ways in which these P_1's and particles are similar. We note first of all that there are the sentence pairs

(5-42) (i) The man brought the dog in--The man brought in the dog

(ii) She took her hat off--She took off her hat

(iii) The maid threw the trash out---The maid threw out the trash

Thus we see that both a particle and P_1 can occur in the same syntactic positions and, interestingly enough, under approximately the same conditions. By this we mean that for both elements, when the noun phrase is of sufficient complexity the P_1 and the particle must be in the position immediately following the verbal element. (Cf. 7.2 for a discussion of this). We note also that while some other directional adverbial phrases allow the prepositions reduction as in

(5-43) (i) He drove the car up (the ramp)

(ii) The captain marched the troops through (the woods)

(iii) She ran down (the mountain)

only in thise cases where the preposition is a compound can the remaining P_1 be positioned immediately following the verbal element. It can be seen that such preposing in the sentences (5-43) above will produce unacceptable strings. Actually this requirement that the P_1's be next to the verbal element when there is a completed noun phrase extends also to verb phrase complements. For example, the following sentences with the complements to go and studying in the library are at least questionable with the complement positioned following the noun phrase.

(5-44) (i) ?He has persuaded the brave young men who have been sitting around the bar for the last three weeks to go

(ii) ?The professor found the bright young student who had promised to do a special research paper on complex functions studying in the library

It is not clear what constitutes a "too complex noun phrase" such that the complement must be moved forward to the position immediately following the verbal element.

As we would expect, a P_1 and a following direct object noun phrase cannot be moved to the front of the sentence when questioning the noun phrase as (5-45) indicates.

(5-45) (i) *In what did the butler bring?

(ii) *Out what did she take?

Here is another area in which the particle and P_1 pattern alike. We do find, however, that in the unreduced cases the entire directional adverbial is capable of being preposed in questioning the noun phrase. This is, of course, what we expect. With respect to the effect of the action nominalization transformation, the acceptability of the sequences

(5-46) (i) ?His bringing in of the dinner...

(ii) ?The taking out of her checkbook by the woman...

is a subject of considerable disagreement. It is quite clear that we cannot state with any definiteness that these verb-P_1 combinations--as we will refer to them when the P_1 has been moved forward--always require or always do not require the <u>of</u> of this transformation. (Recall that the verb-particle combinations always require it.)

With respect to the conjunction of these P_1's, we find that they pattern differently than the particles, namely, that in the position following the direct object noun phrase they conjoin. This fact is illustrated by the sentences

(5-47) (i) The man let the dogs in and out (of the house)

(ii) The butler brought the dinner in (to the dining room) and out

(iii) The children ran on and off (of the stage)

This fact is actually what we would expect, taking the position that the P_1's are reduced directional adverbials. That is, all major constituents such as noun phrases, verbal elements, prepositional phrases, adverbials conjoin; we would thus expect a reduced adverbial also to conjoin.

Two P_1's do not conjoin when in the position immediately following the verbal element, and before a direct object noun phrase as in

(5-48) (i) *The man let in and out the dogs

(ii) *The butler brought in and out the dinner

The one final syntactic point which we should examine with respect to the similarity of the P_1's and particles is how these reduced prepositional phrases pattern with respect to the placement of the manner adverbial. It can under no circumstances be placed before a particle. The manner adverbial can precede the P_1, however, when it follows the direct object noun phrase as in the sentences:

(5-49) (i) The man let the dog quickly in (to the house)

(ii) He carried the backdrops quietly off (of the stage)

This fact we would expect since the manner adverbial can occur before any directional adverbial as the constituent structure in (2-1) indicates. (The content of both the manner and directional adverbials depend, of course, on the particular verbal element--these are the selectional restrictions referred to in Chapter 2). What is surprising, though, is the fact that not all P_1's permit a preceding manner adverbial in the post-NP position. Take, for example, the sentences

(5-50) (i) ?She took her checkbook carefully out (of her bag)

(ii) ?The boy took his hand quickly off (of the table)

where there is considerable disagreement as to acceptability. Unfortunately there is no systematicity associated with any of these marginal cases and the degree of acceptability varies considerably from speaker to speaker.

Although it seems quite clear that these P_1's are not to be analyzed as particles but rather as reduced directional adverbials, the constituent dominating them when they have been moved to the position immediately following the verb is not obvious. Up to this point we have simply considered the single preposition P_1 as being positioned between the verb and following direct object noun phrase. The question arises, however, as to whether the constituent MV or the constituent V should dominate P_1. Syntactic considerations indicate quite clearly that by having the verbal element V dominate the P_1 the statement of the grammar is simplified. First, the action nominalization transformation can consider the verb-P_1 sequences exactly like the verb-particle combinations and thus the <u>of</u> will be retained in the nominalization. In case a verb-P_1 combination may not take the <u>of</u>--and these seem to be only a very few cases--then the verb must be so marked in any event and the <u>of</u> can be deleted by a late morpho-phonemic transformation. Second, the transformation which preposes a noun phrase in questioning it and optionally preposes the preceding preposition need not be altered to account for the fact that the P_1 cannot be preposed. As a part of the verbal element the P_1 is treated exactly like a particle. A third simplification accrues from the fact that only major constituents (thus by definition not elements of the verbal element) can conjoin. Being a part of the constituent V, the P_1 does not meet the conditions for conjunction and as we have seen above, such conjunction is not acceptable. Furthermore, the stress assignment of the verb-particle-noun phrase and

verb-P_1-noun phrase combinations are exactly the same. Obviously if both combinations have the same constituent structure then only one rule is required to account for both. A further examination of the stress assignment rules presented in Halle and Chomsky (1965) is required to ascertain just how the stress in these cases is to be handled but this phonological fact seems to add support to the claim that the verb-P_1 combinations have the same derived constituent structure as the verb-particle combinations. Accordingly, we define the transformation[8]

(5-51) $\lfloor +V \rfloor$ - NP - P_1

1 - 2 - 3 ⟹ 1+3 - 2 - $\emptyset$

Condition: 2 ≠ $\lfloor$ + Pronoun $\rfloor$

which results in the constituent V immediately dominating $\lfloor +V \rfloor$ and P_1.

As one additional remark about these reduced cases we note that there are a number of verbs including

(5-52) bite, chip, chop, clip, cut, drain, file, grind, hack, lob, lop, nip, pare, peel, sand, saw, slice, snip, split, tear, trim, twist, whack,

all of which co-occur with <u>off</u> in what appear to be verb-particle combinations in just the same sense as those cases illustrated in (5-37). The P_2 in all of these cases is <u>of</u> and the following noun phrase of course varies for each verb.

5.5 The <u>turn off</u> cases

We now turn to another case of apparent verb-particle combinations. Considering the verb-element combinations

(5-53) leave on, leave off, put on, put out, flick on, flick off, switch on, switch off, snap on, snap off, shut off, tune in, tune out, we find that they occur in sentences like

(5-54) (i) Elmer turned off the light

(ii) The woman switched on the radio

where the elements off and on pattern syntactically very much like particles. They can be moved to the right of the direct object noun phrase, they cannot be preceded by a manner adverbial when in the position following the noun phrase (as can the P_1 cases discussed above), they take a following of in the action nominalization of the sentence, and they cannot be preposed in questioning the following noun phrase. On the other hand, they conjoin in the post-noun phrase position as, for example, in

(5-55) (i) He turned the light on and off

(ii) She tuned the station in and out

Consideration of the cases in (5-53) reveals that the conjoined elements always occur in conjoined polar pairs, for example, on-off, in-out, but never *on-in, *off-out, etc. These pairs arise as a result of with which verb and following noun phrase the element co-occurs and semantically they are opposites. Thus notice that one can turn a radio off, turn a radio on, but not *turn a radio in or *turn a radio out. A significant fact about the co-occurrence restrictions of the direct object noun phrases and these elements we are presently discussing is that for all cases the following sentence pairs exist:

(5-56) (i) He turned on the light--The light is on

(ii) She tuned in the station--The station is in

From this fact we would suspect that these element could best be introduced transformationally in much the same way as verbal complements. There are other sentences which appear to be similar to those in (5-56), for example

(5-57) (i) The motor is running

(ii) The airplane is now operational

(iii) That model is still available

where there is some question whether the underlined elements are to be analyzed as adjective or some type of adverbial, perhaps a "stative adverbial" similar to the on, off above in that the elements seem to answer the question "in what state is the motor (airplane, model)?" Thus on the one hand we can treat the combinations in (5-53) like figurative verb-particle combinations, make some special provision with respect to the conjoining property of these elements, and ignore the "be" sentential relationship between the direct object noun phrase and the element. On the other hand, we can treat the elements of the combinations like transformationally introduced complements and adapt the action nominalization and noun phrase questioning transformations so as to apply correctly. There are clearly motivations for both sides of the argument. We must await further investigation especially with respect to the structures illustrated by (5-57) before drawing any final conclusions.

5.6 The kiss back case

Now let us consider the sentences

(5-57) (i) John kissed Mary back

(ii) The man hit her back

(iii) The child bit the dog back

We notice immediately that this back does not naturally occur in the position immediately following the verb and before the direct object noun phrase thus ruling out the analysis of particle for this item. And it is clearly not the case that in these sentences that back is in any close way connected with the manner adverbial backwards in that it does not answer the question "how"? Closer examination of the verbs which can occur with this back for example,

(5-58) love, hit, strike, slap, push, kick, invite,...

reveals that both the subject and direct object noun phrase must be both marked $\left\{\begin{matrix}+ \text{ANIMATE}\end{matrix}\right\}$ and must be interchangeable. We find that it is just this class of verbs which also occur in the constructions exemplified by (5-59) and (5-60)

(5-59) (i) John and Mary kissed each other (one another)

(ii) She and the man hit each other (one another)

(iii) The child and the dog bit each other (one another)

(5-60) (i) Mary kissed John and John kissed Mary

(ii) She hit the man and the man hit her

(iii) The dog bit the child and the child bit the dog

Notice that all of the sentences in (5-60) can, and most often do, have a final back of the same sense as in the sentences (5-57). But the occurrence of this back is not dependent on any syntactic features of

the verb but rather depends on the fact that the construction NP_1 - AUX - V - NP_2 - and - NP_2 -AUX-V- NP_1 occurs. The obvious suggestion here is to derive the sentences in (5-57) from those in (5-60) in much the same way as we derive

(5-61) (i) She came to the party and so did John

(ii) Henry arrived late but not John

(iii) Jack and Jill went up the hill together

from conjoined sentences. This suggestion has the effect of accounting for the sentences in (5-57) which superficially appear to have a particle or single word adverbial by deriving them from two conjoined sentences. To do this we define the transformation

(5-62) S - and - NP+AUX+VP+back

1 - 2 - 3 ⟹ ∅ - ∅ - 3

which deletes the first of two conjoined sentences in case the second one is followed by back. This back will of course never occur after the second sentence unless the subject-object noun phrase conditions are met initially by the two sentences. There is at least one syntactic fact which supports the above analysis of the derivation of the sentences in (5-57). This is the fact that although we accept the first of the following sentence pairs, we find the second unacceptable.[9]

(5-63) (i) He hit himself--*He hit himself back

(ii) She bit herself--*She bit herself back

Essentially these pairs show that the verbs in (5-58) permit a reflexive object except when they occur with the back which we are examining. But

to state this restriction as a part of the reflexivization transformation would needlessly complicate the rule. It would mean that a verb which normally can have a reflexive object cannot have one just in case another constituent, the adverbial back, is present. Such a restriction would be unique to the reflexivization transformation but furthermore, it is totally unnecessary in terms of the suggestion presented above. The transformation (5-62) will never apply to a sentence having a relexive object since it will never be conjoined with a final back. There is also some semantic motivation for the suggestion. A semantic interpretation of the sentence (5-57i) must include the information that "sometime in the past John kissed Mary and only after Mary had first kissed John". The first part of this information is contained clearly in the sentence (5-57i), while the second part is at best only derivable from (5-57i) by what would appear to be relatively involved rules which take into account the nature of the verb kiss and the presence of the back. On the other hand, by postulating that the sentence (5-60i) actually underlies the sentence (5-57i), the second half of the semantic interpretation give above is automatically accounted for. It is impossible to judge the ramifications of this approach tod eriving these sentences containing the back of the sort just discussed but at this time it looks reasonable.

5.7 The drive back cases

There is still another class of sentences containing a back which appears to contain verb-particle combinations. Consider the sentences

(5-64) (i) John drove himself back to school

(ii) The woman ran back into the house

(iii) The child poured the sand back into the pail

(iv) The boy gave the book back to its rightful owner

Examination of the class of verbs co-occurring with this back reveals that it includes all verbs permitting a following directional adverbial as well as those which take the traditional to indirect object, for example give, sell, tell, send, etc. (See 7.2 for a discussion suggesting that indirect object verbs should be analyzed as having a directional adverbial, thus making the class of verbs co-occurring with this back just those permitting the following directional adverbial.)

It is clear that this back is different from the one just discussed in 5.6. First of all it can co-occur with reflexivized direct objects as in (5-64i). Second, it may always co-occur with a directional adverbial. With respect to the analysis of this back as a particle, it patterns exactly like the P_1's discussed earlier. It can occur in the position immediately following the verbal element under approximately the same conditions as a particle. That is, in (5-64i) it must follow the noun phrase because of the pronominal form but in (5-64iii-iv) either side of the direct object noun phrase is acceptable. In almost all cases the back may have a following of in the action nominalization. The sequence back-direct object noun phrase cannot be moved forward when the noun phrase is questioned. The question of conjunction does not arise here since back is unique with respect to the construction we are examining. Finally,

the manner adverbial may be positioned before the back as in

(5-65) (i) He drove himself quickly back to school

(ii) The child poured the sand carefully back into the pail

We have seen that the back under examination patterns syntactically like the reduced prepositional phrase P_1. There are, however, some interesting differences. An unreduced directional adverbial with a compound preposition such as into the woods may co-occur with a verb-particle combinations such as set out, start out, etc. We have already noted that the prepositional phrase may not be reduced, however, in these cases. (Cf. transformation (5-39)). The back we are discussing may not occur when there is a particle associated with the verb irrespective of whether or not there is a following directional adverbial. That is, the sequence verb-particle-(noun phrase)-back-(directional adverbial) is not acceptable. This fact is illustrated by the sentences:

(5-66) (i) They started out towards Boston--They started back towards Boston--*They started out back (towards Boston)

(ii) She handed out the food to the people--She handed the food back to the people--*She handed out the food (back to the people)

(iii) The man gave over the documents to the spy--The man gave the documents back to the spy--*The man gave over the documents back (to the spy)

In order to exclude the derivation of the sentences in (5-66) we must determine just how the back is introduced. Consider the following two

facts. This back is possible if and only if a directional adverbial is possible. In questioning the noun phrase of the directional adverbial the following alternative forms are often possible:

(5-67) (i) Back to whom did the man give the documents?

(ii) Back into what (the garage) did the man drive the car?

(iii) Back towards where did they start?

In view of these facts we analyze the back as a part of the directional adverbial such that the constituent DIR may dominate the sequence (back) PREP-NP and where the PREP may be compound or not. By analyzing the back in this way no strict subcategorization restrictions need be changed because of the presence or absence of the back, only the selectional restriction between the verbal element and a directional adverbial need be cognizant of the structure of the constituent DIR.

In terms of this analysis, it is interesting to see how the grammar will account for the following sentences

(5-68) (i) He gave the axe back to the man

(ii) He gave back the axe to the man

(iii) He gave the man the axe back

(iv) He gave back the man the axe

(v) He gave the man back the axe

We have postulated that sentence (5-68i) is the underlying form for all the rest in (5-68) and is generated by the rules of the base subcomponent. The sentence (5-68ii) can be derived in exactly the same way as we derived

the corresponding verb-P_1-noun phrase combination. That is, we simply alter the transformation (5-51) such that the term 2 can be analyzed as either P_1 or back.[10] The same reasons as those discussed with respect to the positioning of the P_1 motivate for the domination of back by the constituent V when the a back is immediately following the verb and before the direct object noun phrase. The sentence (5-68iii) is easily accounted for by the transformation (7-14) which optionally moves the to-NP combinations immediately following the verbal element in case there is no particle and the verb is one of the so-called indirect object verbs. (Cf. 7.3 for a discussion of this transformation (7-14) to optionally include a back preceding the to-NP sequence.) This actually finds support from those cases where the direct object noun phrase is sufficiently complex to permit the preposed to to remain. This we see by considering the sentences:

(5-69) (i) He gave (back) to the man the money which had been borrowed ten years ago

(ii) John sold (back) to the former owner three bales of moldy hay

The final sentence (5-68v), while obviously related to the others in (5-68) could just as well be derived from (5-68iii) or (5-68iv). There is no apparent motivation for preferring one over the other and so we arbitrarily select the latter. Thus we define a transformation:

(5-70) V - back - NP - NP
1 - 2 - 3 - 4 ⟹ 1 - Ø - 3+2 - 4

5.8 The babble on cases

Still another case of apparent verb-particle combinations is encountered in the sentences

(5-71) (i) The politician babbled on about the campaign

(ii) They worked on the problem until midnight

(iii) The men fought on

We notice first of all that the on in the above sentences has a distinct time adverbial influence on the sentence, something no particle we have seen thus far has had. This is not sufficient reason of course to preclude the on from being analyzed as a particle. Such is an analysis is precluded, however, by the fact that these verb-on combinations do not pattern s tactically like verb-particle combinations. To begin with, they can be preceded by a manner adverbial like doggedly, tenaciously, etc. Next we notice that unlike a particle, the on in these sentences can be optionally moved to the initial position in the sentence as in

(5-72) (i) On the politician babbled about the campaign

(ii) On they worked on the problem until midnight

(iii) On the men fought.

This in itself is sufficient evidence to exclude these combinations from being analyzed as verb-particles. But even more striking is the fact that this on which contributes a sense of "continuing the action of the verb" can be reduplicated as in the sentences

(5-73) (i) The politician babbled on and on (and on and on...) about the problem.

(ii) They worked on and on and on on the problem.

There are no cases of this on which occur with a transitive verb. This fact about an adverbial seems unique to this particular item and for no readily explainable reason. The verbs in (5-74) give an idea of the range of semantic notions which can be modified with this "continuous" element on.

(5-74) work, slave, struggle, strain, labour, toil, fight, battle, box, duel, sing, chatter, talk, whisper, debate, speak, swim, run, drive, sleep, In fact, there are relatively few intransitive verbs in English which take a human subject noun phrase which cannot have this on element.[11]

This leads us to the question of how to introduce this on into a P-marker. The first suggestion is to define an optional transformation which introduces on in the position immediately following an intransitive verb providing there is no following particle. (The introduction would be optional since the on is never obligatorily present.)[12] This last provision is necessary since we do not have

(5-75) (i) *The alarm went on off

(ii) *The flossers blossomed on out

(iii) *The music died on away

though there are some substandard dialects of English which apparently do accept these sentences. The difficulty encountered in using this solution is that it is not now possible for a precise semantic interpretation to be made on the underlying P-marker of a sentence such as those in (5-71)

since the introduction of this on clearly alters the meaning of the sentence. We might argue that a marker of some sort could be introduced in the base and that the semantic reading of the underlying structure could take this marker into account. Notice, however, that there are other cases which a pattern just like the on and include transition verbs as well. For example, in

(5-76) (i) The politician babbled continuously about the problem

(ii) They talked without ceasing on the issues of the day

we see that "continuously" and "without ceasing" occur with roughly the same meaning as "on". Intuitively, then, these items can all be grouped together to form some sort of time adverbial, similar to the durative time adverb but not the same since we have sequences like "babble on for three hours" and "talk continuously during the next three days". We will not assign this group of items to any particular type of time adverb at this point.

One further rather interesting property of this adverbial on is the fact that when it occurs in a sentence, the action nominalization transformation is inapplicable. To see that this is so, note that the first but not the second of the following nominalization pairs is acceptable

(5-77) (i) The growling of the lions--*the growling on of (by the lions

(ii) The shooting of the hunters--*the shooting on of (by) the hunters

The unnominalized form of these sequences may have the continuous "on". This syntactic fact requires that the transformation moving on to the position immediately following the intransitive verb to precede the action nominalization transformation since the reverse order would permit the generation of sequences like the second ones in (5-77) with no motivated mechanism to reject them as improperly formed. The same difficulty arises with respect to the application of the passive transformation since there are no passive sentences with this "on". Thus we have the first but not the second of the following sentence pairs:

(5-78) (i) They talked on (and on and on...) about the problem--
*The problem was talked on (and on and on...) about (by them)

(ii) John argued on with the teacher..*The teacher was argued on with (by John)

Here again the transformation moving the on to the position after the verbal element must precede, in this case, the passive transformation.

A very similar situation arises with the element away as in the sentences

(5-79) (i) He worked away on the problem

(ii) They talked away about her troubles

The co-occurrence restrictions on this away are just those for the on discussed above though no reduplication is possible for the away. This away furthermore never co-occurs with the element on thus giving further support to the idea that these are variations of the same time type of time adverbial.

5.9 The work through cases

Now consider the sentences

(5-80) (i) She worked through the problem to the end

(ii) They thought through the solution before proposing it

where the through looks superficially like a particle. It is certainly possible to form acceptable sentences by moving this through to the right of the direct-object noun phrase, similar to particle movement. It is true that in the action nominalization of the sentences, an of follows the through. The questioning of the direct object noun phrase does not permit the preposing of this element; the acceptability of conjoined cases does not arise here since the through is the unique element of the construction under consideration. This element differs from the particle, however, since it is possible to position the manner adverbial before it in the post-noun phrase position. Thus we have:

(5-81) (i) She worked the problem quietly through to the end

(ii) They thought the solution carefully through before proposing it

Thus this element through looks very much like the P_1's discussed above. There are, however, some very interesting and unique features concerning these verb-through combinations.

The first is the fact that we find the (fairly) acceptable action nominalizations

(5-82) (i) Her working of the problem through (to the end)

(ii) Their thinking of the solution through (to the obvious conclusion)

where the through may occur to the right of the of-noun phrase sequence as well as to the left which is the position required for a particle and a P_1 in a sentence which has undergone the application of the action nominalization transformation. A second feature is that there can always be an optional prepositional phrase of the form to-NP where the noun phrase is most often the end, as, for example, in sentence (5-80i) above. More significant, however, is the fact that most of the verbs which co-occur with this through permit a following direct object just because this through is present. That is, they appear to be analogous to the transitive verb-particle combinations in which the verb without the particle functions only as an intransitive verb. Closer examination of the sentences such as those in (5-80) reveals that there are also sentences like

(5-83) (i) She worked through to the end of the problem

(ii) They thought through to the solution of the problem before proposing it

(iii) The man read from page 2 through to the end of the book

which suggests that there are no lexically entered transitive verbs co-occurring with this through but rather that these transitive combinations are really derived. If we postulate that there is, at least for English, a certain type of time adverbial which has as one of its forms the string from+NP+(on)+(through)+to+NP we quite easily account for the occurrence of the second prepositional phrase with or without the through. In order to account for the direct object noun phrase we define the transformation:

(5-84) V - (MAN) - (from+NP+(on)-through-to)DET+N+of - NP ⟹ 1+4+6 - 2-3-ϕ- 5 - ϕ
1 - 2 - 3 4 5 6

Notice that no restriction is placed on the nature of the verbal element. We might suppose from the way in which the P_1, back, and other cases have patterned, that the verbal element can not contain a particle. It turns out, however, that there are no cases of verb-particle combinations which co-occur with this through time adverbial in any of its forms. Following the application of the transformation (5-84) we have what appears to be a transitive verb-noun phrase combinations. By altering the transformation (5-51) so as to include through as a possible analysis of term 3, almost all of the syntactic characteristics--namely those of P_1's--will be automatically accounted for. The one possible difference--the cases in (5-82) with no following to +NP--we will analyze as the application of the action nominalization transformation while a to+NP is present, then a deletion of this prepositional phrase by a late rule. This prepositional phrase will be present in the underlying P-marker in those cases where a direct object noun phrase is derived by (5-84).

Footnotes for Chapter 5

1. Those intransitive verbs not occurring in this construction include go, arrive, come, dwell, run, smoulder, etc. Any definitive statement about which verbs do and do not occur in the sequence verb-it-up must undoubtably be cases on semantic features of the verbs, not syntactic except insofar that the verbs must be transitive and permit a following manner adverbial.

2. Here again we are omitting many details such as the exact method of stating features and the precise statement of lexical rules.

3. The difficulties encountered for these cut short cases can be found for cases like paint the barn red as well. That is, this problem goes far beyond the examples presented and there is at present no satisfactory solution.

4. Notice, however, that there is another important difference between these elements short, free, etc. and the particles already discussed. We find that these adjectives can be modified by the adverb of degree, for example, cut it very short, keep it completely free, and furthermore, that sequences such as "cut it much shorter than..." are acceptable. Thus it appears that in a real sense these elements are adjectives.

5. Many of these combinations were supplied by H. Ross and A. Zwicky though the following analysis does not necessarily reflect their opinions. Notice that although we have asserted that the elements such as sight,

heed, account do not become the subject of a passive sentence, there are some people who argue that sentences such as "Heed should be paid to the teacher" and "No account should be taken of that remark" are acceptable. We find these to be of best questionable and will treat them as unacceptable sentences.

6. Certain constituents which play no role in the issues under discussion will be omitted from P-markers in this section to simplify the figures.

7. To be precise, we would require that the NP deleted by (5-39) be reconstructable. That is, it should be possible from the elliptical sentence to state exactly what was deleted. In our discussion, however, we will not require such reconstructibility and will speak about deleting completely filled out prepositional phrases having lexical items.

8. We will see in Chapter 7 that this rule will be altered to account for particles as well.

9. It is perhaps possible to invent situations where the sentences (5-63) have an interpretation but they are certainly not generally acceptable.

10. It will probably be the case that by simply permitting term 2 to be analyzed as back we will allow the generation of unacceptable sentences having the manner adverbial back(wards) being preposed as well as other

cases of back. If this turns out to be the case, we will simply have to place a restriction on the constituent dominating back.

11. It has been pointed out by Ross (personal communications) that verbs such as exist, die, arrive, faint, slump, start are among those not co-occurring with on. Here, as in the case of back, it appears that these restrictions cannot be stated using solely syntactic features but that semantic feature must also be referred to.

12. There are a few cases such as carry on, keep on, get on, go on, all of which can be followed by with-NP. The on here intuitively has the same "continuation" significance as those in the sentences (5-73). In these cases here, however, the on cannot be deleted. That is, in the sense just discussed above, the on is not optional. In one sense, though, this on is different than the others in that, as we can see from the sentences (5-76) below, the on cannot be replaced with synonomous adverbials like "continuously", "without ceasing" etc. It is not clear how best to analyze these verb-on combinations and we shall not pursue this issue further.

Chapter 6: Derived verb-particle combinations

Up to this point we have assumed that all true verb-particle combinations are entered in the lexicon as a combination or at least the combination is specified in some way. This, however, is not the case. There are cases where it is not only intuitively more satisfying to derive the verb-particle combinations but in fact the formal evidence is overwhelming in favor of this approach. There are two types of derived combinations, namely, those in which a noun becomes a verb and takes a following particle and those where a verb has a particle adjoined to it where the particle was originally part of a directional adverbial.

6.1 The tack down cases

Consider the sentences

(6-1) (i) He glued down the loose edge

(ii) She tacked down the rug

(iii) The craftsman nailed down the board

There is in fact a sizable class of nouns such as

(6-2) button, clamp, bolt, tack, nail, batten, pin, rivet, screw, glue, paste, cement, tape, staple,

all of which occur in combination with down to form a verb-particle combination. But notice that for each of these verb-particle combinations there is a sentence of the form

(6-3) NP_1 AUX fasten down NP_2 with NP_3

where the NP_3 consists of one of the nouns in (6-2) above, fasten-down is a verb-particle combination, and with NP_3 form some sort of an

instrumental adverbial, the exact nature of which hasn't been studied very extensively.[1]

We define the transformation

(6-4) NP + AUX - fasten - down - NP -X-with - NP - Y

1 - 2 - 3 - 4 -5- 6 - 7 $\Longrightarrow$ 1 - + - 3 - 4 - 5 - ϕ - ϕ

Condition: (i) INSTR > 6+7
(ii) 7 > [+N, +mass]

which converts a sentence of the form (6-3) into the corresponding one of the form (6-1). As the transformation is stated, any mass noun occurring as a part of this instrumental adverbial can be so verbalized. This implies that if we accept the first sentence of the following sentence pairs, we will accept the second.

(6-5) (i) He fastened down the rug with milk--He milked down the rug

(ii) John fastened down the edge with toothpaste--John toothpasted down the edge

This, in fact, seems to be a reasonable assumption though the above sentences are rather doubtful in either form.

The nouns in (6-2) are not the only cases of verbalization. We have the nouns

(6-6) box, fence, glass, rope, pen, screen, wall,

which occur with the particle in as in

(6-7) (i) He fenced in the porch

(ii) They glassed in the enclosure

a where the underlying sentence has the form

(6-8) NP_1 AUX close in NP_2 with NP_3

and the transformation (6-4) need only include the verb-particle

combination close in as a possible analysis of term 2 + 3 to account for the sentences in (6-7). We might point out here (though this comment applies all of these derived cases) that for sentences of the sort

(6-9) He screened in the porch with the finest wire mesh available

that only by positing that the underlying form is

(6-10) He closed in the porch with screen which was made of the finest wire mesh available

can the grammar simply and automatically account for the co-occurrence restrictions between the verb screen and the remaining part of the instrumental adverbial.

Another similar noun class includes

(6-11) board, wall, glass, brick, cement, morter,

which occur with the particle over as in

(6-12) (i) They boarded over the hole

(ii) The man bricked over the entrance way

Here the underlying form is

(6-13) NP_1 AUX cover over NP_2 with NP_3

Here again the transformation (6-4) can be redefined slightly to account for all of the sentences like those in (6-12).

Still another class of nouns includes

(6-14) pencil, ink, paint, chalk, crayon,

and these nouns combine with the particle out to form sentences like

(6-15) (i) The clerk penciled out the entry

(ii) The woman painted out the signature

The underlying form is

(6-16) NP_1 AUX cross out NP_2 with NP_3

and where the comments are approximately the same as for the other previously mentioned cases.[2]

The question arises as to the advantage of such verb-particle combination derivation. First of all, recall the fact that most of the nouns given in the listings above never occur as verbs except in verb-particle combinations. Consequently, the combinations do not share a systematic relationship and they will have to be listed in the lexicon as individual verbal elements apart from the listing of the verbs and/or nouns with which they are associated. We have already noted for the verb-particle combinations fasten down, close in, cover over and cross out, that when they are followed by the instrumental adverbial, the transformation (6-4) can derive the corresponding "noun-particle" sentences with no change in semantic interpretation. It is of course an open question whether or not specification of the transformational rules complicates the grammar more than introducing all of the verb-particle combinations as distinct lexical items. This depends at least to some extent on the number of additional lexical entries and the complexity of the transformations.

6.2 The wipe off cases

Now let us consider the sentence pairs

(6-17) (i) He wiped the crumbs off of the table--He wiped the crumbs off

(ii) She cleaned the debris off of the sofa--She cleaned the debris off

where the second sentence in each pair contains a reduced form of the directional adverbial similar to the sentences in (5-37). But notice that for the class of verbs

(6-18) scrape, mop, sponge, sand, brush, hose, wash, rinse, wipe, clean, chip, scrub, shave, wear,

there occur as well the sentences

(6-19) (i) He wiped off the table--He wiped the table off

(ii) She cleaned off the sofa--She cleaned the sofa off

An examination of the item off in the above sentences indicates that it clearly must be analyzed as a particle and not as some reduced adverbial. Recall that there are really only two ways in which the particles and the reduced prepositional phrases like P_1's differ, namely that the particles never conjoin in the post-noun phrase position and that in this same position the P_1's etc. may be preceded by a manner adverbial. Since in the combinations associated with (6-18) and (6-19) only the element off is under consideration, the conjunction characteristic is rendered irrelevant. We see, however, that this off will not permit a preceding manner adverbial as in:

(6-20) (i) *He wiped the table quickly off

(ii) *She cleaned the sofa carefully off

(iii) *John sponged the counter thoroughly off

We thus are led to the conclusion that the off we are considering here should be analyzed as a particle. There are two alternatives. Either

sentences like (6-19) are generated by the grammar in some way unrelated to the generation of those in (6-17), or one group is derived from the other.

The first alternative means that the lexicon will contain, for example, two entries, one for wipe and one for wipe off since both will have the syntactic feature [+ ____ NP] but only the first will have, in addition, the feature [+ ____ (DIR)]. Furthermore, the selectional features for these two lexical entries will be different since the co-occurrence restrictions are different for the two verbal elements. The wipe off cases appear to have a systematic relationship and thus will be handled the same as shake up.

The second alternative requires that there be only one lexical entry where the entry for wipe contains a feature [+TD] in addition to the feature [+ ____ NP (DIR)]. We account for sentences like those in (6-19) by defining the transformation[3]

(6-21) NP+AUX - $\begin{bmatrix} \pm V \\ +TD \end{bmatrix}$ - Δ - P_1 - P_2 - NP

1 - 2 - 3 - 4 - 5 - 6 $\Rightarrow$ 1 - 2 + 4 - 6 - $\emptyset$ - $\emptyset$ - $\emptyset$

Condition: NP$>$3

where the underlying direct object noun phrase is unspecified. This way of handling the verb-particle combination will apparently simplify the statement of the grammar of English since, in the cases discussed above, only a feature [+TD] for each lexical entry in (6-18) need be added and only one transformation need be defined. Here again, as in the cases discussed in 6.1, we are faced with the problem of evaluating savings in

the lexicon versus the addition of transformational rules.

This second approach raises an important question. Is the semantic interpretation of a sentence with and without the application of the transformation (6-21) identical and if not, is there a systematic way of relating the semantic interpretations of the two sentences? The answer to the first part of this question is clearly no and thus, if the approach outlined above is to be followed, the transformation must be obligatory. The second part of the question does, in fact, seem to be answerable in the affirmative, though without a well worked out semantic analysis it is difficult to judge. The problem seems fairly well defined, however, and we must now await further development in the semantic theory and in the theory of the lexicon in general in order to make a decision.

There is another sizable class of verbs, namely

(6-22) brush, clean, cob, comb, beat, rake, rinse, scrub, sweep, wring, wash, sip, dry, empty, dig,

which combine with the element <u>out</u> to form a verb-particle combination in just the same sense in which the verbs in (6-18) combine with <u>off</u>. That is, we find the sentence pairs

(6-23) (i) He brushed the stuff out of the room--He brushed out the room

(ii) She raked the straw out of the stall--She raked out the stall

(iii) The woman rinsed the coffee out of the cup--The woman rinsed out the cup

The discussion just presented with respect to the off cases is relevant to these out combinations and we treat both cases exactly the same way. Note that the transformation (6-21) will have to be altered to permit term 4 to be analyzed as out as well as off.

Footnotes for Chapter 6

1. The fact that some of the nouns in (6-2) must occur in this instrumental adverbial in the plural form and some in the singular, is not significant. They all are functioning as mass nouns in this adverbial. Consequently, associated with the noun of the adverbial noun phrase will be the feature (+MASS) signifying the mass noun form which must be determined for the items elements in (6-2) independent of this transformation.

2. The verb particle combination cross-out is certainly historically derived from something like delete with a cross but this derivation does not appear to be valid today.

3. Note that the effect of this transformation is to have the constituent V dominate the P_1 directly in the same sense as for the reduced prepositional phrases. Thus, although we have indicated that the off in the sentences (6-19) is to be analyzed as a particle, there is no [+PRT] feature associated with the verbal element. Rather, there is the constituent P_1. This actually doesn't make any difference with respect to the application of further transformations nor the phonological rules since the verb-P_1 and verb-particle combinations receive exactly the same stress.

Chapter 7: Interesting syntactic properties of verb-particle combinations

In defining the notion of verb-particle construction we have discussed how such combinations pattern syntactically in a different way from other verb-element-noun phrase combinations in English. In this section we will investigate certain interesting syntactic properties of the verb-particle combinations. We first look at the restrictions on the movement of the particle to the position following the direct object noun phrase. Then the effect of the particle on the movement of the indirect object is discussed. Finally we investigate some cases where certain adverbials can precede the particle.

7.1 Particle movement

We used as one of the significant differences between the verb-particle-noun phrase combinations and the verb-preposition-noun phrase combinations the fact that the particle could in many circumstances be moved to the position following the noun phrase. Such movement is, in fact, obligatory if the noun phrase consists of only a pronoun. That is, only the second sentence of the following sentence pairs is acceptable.

(7-1) (i) *He looked up it--He looked it up

(ii) *The man worked out it--The man worked it out

The pronominal noun phrase is the only case where the particle movement is obligatory. At the other end of the spectrum, that is where it is absolutely impossible for the particle to be moved, it seems

pretty clear that if the noun phrase contains a relative clause, the movement is precluded. It has been suggested[1] that when the noun being modified by a relative clause is the subject of the relative clause (as opposed to the direct object or the object of a preposition) that the verb-noun phrase--particle sequence is more acceptable. Thus the first sentence of the following sentence pairs might be considered the more acceptable.

(7-2) (i) ?He called the people who saw us up--?He called the people who we saw up

(ii) ?The man worked the problem which amused us out--?The man worked the problem which we were amused by out

Neither of these seem really acceptable sentences. Particle movement is usually excluded also if the following noun is modified by certain combinations of adjectivals or adverbials. Thus we find the sentences

(7-3) (i) *The student worked the very difficult mathematical problem out

(ii) *The committee talked the vital political issue over

unacceptable though the same sentence without the first noun modifier (very and vital) seem perfectly acceptable. In fact, it is probably more a matter of performance as opposed to competence which is the issue here. Just as certain sentences such as

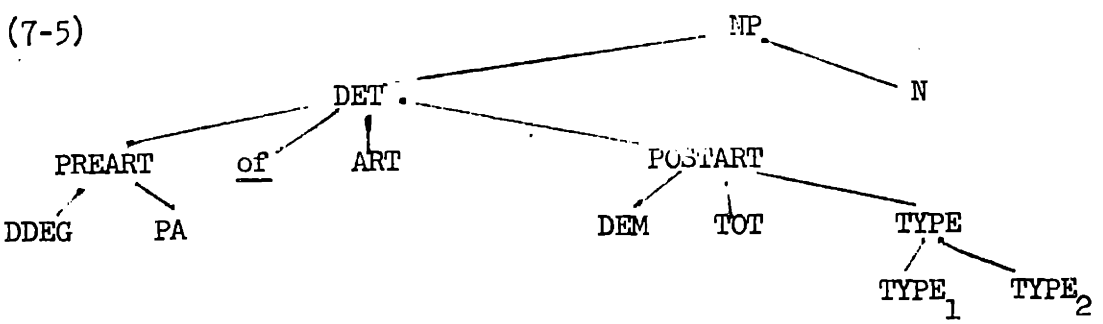
(7-4) (i) That that that John came annoyed Mary pleased me

(ii) If if he goes then he will get hurt then I will keep him at home

are certainly grammatical and understandable, given the time to analyze them, so are, in the same sense, the sentences in (7-2) and (7-3). It has been suggested (Chomsky, 1964) that the difficulty in understanding the sentences in (7-4) is related to the amount of "computing space" available to the language user. It seems pretty clear that the same type of space limitation is not the problem for the sentences in (7-2) and (7-3) though what exactly is going on is not obvious.

In between the two extremes of the pronominal noun phrase and the adjectival modifiers and/or relative clause(s) lies a great grey area which is subject to considerable disagreement. It seemed reasonable at the outset of this investigation to study the possibility of describing particle movement in terms of a motivated noun phrase structure, in particular, in terms of the determiner system of the noun phrase. Naturally it was hoped that the movement would be describable in terms of the determiner. Accordingly, an analysis of the noun phrase (and thus the determiner system) was selected, the essense of which is presented in (7-5).[2]

(7-5)



Unfortunately, no correlation could be found between this particular noun phrase structure and the permissibility of particle movement. First of

all, it is almost impossible to get people to agree on what is acceptable in these cases. Even more discouraging is the fact that they are not consistent even from day to day.

Some facts are clear although there is no apparent solution to this problem. Length of the noun phrase by itself is not a factor as the following sentences indicate.

(7-6) (i) The student worked more than seven of the difficult examples out

(ii) *The student worked the example which he recognized out

Semantic complexity (so as not to raise a whole host of arguments let us agree that some noun phrases involve more ideas bound together than others) does not seem to be the answer. The relationship of the particle with the verb (that is, systematic--unsystematic) seems to play only a slight role, the systematic cases not moving in many cases where the unsystematic cases do. There is no point in presenting examples sentences here for they will all be subject to disagreement and nothing can be concluded. About the only fact of the language which seems to play a significant role in determining particle movement is the intonation pattern. Just in case the intonation must fall before the speaker reaches the end of the noun phrase, the particle cannot be moved. Such falling intonation occurs when there are relative clauses, certain combinations of adjectival modifiers (sometimes when more than one adjectival modifier) and when the noun phrase is conjoined, and in a number of other cases. We would predict, then, that to the extent to which the intonation contours of noun phrases are predictable that we

can esteblish rules for particle movement. Obviously if the particle movement does in fact depend on t he required noun phrase intonation, no precise statement can be made until further development of rules accounting for the intonation of English. Probably the intonation is not the entire story but it certainly plays a part. But note that if intonation is relevant, the particle movement can't be accounted for by a transformation of the sort we have been discussing. Lack of acceptable examples in the "grey" area makes any further conclusions rather empty. We will, however, define a transformation

(7-7) $\begin{matrix}[+V] & - & [+PRT] & - & NP \\ 1 & - & 2 & - & 3 \end{matrix} \Longrightarrow 1 - \phi - 3+2$

Condition: obligatory if $3 \rangle [+PRON]$

which accounts for the obligatory cases as well as those where ther are adjectival modifiers. Consequently, this transformation as it is now stated will permit the generation of sentences like those in (7-2) and (7-3). The cases with the adjectival modifiers seem clearly within the relm of performance since as we have already indicated, there is considerable disagreement as to the acceptability of sentences with the direct object noun phrase having more than one adjectival modifier. It seems probable, however, that we would want to exclude particle movement to the right of any following noun phrase which contains any sort of relative clause. This restriction we can easily account for in the transformation (7-7) by simply requiring that term 3 cannot dominate the constituent REL. Note, however, that we do have sentences like

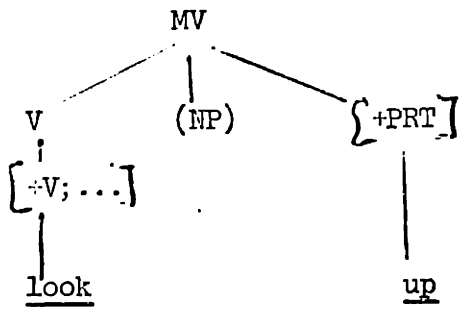
(7-8) (i) He looked the information up that had been required by the professor

(ii) She threw the trash away that had been accumulating for three weeks

where the particle has been moved not to the right of the noun phrase but within the noun phrase, to the right of the noun but to the left of the relative clause. Here again, there is considerable disagreement with respect to sentences of this type. We will not attempt to reflect the various shades of opinion about the permissibility of the particle movement.

In light of the similarity between the restrictions on the movement of the particle, the P_1, and the element back (Cf. 3.5) it might be reasonable to initially introduce the particle not as a part of the verbal element but rather as dominated by MV. Thus the underlying form for a verb-particle combination, whether or not there is a direct object noun phrase would be

(7-9)



By initially generating the structure in (7-8) we are thus able to treat the reduced prepositional phrase (P_1) cases, the particle cases, and the back cases identically with respect to their movement. Only

one transformation would account for the three types of constructions and the rule would not apply just in case the noun phrase is a pronoun. When the particle, as well as these other elements, is moved to the position immediately following the verb, it is dominated by the verbal element for the reasons we have already discussed. We thus define the transformation

(7-10 $$[+V] - NP - \left\{ \begin{matrix} [+PRT] \\ P_1 \\ \underline{back} \end{matrix} \right\}$$

$$1 - 2 - 3 \dashrightarrow 1+3 - 2 - \phi$$

Condition: $2 \neq [+PRON]$

Notice that by taking this approach we have not solved any of the performance issues raised in the discussion above.

7.2 Indirect object movement

As we have mentioned previously, there are other cases where a constituent may be moved depending on the direct object noun phrase. One such case, the reduced prepositional phrase P_1, we have already discussed in some detail. Here also the P_1 cannot be positioned immediately following the verbal element in case the direct object noun phrase is a pronoun. Thus, the sentences

(7-11) (i) *The butler brought in it

(ii) *She took out it

are totally unacceptable. The criteria for moving this P_1 are as identical to those for the particle as we can determine. Again the acceptable cases are subject to disagreement and thus precision would be

meaningless. The element back discussed in 5.7 is also subject to approximately the same restrictions of movement. Interestingly enough, the movement of the indirect object to the position immediately following the verbal element is precluded when the direct object noun phrase is a pronoun. The sentences (7-12) illustrate this point.

(7-12) (i) *He gave the man it (the book)

(ii) *The girl sold the customer them (the dresses)

In case the direct object noun phrase is complicated--that is, has a relative clause(s) and adjectival modifiers--the to-NP combination may be moved but it is not necessary as it is in the case of the P_1's. The sentences

(7-13) (i) The man gave the book which had dirt all over it to the minister

(ii) Mary told the most ludicrous and fradulent story to her mother

(iii) Who sold the bridge which was built in 1905 by Casgolonni to the idiot

are perfectly acceptable with respect to the placement of the to-NP sequence. Here again it is not clear what are facts of grammar and what are facts of performance. When we consider the verb-particle combinations which occur with the to sequence verb-particle-NP-NP indirect object we discover that the is not possible. That is, the first sentence of the following sentence pairs, having no particle, permits the preposing of the noun phrase while the second sentence does not.

(7-14) (i) The Cuban gave the government the land--*The Cuban gave up the government the land

(ii) She sent her uncle the present--*She sent off her uncle the present

(This is analogous to the fact stated in 5.4 that the P_1 could not be preposed in case the verbal element contained a particle.)

On the other hand, when the direct object noun phrase is complex, the to-NP combination may be preposed whether or not there is a particle. Thus, the sentences

(7-15) (i) The Cuban gave up to the government the land which he had worked long and hard to obtain.

(ii) She sent off to her uncle the birthday present which had been sitting around for the last three weeks.

are acceptable. Taking all these facts into account, we define the transformation

(7-16) $\begin{bmatrix} +V \\ +IO \end{bmatrix}$ - NP+(MAN) - to - NP

1 - 2 - 3 - 4 $\Longrightarrow$ 1 - 4+2 - ϕ - ϕ

Condition: DIR $\rangle$ 3+4

where the feature [+IO] is necessary to differentiate verbs like give, sell, tell, from verbs like explain, preach, convey where only the former type of verbs permit the preposing of the noun phrase following the to. Notice here that the "indirect object" to-NP is dominated by the directional adverbial. This is for two reasons. First, it is a fact that the occurrence of directional adverbials and indirect objects are mutually exclusive. Second, intuitively the interpretation of these

indirect objects is the same as the directional adverbials. Furthermore, in cases like throw the ball to John, it can be argued that the to John is both an indirect object and a directional adverbial. Thus it makes good sense to analyze these to-NP sequences as the same constituent. This analysis thus makes the for and to indirect object cases have a different underlying constituent structure. There is actually good motivation for such a difference between these two constructions but we won't go into this here.

Correlating with the fact that the indirect objects do not move forward when the verbal element contains a particle is the fact that there is only one passive for the second sentences in the pairs (7-14).

(7-17) (i) The land was given up to the government--*The government was given up the land

(ii) The present was sent off to her uncle--*Her uncle was sent off the present

The lack of the second passive form follows from the definition of the passive transformation.(2-3) where only the first noun phrase following the verbal element may be come the subject of the passive sentence.

7.3 Particle modification

So far as we have discussed combinations there are apparently no cases where any constituent can be positioned between the noun phrase and the following particle. There are some interesting exceptions to this statement, however, first consider the sentences

(7-18) (i) He looked the information right up

(ii) They hauled the garbage right away

(iii) The student figured the problem right out

where the morpheme right occurs immediately preceding the particle. It seems fairly clear that this right is a reduced form of right away which is to be analyzed as some sort of a time adverbial. As we would expect, the morpheme right occurs before the particle only in those sentences where the adverb right away can follow the verb-noun phrase-particle combination. Thus where as we have

(7-19) (i) He looked the information up right away

(ii) He looked the information right up

we do not find

(7-20) (i) *They held the movie over right away

(ii) *They held the movie right over

This preposing of the reduced adverbial occurs also in verb-particle combinations without a direct object noun phrase as in

(7-21) (i) The alarm went right off

(ii) He read right up on the civil rights issue

(iii) The cowardly captain gave the ship right up to the pirates

There is another type of element occurring between a noun phrase and the following particle. This type is illustrated by the sentences:

(7-22) (i) They cleaned it all up

(ii) The housewife dusted it all off

At least for many people these sentences are ambiguous, one reading being synonymous with the sentences:

(7-23) (i) They cleaned all of it up

(ii) The housewife dusted all of it off

The other interpretation of the all is not associated with the noun phrase at all but rather is some type of verbal modifier. The class of elements which can act as such modifiers includes

(7-24) all, completely, partly, thoroughly,

as in the sentences

(7-25) (i) The irate patron ripped the menu completely up

(ii) The professor thought the problem thoroughly over in his mind before presenting it to the class

(iii) The student will always work the problem partly out the evening before

We cannot find any motivation for deriving these particle modifiers from underlying noun phrases like the complete of the menu, the thorough of the problem, etc. similar to the all of it cases. Rather, these elements in (7-24) seem to be an adverbial of degree and answer the question "how much?". Not all verb-particle combinations permit this adverbial of degree as the sentences in (7-26) indicate.

(7-26) (i) *The posse tracked the fugitive (completely) down (completely)

(ii) *The peacock ruffled them (all) up (all the way)

(iii) *The committee doled the soup (all) out (all the way)

It seems to be a fact that all single word adverbials of degree (though this statement rather begs the question) can occur before a particle just in case the adverbial can occur in the sentence at all. There may even be permissible cases of adverbial preposing where the adverbial consists

of more than a single word, for example,

(7-27) (i) ?The student worked the problem all the way out

(ii) ?She tore the menu just completely up

though what is acceptable and unacceptable in this type of sentences is pretty much an open question. To account for the vast majority of cases like (7-25), however, we define the transformation[3]

(7-28) $\begin{bmatrix} +PRT \end{bmatrix}$ - DDEG

1 - 2 $\Longrightarrow$ 2+1 - $\emptyset$

Condition: 2= a single word

where the DDEG is the adverbial of degree. The nature of this adverbial has not been studied in any great detail and thus we will not pursue this particular issue further. (See Katz and Postal, 1964, for some interesting comments about the adverbial of degree.)

Footnotes for Chapter 7

1. Ross, personal communication

2. This is approximately the analysis given by Chomsky in class in 1963 and improved upon by Hall in the same year. The essentials of this analysis are still agreed on by these people. This analysis was selected both because of its precisness of statement and because it accounted for more features of the noun phrase than any other available analysis. The constituents in (7-5) have the following representative lexical entries: DDEG--very, more, than; PA--1,2,3, ..., some, several, a lot, many; ART--a, the, this, that, these, those; DEM (not relevant here); TOT--many, few, several; TYPE--chief, principal, main; $TYPE_2$--type of, sort of, kind of. Note that the co-occurrence restrictions of these constituents is not stated in (7-5) and that all of these items do not co-occur.

3. Presumably the notion word will be defined as a part of the grammar of English. Thus, the condition on (7-28) would have a precise interpretation though at the present it is only intuitive.

Chapter 8: Historical Perspective

An examination of any syntactic construction is not complete without at least a consideration of how other linguists have treated this same area. In the case of the verb-particle combination, very little has been said and much of that is imprecise and semantically oriented. Nevertheless, we will indicate in this chapter the more interesting comments which have been made.

It goes without saying that practically every grammarian of English has noticed and commented about the fact that certain adverbials (particles) co-occur with certain verbs with a high degree of interrelationship. Since the middle 20th century American linguists concentrated almost entirely on phonology to the exclusion of syntax, it is the early 20th century grammarians who make the really interesting remarks and we will consider here some representative samples.

Jespersen (1961, Part III Volume Two, p 323) makes the following remarks:

> "In some combinations of a verb+ a particle+ an object it may be doubtful whether the particle is an adverb or a preposition. If we say 'I couldn't get in a word', in is shown to be an adverb, not a preposition, both by the sound (stress on in, long (n)) and by the meaning...but sometimes these criteria fail us. Word-order often serves to determine which of the two possibilities is the right one. When the particle comes after the object, this must be governed by the verb, and the particle accordingly is an adverb; but when the particle precedes the object, both alterna-

tives are possible...Over (he means in general any element under consideration) is an adverb if other words intervene between it and the object, (for example 'I soon turned over, without much choice, almost all the French books in my tutor; tutor's library'."

The additional three pages he devotes to these verb-particle cases consists of examples drawn from the literature. As far as we can tell, the only other time he discusses the verb-particle combination occurs in "monosyllabism in English" (Jespersen, 1928) where he says:

> "These (short) verbs are frequently used in connection with adverbs or prepositions in such a way that the meaning of the combination can in no way be deduced from the meaning of each word separately, cf. for instance put in, put off, put out, put up, make out, make for, make up, set down, set in, set out, set on, set up... the great number of these idiomatic combinations is one of the most characteristic traits of the English language: they differ from disyllabic words by having flexional endings added to the first element (he put up) and by admitting in some cases the insertion of other words between the two parts (he gives it up, etc)."

It is interesting that Jespersen considers these combinations as solely "idiomatic" which at least today is far from true, and, as we will see, was not even true when Jespersen was writing.

Kruisinga (1953 - first published in 1911) also makes some comments about verb-particle combinations:

> "Some verbs form a very close group with an adverb of place, which completes rather than modifies the meaning of the leading verb, such as to put on, to carry out, to take off, to find out. When such verbs have a weak-stressed pronoun for their object, the pronoun is put between verb and adverb indirect objects, whether nouns or pronouns, always have this place, because they are invariably weak-stressed...send them back, put them back, carry them off...hand me down that book...Semi-pronominal nouns have the same place as pronouns...thinking the matter over, take the matter up...When the object is a noun, it follows the verb group when the noun is strong-stressed. When the idea has been mentioned before, it generally has less strong stress, and comes between the members of the verb group, like the pronouns...When the adverb has little or none of its local meaning, the group naturally is extra close, and noun-objects do not generally come between the members of the group. This is the case with the verbs in expressions like to bring out the character of, to back up a friend, to get up linen, to put on a clean shirt, to rub up one's English, to throw out a hint, to gloss over a difficulty in a text."

The above comments are what we would expect in light of the other grammarians of the time. What is rather interesting about his comments is the fact that non-pronominal noun phrases may occur between the verb and particle

in case the noun phrase is of a special semi-pronominal type or because of being mentioned before has a somewhat reduced stress. (It is not clear that this notion of reduced stress actually exists but Kruisinga at least realized that a trend was in the making and attempted to account for it.) Most interesting, however, is that according to Kruisinga, when the adverb (particle) does not have a literal or completive relationship with the verb (in our sense) but has rather a figurative relationship (his "extra-close" sense) no separation of verb and particle is possible. Perhaps this was true then (and the other grammarians tend to confirm this) but such separation is certainly a real part of the language today.

Poutsma, similarly to Jespersen, points out (Poutsma, 1926, Part II Section II, page 809):

> "There is sometimes also a difficulty in telling the function of a particle (preposition or adverb B.F.) when it is placed in immediate succession to an intransitive verb, i.e. there may be some hesitation in answering the question whether it is the particle alone which forms a kind of sense-unit with the verb, or the particle with the following (pro)noun. In the former case it is an adverb; in the latter a preposition. Compare, for example, the two following sentences: The boy had almost talked over his mother and I stayed over the next day, which was Sunday. In the first quotation over distinctly belongs to talked with which it forms a kind of unit, and which

it surpasses in semantic significance and, consequently, in stress. In the second, on the other hand, it is only the whole word-group over the next day which can be said to be at all connected with stayed, and there can be no doubt that here it is the noun in it which conveys the main meaning and, accordingly, has the greater stress. In the first quotation the intransitive talk is turned into the transitive group-verb talk over, in the second the intransitive stay does not change its status. The first, accordingly, admits of passive conversion, the second does not. Commenting on to pass by his eldest son and He passed over the bridge, the O.E.D. has it that in both combinations the adverb may also be apprehended as a preposition. Considered in the light of the above exposition this view can hardly be maintained. In the first sentence the particle clearly preserves its close connexion with the verb, in the second it passes on to the following noun. In the first, therefore, it does not lose the nature of the adverb; in the second it has become a preposition. In the first it does not lose its stress; in the second it has become weak-stressed... The difference in function also appears from the fact that by admits of being placed in post-position, which is not possible with over...I passed him by."

We should note that the over in the first sentence in the quotation above does not move to the right of the noun phrase because the noun phrase

is not a pronoun. The over certainly was analyzed as an adverb for Poutsma, a particle in our sense.

Poutsma (ibid. page 25) makes what turns out to be an interesting comment historically. He says:

> "In some cases the verb is so closely linked with the complement denoting the result of the activity that it forms a kind of compound with it. Thus in He called out the military, He cast off the dogs, He threw up his post, He make good his title... the close union of the verb with its complement accounts for the fact that in many such combinations they can hardly be separated by the object, unless the latter is a personal pronoun. Thus we could hardly say *He called the military out, *He cast the dogs off, *He threw his post up, *He made his title good."

Although all of the verbal complements which Poutsma mentioned in the above quote are not particles in the sense defined in 2.2, they all can occur today to the right of the direct object noun phrase in the sentences tagged with an asterisk which he claims are unacceptable. This comment points out the fact that even as recently as thirty-five years ago the verb-particle combination while certainly an integral part of English was not generally accepted in the verb-noun phrase-particle form unless the noun phrase consisted of a pronoun. A look at the literature at the turn of the century verifies this fact. Even Kennedy (1928, page 30) whose monograph is the best attempt in the literature to examine the verb-particle combination in any detail remarks:

"To revert to the question of the influence which sentence stress has upon the use of the verb-adverb combination, it is interesting to note that in this connection, just as in some others, certain definite rules have been adopted for the arrangement of the word-group. A pronominal object almost always intervenes between the verb and the particle in modern English (the only cases for him where the pronoun does not intervene are those non-verb-particle combinations which he considers B. F.)... otherwise the particle usually follows the verb immediately and is followed by the object whether it be noun or a substantive phrase or clause... occasionally, when the noun object is short, or when the speaker wishes to emphasize the particle slightly, the object intervenes."

Onions (1904, page 36ff) disagrees slightly with the later 20th century grammarians. For example, he says: "Many verbs of Intransitive meaning, when compounded with Prepositions, fixed for particular meanings, become equivalent to Transitive verbs...to speak to, to wonder at, to ask for,... from these must be distinguished combinations of Transitive verbs with certain adverbs as away, back, forth, in, off, on, up, etc... Observe that the adverb in most cases may either precede or follow the object. Thus we may say: 'Call off the hounds' or 'Call the hounds off'. ...The number of such combinations is practically limitless. Some of them may be themselves constructed, like simple verbs, with fixed prepositions, as to come out with, to put up with, to do away with, to take

up with"

The disagreement here resides in the possibility of the adverb (particle) occurring on either side of the direct object noun phrase. Recall that the other grammarians mentioned above denied the possibility of particle permutation except when the noun phrase was a pronoun. The reason for this disparity is not hard to find. In the Preface to his work, Onions states that he is considering "mainly the language of the present day". We may thus conclude that at least in early 20th century English the particle could occur on either side of the direct object noun phrase. The other grammarians (except for Kennedy), however, were not native English speakers and relied on the English literature and other (usually non-English) grammarians to assist them in the collection and correction of data. We can reasonably conclude, then, that the literature of the late 19th and early 20th century did not reflect the actual speech of the day. In other words, what had already become an accepted form of speech, namely the verb-noun phrase-particle sequence, did not become a part of literary English until later in the 20th century.

As we have mentioned above, the most interesting and thorough treatment in the literature on particles was done by Kennedy (1928). It would be impossible to consider in detail his monograph and, therefore, we will indicate only its outline. His work treats sixteen prepositional-adverbs, some of which we would not analyze as particle by the criteria presented in 2.2. He first sketches out a historical

development of the verb-particle combination. He points out that with the gradual disuse of verbs with inseparable prefixes such as forgive, foreshadow, understand, withstand there was a concomitant shifting to the combination where the so-called separable prefix followed the verb in normal sentence order. According to Kennedy, the development of the verb-particle combination is considerably more marked during the Middle English period than during the Old English period where the innovation began. He says that:

> "the development of the verb-adverb (verb-particle) combination would have been much more rapid had it not been weakened for some generations of or even centuries, by the adoption into the English of numerous Romanic verbs with inseparable prefixes which drove out the native compounds, and for a time made the newer combination unnecessary. In the formal literature, wherein dialog and the language of the streets had little place, the Romanic compound verb came into general acceptance as the proper form, and it is only a comparatively new reaction against the borrowed element in English which has tended to carry the more plebeian verb-adverb combination to higher place of literary life."

We have already seen that this movement had gone relatively slowly, only gaining real momentum in the last thirty years. Kennedy further points out that the first verb-particle combination were what we have defined as having a literal-systematic relationship as we would expect. It was relatively late in their development that the figurative combination

evolved.

The bulk of the monograph is devoted to investigating the values which the various particles have in combination, the syntactic and semantic effects of combinations, certain peculiarities of combinations and considerable speculation on the beginnings and causes of the verb-particle combinations. These areas are treated in more or less detail and the discussion is couched almost entirely in semantic-intuitive terms. He touches on a number of the topics considered in this dissertation but not with the same orientation for he was trying only to survey these combinations and he does not tie their syntactic and/or semantic features to the rest of the language in any way.

The one final mention of the verb-particle combination which we consider is found in Dietrich (1960). He says in part:

> "Gibt es nun überhaupt Mittel, um in Zweifelsfällen so einer einwandfreien Entscheidung bezüglich der Natur der Partikel zu gelangen? Es stehen uns im wesentlichen deren drei zur Verfügung: der Bedeutungsgehalt der Wendung, die Wortstellung und die Betonung (Druck und Sprechmelodie)."

Essentially Dietrich is suggesting that there are semantic, syntactic and phonological manifestations of the difference between particles and prepositions. (He does not distinguish between what we have called particles and other similar elements like reduced prepositional phrases such as P_1's etc.) His observations concerning the semantic relationship of an element in question are certainly accurate though couched in such

an intuitive fashion as to be merely suggestive, not definitive. He unfortunately does not attempt to establish any classifications of verbs and/or particles except in an extremely loose way. Similarly, his phonological observations, particularly with respect to the relative stress on a particle or a preposition, are accurate.

With respect to the Worstellung he has the following to say:

> "Als sicherster Prüfstein für die Entscheidung der Frage nach der präpositionalen oder adverbialen Funktion einer Partikel erweisen sich die Möglichkeiten der Wortstellung... die Natur der Partikel ist nicht ohne weiteres mit Sicherheit erkennbar im Aussagesatz in ihrer Stellung zwischen Verb und substantivischem Komplement 'He tripped over the chair' (und) in der Ergänzungsfrage und im Relativesatz in ihrer Stellung hinter dem Verb bei vorausgehendem Beziehungswort 'What did he trip over?' ...Als Präposition erweist sich die Partikel eindeutig in ihrer Stellung vor dem Relative- bzw. Interrogativpronomen (w o das Adverb keinesfalls stehen könnte) (und) vor dem personalpronominalen Objekt ('Don't trip over it'), da eben das Adverb hier hinter diesem stehen würde ('Don't knock it over.') (und) nach einem zwischen ihr und dem vorangehenden Verb eingeschobenen Modaladverb: 'to move gently and quietly over a smooth surface (und) hinter einem Verbalsubstantiv die Stellung der Partikel unmittelbar vor dem Komplement ihre präpositionale Natur, da andernfalls hier eine <u>of</u>- Verbindung eintreten würde...Hingegen zeugen die folgenden <u>of</u>-Konstruktionen

für den transitiv-adverbialen Character der ihnen zugrunde liegenden Verbverbindungen...Als Adverb wird hingegen eine Partikel eindeutig erkennbar wenn das Verb intransitiv im engeren Sinne des Wortes, d. h. ohne ein direktes Objekt gebraucht ist, z.B. 'to pass by on the other side'; in ihrer Stellung nach da dem pronominalen oder sbustantivischen Objekt" ('he flung it down')

These are essentially all the remarks Dietrich makes concerning the syntactic differences of prepositions and adverbials. Examination of his comments reveal, however, that he has suggested four of the differentiating characteristics which we discussed in 2.2, namely the particle permutation, the preposition preposing in questioning the following noun phrase, the positioning of the manner adverbial, and the of inclusion in the action nominalization. He also mentions that he is aware of Jespersen's remark (see page 150) concerning the possibility of placing parenthetical material between an adverbial and the following noun phrase but not between a preposition and its following noun phrase. He rejects this difference, citing some rather archaic sentences from the literature as counterexamples. Dietrich, like the other grammarians, misses the point concerning the conjoining property of what we have called adverbials (e.g. P_1) and of prepositions under some conditions as opposed to the non-conjoining property of particles.

APPENDIX I

The purpose of this appendix is to present the classification of verbs which combine with a particle as described in the preceding text. The verbs listed herein were obtained by consulting all the verbs in Roget's Thesaurus, 4th Edition, by examining the grammars mentioned in the bibliography, and by simply happening upon them in the course of the study. It will certainly be the case that not all verbs of English which combine to form a verb-particle combination will be included. We anticipate, however, that an overwhelming majority of them are presented here and that no major or interesting class has been omitted. The contents of this appendix is as follows:

In some cases some of the verbs associated with a particular particle have been divided up in to a number of what seem to be semantic classes. These classes are meant to be only suggestive and no formal justification for any grouping is presented.

Section A1 - Verbs combining with some particle

act
air
ally
angle
answer
ante
arch
argue
arm
ask
attach
auction
babble
back
bag
bail
bait
bake
balance
ball
balloon
band
bandy
bang
bank
banter
barge
barrel
barter
bash
baste
bat
bathe
batten
batter
battle
bawl
bear
beat
bed
beef
beg
belch
bellow
belly
belt
bend
bib
bid
billow
bind
bite
black
blacken
blare
blast
blaze
bleach
bleat
blend
blister
bloat
block
bloom
blossom
blot
blotch
blow
bluff
blur
blurt
board
bog
boil
bolster
bolt
bomb
book
boost
boot
booze
border
boss
botch
bottle
bow
bowl
box
brace
braid
branch
break
brew
bridge
bridle
brief
brighten
bring
bristle
broaden
broil
brood
brown
bruise
bruit
brush
bubble
buck
buckle
buddy
buff
bug
bugger
build
bulge
bulk
bum
bump
bunch
bundle
bung
bungle
bunk
buoy
burden
burn
burnish
burp
burr
burrow
burst
bury

bust
butcher
butt
butter
button
buttress
buy
buzz
cable
cache
cage
cake
calk
call
calm
camp
can
cancel
cap
carry
cart
carbe
case
cash
catch
cave
cede
cement
chain
charge
charm
chart
charter
chase
check
cheer
chew
chill
chime
chink
chip
chirp
choke
choose
chicken
chop
chuck
chug
churn
chute
cipher
circle
clam
clamp
clap
clean
cleanse
clear
climp
clip
clog
cloister
close
clot
cloud
clown
cluster
clutter
code
coil
coin
collect
color
comb
come
con
conjure
conk
connect
consign
cook
cool
coop
cordon
cork
cough
count
couple
cover
crack
cradle
cram
cramp
crash
crayon
crease
creep
crimp
crinkle
cripple
crisp
crop
cross
crowd
crumple
crunch
crush
cry
cull
curry
curse
cuss
cut
dab
dabble
dally
dam
dampen
dance
darken
darn
dash
date
daub
dawdle
deal
deliver
dent
dice
diddle
die
diet
differ
dig
dilute
dim
dip
dirty
dish
ditch
divy
divide
do
doctor
dole
doll
dope
dose
dot

double
doze
draft
drag
drain
draw
dream
dredge
dress
dribble
drift
drill
drink
drip
drive
drop
drown
drum
dry
duck
dump
dupe
dust
dye
easy
eat
echo
edge
edit
educe
egg
eke
elbow
empty
end
equal
erase
etch
even
exact
expand
explain
explore
extend
extrude
eye
face
fade
fag
fail
fake
fall
fan
farm
fashion
fashion
fasten
fathom
fatten
feather
feed
feel
fence
fend
ferret
ferry
fetch
fiddle
fight
figure
file
fill
filter
find
finger
finish
fire
firm
fish
fit
fix
fizz
fizzle
flag
flame
flare
flash
flatten
flex
fling
flip
flirt
flit
float
flood
flop
flow
flub
fluff
flunk
flush
fly
foam
fog
foil
fold
follow
fool
force
fork
form
foul
frame
free
freeze
freshen
fribble
frig
frighten
fritter
frivol
frost
froth
fry
fuddle
fuel
fumble
fume
furl
furrow
fuss
gag
gang
garble
gas
gash
gasp
gather
get
give
gladden
glare
glaze
gloss

glue
gnaw
go
good
gobble
goof
gouge
grab
grease
grind
groom
groove
group
grow
growl
grub
grunt
guide
gum
gun
gush
gut
hack
hammer
hand
hang
harden
harness
hash
hasten
hatch
haul
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heap
hear
heat
heave
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heft
heist
help
hem
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hew
hide
hike
hire
hiss
hit
hitch
hoard
hoist
hold
hollow
hone
hook
hop
horn
hose
hound
hown
huddle
hug
hump
hunt
hurn
hurl
hurry
hush
ice
ink
iron
jam
jerk
jiggle
jinx
joggle
join
joke
jolt
jot
jounce
juggle
jumble
jump
keep
key
kick
kill
kindle
kink
kiss
knead
kneel
knife
knit
knock
knot
knuckle
labor
lace
ladle
lap
lash
lasso
last
latch
lather
laugh
launch
lay
leach
lead
leak
leap
lease
leash
leave
leech
lend
lengthen
let
level
levy
lick
lie
lift
light
lighten
limber
line
link
list
listen
litter
live
load
loan
lob
lock
log
look
loom

loop
loose
loosen
loot
lop
lose
lot
louse
lug
lump
lunch
make
mail
manacle
mangle
map
mar
march
mark
market
marry
marshal
mash
mask
mass
mat
match
mate
measure
meet
melt
mend
mess
mete
mill
mince
mine
mix
mock
moisten
mold
moon
mop
mount
mouth
move
mow
muddy
muff
muffle
mull
munch
murder
muss
muster
muzzle
nail
name
narrow
neaten
nick
nip
notch
note
offer
oil
ooze
open
order
out
owe
own
pace
pack
package
pad
paddle
paint
pair
palm
pan
paper
parcel
pare
partition
pass
paste
pat
patch
pawn
pave
pay
peal
peddle
peel
peep
peer
pen
pencil
pension
pep
pepper
perk
pet
peter
phase
pick
picture
piddle
piece
pierce
pile
pin
pinch
pine
pipe
pitch
plan
plank
plant
plaster
plate
play
plot
plow
pluck
plug
plumb
point
pool
pop
portion
post
pound
pound
pour
practice
press
price
prick
prim
primp
print
probe

prod
prop
prune
pry
pucker
puff
puke
pull
pump
punch
punish
push
put
puzzle
quicken
quiet
race
rack
radio
rail
raise
rake
rally
ram
range
ransom
rattle
ravel
reach
read
ream
rear
reason
reckon
redden
reel
rein
rell
render
rent
rest
rev
ride
rig
right
rile
ring
rime
rinse
rip
ripen
rise
roar
roast
robe
rock
roil
roll
rollick
romp
root
rope
rot
rough
roughen
round
rouse
rout
route
row
rub
ruffle
rule
rumple
run
rush
rust
rustle
rut
saddle
sally
salt
sand
sass
save
saw
say
sacle
scare
scatter
scoop
score
scout
scrap
scrape
scratch
scream
screech
screen
screw
scribble
scrimp
scrub
scrunch
scuff
scurry
seal
search
seat
section
secure
see
seek
seep
seize
sell
send
separate
serve
set
settle
sever
sew
shackle
shake
shape
sharpen
share
shatter
shave
shear
shell
shield
shift
shine
ship
shoot
shoe
shore
shorten
shoulder
shout
shove
show

shower
shred
shriek
shrink
shrivel
shrug
shuffle
shunt
shut
side
sift
sight
sign
signal
simmer
sing
singe
single
sip
sit
size
sketch
skid
skim
skin
skip
slack
slam
slap
slash
slaughter
sleep
slice
slick
slim
sling
slink
slip
slit
slop
slug
slur
smack
smarten
smash
smear
smell
smelt
smile
smoke
smother
smudge
smuggle
snake
snap
snare
snarl
snatch
sneak
snip
snuff
soak
sober
sock
solder
soothe
sop
sort
sound
soup
spade
space
spare
spatter
spay
speak
spear
speed
spell
spend
spew
spice
spike
spill
spin
spit
splash
splatter
splay
splice
splinter
split
splotch
sponge
spoon
spout
sprawl
spray
spread
spring
sprint
sprout
spruce
spur
spurt
sputter
squander
square
squash
squeak
squeeze
squirt
stack
stab
stain
stake
stall
stamp
stand
stare
start
starve
stash
stave
stay
steady
steal
steam
stencil
step
stick
stiffen
still
sting
stink
stir
stitch
stock
stop
store
stow
straighten
strap
stray
streak
stress
stretch

strike
string
strip
study
strum
stuff
suck
suit
sum
summarize
summon
swab
swallow
swap
swear
sweat
sew
sweep
sweeten
swell
swig
swill
swim
swipe
swish
switch
swoop
tack
tag
take
talk
tally
tame
tamp
tan
tangle
tap
tape
taper
tar
tarnish
team
tear
tease
telegraph
tell
tender
tense
test
thaw
thicken
thin
think
thrash
thresh
throw
thrust
tick
tide
tidy
tie
tighten
tile
tilt
time
tin
tinker
tip
tire
tone
tool
top
toss
total
tote
touch
toughen
trace
toy
track
trade
tramp
trample
trap
tread
treat
trick
trigger
trim
trip
troop
trot
true
trump
trundle
truss
try
tuck
tucker
tug
tune
turn
twist
type
urge
use
usher
vacuum
vent
vomit
vote
wad
wait
wake
walk
wall
ward
warm
wash
waste
watch
water
wave
weaken
wear
wedge
weed
well
weigh
wet
whack
while
whip
whirl
whisk
whisper
whistle
whiten
whittle
widen
wile
win
wind
wipe
wire
wise
wolf

work
worm
wrap
wrench
wring
write
yank
yell
yield
yoke
zip
zipper
zoom

Section A2 - Systematic verb-particle combinations

AWAY

(i) bank, cache, file, hide, hoard, lay, pack, put, stash, stock, stow,

(ii) boil, eat, file, grind, rub, rust, sand, wear,

DOWN

(i) batten, bolt, button, cement, clamp, fasten, hammer, glue, paste, pat, pin, nail, rivet, screw, tack,

(ii) comb, dry, dust, hose, mop, oil, powder, rinse, rub, salt, sand, scrape, scrub, smooth, soap, spray, wash, water, wet,

(iii) chase, hunt, track, trail,

(iv) bolt, drink, chuck, drink, gobble, gulp, swig, swallow, wolf,

(v) mark, note, pen, scribble, type, write,

IN

(i) cable, call, give, hand, put, radio, send, telegraph, turn, wire, write

OFF

(i) fend, fight, frighten, hold, scare, stand,

(ii) auction, buy, sell

(iii) check, cross, mark, scratch, tick,

ON

(i) coax, egg, goad, hound, hurry, hustle, prod, rush, spur, urge,

OUT

(i) blot, cancel, grind, line, mark, pen, pencil, paint, rub, rule, sand, scratch, scrub,

(ii) deal, dish, give, hand, ladle, lend, measure, pay, pass, portion, pour, spoon, serve, shell,

(iii) branch, broaden, fan, feather, flatten, lengthen, spread, stretch, widen,

(iv) even, hammer, level, smooth, straighten,

(v) speak, talk,

OVER

(i) check, pick, sort,

UP

(i) add, total, sum, count, tote, tally, figure, ante, reckon, balance,

(ii) bake, cook, fry, broil, boil, make, brew,

(iii) beat, rough, muss, mess, slap, punch, knife, shoot, cut,

(iv) mark, blacken, soot, scratch, color, paint, darken, ink, pencil, dirty, char, mess, clutter, litter, muddy, muss, spatter, splatter, spot, streak, track

(v) smash, mash, bash, bang, bend, crack, chrunch, dent, bust, butcher, bruise, crumple, nick, mar, skin, break, chop, hack, split, saw, twist, grind, sand, slice, kink, cut, slit, rip, tear, chew, carve, dice, drill, scuff, slash, splinter

(vi) plug, stuff, block, jam, clog, stop, box, bottle, cork, calk, chink, gag

(vii) close, seal, shut, lock, bolt, latch, dam, dike, button,

(viii) sew, patch, glue, fix, mend, darn, solder, tape, cement, seal, stich, splice,

(ix) even, line, straighten, level, match, trim,

(x) churn, stir, shake, mix, beat, roil, jiggle,

(xi) divy, divide, split, partition,section,

(xii) give, pass, render, yield,

(xiii) hurry, speed, rush, push,

(xiv) hush, quiet,

(xv) save, hoard, buy, store

(xvi) polish, shine, buff, clean, burnish, groom, curry, rub, comb,

(xvii) coil, curl, fold, roll, wind,

(xviii) do, tie, bind, wrap, cover, pack, bag, package, bundle, truss, lash, chain, fasten, gird, lace, tighten,

(xix) connect, buckle, join, hook, hitch, link, join, saddle, wire, yoke,

(xx) match, pair,

(xxi) call, ring, telephone, phone,

Section A3 - Transitive verb - particle combinations

ABOUT

bring

ACROSS

put, get,

AROUND

bat, batter, hit, kick, knock

ASIDE

lay, put, set

AWAY

argue, action, bake, bank, beat, blast, blow, boil, burn, chache, clean, clear, clip, cook, dance, drain, dwadle, eat, etch, explain, fight, file, flush, fritter, give, frind, hand, hide, joke, keep, knock, lay, loan, pack, put, rake, roll, rub, rust, salt, sand, saw, scrape, send, shave, sign, sleep,sponge, steal, squander, stash, steal, stick, stow, strip, sweep, talk, tear, throw, toss, trim, wash, wear, while, whittle, wipe, work.

BACK

answer, cut, drive, fight, hold, keep, play, put, read, sass, set, take, turn, win

BY

pass, set,

DOWN

argue, batten, batter, battle, beat, bed, belly, blow, bolt, break, bring, burn, button, call, calm, cement, chain, chase, chim, choke, chop, chug, clamp, clean, cook, cool, count, cram, crimp, draw, dress, drink, drive, dry, dust, fasten, fight, file, filter, fire, flag, flatten, fold, force, gobble, glue, grind, gun, gulp, hammer, hand, hose, hunt, ice, jot, keep, kick, lash, lay, let, live, mark, melt, mop, mow, nail, narrow, note, oil, pad, pare, pass, paste, pat, pay, pin, plank, plant, play, point, powder, pull, put, quiet, ring, rinse, rip, rub, run, saddle, sand, saw, scrape, set, scrub, shave, shoot, shout, shrink, shut, simmer, slim, slow, smooth, snap, soak, soap, spell, spray, stamp, stare, stitch, strip, swab, swallow, sew, swig, take, talk, tamp, tame, tap, taper, tear, thin, throw, tighten, tone, trace, trample, trim, tune, turn, type, vote, wash, water, wear, wet, wipe, wolf, write.

FORTH

bring, put, set,

IN

bash, blow, break, bring, cash, cave, dent, do, drink, haul, lay, knock, lay, push, rake, reel, rope, run, scoop, smash, suck, take,

OFF

apportion, auction, balance, bang, barter, bathe, battle, beat, bind, blast, block, blow, board, boil, break, bring, brush, bump, burn, buy, cage, call, carry, cement, chain, charge, chase, check, chew, choke, circle, clamp, clean, cleanse, clear, clip, close, cook, cool, coop, cordon, count,

crop, cut, dam, dash, dry, erase, even, fence, fend, fight, finish, fire, force, frighten, group, hand, head, hold, kick, kiss, laugh, let, level, mail, mark, marry, mask, match, mate, measure, murder, name, narrow, pace, pack, pair, palm, parcel, pare, partition, pass, pawn, pay, peddle, pension, play, portion, pull, rack, rake, ransom, read, reel, ring, rime, rinse, rope, round, rub, rule, run, rush, sand, saw, scale, scare, scrape, scratch, scrub, section, sell, send, set, shake, shave, shear, ship, shoot, show, shrug, shunt, shut, sign, soak, space, sponge, start, step, sweep, take, tap, tell, throw, tick, tip, tire, top, toss, touch, trade, twist, walk, wall, ward, wash, wear, ship, work, write,

ON

bring, carry, come, draw, keep, lay, lead, let, pass, pile, put, take, try,

OUT

(i) act, air, apportion, argue, ask, bail, balance, bang, ball, bear, beat, blacken, blast, blaze, bleach, blot, blow, blur, bomb, boot, break, bring, broaden, brush, build, burn, burrow, buy, call, cancel, carry, case, chart, check, chew, choose, chop, chuck, clean, clear, clip, close, count, cross, crowd, curse, cuss, cut, darken, deal, dig, dish, dole, dope, dose, draft, drain, draw, dredge, drill, drive, drown, drum, dry, eat, eke, empty, etch, even, fake, farm, fashion, feather, feel, ferret, figure, fill, find, fish, fit, flatten, flood, flow, flush, follow,

force, freeze, give, gouge, grind, hack, hammer, hand, hang, hatch, help, hide, hire, hold, hollow, hunt, ink, iron, keep, knead, knock, ladle, lay, last, lead, lend, lengthen, let, level, loan, lock, lot, make, mail, map, mark, mask, measure, mop, move, parcel, pay, pen, pencil, phase, piece, plan, play, plot, point, portion, pound, pour, print, probe, pump, pull, punch, push, puzzle, rake, read, ream, reason, rent, ring, rinse, rhyme, rip, root, rot, round, rouse, rout, route, rub, rule, sand, saw, scoop, scout, scrape, scratch, screen, scribble, scrub, search, see, seek, sell, send, separate, serve, set, shake, shell, ship, shoot, shut, sit, sketch, slug, snuff, sort, sound, space, spell, spew, spit, spoon, spread, squeeze, squirt, stake, stamp, starve, straighten, stretch, strike, string, sweat, sweep, take, tap, tear, test, thaw, thin, think, tire thrash, thresh, throw, thrust, turn, type, vote, wait, wash, weed, weigh, wear, whip, widen, wipe, work, wring, write,

(ii) blow, blot, cancel, cross, drown, mark, rub, rule, sand, scratch, snuff, stamp, wipe,

(iii) bawl, blast, chew, curse, cuss, ream, swear,

(iv) branch, broaden, even, fan, either, flatten hammer, level, lengthen, pound, spread, straighten, stretch, widen,

(v) ferret, filter, find, hunt, pick, point, search, seek, sort,

(vi) feel, probe, sound,

(vii) dope, figure, hammer, hatch, map, plan, puzzle, think, work,

(viii) thrash, talk, argue,

OVER

bowl, build, check, do, fix, heal, gloss, hold, look, make, mull, pass, pick, put, read, run, smooth, sort, take, talk, think, tread, throw, tide, work,

THROUGH

put, get, see,

UP

act
ally
angle
answer
ante
arch
argue
arm
ask
attach
auction
back
bait
bake
balance
ball
balloon
band
bank
barrel
barter
baste
bat
bathe
batter
battle
bed
beef
belch
bellow
belt
bend
bib
bid
billow
bind
bite
black
blacken
blast
blaze
bleach
blend
blister
bloat
block
bloom
blossom
blot
blotch
blow
blur
board
boil
bolster
bolt
bomb
book
boost
boot
booze
botch
bottle
box
brace
braid
break
brew
bridge
bridle
brighten
bring
bristle
broaden
broil
brood
brown
bruise
brush
bubble
buckle
buddy
buff
bug
bugger
build
bulge
bum
bump
bunch
bundle
bung
bungle
bunk
buoy
burn
burnish
burp
burr
burrow
bust
butcher
butt
butter
button

buttress
buy
cable
cache
cage
cake
calk
call
calm
can
cap
carry
catch
cede
cement
chain
charge
chart
charter
check
cheer
chew
chill
chime
chink
chip
chirp
choke
choose
chop
chuck
chug
churn
chute
cipher
circle
clam
clamp
clap
clean
cleanse
clear
climp
clip
clog
cloister
close
clot
cloud
clown
cluster
clutter
code
coil
coin
collect
color
comb
come
con
conjure
connect
cook
cool
coop
cork
cough
count
couple
cover
crack
cradle
cram
cramp
crash
crayon
crease
creep
crimp
crinkle
cripple
crisp
crop
cross
crowd
crumple
crunch
crush
curry
curse
cuss
cut
dab
dam
dampen
dance
darken
darn
dash
date
daub
deal
deliver
dent
dice
dig
dilute
dim
dip
dirty
dish
ditch
divy
divide
doctor
do
doll
dope
dose
dot
double
draft
drag
drain
draw
dream
dredge
dress
drift
drill
drink
drive
drum
dry
dupe
dust
dye
ease
eat
edge
end

equal
even
eye
face
fade
fake
fan
fasten
fatten
feather
feed
feel
fence
getch
fight
figure
file
fill
filter
finish
fire
firm
fish
fix
fizz
fizzle
flame
flare
flash
flex
flip
flit
float
flood
flow
flub
fluff
flush
fly
foam
fog
foil
fold
follow
force
fork
form
foul
frame
free
freeze
freshen
frig
frighten
fribble
frost
froth
fry
fuddle
fuel
fumble
fume
furl
furrow
fuss
gang
garble
gas
gash
gather
get
give
glaze
gloss
glue
gnaw
go
gobble
goof
gouge
grab
grease
grind
groove
group
grow
grub
gum
gush
hack
hammer
hand
hang
harden
harness
hush
hasten
hatch
haul
have
heal
heap
heat
heave
heft
heist
help
hem
herd
hew
hire
hitch
hoard
hold
home
hook
hop
hose
huddle
hug
hump
hunt
hurry
hush
ice
ink
iron
jam
jerk
jiggle
jinx
join
jolt
juggle
jumble
jump
keep
key
kick
kindle
kink
kiss
knead
knife
knit
knock

knot
lace
lap
lash
lasso
latch
lather
lay
leap
lease
leash
lengthen
let
level
lick
light
lighten
limber
line
link
list
litter
live
load
lock
log
look
loom
loop
loose
loosen
loot
louse
lump
lunch
make
manacle
mangle
map
mar
march
mark
market
marry
marshal
mash
mask
mass
mat
match
mate
measure
meet
melt
mend
mess
mill
mince
mine
mix
mock
moisten
mold
mop
mount
mouth
move
muddy
muff
muffle
mull
munch
muss
muster
muzzle
nail
name
narrow
neaten
nick
nip
notch
note
offer
ooze
open
order
owe
own
pack
package
pad
paint
pair
paper
pare
partition
pass
paste
pat
patch
pave
pay
pep
pepper
perk
pick
piece
pierce
pile
pin
pinch
pipe
pitch
plaster
plate
play
plow
pluck
plug
plumb
point
pool
pop
portion
post
pound
practice
press
prim
primp
print
probe
prop
prune
pry
pucker
puff
puke
pull
pump
punch
push
put
quicken
race
rack

rail
raise
rake
ram
rattle
ravel
reach
read
ream
rear
reckon
redden
reel
rein
rell
render
rent
rest
rev
ride
rig
right
rile
ring
rime
rinse
rip
ripen
rise
roar
roast
robe
rock
roil
roll
root
rope
rough
roughen
round
rouse
rout
route
row
rub
ruffle
rule
rumple
run
rush
rust
rustle
rut
saddle
salt
sand
sass
save
saw
scale
scare
scoop
score
scout
scrape
scratch
screen
screw
scribble
scrub
scrunch
scuff
seal
search
section
secure
see
seek
seize
sell
send
separate
serve
set
settle
sew
shackle
shake
shape
sharpen
shatter
shave
shear
shield
shift
shine
ship
shoot
shoe
shore
shorten
shout
shove
show
shower
shred
shrink
shrivel
shuffle
shut
side
sift
sight
sign
sing
singe
sip
sit
size
sketch
skin
skip
slack
slam
slap
slash
slaughter
slice
slick
slim
sling
slink
slip
slit
slop
slug
smack
smarten
smash
smear
smell
smoke
smudge
snap

snare
snarl
snatch
sneak
snip
snuff
soak
sober
sock
solder
soothe
sop
sort
soup
spade
space
spatter
speak
spear
speed
spew
spice
spike
spin
spit
splash
splatter
splice
splinter
split
splotch
sponge
spray
spread
spring
sprint
sprout
spruce
spur
spurt
sputter
square
squash
squeeze
squirt
stack
stab
stain
stake
stall
stamp
stand
start
starve
stash
stay
steady
steal
steam
step
stick
stiffen
sting
stink
stir
stitch
stock
stop
store
stow
straighten
strap
stray
streak
stretch
strike
string
study
strum
stuff
such
suit
sum
summarize
summon
swab
sweat
sew
sweep
sweeten
swell
switch
tack
tag
take
talk
tally
tamp
tan
tangle
tap
tape
taper
tarnish
team
tear
tense
test
thaw
thicken
thin
think
throw
thrust
tidy
tie
tighten
tile
tilt
tin
tip
tire
tone
tool
toss
total
tote
touch
toughen
track
trade
tramp
trample
trap
trim
trip
troop
true
trump
trundle
truss
tune
turn
twist
type
use
vacuum
vent
vomit
wad

wait
wake
wall
warm
wash
water
weaken
well
weigh
whack
whip
whirl
whisk
whistle
whiten
whittle
widen
wind
wipe
wire
wise
work
worm
wrap
white
yield
yoke
zip
zipper

UP "classes"

(i) add, ante, balance, count, figure, recken, sum, tally, total, tote

(ii) beat, cut, knife, mess, muss, punch, rough, shoot, slap

(iii) blacken, char, clutter, color, darken, dirty, ink, litter, mark, mess, muddy, muss, paint, pencil, rust, scratch, smoke, spatter, splatter, spot, streak, track

(iv) bang, bash, blast, blow, bomb, bruise, bust, butcher, chrunch, crack, crash, crumple, carve, chew, dent, mar, mash, nick, skin, smash, scuff, slash, bend, break, split, carve, chop,

cut, dice, drill, grind, hack, kink, rip, sand, saw, slice, slit, splinter, twist,

(v) bunch, crumple, hunch, scrunch,

(vi) block, bottle, box, clog, calk, chink, cork, gag, jam, plug, stop, stuff,

(vii) bar, block, board, brick, cement, cover, paper, patch, plank, plaster, wall, tar,

(viii) dampen, freshen, moisten, wet,

(ix) cement, darn, glue, fix, mend, patch, seal, sew, solder, stitch, splice, tape,

(x) fog, frost, ice, steam, mist,

(xi) beef, bolster, boost, buoy, brace, buck, build, buttress, firm, keep, prop, shore, stem, stiffen,

(xii) even, level, line, match, straighten, tie, trim,

(xiii) beat, churn, jiggle, mix, roil, shake, stir,

(xiv) divy, divide, partition, section, split,

(xv) coil, curl, fold, reel, rool, rev, wind,

(xvi) dig, fish, get, grub, hunt, look, scare, scrape, scrounge, russle,

(xvii) brush, dry, clean, cleanse, dry, dust, dry, pick, neaten, mop, rake, swab, sweep, shovel, scoop, vacuum, wash, wipe,

(xviii) ball, bug, bugger, bum, botch, cross, bottle, dirty, bungle, flub, foil, gum, bunk, jumble, muddle, mess, mix, louse, tangle, clutter, twist, foul, snarl, goof, slop, lunch, lump, smear, frig, hash, knot,

Section A4 - Intransitive verb-particle combinations

ABOUT

bandy,

AROUND

diddle, fiddle, fool, fuss, horse, kid, mess, play, screw, tinker,

toy,

AWAY

boil, cook, corrode, die, fade, leak, melt, pass, rust, waste, wear,

BACK

grow,

BY

pass,

DOWN

break, calm, die, melt, slow, tame, wear, wind, quiet,

FORTH

come,

IN

cave, pitch, dig,

OFF

beg, blast, blow, cool, branch, die, doze, drive, face, go, goof, light,

mouth, pair, ride, run, screw, set, show, sign, slack, sound, start,

take, taper, wear,

ON

catch, pass,

OUT

bellow, billow, blare, bloat, bloom, blossom, blow, bow, branch, broaden, bulge, burn, burst, bust, clear, close, conk, crump, cry, die, even, expand, fade, fan, fizzle, flame, flare, foul, hear, hide, hire, keep, last, level, lose, make, pan, pass, peak, peal, peter, phase, pour, reach, roar, rot, rust, run, scream, shout, shriek, sing, sprout, spout, squirt, stand, strike, swell, thaw, thin, tire, tucker, turn, win, yell,

(i) bellow, cry, roar, scream, shout, shriek, sing,

(ii) bow, conk, crump, die, fade, fizzle, pass, peter, phase, tire,

OVER

fall, roll,

THROUGH

pull, fall,

UP

burn, close, come, crop, divide, fog, freeze, frost, give, grow, harden, heat, ice, perk, pop, prop, pull, rein, rest, shut, slow, speed, split, spring, swell, team, turn, well, wise, wither,

Section A5 - Verb-particle combinations with following PP
(For the verb-particle cases listed below, the indicated following PP is always required.)

ACROSS--WITH

come, get,

AROUND--TO

come, get,

AWAY--WITH

do, get, make,

AWAY--ON

stow, hide,

BACK--ON

look, think

DOWN--ON

bear, crack, look,

DOWN--WITH

come,

DOWN--TO

boil, come, get, buckle, knuckle, talk,

IN--FOR

come, fill, go, put, stand,

IN--WITH

fall,

IN--ON

break, butt, chime, drop, gaze, glance, home, look, listen, range, sit,

tune, zoom, zero,

OFF--FROM

back,

OFF--OF

lay, get,

OFF--ON

drive, get, go, push, ride, set, shove, start, take,

OFF--WITH

make, break,

OFF--TO

doze, drift, drop, fall,

OUT--FOR

go, hold, look, watch,

OUT--ABOUT

speak, talk, come, find,

OUT--WITH

make, fall,

OUT--IN

break,

OUT--WITH

fall,

OVER--TO

go,

THROUGH--WITH

go,

UP--AGAINST

come, run,

UP--FOR

come, cover, stand, stick, wait,

UP--ON

brush, catch, choke, check, cover, creep, ease, goof, let, foul, read,

screw, speak, gang, sneak, double, slip, trip,

UP--WITH

catch, come, keep, join, make, meet, put,

UP--TO

come, butter, face, look, own, stand, wake,

UP--UNDER

bear, stand,

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BIOGRAPHICAL NOTE

J. Bruce Fraser was born in Englewood, New Jersey on June 27, 1938. He attended Poughkeepsie High School, Poughkeepsie, New York, and received a B.E.E. degree from Cornell University in 1961.

Mr. Fraser held several scholarships at Cornell University from 1960 to 1961 and was elected to Eta Kappa Nu in 1960 and Tau Beta Pi in 1961. At MIT he has been a research assistant with the Research Laboratory of Electronics.

Mr. Fraser has been employed by the International Business Machines Corporation as a programmer for the IBM 7030 system and by the MITRE Corporation as a Staff Scientist in the Information Sciences Department. He has also served as a consultant to the Department of English at Florida State University. At present he is a 1st Lt with the Electronic Systems Division of the United States Air Force working as a Special Scientist in the area of Linguistics.

His papers and publications include:

"On Particles in English", presented at the summer meeting of the Linguistic Society of America, Bloomington, Indiana, 1964.

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