ASPECTS OF THE GRAMMAR OF INFINITIVES AND FOR-PHRASES

by

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ABSTRACT

This thesis surveys a number of topics related to the grammar of infinitival for-phrases. We begin by noting syntactic and semantic distinctions among three types of infinitive complements, which are called purpose clauses, objective clauses, and rationale clauses. It is shown that these complements must be analyzed as for-phrases with sentential objects.

Next, semantic relations between NP's and for-phrases are discussed, and the relevance of these relations to the analysis of control phenomena in the three clause types is considered. It is demonstrated that "object deletion" in infinitival for-phrases is subject to conditions on the semantic relations obtaining between the controller NP and the for-phrase.

Basic semantic differences between gerundives, for-phrases and infinitival for-phrases are characterized. Both are descriptive of motivations for the action depicted in the matrix clause. However, gerundive for-phrases characterize motivating factors which are semantically prior to the action depicted in the matrix clause, while infinitival for-phrases describe intentions which are semantically posterior to the action characterized by the matrix clause. In addition, complement subject control in gerundive for-phrases is examined.

"Object deletion" in purpose clauses is considered with respect to the sentential nature of this type of complement. It is shown that if we analyze the object of for in this case as a reduced sentence, "object deletion" in purpose clauses does not violate certain plausible conditions on rules. Following a discussion of tough-predicates, the hypothesis is considered that the complements to the degree modifiers too and enough are for-phrases with reduced sentential objects.

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CHAPTER I

A TYPOLOGY OF SOME INFINITIVE PHRASES

1. The distinction between infinitival relative clauses and infinitival purpose clauses.

In this section we will describe an ambiguity in sentences like (1) with respect to the underlined infinitive phrase.

1. Carol bought a rack <u>to hang coats on</u>

The ambiguity of (1) involves the fact that the expression which refers to or designates the object of purchase is ambiguously construed: It can either be <u>a rack</u> or <u>a rack to hang coats on</u>. Otherwise put, the ambiguity of (1) involves the optional interpretation of the infinitive phrase as a component of the description of the object which Carol bought. As is commonly recognized, the infinitive phrase, when construed as a component of the referring expression, functions as a relative clause modifier; and there is, in fact, an alternative version of sentence (1) on this reading, where the infinitive phrase is introduced by a Wh-phrase:

2. Carol bought a rack <u>on which to hang coats</u>

Observe that in (2), the infinitive phrase <u>must</u> be con-

strued as a component of the referring expression, and the sentence is unambiguous.

With respect to sentences such as (1) we will say that the infinitive phrase functions as an infinitival relative clause just in case the infinitive phrase is construed as part of the expression which refers or designates, and that the infinitive phrase (or the whole sentence) has an infinitival relative clause reading. When the infinitive phrase is not interpreted as part of the referring expression, we will call it a purpose clause (or an infinitival purpose clause, to distinguish it from constructions which seem to serve related semantic purposes) and say that the infinitive phrase or the sentence as a whole has a purpose clause reading.

That (1) is a genuinely ambiguous sentence can be seen from the fact that the validity of inferences made from it depends on whether we take the infinitive phrase to be a relative clause or a purpose clause. For example, (3) is a valid inference from (1) only on a purpose clause reading of (1):

3. Carol intended to hang coats on the rack which she bought

On the relative clause reading of (1), the inference represented in (3) cannot be made: All we know is that Carol

bought an object described as a rack to hang coats on; and we know, in particular, nothing of what she intends to do with it. She could, for example, intend to hang her dresses on the rack, and we might add a purpose clause to (1) to this effect:

4. Carol bought a rack to hang coats on <u>to hang her dresses on</u>

Observe that, given the purpose clause in (4), (5) is a valid inference from (4):

5. Carol intended to hang dresses on the rack which she bought

The kind of ambiguity illustrated by examples like (1), where we have the <u>option</u> of interpreting a certain adjunct phrase as a component of a referring expression, is actually quite common. Take, for example, well-known cases like <u>Jane wrote the letter on the table</u>, where the phrase <u>the letter on the table</u> can be taken as the object of <u>write</u> or <u>on the table</u> can be taken as a place adverbial modifying the whole verb phrase <u>write the letter</u>. There is, however, a further aspect of the ambiguity of (1) that sets it apart from examples like the one above and engages our interest. This is the fact that on the purpose clause reading of (1), the infinitival adjunct is used to assert something about the object

ject a rack. What is asserted is that the rack serves the purpose of being something to hang coats on. This particular feature is shared by other constructions, as illustrated by the following ambiguous examples:

6. John wrote the story about the Alaskan pipeline
7. Bill took the last picture of his wife
8. Nicola retold the joke about an Italian

(6) can simply be a statement of authorship; i.e., it can simply mean that John is the author of the story about the Alaskan pipeline; or it can mean, roughly, that the topic of the story that John wrote was the Alaskan pipeline. On the first reading, the story about the Alaskan pipeline is a referring expression; i.e., a description of what John wrote, the object of the verb write. On the second reading, the story is a referrring expression (the object of write), and it is asserted to be about the Alaskan pipeline. That is, the fact that the topic of the story is the Alaskan pipeline is part of what the sentence asserts on this reading. Similar ambiguities are observable in (7) and (8), whose readings are indicated by the paraphrases in (9) and (10) respectively.

9.a. Bill was the photographer of the last picture of his wife

9.b. the last picture Bill took was of his wife

10.a. Nicola was the reteller of the joke about an Italian

b. Nicola retold the joke as being about an Italian

On the "b-readings" of (7) and (8), given as (9b) and (10b), the underlined prepositional phrases are not part of any referring expression. Further, as in the case of the purpose clause in (1), and the about-phrase in (6), these adjuncts are used to assert something about the direct objects of the sentences: In (7), the subject of Bill's last picture is asserted to be his wife; in (8), the subject of the joke in the version that Nicola told (on Nicola's rendition) is asserted to be an Italian.

Constructions of this type should be given far more extensive treatment than we will give them here. Let me just add the further observation that there are other adverbial adjuncts which are used to assert something about either the subject or object of the sentence, adding thus, a further dimension to the kind of ambiguity we have examined above. Consider, for instance, examples of the following type:

11. El Greco painted the Cardinal without his glasses

12. The clown put the tie on upside down

13. Alexander recited the poem without the usual

In (11), it could either be the Cardinal or El Greco who is without his glasses; in (12), it could be either the clown or the tie that is upside down; in (13), it could be either Alexander or the poem itself that is without the usual soppiness. Thus, there seems to be a general problem of adjuncts with apparent adverbial force which attribute some property or properties to a noun phrase in the containing sentence. The phenomenon of purpose clauses is a particular instance of this general problem.

Our task now is to demonstrate that the ambiguity of (1) (and of (6-8)) is structural. Specifically, we wish to show that the infinitive phrase as an infinitival relative forms a syntactic constituent with the nominal a rack to its left, while as a purpose clause it does not form a constituent with a rack. To bring out the structural nature of the ambiguity, we can rephrase the ambiguity as one in the construal of the object noun phrase of the verb buy: Is the object a rack or a rack to hang coats on? (The object NP of buy is, of course, a referring expression.) Consider, for example, the two possible passive versions of (1):

14. a rack to hang coats on was bought by Carol
15. a rack was bought by Carol to hang coats on

In (14), where the infinitive phrase is treated by the Passive rule as a constituent of the object NP, only a relative clause reading is possible; the infinitive phrase is interpretable only as a component of a referring expression. (15) on the other hand, has its infinitival adjunct unaffected by the Passive rule; it has not been taken as a constituent of the object NP which is preposed. In this situation, a rack is the referring expression (the object NP) and the infinitival adjunct is interpreted as a purpose clause. It is possible that (15) is actually ambiguous, having a relative clause reading as well. We can account for this possibility by deriving (15) on the relative clause reading from (14) by the well-known rule of Extraposition from NP. Thus, we have two possible derivations for (15), allowing the infinitive phrase to be interpreted either as a relative clause or a purpose clause.

Consider next the following pseudo-cleft examples.

16. what Carol bought was a rack to hang coats on

17. what Carol bought to hang coats on was a rack

(16) is quite straightforward: the infinitive phrase is part of the postcopular focus constituent and is interpretable only as an infinitival relative clause. On the other hand, the infinitive phrase in (17) is unambiguously interpreted as a purpose clause. Notice that if we substitute for the

infinitive phrase in (17) its "Wh-relative clause version", the sentence is ungrammatical:

18. *what Carol bought on which to hang coats was a rack

However one wishes to derive pseudo-cleft sentences, it is a fact about them that what appears in focus position cannot be an immediate constituent of a complex noun phrase. In the instance of (17) and (18), the relevant derivative observation is that the heads of relative clause contructions cannot appear in focus position without the relative clause. Thus, in a sentence like

19. what John ate that Sarah made was the cookies

that Sarah made cannot be interpreted as a relative clause modifier of the cookies. In the familiar way in which pseudo-cleft sentences are described, we would say that (19) does not "correspond to" the sentence, John ate the cookies that Sarah made (it is not even clear that (19) is grammatical). One of the pseudo-cleft sentences which would rightly be said to "correspond to" this latter sentence would be, what John ate were the cookies that Sarah made. (For a recent, interesting discussion of the pseudo-cleft construction, see Higgins 1973. Higgins rejects the standard transformational analyses for these sentences in favor of an analysis which virtually identifies the deep structures of pseudo-cl

clefts with their surface structures.)

From these observations, it follows (correctly) that (17) does not "correspond to" (1) on the relative clause reading of the latter. According to our observations, a rack and to hang coats on do not form a complex noun phrase at any stage in the derivation of (17). Like our observations about the Passive, these facts indicate that the two readings for (1) are associated with different structural descriptions for the sentence. On the relative clause reading, a rack and to hang coats on form a single constituent; on the purpose clause reading, they do not. Now observe, incidentally, that the infinitive phrase in (1), interpreted as a purpose clause, can itself appear in focus position in a pseudo-cleft sentence:

20. what Carol bought a rack for was to hang coats on

(The for which shows up in (20) will be dealt with later on.) The impossibility of a relative clause interpretation for the focus constituent of (20) can be seen when we substitute the "Wh-version" for it:

21. *what Carol bought a rack (for) was on which to hang coats

We see, then, that pseudo-cleft constructions point up crucial syntactic differences between infinitival relatives and

infinitival purpose clauses.

Let us pause to note that quite similar observations can be made for (6-8). Consider, for example, (7). The two possible passive versions are as follows:

22. the last picture of his wife was taken by Bill

23. the last picture was taken by Bill of his wife

Each of these unambiguous examples has one of the possible readings of (7). (22) has the reading corresponding to (9a); (23) has the reading corresponding to (9b). In (22), of his wife is interpreted as part of the referring expression and is analyzed syntactically as a constituent of the surface subject NP which has been preposed by the Passive rule from the position of the direct object of take in (7). In (23), corresponding to (9b), of his wife does not form part of a referring expression and is unaffected by the Passive rule. In this case, the object of take is simply the last picture. (Incidentally, (23) does not seem to me to have an alternative reading corresponding to the reading of (22), where the of-phrase at the end of the sentence could be taken as an extraposed complement. Compare the ambiguous (15). The conditions under which an extraposed complement reading is in general available are, in any event, quite complicated and poorly understood.)

Further, consider the following pseudo-cleft examples:

24. what Bill took was the last picture of his wife

25. the one that Bill took the last picture of was his wife

(24), of course, has only the (9a) reading; the material to the right of the copula must be analyzed as a constituent, and this focus constituent forms a referring expression. The situation is different for (25). Here, the of-phrase cannot be interpreted as the complement of picture, since there are severe restrictions on pseudo-clefting out of a complex noun phrase. (This observation can easily be translated in terms of your favorite theory of pseudo-clefts.) Thus, aside from the relative clause examples we discussed above, if we take a sentence like

26. John is married to the woman next to Bill

we find that it is impossible to have Bill in focus position in a "corresponding" pseudo-cleft sentence:

27. *the one who John is married to the woman next to is Bill

Also, reconsidering the ambiguity of the example

28. Jane wrote the letter on the table

where on the table can be understood either as a place adverbial modifying the verb phrase or as part of the referring

expression the letter on the table, notice that only the place adverbial reading for the on-phrase is possible in the following pseudo-cleft:

29. what Jane wrote the letter on was the table

The impossibility of pseudo-clefting the object of a PP nominal complement insures the non-ambiguity of (29).

When the adjuncts are not construed as components of referring expressions (the infinitive phrase of (1) on the purpose clause reading; the prepositional phrases of (6-8) on their "b-readings"), the NP's to their left (the direct objects) can be replaced by pronouns, since they are understood to have reference by themselves, without the adjuncts. Observe the non-ambiguity of the following cases:

30. Carol bought it to hang coats on (cp. (1))
31. John wrote it about the Alaskan pipeline (cp.(6))
32. Bill took it of his wife (cp. (7))
33. Nicola retold it about an Italian (cp. (8))

The fact that it cannot form a constituent with the adjunct to its right is quite clear. If we try, for example, to force a relative clause reading for the infinitive phrase in (30) by substitution with the "Wh-version", the result is ungrammatical.

34. *Carol bought it on which to hang coats

If we try to treat it + adjunct as a constituent with respect to Passive or the demonstrative that + adjunct as the focus constituent in a pseudo-cleft sentence, the result is also ungrammatical. (We use the demonstrative that because the pronoun it is not a proper focus constituent. Cf. Carol bought that, what Carol bought was that; Carol bought it, *what Carol bought was it.)

35. *it to hang coats on was bought by Carol

36. *what Carol bought was that to hang coats on

37. *it about the Alaskan pipeline was written by John

38. *what John wrote was that about the Alaskan pipeline, etc.

In semantic terms, the non-ambiguity of (30-33) makes sense: If the adjunct is interpreted as a nominal modifier, the head of the construction does not have reference by itself; rather, the whole expression, head + modifier, is what refers. Definite pronouns, which are interpreted as having reference, consequently cannot substitute for the heads of modified nominal constructions. Thus, the adjuncts in sentences (30-33) do not form referring expressions with the nominal it to their left. Moreover, as examples (35-38) demonstrate, the adjuncts do not form syntactic constituents with the pr

pronoun it, and this contrasts with the fact that when the adjunct is a component of the referring expression, the whole referring expresssion is treated syntactically as a constituent. The ambiguity of interpretation for (1) and (6-8), then, which revolves around the question whether the nominal to the left of the adjunct has reference, correlates with an ambiguity of structure. Notice, incidentally, that the point of the discussion could have been made just as well if, instead of pronouns, we used NP's with deictic determiners (this/that rack) or with possessive determiners (his/Mary's rack), etc.[1]

Finally, the fact that purpose clauses are not syntactically noun phrase complements(and, in particular, not relative clauses) is shown by the fact that it is possible to "chop" NP's from them. In order to demonstrate this, however, it is first necessary to digress briefly. So far in this discussion, we have examined purpose clauses where the deleted NP is an object (a direct object or the object of a preposition), but an interesting property of purpose clauses- one which we will consider much more extensively at a later point- is that this deletion operation is not restricted to object NP's. Subject NP's can also delete. Thus, contrast the following examples:

39. a. we bought this dog_i for our children to play with $\_\_\_i$

    b. we bought this dog_i $\_\_\_i$ to play with our children

40. a. John rented the $airplane_i$ to take $\_\_\_i$ to Mongolia

    b. John rented the $airplane_i$ $\_\_\_i$ to take him to Mongolia

In this respect, then, purpose clauses resemble infinitival relative clauses: the NP missing in surface structure can be a subject, object, or object of a PP.

Consider now the following example:

41. Wolfgang bought this $violin_j$ to play sonatas on $\_\_j$

Suppose we relativize the NP sonatas in (41). What we get is an ill-formed noun phrase:

42. *...the $sonatas_i$ which Wolfgang bought this $violin_j$ to play $\_\_\_i$ on $\_\_\_j$

However, the ill-formedness of (42) does not (necessarily) reflect the impossibility of relativizing out of a purpose clause. The fact is that once an NP has been chopped out of a VP, no other NP can be chopped out of that VP. I believe this generalization was first observed by Bruce Fraser in connection with Tough-Movement examples. Thus, consider the

sentence,

43. it is easy to play sonatas on this violin

Now, either sonatas or this violin can be moved to subject position to produce:

44. sonatas$_i$ are easy to play ___$_i$ on this violin

45. this violin$_i$ is easy to play sonatas on ___$_i$

But once Tough-Movement (or its equivalent on some other theory) has applied either as in (44) or (45), the remaining NP in the VP complement to the tough-type predicate cannot be chopped, as illustrated by the contrast of the following examples.

46. a. the sonatas$_i$ which it is easy to play ___$_i$ on this violin

b. the violin$_i$ which it is easy to play sonatas on ___$_i$

47. *the violin$_j$ which sonatas$_i$ are easy to play ___$_i$ on ___$_j$ ...

48. *the sonatas$_j$ which this violin$_i$ is easy to play ___$_j$ on ___$_i$ ...

I am not aware that any explanation of the ill-formedness of examples like (47) and (48) has been proposed[2], but it seems plausible to conjecture that some difficulties in the

application of perceptual stragegies are involved here. But, whatever the explanation is, these facts indicate the difficulty of testing relativizability out of purpose clauses with examples like (42) and motivate the introduction, at this point in our discussion, of the "deletability" of purpose clause subjects (cf. the b-examples of (39) and (40)), since this property allows us to bypass the difficulty.

Thus, notice that children in (39b) and Mongolia in (40b) can relativize successfully:

49. the children$_j$ that we bought this dog$_i$ ___$_i$ to play with ___$_j$
50. the place$_j$ that John rented the airplane$_i$ ___$_i$ to take him to ___$_j$

Also, notice the grammaticality of these cleft examples. (Clefting is another standard illustration of "chopping" phenomena.)

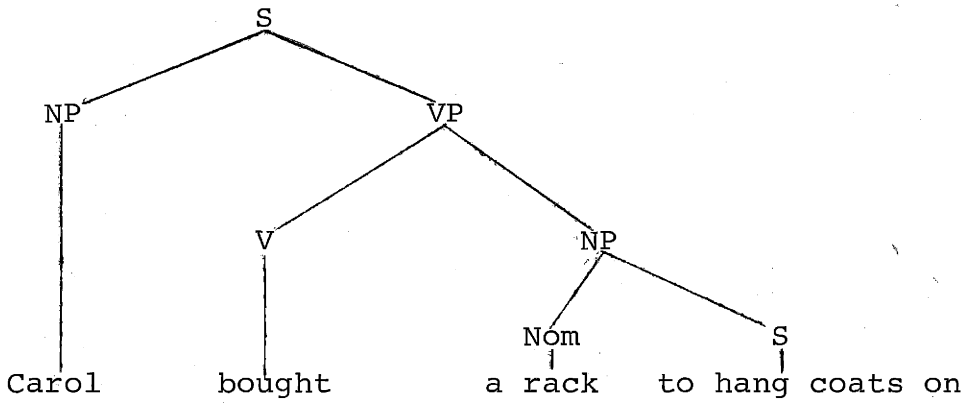
51. it was our children$_j$ that we bought this dog$_i$ ___$_i$ to play with ___$_j$
52. it was Mongolia$_j$ that John rented the plane$_i$ ___$_i$ to take him to ___$_j$

Therefore, because of the grammaticality of (49-52), we can conclude that the ill-formedness of (42) is due not to any prohibition against relativizing out of purpose clauses,

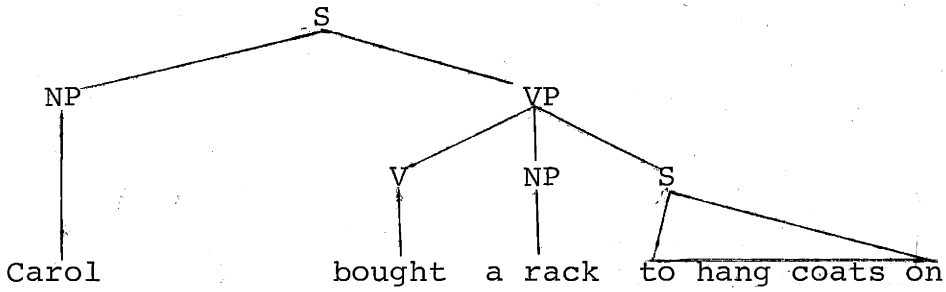
but rather to certain general conditions on chopping rules. The fact that purpose clauses can be "chopped" out of is clear evidence that they are syntactically distinct from relative clauses, since chopping out of relative clauses is a prime example of the violation of the Complex Noun Phrase Constraint (Ross dissertation, 1967), or its equivalent on some other theory (cf. e.g., Chomsky's (1973) recent discussion of adjacency.)

On the basis of the evidence considered in the foregoing discussion, we conclude that the structural ambiguity of (1) is to be represented approximately as follows. (These deep structure proposals will be refined in the course of this thesis. Further, I do not wish to defend any particular claims for the deep structure of relative clause constructions, and represent the relative clause merely as a complement to a nominal. This seems to me to be a neutral way of doing things.) (53) is the structure of (1) on the relative clause reading; (54) the structure on the purpose clause reading.

(53)



54.



In subsequent sections, we will be concerned with a more detailed description of purpose clauses, and remarks about infinitival relatives will be limited principally to whatever concerns their relation to purpose clauses. I should add that the kind of purpose clause under discussion, as distinguished from infinitival relatives, has been recognized in traditional grammar. For example, Jespersen (Modern English Grammar, Volume V, 15.2-15.3; 16.4_9) discusses these clauses and refers to them as retroactive, meaning that they have passive sense without passive form; i.e., they allow "object deletion". He does not, so far as I know, consider

subject deletion in purpose clauses.

2. Purpose clauses, rationale clauses, and objective clauses.

In the last section, we isolated a type of infinitive complement which we called a purpose clause and discussed some of the ways in which it could be distinguished from an infinitival relative. Here, we extend our observations to distinguish between purpose clauses and what we will call rationale clauses and objective clauses. The discussion will be exploratory; we will be considering mainly facts which we will need to understand before we can deepen our analysis at later points. Later on, we will attempt to systematize our observations and discuss the theoretically interesting aspects of the topic.

Consider the following example:

1. Bill bought the piano$_i$ for Mary to practice music on ___$_i$
2. Bill bought the piano$_i$ for Mary to practice music on it$_i$

In (1), we have a purpose clause with the deleted object of on anaphorically related to the piano, the object of buy. In (2), there is no deletion, and the sentence is word-for-word identical with (1), except that rather than a "deletion site" after on, we have a pronoun object it, which is

anaphorically related to the piano, the object of buy.

The infinitive phrases in these sentences serve distinct semantic functions: In line with our previous observations about purpose clauses, the purpose clause in (1) designates the purpose or function served by the piano; the piano serves as something for Mary to practice music on. Moreover, we should add that the purpose clause designates Bill's intentions for the piano. That is, we understand from (1) that it is Bill who decides that the purpose of the piano is going to be what the purpose clause says it is. (Recall the discussion of sentence (3) of the last section.) In (2), the infinitive phrase defines the reason for Bill's action; it answers the question, why did Bill buy the piano?, in the motivational sense. (2) would be appropriate, for example, to a situation in which Mary has refused to practice on a certain piano unless it were bought by Bill, so that Bill's purchase of the piano is motivated by his desire to have her practice on it.

Infinitive phrases of the type occurring in (2) have been called traditionally result clauses. (Cf. Jespersen, MEG, Volume V, 16.5_4-16.6.) The matrix sentence defines a condition for obtaining the result specified in the infinitive phrase. In this discussion, we will use the term rationale clause rather than result clause, for reasons which will be clearer after further discussion. The term

rationale clause is justifiable, since such a clause designates the motivation for the action depicted in the matrix clause.

In the case of rationale clauses, there is no requirement of coreferentiality between an NP in the rationale clause and an NP in the matrix clause.

3. Bill bought the piano for Mary to gain a fuller appreciation of keyboard music

On the other hand, deletion of an NP in a purpose clause under identity with an NP in the matrix clause is obligatory.

A further difference between rationale clauses and purpose clauses is that rationale clauses can be introduced by in order (for X) to, while purpose clauses cannot:

4. *Bill bought the piano$_i$ in order for Mary to practice on ___$_i$
5. Bill bought the piano in order for Mary to practice on it
6. Bill bought the piano in order for Mary to gain a fuller appreciation of keyboard music

Other differences will be examined later on.

Closely related to rationale clauses are what I will call objective clauses. Consider the ambiguity of the following examples:

7. the teacher sent the student to the office to annoy the principal
8. John trains the new recruits to make a living
9. Ned hired the lawyer to protect his son

In (7-9) there is an ambiguity. The subject of the infinitive phrase can be either the subject or object of the matrix sentence; i.e., the subject of annoy in (7) can be either the teacher or the student, and so on. On the interpretation where the subject of the infinitive phrase is the subject of the matrix sentence, the infinitive phrases are rationale clauses; on the other interpretation they are what I call objective clauses.

The difference between rationale clauses and objective clauses is perhaps clearer from the following examples, in which the use of reflexive pronouns makes clearer the possibilities (in the interpretation of the subjects of the infinitive complements.)

10. a. John trains the new recruits to make a living for himself (rationale)
    b. John trains the new recruits to make a living for themselves (objective)
11. a. Ann sent Alex to Toronto to spend some time by herself (rationale)

b. Ann sent Alex to Toronto to spend some time by himself (objective)

Notice that objective clauses (like purpose clauses) cannot be introduced by in order (for X) to. Thus, compare (10) and (11) with (12) and (13) below:

12. a. John trains the new recruits in order to make a living for himself
    b.*John trains the new recruits in order to make a living for themselves
13. a. Ann sent Alex to Toronto in order to spend some time by herself
    b.*Ann sent Alex to Toronto in order to spend some time by himself

Notice also how introduction of the phrase in order to disambiguates sentences (7-9) in favor of the rationale clause interpretation:

14. the teacher sent the student to the office in order to annoy the principal
15. John trains the new recruits in order to make a living
16. Ned hired the lawyer in order to protect his son

3. Relevant aspects of phrase structure.

We argue in this section that rationale clauses have a different deep structure source from purpose clauses and objective clauses. The thesis here is that purpose clauses and objective clauses are generated as complements inside the VP, while rationale clauses are generated as daughter constituents of PredP (or $\overline{VP}$, or however one wishes to label the node) -- i.e., outside the VP.

The first argument for our contentions has to do with preposability. Chomsky (1965: pp. 102ff.) argued that only phrases outside the VP could be preposed to the beginning of the sentence. The preposing of constituents originating in the VP is acceptable only if the resulting sentence is given some sort of topicalization intonation. These ideas have been somewhat sharpened and elaborated in a very interesting paper by Williams (1971).

Rationale clauses distinguish themselves from purpose clauses and objective clauses by their preposability. Consider the following objective-rationale clause pairs:

1. a. Mary$_i$ hired John to protect her$_i$ (objective)
   b. Mary hired John to protect herself (rationale)
2. a. Ann sent Ned to NY to spend some time by himself (objective)
   b. Ann sent Ned to NY to spend some time by herself (rationale)

3. a. Sam trains the new recruits to make a living for themselves (objective)
   b. Sam trains the new recruits to make a living for himself (rationale)

Observe that preposing the infinitive phrases is possible only in the case of rationale clauses:

4. a. *to protect her$_i$, Mary$_i$ hired John
   b. to protect herself, Mary hired John
5. a. *to spend some time by himself, Ann sent Ned to NY
   b. to spend some time by herself, Ann sent Ned to NY
6. a. *to make a living for themselves, Sam trains the new recruits
   b. to make a living for himself, Sam trains the new recruits

Notice, also, that purpose clauses are not preposable.

7. a. John bought the piano for Mary to practice on it (rationale)
   b. John bought the piano for Mary to practice on (purpose)
8. a. for Mary to practice on the piano, John bought it
   b. *for Mary to practice on, John bought the piano

The second argument has to do with what we might term the degrees of "dependency" of the clause on the matrix verb. For

any of the infinitive phrases we are dealing with, it seems incorrect to describe this dependency in terms of syntactic subcategorization. Rather, it seems that the relationship is better described in terms of semantic compatibility. Each clause type appears to have some inherent semantic function which imposes conditions on the types of matrix predicates with which it is compatible. In the spirit of the analysis developed in Williams (1971), I will show that the compatibility conditions are more restrictive in the case of objective clauses and purpose clauses than in the case of rationale clauses. The reasoning here is that the tighter the dependency of the clause on the verb, the lower its level of embedding. (See Williams 1971: 10, where he discusses the degree to which an item can subcategorize a verb.)

In the case of rationale clauses, there are items other than the matrix predicate on which such a clause can be dependent. Basically, rationale clauses are compatible with volitional predicates, conditional predicates (necessary, sufficient, need), and with some of the modals. If a modal or conditional predicate is present, the volitionality of the predicate which follows it is irrelevant. These points are illustrated in the examples below:

9. John (*accidentally) let the cats out of the room (in order) to have some peace and quiet

10. Max slept eight full hours last night (in order) to make sure he would be alert this morning, *although he had intended only to doze off for a few minutes
11. *Ivan was tall (in order) to attract attention
12. Ivan must be tall (in order) to attract attention
13. Ivan needs to be tall (in order) to attract attention
14. it is sufficient for Ivan to be tall (in order) to attract attention

In (9), we are dealing with a willful action in the matrix clause, as we can see from the anomaly that results with the addition of the adverb accidentally. For (10) to be acceptable, we have to be able to infer that Max's sleeping eight hours was intentional. The point about the volitionality of the matrix predicate is that in sentences like (9) and (10) the rationale clause indicates the intent of the matrix action. As a result, the although-clause makes (10) anomalous, since it contradicts the implication of intentionality. In (11), where Ivan can have no control over his height and, hence, where there can be no possibility of intent, the presence of a rationale clause results in an anomaly. But notice how in (12-14), with the addition of the modal must or the conditional predicates need, be sufficient, which serve to specify the predicate be tall as a condition on a result, the presence of a result clause is perfectly accept-

able.[3] (Recall the traditional term, result clause.)

Thus, when we attempt to identify the conditions which allow for rationale clauses, we find that they depend on the nature of the matrix predicate only in a broad sense. In no way can we say that verbs select for rationale clauses.

Turning to purpose clauses, we find that the situation is rather different. For example, purpose clauses are compatible with some, but not all volitional predicates. Thus, we may have sentences like

15. Mary built the board to play chess on
16. Mary bought the board to play chess on
17. Harold made the stove to cook his meals in
18. Harold used the stove to cook his meals in

but not

19. *Mary destroyed the board to play chess on
20. *Mary repaired the board to play chess on
21. *Harold painted the stove to cook his meals in
22. *Harold cleaned the stove to cook his meals in[4]

In general, purpose clauses are compatible with certain fairly broad classes of predicates in English. Among them are (1) predicates of transaction, such as give, buy, sell, take, steal, borrow, lend, (2) transitive verbs of motion, such as send, bring, take, (3) verbs of creation, such as

build, construct, devise, make, and (4) the verb use. The conditions of compatibility with the main predicate are much more restrictive in the case of purpose clauses than in the case of rationale clauses. What I have termed objective clauses are usually complements to verbs of motion like send, bring, and take. An objective clause characterizes an objective which involves the passive or active participation of the individual or thing which is acted on in the matrix cl clause as in they sent him to the mountain to be crucified, they sent her to the mountain to crucify him, the samples were taken to the hospital to be examined, the police were brought in to oversee the demonstration.

We conclude, then, that for purpose and objective clauses, there is a much closer semantic association with the matrix predicate than for rationale clauses.

A third argument for the thesis of this section has to do with relative order. Again, we draw on the results of Williams (1971). When both a purpose or objective clause and a rationale clause figure in the same sentence, the purpose clause or objective clause must always precede the rationale clause (discounting, of course, the possibility of preposing the rationale clause).

23. a. Marc bought Fido to play with (in order) to please Anita (Purpose clause precedes rationale clause)

23. b. *Marc bought Fido (in order) to please Anita to play with (Rationale clause precedes purpose clause)

24. a. Ben took Alice to Bston to amuse herself to please himself (Objective clause precedes rationale clause)

b. *Ben took Alice to Boston to please himself to amuse herself (Rationale clause precedes objective clause)

The relative order of the infinitive phrases is explained if the sources for purpose clauses, objective clauses, and rationale clauses are as we contend. If rationale clauses are generated as immediate constituents of PredP to the right of VP, then they will always be generated to the right of purpose clauses or objective clauses, which are generated as constituents of VP.

A fourth argument concerns certain aspects of the control properties of the infinitive phrases under discussion. In considering Equi-NP deletion, Williams (1971: 13) puts forth the hypothesis that "the deleting (or 'control') NP cannot be lower in the matrix tree than the clause containing the NP to be deleted."[5]

In the light of this plausible hypothesis, let's consider the following observations. Clearly, we have seen that the subject of an objective clause can be controlled by the

object of the matrix verb, while the subject of a rationale clause must be controlled by the matrix subject.

25. Mort sent his robot to us to get the prize

In (25), when the subject of the infinitive complement is controlled by the robot (the object of send), the sentence has an objective clause reading; when the complement subject is controlled by Mort (the matrix subject), the sentence has a rationale clause reading. Since the matrix object is generated lower in the matrix tree than the matrix subject, and since the matrix object cannot delete the complement subject of a rationale clause, we conclude that the objective clause is generated lower in the matrix tree than the rationale clause. Furthermore, since, according to Williams's criteria, the direct object is generated in the lowest level of the matrix tree, it follows from the hypothesis that the objective clause must also be generated in the lowest level of the matrix tree.[6]

For purpose clauses, one NP in the infinitive phrase is controllable by the direct object of the matrix predicate, indicating that they, too, are constituents of the lowest VP-level of the matrix tree. Furthermore, consider the following contrast between purpose clauses and rationale clauses. For purpose clauses, at least two control rules are needed: one which effects the deletion of an NP in the infin-

itive phrase under identity with the NP with which the purpose clause is "associated" (i.e., that NP to which the purpose or function is ascribed) and a rule of Equi. Both rules are operative in the example below.

26. a. Mary$_i$ bought a rag doll$_j$ ___$_i$ to play with ___$_j$ when she had time off

b. Mary$_i$ bought a rag doll$_j$ ___$_i$ to play with it$_j$ when she had time off

In (26a), with a purpose clause, we have two deletions as indicated. The deletion of the complement subject by the matrix subject Mary is effected by the Equi rule referred to above. In (26b), we have a rationale clause, and a similar Equi process deleting the complement subject under identity with the matrix subject Mary. However, the difference between the Equi rule in (26a) and the Equi rule in (26b) is shown when we add indirect objects to the verb buy:

27. a. Mary bought her daughter$_i$ a rag doll$_j$ ___$_i$ to play with ___$_j$ when she had time off

b. Mary$_i$ bought her daughter a rag doll$_j$ ___$_i$ to play with it$_j$ when she had time off

In the case of the purpose clause, the introduction of an indirect object changes the controller of the complement subject; in the case of the rationale clause, the control of the

complement subject remains unaffected by the introduction of an indirect object. Since the indirect object controls the complement subject in (27a) but not in (27b), it suggests that (1) the purpose clause is generated at the lowest VP-level, since the indirect object is presumably generated at that level. (The fact that the direct object also deletes into the purpose clause points to the same conclusion.); and (2) the fact that the indirect object cannot delete the subject of a rationale clause could indicate that the rationale clause is generated at a higher level in the matrix tree, making its subject "inaccessible" to the indirect object of the matrix verb.

The final argument that we will give here is that rationale clauses cannot form part of a verb phrase in focus position in pseudo-cleft sentences, while objective clauses and purpose clauses can.

28. a. Sam read <u>The Master and Margarita</u> to amuse himself
    b. *What Sam did was read <u>The Master and Margarita</u> to amuse himself
29. a. Alice played hookey to anger her parents
    b. *What Alice did was play hookey to anger her parents

The b-examples of (28) and (29) demonstrate that rationale clauses cannot form part of the focus constituent. Contrast these paradigms with the following:

30. a. Ben brought Alice home to amuse herself

    b. What Ben did was bring Alice home to amuse herself

31. a. Marc bought Fido to play with

    b. What Marc did was buy Fido to play with

The b-examples of (30) and (31) are grammatical, in contrast with those of (28) and (29). That is, the focal verb phrase constituents in the b-examples of (30) and (31) include respectively the objective clause and the purpose clause as subconstituents.

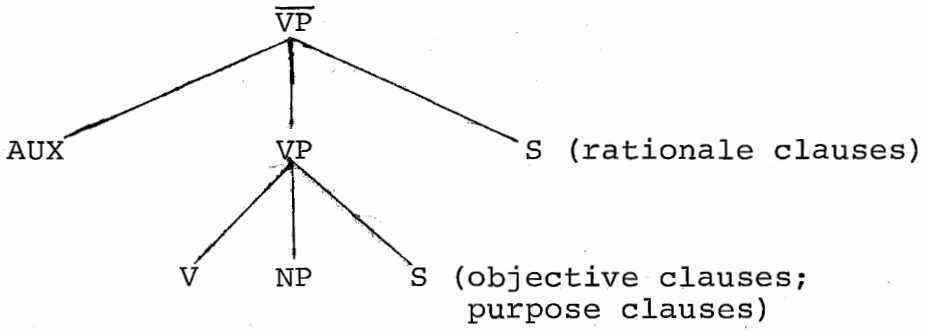
On the basis of the evidence considered in this section, we conclude that rationale clauses are generated on a higher level on the matrix tree than objective clauses and purpose clauses. Assuming that something resembling the following phrase-structure (PS) rules are correct for English,

32. $\overline{\overline{VP}} \longrightarrow$ AUX VP $\left\{\begin{matrix} ADV \\ PP \\ S \end{matrix}\right\}$

33. VP $\longrightarrow$ V ... NP ... $\left\{\begin{matrix} ADV \\ PP \\ S \end{matrix}\right\}$

we hypothesize that rationale clauses are introduced by (32), expanding $\overline{\overline{VP}}$ (=Pred P), while objective clauses and purpose clauses are introduced by (33), expanding VP. In tree-diagram form, the structure is as follows.

34.


$\overline{VP}$
AUX
VP
S (rationale clauses)
V
NP
S (objective clauses; purpose clauses)

FOOTNOTES

CHAPTER I

1. It has been suggested to me by various people that purpose clauses as in (1) must really be treated as a special type of relative clause. The basis for this is the striking similarities between purpose clauses and relative clauses with respect to matters of control. But why assume that such control properties are restricted to relative clause constructions? As we have noted, in other crucial respects, purpose clauses and infinitival relatives differ vastly: Purpose clauses do not form constituents with the nominal that binds them; the nominal head of a relative clause construction does not refer by itself; etc. Thus, purpose clauses do not have the syntactic properties and semantic functions in general that define relative clauses. The point about similarities in control properties will be taken up at length.

2. It has recently come to my attention that Ivonne Bordelois proposes an explanation for such data in her forthcoming dissertation. I am not familiar with the details of her proposal, but I know that she judges sentences like (47) to be more grammatical than sentences like (48). I agree with her judgments, although I do not find sentences

like (47) totally acceptable.

3. The relationship between volitionality and intention is more complicated than we have implied in the text. For example, consider the following question,

i. what did John say to make Mary so angry?

In this example, volitionality and intention are independent, for even though the act of saying something is volitional, it is not necessary that Mary's resultant anger represent any intent of John in saying what he did. Thus, in sentences like (i), where there is no implication of intention (but, rather, of the actualization of a result), we get phrases like so or as he did and the like:

ii. what did John say to make Mary as angry as he did?

iii. what did John say to make Mary as angry as she is?

Note also that the same kind of interpretation of the infinitive phrase is possible with the modal must in its epistemic sense:

iv. John must have said some awful things to make Mary as angry as he did/ as she is

There are, in addition, other cases where the implication of an actualized result is present.

v. John overslept yesterday, to make this the third day in a row that he hasn't shown up for work on time

Two things are to be noted immediately about such sentences: (1) the infinitive phrase cannot prepose:

vi. to make this the third day in a row he hasn't shown up on time for work, John overslept yesterday

For (vi) to be acceptable, the preposed infinitive phrase must be understood as a designation of John's intention. (2) on the non-intention reading of (v), the subject of the infinitive phrase is understood not as John but as John's having overslept yesterday or something of this sort.

4. On the basis of such data, we could show that the distribution of purpose clauses and infinitival relatives differ, though they overlap. E.g., in a sentence like

1. Mary used a pan to fry eggs in

the infinitive phrase can be interpreted either as a purpose clause or as an infinitival relative. But if we change the matrix predicate as in:

ii. Mary displayed a pan to fry eggs in

we eliminate the purpose clause reading. Thus, in (ii), a pan cannot be replace by a pronoun:

iii. *Mary displayed it to fry eggs in

Also, compare the array of pseudo-cleft sentences "corresponding to" (i) with the array of those "corresponding to" (iii).

iv.a.what Mary used was a pan to fry eggs in

b.what Mary used to fry eggs in was a pan

c.what Mary used a pan for was to fry eggs in

v.a.what Mary displayed was a pan to fry eggs in

b.*what Mary displayed to fry eggs in was a pan

c.*what Mary displayed a pan for was to fry eggs in

5. Williams notes a class of exceptions to this putative generalization, as in the sentence

i. Bill hit John for stealing grapes (Williams's (54))

where, by certain of his criteria, the understood subject John of stealing grapes is generated lower in the matrix tree than the for-phrase complement. It is interesting to note that if we add the modal must to (i), the subject of stealing grapes becomes ambiguous.

ii. Bill must hit John for stealing grapes

On one reading of (ii), John's punishment for stealing grapes is being hit by Bill; on the other reading, Bill's

punishment for stealing grapes is hitting John. See Chapter III and Faraci (1971) for further discussion.

6. This may point up a problem in Williams's analysis, since the first or lowest level in the tree is reserved for the verb and those items for which it is strictly subcategorized.

CHAPTER II

SEMANTIC RELATIONS AND CONTROL.

In this chapter, we will elaborate on the analysis of the clause types discussed in Chapter I. In the first section, I will argue that purpose, objective and rationale clauses are to be analyzed as for-phrases; they are to be generated in deep structure as objects of the preposition for. In the second section, I will introduce certain distinctions in semantic relations that exist between NP's and for-phrases, and I will show, in the third section, the relevance of these distinctions to control phenomena.

1. PARALLELS WITH FOR-PHRASES.

The analysis of infinitive complements as for-phrases has been traditional with predicates like wait, hope, anxious, etc.

1. he was waiting for a good movie
   he was hoping for a good movie
   he was anxious for a good movie
2. he was waiting to find a good movie
   he was hoping to find a good movie
   he was anxious to find a good movie

The infinitive phrases and the for-phrases in the examples above both characterize the object of anticipation for these predicates.[1] Note also that in psuedo-cleft sentences, infinitive phrases can serve as pseudo-clefted objects of for: We were hoping for Bill to come early, what we were hoping for was for Bill to come early.

On the basis of such considerations, examples like those of (2) are generally derived from constructions like those in (3):

3. he was waiting [$_{pp}$for [to find a good movie]]
   he was hoping [$_{pp}$for [to find a good movie]]
   he was anxious [$_{pp}$for [to find a good movie]]

Here we are looking to extend this analysis to other infinitive phrases.[2]

Consider the following paradigms:

4. John built a robot to entertain his guests
   a. what John built was a robot to entertain his guests
   b. what John built to entertain his guests was a robot
   c. what John did to entertain his guests was build a robot
5. John built a robot for entertainment
   a. what John built was a robot for entertainment
   b. what John built for entertainment was a robot
   c. what John did for entertainment was build a robot

As is evident from the pseudo-cleft examples, which serve to distinguish three possible readings for (4) and (5), there is considerable similarity between the interpretations of the infinitive phrase and the interpretations of the for-phrase. In (4a,b) and (5a,b), the underlined phrases are interpreted as designations of the purpose or function of the robot.[3] In (4a) and (5a), the underlined phrases must be analysed as complements to a nominal, while in (4b) and (5b), they are constituents separate from the nominal. In (4c) and (5c), the underlined phrases designate the reason or rationale for John's action: John's building of the boat was to entertain his guests, John's building of the boat was for entertainment.

From the discussion of the last chapter, it is clear that the infinitive phrase functions as an infinitival relative clause in (4a), as a purpose clause in (4b), and as a rationale clause in (4c). The for-phrase in (5) can serve the same semantic function as each of these clause types.

Let us now examine the parallelism between objective clauses and for-phrases.

6. a. Ann sent John into town to get some groceries
   b. what Ann sent John into town for was to get some groceries
7. a. Ann sent John into town for some groceries

b. what Ann sent John into town for was some groceries

8. a. John went into town to get some groceries

b. what John went into town for was to get some groceries

9. a. John went into town for some groceries

b. what John went into town for was some groceries

The for-phrases of the free relative clause subjects of the pseudo-cleft examples (6b) and (7b) are interpreted identically, and the sentences show that either an infinitive phrase or an NP can qualify as the object of for on such an interpretation. A comparison of (8b) and (9b) indicates the same. Furthermore, (6) and (8) are ambiguous; the infinitive phrase can be interpreted either as an objective clause or a rationale clause. This is clearest in (6), where either John or Ann can be the understood subject of the infinitive complement. Observe that there is a similar ambiguity in (7): the for-phrase can be interpreted as designating John's objective in town, similar to Ann sent John into town after some groceries, in pursuit of some groceries, or it can be interpreted as designating Ann's reason for her action of sending John into town, similar to Ann sent John into town, intending to get some groceries in return.

We might add one further case of parallelism of semantic function between infinitive phrases and for-phrases. After

verbs such as build and design, both infinitive phrases and for-phrases characterize resultant qualities of the direct objects. Consider the following examples:

10. a. we built the car for high durability at high speeds
    b. we built the car to look like an elephant
11. a. we designed the machine for maximal effectiveness at low temperatures
    b. we designed the machine to operate noiselessly

With the verb make, such complements are at best questionable, and with verbs like buy, they are impossible.

12. a. ?we made the car for high durability at high speeds
    b. ?we made the car to look like an elephant
13. a. *we bought the machine for maximal effectiveness at low temperatures
    b. *we bought the machine to operate noiselessly

In (12) and (13), the a- and b-examples have the same grammatical status, suggesting that the for-phrase and the infinitive phrase are alike in their semantic function and

equally compatible or incompatible with the verbs of the sentences.[4]

We have demonstrated, then, that non-clausal for-phrases can take on the same semantic functions as each of the clause types examined in the last chapter (purpose, rationale, and objective). We will now show that the for-phrases, on their various interpretations, have essentially the same distributional properties as their clausal counterparts. Specifically, we will argue that the syntactic analysis outlined in the last chapter must be revised to account for the distributional properties of non-clausal for-phrases as well as infinitive phrases. (See pp.31 ff. of Chapter I.)

First of all, we observed earlier that only rationale clauses could prepose to the beginning of the sentence. It is also the case that a for-phrase can prepose only with a rationale interpretation. Thus, if the infinitive phrase of (4) is preposed, the sentence has only the reading paraphrased by (4c), assuming non-topicalization intonation contours. By the same token, if the for-phrase of (5) is preposed, the sentence has only the reading paraphrased by (5c):

14. to entertain his guests, John built a robot
15. for entertainment, John built a robot[5]

Second, the various for-phrases manifest the same kinds of dependency on the matrix predicate as do their corresponding clause types. Rationale for-phrases are compatible with volitional actions, conditional predicates (necessary, sufficient, need), and some of the modals. (Cf. pp.33ff. of the last chapter.)

16. John (*accidentally) let the cats out of the room for some peace and quiet
17. *Bill was short for maximal effectiveness
18. Bill must be short for maximal effectiveness
19. Bill needs to be short for maximal effectiveness
20. it is sufficient for Bill to be short for maximal effectiveness.

In (16), the rationale for-phrase is incompatible with the adverb accidentally, which implies lack of volitionality on the part of the subject. Rationale clauses and for-phrases connote motivation and, hence, attribute volitionality to the matrix subject, making sentences like (16) contradictory if the adverb accidentally is included. In (17), the subject of short is not understood as volitional. As a result, (17) is not acceptable in the same way that a sentence like *Bill was intentionally short is not acceptable. However, if we

introduce the modal must, as in (18) or the conditional predicates, as in (19) and (20), the resulting sentences are grammatical. In such sentences, the for-phrase or infinitive phrase complement ("rationale" clause) has a result interpretation: The for-phrase or infinitive phrase designates a result which is dependent on a condition defined by the matrix clause in the case of examples like (18) or by the complements of the conditional predicates in the case of examples like (19) or (20).

Function-designating for-phrases, like purpose clauses, show a tighter dependency on the matrix predicate. Thus, such for-phrases are compatible with many but not all predicates denoting volitional actions. (See p.35 of Chapter I.)

21. a. Mary built the board for her chess games
    b. Mary built the board for Spassky to play on
22. a. Mary bought the board for her chess games
    b. Mary bought the board for Spassky to play on
23. a. Harold made the stove for his gourmet cooking
    b. Harold made the stove for his chef to cook on
24. a. Harold used the stove for his gourmet cooking
    b. Harold used the stove to cook on
25. a. ??Mary destroyed the board for the bonfire she was making

25. b. ??Mary destroyed the board for the scouts to burn

26. a. ??Mary repaired the board for her chess games

    b. ??Mary repaired the board for Spassky to play on

27. a. ??Harold painted the stove for his gourmet cooking

    b. ??Harold painted the stove for his chef to cook on

28. a. ??Harold cleaned the stove for his gourmet cooking

    b. ??Harold cleaned the stove to cook on

(Some of the a-examples in (25-28) may seem to be acceptable but on a different interpretation of the for-phrase than the one we are considering in this discussion. For example, (27a) may be acceptable if interpreted roughly as, Harold painted the stove in preparation for his gourmet cooking. In this event, the for-phrase is not interpreted as a designation of the purpose or function of the stove.) Purpose for-phrases are, in general, compatible with the same broad classes of predicates as purpose clauses -- predicates of transaction, transitive verbs of motion, verbs of creation, the verb use, etc. (See p.35 of Chapter I.)

Objective for-phrases like their clausal counterparts, are complements to predicates of motion, such as send, bring, take, go, come, etc.

29. John's parents sent him to Stanford for an education

    John's parents sent him to Stanford to get an education

30. John went onto Stanford for an education

    John went on to Stanford to get an education

Other verbs, such as hire and train, also take for- phrase complements: they hired/trained him to do the job, they hired/trained him for the job.

The facts concerning preposability and dependency on the matrix predicate argue that rationale for-phrases, as opposed to objective for-phrases and purpose for-phrases, are generated outside the VP (perhaps as daughters of the S node; see note 5). Another supporting fact is that, ignoring the possibility of preposing, purpose and objective for-phrases precede rationale for-phrases -- again, like their clausal counterparts.

31. a. Harold used his stove for his gourmet cooking for the thrill of it (Purpose for-PP precedes rationale for-PP.)

    b. *Harold used his stove for the thrill of it for his gourmet cooking (Rationale for-PP precedes purpose for-PP.)

32. a. Bernard took Julia to Lord and Taylor for her clothes for his own amusement (Objective for-PP precedes rationale for-PP.)

b. *Bernard took Julia to Lord and Taylor for his own amusement for her clothes (Rationale for-PP precedes objective for-PP.)

Yet a fourth consideration is that certain facts about complement subject control in these clause types, as discussed on pp. 37- 40 of the last chapter, seem to pattern after certain semantic relations that for-phrases enter into with NP's in the sentence. For example, let's consider again sentence (25) of the last chapter, repeated here for convenience as (33).

33. Mort sent his robot to us to get the prize

We observe, as before, that this sentence is ambiguous: On one reading, the subject of the infinitive phrase is understood to be the robot, and the infinitive phrase is an objective clause. On the other reading, the subject of the infinitive phrase is understood to be Mort, and the infinitive phrase is a rationale clause. Consider now the following sentence:

34. Mort sent his robot to us for the prize

Sentence (34) is likewise ambiguous. On one reading, the for-phrase designates the robot's objective, so that there is a semantic relation established between the robot and for the prize. On the other reading, the for-phrase, as a rationale phrase, is subject-oriented; it designates the motivation for Mort's action of sending the robot to us. Thus, the case where his robot is identified as the controller of the subject of the infinitive in (33) is matched by the case where his robot bears a particular semantic relation to the for-phrase in (34) -- the relation of individual to objective. Also, the case where Mort is identified as the controller of the complement subject in (33) is matched by the case where a particular semantic relation obtains between the subject Mort and the for-phrase in (34) -- the relation of an agent to a motivation.

Turning to purpose clauses, recall that when a purpose clause appears without an explicit (lexically specified) subject as a complement of the verb buy, the complement subject is controlled by the matrix indirect object or the matrix subject, if there is no indirect object. (We are ignoring the case where the matrix direct object controls the complement subject, limiting ourselves to the case where the matrix direct object controls a complement object node.) Consider the following examples:

35. Mary bought her daughter$_i$ a beautiful doll $_j$____$_i$ to make the others jealous with ____$_j$
36. Mary$_i$ bought a beautiful doll $_j$____$_i$ to make the others jealous with ____$_j$

In contrast, the subject of a rationale clause is controlled by the matrix subject even when an indirect object is present:

37. Mary$_i$ bought her daughter a beautiful doll ____$_i$ to make the others jealous
38. Mary$_i$ bought a beautiful doll ____$_i$ to make the others jealous

Consider now the following example with a <u>for</u>-phrase:

39. Mary bought her daughter a set of rosary beads for penance
40. Mary bought a set of rosary beads for penance.

(39) and (40) are ambiguous: the phrase <u>for penance</u> describes either the purpose of the set of rosary beads or the reason for the act of buying them (the purpose of the action). Thus, <u>for penance</u> can be interpreted either as a purpose phrase or a rationale phrase. (It can also be interpreted as a component of the phrase <u>a set of rosary beads for penance</u>,

but we will not consider this possibility.) Now observe the parallels with the control phenomena discussed above: When the for-phrase in (39) is interpreted as a purpose phrase (designating the function of the direct object, a set of rosary beads), penance is associated with the indirect object her daughter: i.e., it is the daughter's penance that is being referred to; and in (40), on a purpose phrase interpretation, it is Mary's penance that is being talked about. On the other hand, when the for-phrase is interpreted as a rationale phrase, penance is associated with Mary, the matrix subject, in both (39) and (40). (39) and (40) can, on the rationale phrase readings, be roughly paraphrased by, Mary did penance by buying (her daughter) a set of rosary beads.

The examples discussed here strongly indicate that the control facts for sentences like (35-38) are intimately connected with some facts about semantic relationships which for-phrases enter into with various NP's, as described in the discussion of (39) and (40). In the next section we will explore certain aspects of these relations between NP's and for-phrases. For now, we are still simply pointing out the parallels between infinitive phrases and for-phrases to justify the analysis of the clause types discussed in the last chapter as infinitival for-phrases.

A final analogy that we will draw with previous observations about the various clause types is that a for-phrase

forming part of a VP focus constituent in a pseudo-cleft sentence cannot be interpreted as a rationale phrase. (See Chapter I, p.40 .)

41. Sam read The Master and Margarita for his own amusement
    a. what Sam did for his own amusement was read The Master and Margarita
    b. *what Sam did was read The Master and Margarita for his own amusement
42. Alice played hookey for revenge
    a. what Alice did for revenge was play hookey
    b. *what Alice did was play hookey for revenge

In (41) and (42), the b-sentences cannot paraphrase the a-sentences. Consider further that if we take an example where the for-phrase can be interpreted either as a rationale phrase or an objective phrase, the inclusion of the for-phrase in the focus constituent serves to isolate the objective-phrase reading:

43. Marc brought his boss home for a turkey dinner
    a. what Marc did for a turkey dinner was bring his boss home

43. b. what Marc did was bring his boss home for a turkey dinner

(43a) and (43b) cannot be interpreted as paraphrases. The for-phrase in (43b) has only the objective sense, and we understand that Marc's boss is a dinner guest. In (43a) we understand that Marc's compensation for bringing his boss home is a turkey dinner, an interpretation quite different from (43b). Recall the parallel for objective and rationale clauses: only the objective clause can form part of the focus VP constituent. Thus, if we take an ambiguous example such as, Marc brought his boss home to observe his wife's behavior, where either Marc (rationale-clause reading) or his boss (objective-clause reading) can be understood as the complement subject, we find that the relevant pseudo-cleft example is unambiguous:

44. what Marc did was bring his boss home to observe his wife's behavior

(44) has only the reading where his boss is the understood complement subject: i.e., it has only the objective-clause reading.

Like objective for-phrases, purpose for-phrases can

form part of the VP focus constituent.

45. John made a recorder for his music lessons
    a. what John made for his music lessons was a recorder
    b. what John did was make a recorder for his music lessons

The for-phrase in (45b) has the same interpretation as the for-phrase in (45a). (Again, there is the further possibility of interpreting a recorder for his music lessons as a phrase. In this case, the for-phrase designates purpose or function, but it is a nominal complement, rather than a purpose for-phrase.)

To sum up, we have observed in some detail the number of significant parallels in syntactic and semantic properties between non-clausal for-phrases and the clause types isolated in the discussion of Chapter I. Accordingly, I propose the following revisions in the PS rules given as (32) and (33) in the last chapter.

46. $\overline{VP} \xrightarrow{6}$ AUX VP $\left\{ \begin{matrix} ADV \\ PP \end{matrix} \right\}$

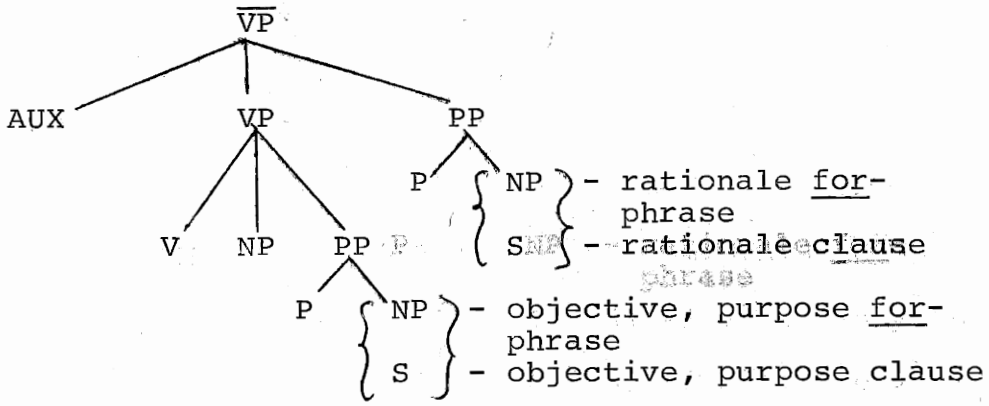
47. VP $\longrightarrow$ V ... NP ... $\left\{ \begin{matrix} ADV \\ PP \end{matrix} \right\}$

48. PP ⟶ P NP (a)

PP ⟶ P S (b)

Rationale phrases (clausal and non-clausal) are introduced by Rule (46); objective and purpose phrases are introduced by Rule (47). Rule (48) provides the underlying structure for rationale, purpose, and objective clauses (infinitival for-phrases). In tree diagram form, we get the following:

49.



Thus, on this analysis, the syntax of English distinguishes two positions for for-phrases in deep structure, provided by Rules (46) and (47). Furthermore, the for-phrases can either be clausal or non-clausal. (Gerundive for-phrases will be discussed in the next chapter.) The higher-generated for-phrase is variously interpreted as a designation of cause, motivation, or result, etc., depending on a variety of factors.[7]

Lower-generated for-phrases also show a great deal of latitude in their interpretation (purpose, objective, resultant quality, etc.).

In the next section, we will consider further certain distinctions between purpose phrases and objective phrases which will provide the basis for an analysis of control phenomena in pupose clauses and objective clauses to be considered in the last parts of the chapter.

2. On semantic relations between NP's and for-phrases.

In this section, I will consider certain facts related to the interpretation of lower-generated for-phrases. Specifically, we will give an intuitive description of various ways in which certain NP's can be semantically related to for-phrases. Consider the following examples.

1. we brought the horse to the stables for some hay
2. Bill stopped by Henry's for a rubdown
3. Bill brought John to Henry's for a rubdown

The underlined NP's are semantically related in some way with the for-phrases of their respective sentences. In (1), this relation allows for the inference that our intention is for the horse to get some hay. The association between Bill and the for-phrase of (2) seems to be the same as the association between John and the for-phrase of (3): In

(2), we infer that Bill is to get the rubdown; in (3), we infer that John is to get the rubdown. Of course, the two cases are distinct in that we infer from (2) that Bill has volition with respect to his getting a rubdown, whereas, in (3), there is no implication of volition on JOhn's part. In fact, in (3), volition is attributed to Bill with respect to John's getting a rubdown. Thus, Bill is the volitional individual in both (2) and (3), but, aside from the matter of volition, Bill bears a certain semantic relation to the for-phrase in (2) that is equivalent to the semantic relation that John bears to the for-phrase in (3). Moreover, this semantic relation is intuitively the same as the semantic relation between the horse and the for-phrase in (1). Observe that, as with John in (3), there is no implication of volition on the part of the horse with respect to its getting some hay. In fact, as with (2) and (3) volition is attributed only to the subject of the sentence.

There is reason to believe that the semantic relations noted above are tied up with the system of thematic relations developed by Gruber (1965) and elaborated by Jackendoff (1972). (See their works for relevant definitions and discussion. I will assume familiarity with their system of thematic relations in what follows.) Notice that the underlined NP's in (1-3) all bear the relation of Theme to the verbs of their respective sentences. Also,

the subjects of the sentences bear the relation of Agent. We can therefore identify the semantic relation between the underlined NP's and the for-phrases as semantic relations between the Themes of the sentences and the for-phrases. Also, we can say that the Agency of the subjects of the sentences accounts for their volitionality with respect to the intentions depicted by the for-phrases. In the case of (2), Bill is both Theme and Agent of the sentence and accordingly both bears the relevant semantic relation to the for-phrase and is volitional with respect to the intention that the for-phrase depicts.

Observe, incidentally, that the sentences (1-3) are ambiguous; the for-phrase is also interpretable as what we have termed a rationale phrase. The rationale phrase readings are brought out if the for-phrases are preposed.

4. for some hay, we brought the horse to the stables

5. for a rubdown, Bill stopped at Henry's

6. for a rubdown, Bill brought John to Henry's

We understand that the Agent subjects of the sentences are compensated for their actions by being given some hay in the case of (4), and by being given a rubdown in the case of (5) and (6). Observe that there are no Theme-for-phrase relations here of the type discussed above; the horse is not understood to be getting the hay in (4) and John is not understood to be getting a rubdown in (6). (The

connection between Bill and the for-phrase in (5) does not involve the fact that Bill is Theme.) This is precisely what we would expect given our syntactic analysis of rationale phrases. Since they are generated outside the VP and bear, consequently, no grammatical relation to the verb, we would expect them not to be involved in the network of semantic relations tied to the system of thematic relations. Of course, as we have already seen, the presence of such phrases requires the attribution of Agency to the subjects of the sentences in which they occur, but this is the sort of Agency that is attributed to derived subjects, as can be seen from the acceptability of a sentence like, for some hay, my horse would be whipped by anyone.[8]

The interpretation of the relation between the Theme of the sentence and the for-phrase is subject to variation. Contrast, for example, the following cases:

7. John brought the maid to the restaurant for something to eat
8. John sent the maid to the restaurant for something to eat

In (8), in contrast to (7), it is possible to interpret the for-phrase as a designation of the maid's objective; i.e., we can infer responsibility and volitionality on the part of the maid with respect to John's intention. (The relation

here is similar to the relation of responsibility to be discussed in Appendix A of this chapter.) The contrast between (7) and (8) is brought out in the examples below:

9. a. John brought the maid to the drugstore for something to heal herself with
   b. *John brought the maid to the drugstore for something to heal himself with
10. a. John sent the maid to the drugstore for something to heal herself with
   b. John sent the maid to the drugstore for something to heal himself with

In (10b), the maid is understood to be some sort of agentive intermediary in John's acquisition of something to heal himself with.

Clearly, the various semantic relations will have to be given a more systematic and illuminating analysis. I will limit myself here to pointing out an important distinction that any theory of such semantic relations will have to provide.[9]

Consider the differences between the natural interpretations of the sentences below.

11. John brought Mary <u>home</u> for dinner
12. John brought <u>the pizza</u> home for dinner

Mary and the pizza are the Themes of their respective sentences, but their semantic relations to the phrase for dinner are distinct. Notice that the semantic relation between the pizza and the for-phrase in (12) is the same as in the copular sentence, the pizza is for dinner. On the other hand, the sentence, Mary is for dinner certainly does not manifest the same Theme-for-phrase that (11) does, on its natural interpretation.[10] We will say that the Theme of (12) has a functional relation to the for-phrase. The for-phrase can be said to designate the function of the Theme, in the sense that the Theme is understood to be an object intended to serve a certain purpose as designated by the for-phrase. ((12) thus has what we have identified previously as a purpose phrase interpretation. Here, instead of talking about the interpretation of the for-phrase, we are talking in terms of the interpretation of the relation between the Theme and the for-phrase.) The Themes of the following examples all have a functional relation to their for-phrases.

13. a. John bought a new car for his trip out west
    b. the new car is for John's trip out west
14. a. Tom kept the box for his sewing material
    b. the box is for Tom's sewing material
15. a. Seymour used the knife for slicing salamis
    b. the knife is for slicing salamis[11]

The grammar of English will somehow have to account for the distinctions in semantic relations between NP's and for-phrases that have been noted in this section, since they are important in the characterization of ambiguities and of differences between the interpretations of sentences.

3. On control in infinitive for-phrases.

We can see from the last section that lower for-phrases can be Theme-oriented in the sense that they define some intention that the Agent has in mind for the Theme. The Theme-orientation of the for-phrase is reflected in the fact that the Theme controls the complement subject when the for-phrase is infinitival. Compare (1-3) of the last section (p.66) with the following:

1. we brought the horse to the stables to be groomed and fed
2. Bill stopped by Henry's to get a rubdown
3. Bill brought John to Henry's to get a rubdown

In each case, it is the Theme of the sentence (the underlined NP) that is the understood subject of the infinitive complement. Thus, we understand from (1) that the horse is to be groomed and fed; from (2) that Bill is to get a rubdown; and from (3) that John is to get a rubdown. We analyze the infinitive complements of (1-3) as for-PP's, as

below:

4. we brought the horse to the stables [$_{PP}$ for [$_{S}$ to be groomed and fed]]
5. Bill stopped by Henry's [$_{PP}$ for [$_{S}$ to get a rub-down]]
6. Bill brought John to Henry's [$_{PP}$ for [$_{S}$ to get a rubdown]]

The analysis of these infinitve complement as for-phrases is essential to the analysis of the control problem. Examples like (1-3) indicate that the facts of complement subject control reflect the semantic connection between Theme-NP's and for-phrases, which is observable independently. Thus, the semantic connection between the Theme and the for-phrases ensures that the Theme is identified as controller of the complement subject. Notice that there is no such semantic connection in the case of rationale phrases, and the Theme does not function as controller. For example, if the infinitive phrase in (3) is interpreted as a rationale clause, John is not its understood subject:

7. to get a rubdown, Bill brought John to Henry's

The subject of the rationale clause is understood as Bill. We have already noted that there is not semantic connection between the Theme and a rationale for-phrase.

In the last section, we observed how the interpretation of the connection between the Theme and the _for_-phrase could vary. I would like now to discuss a particular way in which such variation is relevant to matters of control.

The most interesting treatment that I am aware of of the relationship between semantic relations and control in infinitive complements is in Jackendoff (1972). (See Chapter Five of that work, especially pp. 214ff.) Offering an analysis of the control problem, Jackendoff argues that when the subject of an infinitive complement to a verb is obligatorily controlled, the position of the controller in the matrix clause is defined on thematic relations. Consider the following examples:

8. John promised to leave after the first act
9. John promised Bill to leave after the first act
10. John got to leave after the first act
11. John got Bill to leave after the first act

Promise and _get_ require obligatory control of their complement subjects. For _promise_, (8) and (9) show that the controller is the matrix subject (in this case, _John_) whether or not the indirect object (in this case, _Bill_) is present. _Get_ assigns control differently; the controller is the object of _get_, if present, or the subject of _get_, if there is

no object. Jackendoff demonstrates that although there is a shift in the position of the controller NP with get and other verbs, the thematic relation of the controller to the verb remains constant. John is the Theme of sentence (10), but Bill is the Theme of sentence (11). Thus, we can say that for the verb get, the controller of the complement is the Theme of the matrix sentence.

For promise, the controller of the complement subject is the Source of the matrix sentence. Since the position of the Source is always the subject in the case of promise, the position of the controller does not change when an indirect object is added to (8) to form (9). Promise contrasts with permit, which allegedly has the same correspondence of thematic relations and grammatical relations as promise. However, in the case of permit, the complement subject controller is the Goal of the matrix clause. Compare (9) with (12).

12. John permitted Bill to leave after the first act

Bill, rather than John, is the understood complement subject in (12).

Jackendoff's analysis assumes a control rule with two essential arguments: (1) the uncontrolled subject of the infinitive complement and (2) the NP in the matrix sentence bearing the relevant thematic relation as specified in the

lexical entry of the matrix verb. The semantic relations relevant to control in this theory are thematic relations, i.e., semantic relations between constituents and the verbs they subcategorize. A thematic relation is the semantic interpretation of a grammatical relation.

Our discussion of for-phrases suggests that NP's enter into semantic relations with constituents other than the verbs they subcategorize and that these semantic relations are relevant to the analysis of control phenomena. While these semantic relations are not independent of the network of thematic relations, they are clearly not thematic relations themselves.[12] (See Appendix A.)

Let us consider once more a distinction in Theme-for-phrase relations which we have already commented on.

13. Tommy brought the chicken hom for supper

(13) is ambiguous; the relationship between the chicken and the for-phrase can be understood in two ways. On one interpretation, it is inferred that the chicken is to get something to eat for supper. The role that the chicken is to play in the realization of Tommy's intentions is an active one. On the other interpretation, it is inferred that the chicken is to be used as something to make the meal from. The role that the chicken is to play in the realization of Tommy's intentions is here a functional one. That is, the

chicken is taken to be an object which is intended to serve a certain purpose. The particular purpose it is to serve is characterized by the for-phrase.

When the for-phrase is infinitival, the ambiguity of the relation between the Theme and the for-phrase is matched by an ambiguity of control.

14. Tommy brought the chicken home to eat

a. Tommy brought the chicken$_i$ home ___$_i$ to eat

b. Tommy brought the chicken$_i$ home to eat ___$_i$

As (14a) and (14b) indicate, the chicken can be understood as either the subject or object of eat. Each of the readings of (14) reflects one of the possible readings of (13), with (14a) corresponding to the non-functional reading of (13) and (14b) corresponding to the functional reading of (13). Furthermore, notice that just as the copular sentence, the chicken was for supper isolates the functional interpretation of the Theme-for-phrase relations, the copular sentence, the chicken was to eat isolates the "object-deletion" interpretation of the infinitive; i.e., the chicken is understood uniquely as the object of eat, when the infinitive phrase figures as a predicative for-phrase in a copular sentence.

Note, however, that the functional relation between the Theme and the for-phrase does not correlate only with object

deletion. We saw in the first chapter that the NP in the purpose clause controlled by the Theme of the matrix sentence is not limited to any particular syntactic position such as subject or object of the complement. Consider, in this regard, the ambiguity of the following examples:

15. the usher$_i$ is there ___$_i$ to receive the tickets
16. the undercover agents$_i$ are here ___$_i$ to screen out undesirables
17. the accountant$_i$ is here ___$_i$ to look over the books

The semantic relations between the matrix subjects and the infinitival for-phrases of the above examples can be either a functional relation or what we might term an intentional relation. A clue to the ambiguity of these examples lies in the ambiguity of the term purpose, which can mean either intention or function. We can speak of someone's purpose (say, in making such and such a statement), or we can speak of the purpose of an object, such as a chair. The infinitive phrases in the examples (15-17) designate purposes in the sense of functions on one kind of reading and in the sense of intentions on the other kind of reading. Thus, the infinitive phrase in (15), for example, designates either the purpose of the usher or the usher's purpose. On the former interpretation, there is a functional relation between the usher and the infinitive phrase, and the infinitive phra

phrase is what we have been calling a purpose clause. (Observe, incidentally, that the ambiguity of (15) is analogous to the ambiguity of the question, what is the usher there for?)

Now observe that when the subjects control non-subject NP's in the infinitive phrases, the sentences are unambiguous, with only a functional relation possible between the subject and the infinitive phrases.

18. the usher$_i$ is there for the people to give their tickets to ___$_i$
19. the undercover agents$_i$ are here for criminals to confess to ___$_i$
20. the accountant$_i$ is here for the students to take lessons from ___$_i$

Let us consider what happens when a functional relation does not obtain between the Theme and the for-phrase. Notice that the ambiguity of (21) is parallel to the ambiguity of (15).

21. the usher is there for moral support

(21) implies either that the usher seeks moral support (the for-phrase designating the usher's purpose in being there) or that the usher provides moral support for others (the for-phrase designating the usher's function).[13] If we change the main verb from be to go, a functional relation between

the usher and for moral support is not possible.

22. the usher goes there for moral support

The for-phrase in (22) unambiguously denotes the usher's purpose, not the purpose of the usher. In parallel fashion, if go substitutes for be in (15), the Theme-for-phrase relation is disambiguated:

23. the usher goes there to receive the tickets

Furthermore, the substitution of go for be in (18) results in an ungrammatical sentence.

24. *the usher goes there for the people to give their tickets to

These data clearly show that operation of the rule which interprets or deletes an NP in a purpose clause under identity with the Theme of the matrix clause depends on the appropriate semantic relation obtaining between the Theme and the infinitival for-phrase.

We can illustrate the point further with the adjective ready.

25. the patient$_i$ is ready for the doctor to operate on him$_i$

26. the patient$_i$ is ready for the doctor to operate ——i

In (25), ready is a psychological predicate, much like eager, anxious, wait and hope (which also take for-phrase complements), describing the psychological state of its subject with respect to the anticipated event described in the for-phrase complement. Since ready is a psychological predicate in this case, its subject must be an animate NP, given that we can talk about psychological states only with regard to animate NP's. Thus, we cannot have sentences like,

27. *the tumor is ready for the doctor to operate on it
28. *the cadaver is ready for the doctor to operate on it

Of course, the facts are the same for the other psychological predicates referred to above.

In (26), ready is not interpreted as a psychological predicate; rather, it is descriptive of the state of a physical object with respect to some process it is to undergo, as characterized by the for-phrase. In this case, the animacy of the subject of ready is irrelevant. Compare (27) with (28).

28. the tumor is ready for the doctor to operate on
the cadaver is ready for the doctor to operate on

Psychological predicates do not take complements with deleted objects.

29. *the patient is anxious for the doctor to operate on

*the patient is waiting for the doctor to operate on

*the patient is eager for the doctor to operate on

Observe now that the ambiguity associated with ready is independent of the control phenomena connected with the foregoing examples. Compare (25) and (26) with the ambiguous (30).

30. the patient is ready for the operation

Ready in this example can have either of the senses of the predicate illustrated in (25) and (26). The possibility of an alternative to the psychological-predicate interpretation allows for examples like, the cadaver is ready for the operation. Of course, the other psychological predicates mentioned above take non-infinitival for-phrase complements: anxious for an operation, eager for a storm, wait for a catastrophe, hope for a revelation. However, they do not manifest the ambiguity that ready does.[14] Crucially, psychological predicates do not allow for a semantic relation between their subjects and their for-phrase complements that correlates with the possibility of complement object deletion.

The semantic relation associated with the predicate

ready on its non-psychological interpretation does not seem to be the same as the semantic relation between a Theme and a purpose for-phrase. (However, perhaps a more enlightening analysis would identify the two Theme-for-phrase relations, factoring out differences in the semantic functions of purpose for-phrases and for-phrase complements to adjectives like ready.) Nevertheless, like the functional relation between Theme and purpose for-phrase, this semantic relation clearly correlates with the possibility of deleting the complement object. (This relation also allows for complement subject deletion, as in, the cadaver is ready to be operated on, the soup is ready to be served. Note the ambiguity of, the patient is ready to be operated on. Thus, the rule involved here works like the purpose clause rule in that the complement NP to be deleted or interpreted is not fixed at a particular syntactic position like subject or object.)

Let us consider the correlation a little further. Notice, for example, that the verb ready has only the non-psychological sense in (31).

31. the nurse readied the patient for the operation
    the patient was readied for the operation by the nurse

(31) is unambiguous. We would predict, then, that deletion of the complement object should be possible, and we find that

this is indeed the case. (We find, in fact, that it is obligatory.)

32. the nurse readied the patient for the doctor to operate on

*the nurse readied the patient for the doctor to operate on him

Contrast this with the verb prepare which seems to have both a psychological and non-psychological sense. Thus,

33. the nurse prepared the patient for the operation

is ambiguous; we could continue it with a phrase like, by describing to him the triviality of the procedure, compatible with the psychological interpretation, or with a phrase like, by washing him and giving him a preliminary sedative, compatible with the non-psychological interpretation. (For some reason, the passive version of (33) seems natural only on the non-psychological interpretation. I have no explanation for this intuition.) Predictably, both object-deletion and full sentence complements are compatible with the verb prepare.

34. the nurse prepared the patient for the doctor to operate on

the nurse prepared the patient for the doctor to operate on him

The psychological readying is associated with the second sentence of (34). (Note incidentally that the passive version of the second sentence seems unacceptable: *the patient was prepared (by the nurse) for the doctor to operate on him. This is in line with the observation made above that the passive is compatible with prepare only on its non-psychological interpretation.)

Notice now that prepared, as an adjective, has only the psychological-predicate sense. Consider (35), with prepared as an adjective (as distinct from the interpretation of (35) as a passive sentence).

35. the patient was prepared for the operation

Given (35) with this particular interpretation, we cannot substitute a non-animate NP for the subject: *the tumor was prepared for the operation. With the adjective prepared, as with the other psychological predicates, an object-deletion complement is ruled out.

36. the patient was prepared for the doctor to operate on him

*the patient was prepared for the doctor to operate on

Finally, the nominalization readiness has only a psychological reading.

37. the readiness of the patient for the operation was astounding

*the readiness of the cadaver for the operation was astounding

the patient's readiness for the operation was astounding

*the cadaver's readiness for the operation was astounding

As we would predict, the noun readiness cannot take object-deletion complements.

38. the readiness of the patient for the doctor to operate on him was astounding

*the readiness of the patient for the doctor to operate on was astounding

the patient's readiness for the doctor to operate on him was astounding

*the patient's readiness for the doctor to operate on was astounding

For a final illustration, let us consider some facts about the verb send. In (39), the to-phrase can be interpreted either as a dative phrase or a directional phrase.

39. John sent Fido to the librarian

On the dative-phrase reading, (39) is equivalent to, John

sent the librarian Fido. Now, if an objective phrase is added to (39), the to-phrase is unambiguously interpreted as a directional phrase.

40. a. John sent Fido to the librarian for his books
    b. *John sent the librarian Fido for his books

(40a) is unambiguous, the impossibility of a dative-phrase interpretation being reflected in the ungrammaticality of (40b). (40b), however, may be grammatical if for is taken to mean "in exchange for".

Consider (41):

41. a. John sent his son to the librarian for an assistant
    b. John sent the librarian his son for an assistant

The for-phrase of (41a) is interpretable either as a purpose phrase or as an objective phrase. On the purpose phrase reading, there is a functional relation between the Theme, his son, and the for-phrase. On the objective-phrase reading, there seems to be in this case an intentional relation between the Theme and the for-phrase; the son is to seek out an assistant. The objective-phrase interpretation of the for-phrase correlates with the directional-phrase interpretation of the to-phrase. Thus, if the to-phrase is unambigu-

ously directional, as in, John sent his son to Boston for an assistant, the for-phrase is unambiguously an objective phr phrase. With a dative-phrase interpretation of the to-phrase, only a purpose-phrase interpretation of the for-phrase is possible. In (41b), where the librarian can be only a dative, the for-phrase is understood only as a purpose phrase. Observe, incidentally, that the dative phrase blocks not only an intentional relation between the Theme and the objective phrase; other Theme-objective-for-phrase relations are blocked as well: John sent the papers to Bill for approval, *John sent Bill the papers for approval. (The latter sentence is good only if the for-phrase is taken as a rationale phrase, equivalent to, for approval, John sent Bill the papers.)

Observe the consequences for infinitival for-phrases. Take examples of objective clauses, such as

42. a. John sent his son to the librarian to get some help
    b. John sent his son to the librarian to be properly trained

If we force a dative interpretation, the sentences are ungrammatical:

43. a. *John sent the librarian his son to get some help

b. *John sent the librarian his son to be properly trained

(These sentences, particularly (43a), would be acceptable on rationale-phrase interpretations. One might even stretch things and say that the sentences are acceptable on purpose-clause interpretations. (43a), for example, might be improved as follows: John sent the librarian his son to get some help for her, implying that the librarian was in need of someone to get some help for her. But clearly, the sentences of (43) are at best awkward on such interpretations.)

On the other hand, if we force a directional phrase interpretation, a purpose-clause complement is impossible.

44. a. John sent Rover to Bill for his children to play with

b. John sent Bill Rover for his children to play with

c. *John sent Rover to Boston for the children there to play with

(44a) is acceptable, if to Bill is understood as a dative phrase; (44c) seems ungrammatical to me, as we would expect, although the judgment is somewhat delicate.

These examples serve as a further illustration of the dependency of the control rule effecting complement object deletion or interpretation on the proper semantic relation obtaining between the antecedent NP and the phrase containing the NP to be deleted or interpreted. In (44a), Rover can control the complement object because the interpretability of the to-phrase as a dative phrase allows for a functional relation between Rover and the infinitival for-phrase. In (44c), there is no functional relation between Rover and the infinitival for-phrase, and the control rule is blocked.

To sum up, we have examined the relevance of particular semantic relations between Themes of sentences and for-phrase complements to the operation of an interesting kind of control rule which interprets or deletes NP's in certain types of infinitive complements under identity with the NP's serving as Themes of the matrix clauses in which the complements are embedded. The rule operates in purpose clauses and in infinitive complements to predicates like ready (on a non-psychological interpretation). It effects the deletion or interpretation of either a complement subject or a complement object. In the last chapter, we will speculate on the nature of this rule.

4. Chapter summary.

In the first section of the chapter, we gave evidence that the clause types described in Chapter I are infinitival for-phrases. That is, they are generated in deep structure as sentential objects of the preposition for. In the next section, we pointed out certain kinds of semantic relations that obtain between Themes of sentences and for-phrase complements generated inside the VP. The discussion of that section did little more than to point out the existence of such semantic relations and was by no means intended as a definitive analysis of them. In the third section, the relevance of these semantic relations to the analysis of control phenomena was noted. Here, we made use of the analysis of purpose and objective clauses as infinitival for-phrases. We pointed out that the "Theme-orientation" of certain kinds of for-phrase complements somehow accounts for the fact that the matrix Theme functions as a complement NP controller with respect to both objective clauses and purpose clauses. We then discussed how the availability of particular semantic relations between Theme-NP's and for-phrase complements governs the applicability of a control rule which deletes or interprets complement NP's generated in various syntactic positions.

APPENDIX A

A DIFFERENT KIND OF NP-FOR-PHRASE RELATION

Another kind of NP-for-phrase relation is discernible in examples like the following:

1. I asked Marie for an invitation
2. we screamed to Nixon for an end to the bombing
3. she begged the committee for a ruling on the matter

The underlined NP's are understood to have a role of responsibility with respect to the implementation of the objective characterized by the for-phrase.

Jackendoff (1972: 34ff.) considers some similar examples and proposes a theory of secondary thematic relations to account for the relevant semantic relations. He considers sentences in which the objects of for are concrete objects, as in

4. Bill asked Alice for a pencil
5. Joe begged Pete for a duckling

(These sentences are not taken from Jackendoff.) Modeling our analysis of such examples on Jackendoff's, we would break down the meanings of (4) and (5) into composite transactions: In (4), we would have a transfer of information (a request)

from Bill to Alice. Thus, ask would be said to mark its subject (in this case, Bill) as Source and its indirect object (in this case, Alice) as Goal. On Jackendoff's analysis, there is a secondary transaction, with the pencil being transferred from Alice to Bill. Accordingly, the for-phrase is marked as Secondary Theme; Alice is marked as Secondary Source; and Bill is marked as Secondary Goal. An analogous analysis would be given for (5).

In actual fact, there is nothing in the sentence which implies a secondary transfer. Suppose, for example, that Alice and Pete are magicians who have mastered the art of pulling objects out of thin air. They ask people in the audience what objects they would like to see appear. (4) and (5) would certainly be appropriate to such situations, and there would be no implication of a possessional transfer of the pencil or the duckling. It is, however, implicit, that Alice and Pete are responsible for responding to the requests that the for-phrases embody.

Many examples that Jackendoff's analysis is supposed to account for fall the same way, suggesting that his analysis reads factual assumptions about the world into semantic descriptions. To take another example, Jackendoff introduces his discussion of secondary thematic relations with a consideration of the following sentence:

6. Esau traded his birthright to Jacob for a mess of pottage

He maintains that there is a primary transfer of Esau's birthright from Esau (Source) to Jacob (Goal) and a secondary transfer of a mess of pottage from Jacob (Secondary Source) to Esau (Secondary Goal). But this account is incorrect. For example, it is not at all necessary to assume that Jacob gives the mess of pottage to Esau. To appreciate this, consider the following modification of (6).

7. Esau traded his birthright to Jacob for a modicum of self-respect

Jacob in (7) has not active involvement in Esau's acquiring a sense of self-respect.

In examples like (2) and (3) it does not make sense to speak of Nixon and the committee as Secondary Sources, or of we and she as Secondary Goals. It makes more sense to speak of the for-phrases as designating objectives of the subjects of the sentences and to speak of the underlined NP's as individuals responsible for the implementation of the objectives.

This is in effect what Jackendoff does in the case of infinitival for-phrases with his notion of "assignment of responsibility". (However, he does not analyze the infinitive complements as for-phrase and does not consider the

similarity between the infinitive and non-infinitive cases. The focus of his discussion is the role of "assignment of responsibility" in the identification of the complement subject controller.)

He suggests that when the complement subject is optionally controlled, the selection of a controller should be free within the constraints imposed by pronominalization. He discusses this hypothesis in relation to the verbs scream and shout, which point up the existence of further parameters in the determination of the complement subject controller. Consider these examples:

8. *I screamed to go
9. I screamed to Bill to go
10. I screamed to Bill for Harry to go
11. I screamed to be allowed to go
12. I screamed to Bill to be allowed to go
13. I screamed to Bill for Harry to be allowed to go

(10) and (13), which have lexically specified complement subjects, show that the complement subject is not obligatorily controlled in the case of scream. This means that, according to Jackendoff's hypothesis, either I or Bill should be able to control the complement subject. Notice, however, that I cannot control the complement subject in (8) and (9), while Bill cannot control the complement subject in (12).

The examples clearly show that the controller in the matrix clause is not fixed for the verb scream; yet in (9) and (12), there is no ambiguity of control.

Jackendoff argues that a verb can mark a particular NP in the matrix clause as Agent of the infinitive complement. When the complement already has an Agent subject, the "matrix Agent", as marked by the verb, is understood as the indirect Agent of the complement, i.e., as an individual who influences the action of the complement temporally or causally prior to the efforts of the Agent subject of the complement. In (10), e.g., Bill is understood to be in a position to do something to bring it about that Harry will go. In this way, Bill is identifiable as an indirect object.

If an empty complement subject is Agentive, it is controlled by the NP marked as matrix Agent by the verb, as in (9). (To account for the impossibility of (8), it must be specified that, for verbs like scream and shout, an Agent complement subject can be controlled only by the NP in the matrix sentence marked as Agent of the complement by the main verb. This is not the case with all verbs: If pay or beg is substituted for scream in (8), the sentence becomes grammatical.) If the subject of the complement is non-Agentive, it cannot be controlled by the matrix Agent, as in (12). When we speak of the Agency of the complement subject, we do not mean deep Agency (a thematic relation), but the Agency

which is attributable to derived subjects. In a sentence like (14)

14. I screamed to Bill to be examined by a competent physician

control of the complement subject can go to Bill, and perhaps also to I. (I personally find it very difficult to get clearcut judgments about sentences with scream, including examples like (14) and the paradigm (8)-(13).) The subject of be examined can optionally be interpreted Agentively, as in Bill managed/intended to be examined by a competent physician. This allows for the case where Bill is complement subject controller in (14). It may also be possible that I can control the complement subject in this sentence, correlating with a non-Agentive interpretation of the complement subject. If it is in fact the case that I cannot control the complement subject, then we must stipulate that, in the presence of the matrix Agent, the complement subject must be interpreted Agentively if it is possible for it to be so interpreted. Note that we must say, "in the presence of the matrix Agent," because the sentence, I screamed to be examined by a competent physician is grammatical, with I, of course, the complement subject controller.

Verbs of the scream-type take for-phrase complements. If we analyze the infinitive complements in the paradigm

(8)-(13) as for-phrases, we could recast the concept of "matrix agent" as a relation between a matrix NP and a for-phrase complement, thereby accommodating examples like (1-5). Thus, in both of the sentences below

15. we screamed to Nixon for an end to the bombing
16. we screamed to Nixon for the generals to end the bombing

there is the implication that Nixon is assumed to be in a position to do something to bring about an end to the bombing.

Compare further the a- and b- sentences of (17-19):

17. a. I asked Marie for an invitation
    b. I asked Marie to invite me to the party
18. a. she begged the Committee for a ruling on the matter
    b. she begged the Committee to be allowed to speak her mind
19. a. they shouted to me for a pail of water
    b. they shouted to me to get them a pail of water

In these examples, the underlined NP's are assumed to be in a position to respond to the requests characterized by the for-phrases.

APPENDIX B

REMARKS ON EQUI IN PURPOSE CLAUSES

Aside from the control rule discussed in the main part of the chapter, there is a rule of Equi which operates in purpose clauses, when the matrix theme controls a complement object. This Equi rule operates in example (2),

1. Petr rented the plane$_i$ for Sasha to take ___$_i$ to Moscow
2. Petr$_j$ rented the plane$_i$ ___$_j$ to take ___$_i$ to Moscow

making Petr the understood subject of the complement.

We observed earlier that there was also an Equi rule for rationale clauses and that it operated differently from the Equi rule for purpose clauses: The controller NP in rationale-clause Equi is always the matrix subject, while the controlling NP in purpose-clause Equi is sometimes the matrix subject, sometimes the matrix indirect object. Compare:

3. Petr$_i$ rented the plane ___$_i$ to take it to Moscow
4. Petr$_i$ rented Sasha the plane ___$_i$ to take it to Moscow
5. Petr$_i$ rented the plane ___$_i$ to take Ø to Moscow
6. Petr rented Sasha$_i$ the plane ___$_i$ to take Ø to Moscow

The operation of the complement subject control rule for rationale clauses remains unaffected by the introduction of the indirect object. (See (3) and (4).) On the other hand, the controller of the subject of the purpose clause shifts to the indirect object when it is added. (See (5) and (6).)

In the purpose clause examples above, the complement subject is an Agent. Now, in the matrix sentence, there is generally some NP which designates the individual responsible for the carrying out of the intention characterized by the for-phrase. Thus, in a sentence like, John gave the tent to Bill for hunting trips, it is understood that Bill makes use of the tent in hunting trips. When the Agent-subject of a purpose clause is not lexically specified, it is understood as coreferential with the matrix NP designating the responsible individual. This is reminiscent of the matching principle proposed by Higgins in his dissertation. (Higgins (1973: 182-3))[15]

Since the Source-Goal transference in the possessional sense is essentially a transference of control over the Theme, the Goal NP is typically identified as the understood complement subject. Thus, consider the following examples:

7. Bill promised John$_i$ the blue fountain pen ___$_i$ to do his homework with
8. Bill$_i$ borrowed the blue fountain pen from John ___$_i$ to do his homework with

9. Bill lent the blue fountain pen to John$_i$ ___$_i$ to do his homework with

Now, the subject of the purpose clause is understood to be exercising control over the blue fountain pen, in that the subject manipulates the pen as an instrument with which he does his homework. The way the Equi operation works here is to identify the NP which exercises control over the fountain pen in the purpose clause (the complement subject) with the NP in the matrix clause which is understood, on the basis of the thematic relations, to be responsible for the use of the fountain pen with respect to the intention characterized by the purpose clause. When the subject of the purpose clause is lexically specified, the matrix NP is understood an an indirect Agent:

10. Bill borrowed the fountain pen from John for Sally to do her homework with

Bill is an indirect Agent in (10); he is understood to bring it about that Sally can do her homework with the fountain pen.

Now let us consider some further examples:

11. a. I sold my file cabinet

b. *I sold my old file cabinet to keep personal papers in

c. I sold Bill my old file cabinet

11. d. I sold Bill my old file cabinet to keep personal papers in

(11b) is out because the matrix clause does not provide an NP which is understood to exercise control over the Theme with respect to the purpose clause. This NP could only be the Goal of sell, since the act of selling involves the relinquishing of control and responsibility over the sold object. The situation is remedied in (11d); the indirect object of sell functions as Goal and is identified as the understood complement subject. But there is a problem here: If the Equi rule is optional (i.e., if the purpose clause subject can be lexically specified), we might expect (11b) to become grammatical if we add a subject to the purpose clause, assuming that (11b) is out for lack of a suitable controller for the complement subject. This expectation, however, is not borne out:

12. *I sold my file cabinet for Bill to keep his personal papers in

Further more, notice that we can have a lexically specified subject in the purpose clause in the following case, where there is also a matrix Goal:

13. I sold Bill my old file cabinet for his secretary to keep his personal papers in

Thus, it appears that the presence of a purpose clause makes obligatory the presence of an indirect object for sell. Compare sell with the verb offer, which also has an Agent-Source subject and a Goal indirect object.

14. a. *Mary offered her old hat
    b. *Mary offered her old hat to sell
    c. Mary offered us her old hat
    d. Mary offered us her old hat to sell

(14a) indicates that offer, like give, requires an indirect object. Thus, (14b) is out, it would appear, both because offer has no indirect object and because the subject of the complement has not suitable controller. The addition of the indirect object us in (14d) remedies both these defects. Notice, however, that the following sentence is grammatical:

15. Mary offered her old hat for the ladies to sell

That is, when offer takes a purpose clause complement, the requirement of an indirect object is suspended; an indirect object is optional:

16. Mary offered us her old hat for the ladies to sell

Thus, (14b) is ungrammatical only for the lack of a suitable controller for the complement subject. This contrast between

offer and sell holds, as we would expect, even if the purpose phrase is a non-infinitival for-phrase:

17. a. Mary offered her car for the needed transportation
    b. Mary offered them her car for the needed transportation
    c. *Mary sold her car for the needed transportation
    d. Mary sold them her car for the needed transportation

What we find, then, is that the patterns of thematic relations work to define some matrix NP as an Agent over the purpose clause. An uncontrolled Agent complement subject is matched with this matrix Agent, as in examples (7-9) above. It appears that some verbs like sell require the presence of a responsible Agent over the purpose clause. (Contrast (11b) with (11d) and (17c) with (17d).) This requirement is independent of the need for a suitable controller for the subject of the purpose clause. In addition, some verbs like offer require either a Goal phrase or a purpose phrase, and these can cooccur. (Thus, (14a) is out, but (14c) and (15) are in.) Give does not behave like offer in that the presence of a purpose phrase does not suspend the requirement of an indirect object: I gave Bill my car for Johnny to drive, *I gave my car for Johnny to drive. It is conceivable that

the difference between these two verbs is that the requirement of an indirect object is a matter of semantics for *offer* and a matter of syntax for *give*. That is, *offer* requires a phrase of a certain semantic type, while *give* is subcategorized for the obligatory presence of an indirect object NP.

In any event, the Equi rule for purpose clauses works as we have described -- matching the uncontrolled Agent subject of the purpose clause with the matrix Agent of the purpose clause defined on the thematic patterns of the matrix sentence.[16]

FOOTNOTES

CHAPTER II

1. Notice that in the examples with wait, the for-phrase and infinitive phrase are ambiguous in identical fashion; they each can characterize either the object of the wait or the reason or rationale for the act of waiting. Thus, consider the parallel ambiguities of we waited patiently for a large sum of money and we waited patiently to make up for what we had done. The rationale reading is brought out if the for-phrase and infinitive phrase are preposed: for a large sum of money, we waited patiently; to make up for what we had done, we waited patiently. We will be considering a number of such parallels in the interpretation and syntactic behavior of infinitive phrases and for-phrases throughout this section.

2. Recall that we noted in passing in the last chapter that when purpose clauses are pseudo-clefted, the preposition for shows up in the free relative subject of the pseudo-cleft sentence:

i. what Carol bought a rack for was to hang coats on

This is clearly evidence for the analysis we are advancing

in this section. In addition, consider the following facts. It has been observed, e.g., by Emonds, that sentential complements cannot be clefted. Consider the following examples:

ii. a. John intended for Mary to leave late

b. *it was for Mary to leave late that John intended

iii. a. Max promised to be a good boy

b. *it was to be a good boy that Max promised

iv. a. Julia said that the cops were harrassing her

b. *it was that the cops were harrassing her that Julia said

However, at least for a significant number of speakers of English, purpose clauses and rationale clauses are acceptable in focus position in cleft sentences.

v. a. Sally bought the piano for Todd to practice on

b. it was for Todd to practice on that Sally bought the piano

vi. a. Sally bought the piano to persuade Todd of her affections

b. it was to persuade Todd of her affections that Sally bought the piano

If these observations are accepted as correct, a plausible explanation for the difference between (ii-iv) and (v-vi)

might be that the infinitive complements in (v-vi) are underlyingly prepositional phrases and not simply sentential complements. This explanation works whether we account for the facts in (ii-iv) by appealing to Emonds's analysis of cleft sentences (Emonds (1970:113-114; 163-172)) or to Ross's condition blocking structures with internal S nodes exhaustively dominated by NP's.

Objective clauses, incidentally, do not seem acceptable in cleft focus position.

vii. a. John sent Ann to buy herself some new shoes

b. *it was to buy herself some new shoes that John sent Ann

viii. a. Ann sent John home to take care of the baby

b. ?it was to take care of the baby that Ann sent John home

But it seems that in general objective for-phrases (which will be discussed below) are questionable in cleft focus position.

ix. a. John sent Ann for some new shoes

b. *it was for some new shoes that John sent Ann

x. a. Ann sent John home for the baby's bottle

b. ?it was for the baby's bottle that Ann sent John home

To pursue the matter of clefting just a bit further, consider the fact that (vb) and (vib) are ungrammatical if for is added at the ends of the sentences:

xi. *it was for Todd to practice on that Sally bought the piano for

xii. *it was to persuade Todd of her affection that Sally bought the piano for

With for-phrases, either the object of for or the entire for-phrase can be clefted:

xiii. a. Sally bought the piano for Todd's practice sessions

b. it was Todd's practice session that Sally bought the piano for

c. it was for Todd's practice sessions that Sally bought the piano

xiv. a. Sally bought Todd the piano for her own amusement

b. ?it was her own amusement that Sally bought Todd the piano for

c. it was for her own amusement that Sally bought Todd the piano

If purpose clauses and rationale clauses are introduced by the rule PP → P S, the ungrammaticality of (xi-xii) is

accounted for by the prohibition against clefting sentential complements, however this is to be stated. (If Ross's formulation is accepted, the phrase structure rule must be changed so that an NP dominates the sentential complement: (a) PP → P NP, (b) NP → S.) In (xi-xii), the sentential objects of for, rather than the entire for-phrases, have been clefted.

3. When the for-phrases and infinitive phrases designate the purpose or function of some object, they can be predicated of that object:

i. the robot was for entertainment
ii. the robot was to entertain guests

(i), notice, is a valid inference from (5 a,b) and (ii) a valid inference from (4 a, b).

4. Notice that the ungrammaticality of (13a) can be remedied if we add the possessive pronoun its before maximal effectiveness:

i. we bought the machine for its maximal effectiveness at low temperatures

But in such a case, the for-phrase is interpreted quite differently: in (i), rather than designating a resultant

quality, the for-phrase describes a quality of the machine that motivates its purchase. If we alter (10a) and (11a) in the same way, the sentences become ungrammatical:

ii. *we built the car for its durability at high speeds

iii. *we designed the machine for its maximal effectiveness at low temperatures.

Such examples will come up again at a later point.

5. Observe that these phrases (both the infinitive phrase and the for-phrase), on a rationale interpretation, can be interposed between the subject and the verb:

i. John, to entertain his guests, built a robot

ii. John, for entertainment, built a robot

Tanya Reinhart (personal communication) has informed me that according to Jackendoff (1972), such facts indicate that the phrases are generated as daughters of the S node. (See Jackendoff (1972, Chapter Three).) In the syntactic analysis of the last chapter, we generated rationale clauses as daughters of the node $\overline{VP}$ (=PredP). If Jackendoff's analysis is correct, our syntactic analysis will have to be accordingly revised. However, absolutely nothing in my arguments hangs on this point. In the last chapter, as here, I have

wanted only to establish that rationale clauses and for-phrases are generated outside the VP, at some higher level -- be it Pred P or S.

6. See Note 5.

7. The causal interpretation of the for-phrase is evident in examples like, for no apparent reason, the plant withered away. Motivation, of course, seems intimately connected with causality, adding the element of will on the part of an agent. The result interpretation of the for-phrase occurs, as we have seen before, with modals and the conditional predicates.

Observe, incidentally, that the phrase in order (for X) to can introduce infinitives of result only on the root sense of the modal. Thus, consider the root-epistemic ambiguity of the following.

i. Ben must be quite handsome to attract a girl like Mary

The epistemic interpretation of the modal can be brought out if we add a phrase like, as much as he has to the sentence:

ii. Ben must be quite handsome to attract a girl like Mary as much as he has

If we add in order to, we disambiguate (i) and make (ii) unacceptable:

iii. Ben must be quite handsome in order to attract a girl like Mary

iv. *Ben must be quite handsome in order to attract a girl like Mary as much as he has

Must, in (iii), can only have the root sense.

8. In this sentence, would (in the sense of "be willing") also marks the subject as Agent.

9. Sentences of the following type seem interesting:

i. the judges chose the chihuhua for first prize

This sentence is clearly ambiguous. On one reading, it is understood that the chihuhua is being given as a prize, as in the chihuahua is first prize, or even, the chihuahua is for first prize. On the other reading, it is understood that the chihuahua is to be awarded first prize. Somehow, the grammar must provide for this ambiguous interpretation of the semantic relation between the chihuahua and the for-phrase. Notice that with other verbs, the relation is not ambiguous. Consider, e.g., (ii) and (iii).

ii. the judges used the chihuahua for first prize

iii. the judges bought the chihuahua for first prize

In both of these examples, it is understood that the chihuahua is being given as first prize, and the alternative interpretation of the relation available for (i) is not possible here. Furthermore, a proper theory of semantic relations will have to allow for further nuances such as appear in

iv. the judges took the chihuahua for first prize

(iv) is ambiguous; take can be interpreted literally or figuratively. On the literal interpretation (cf. the judges grabbed the chihuahua for first prize), the relation between the chihuahua and the for-phrase is similar to the relation in (ii) and (iii) in that it is understood that the chihuahua is intended to be a prize, but intuitively there are differences. On the figurative interpretation, (iv) can be paraphrased roughly as, the judges took the chihuahua to be first prize. (Cf., the judges mistook the chihuahua for first prize.)

10. It is important to say, "on its natural interpretation." Notice that there is an unlikely, but perfectly possible, interpretation for (11) on which the semantic relation between Mary and for dinner is the same as in the sentence,

Mary is for dinner. On this reading, we would infer that the diners are cannibals. On this interpretation of (11), the Theme-for-phrase relation is the same as in (12); in both cases the relation is functional. (See text above.) The ambiguity that (11) has is perhaps shown more plausibly with the following example:

i. John brought some chickens home for something to eat

It can be understood either that the chickens are to do the eating (cf. the first interpretation of (11)) or that the chickens are to be eaten (cf. the functional interpretation of (11)).

11. See Faraci (1973) for a reconsideration of use-constructions. I argue there that the infinitive phrases of many of the famous sentences of Lakoff (1968) are to be analyzed as purpose for-phrases.

Obviously, for-phrases which serve as predicates in copular sentences are not always interpreted as function-designating. Benefactive for-phrases, for example, can also be predicative: I built the house for Alex, the house is for Alex. Perhaps it will turn out that benefactive and purpose for-phrases share specific features of their interpretation, that allow them both to be predicative.

12. Actually, the possibility is implicit in some of Jackendoff's discussions that semantic relations between certain matrix NP's and the infinitive complement are relevant to the control problem. He suggests at various points that infinitive complements bear thematic relations to the verbs that take them, but he does not explore the possible ramifications of this idea.

Consider the following passage from his book (Jackendoff (1972:215)).

> Toward [a theory of the difference between promise and get with respect to complement subject control], notice the similarity in the following sets of examples.
>
> (5.136) Joe got to Philadelphia
>
> Frank got Joe to Philadelphia
>
> (5.137) Joe got furious at Henry
>
> Frank got Joe furious at Henry
>
> (5.138) Joe got to wash the dishes
>
> Frank got Joe to wash the dishes
>
> (5.139) ?Joe kept {to / in} his room
>
> Frank kept Joe in his room
>
> (5.140) Joe kept at the job
>
> Frank kept Joe at the job

(5.141) Joe kept working on the problem

Frank kept Joe working on the problem

The interesting thing about these examples is that the switching of understood complement subjects in (5.138) and (5.141) is exactly parallel to the switching of attribution of the adjectives and locatives in the rest of the examples. And this switching in turn is exactly parallel to the switching of attribution of motion in (5.142).

(5.142) The rock rolled away

Bill rolled the rock away

In other words, we appear to be dealing with a manifestation of the system of thematic relations introduced in Chapter 2.

In the last sentence, Jackendoff is clearly handwaving. His account raises a number of puzzling questions. For example, he goes on to assert that the PP of (5.136) and the AP of (5.137) bear the thematic relation of Goal to get. In (5.139) and (5.140), the PP's are analyzed as Locatives. What bearing does this have on the attribution of adjectives and locatives in these sentences? Are we to infer that the infinitive complement in (5.138) is a Goal and that the participial phrase in (5.141) is a Locative? If so, does

this have any bearing on the determination of the understood complement subject? Certainly, it would not seem possible to have a verb which is like get in that the infinitive complement functions as a Goal phrase but unlike get in that the subject of the complement is not controlled by the Theme of the matrix clause. It is conceivable, then, that in certain cases the position of the complement subject controller is defined on thematic patterns, i.e., on semantic relations which are themselves defined on thematic relations. The interplay of thematic relations, their patterns, and rules of attribution and control is never made clear in Jackendoff's discussion. Specifically, he does not deal with the possible relevance to the control problem of assigning thematic relations to the infinitive complements.

13. I will mention here in passing a further ambiguity. The sentence, the guard is here for your protection, can imply either that the guard is a protector (functional relation between Theme and for-phrase) or that the guard's being here ensures that one is protected, analagous to, the lion is in his cage for your protection. The ambiguity is structural, as can be seen from the fact that the for-phrase is preposable on the second reading: for your protection, the guard is here; for your protection, the lion is in his cage.

14. There is a third possible interpretation for ready, defining some inherent state of its subject. (In the other non-psychological interpretation of ready, there is an implication of some kind of preparation of the subject of ready with respect to what is defined by the for-phrase.) In these kinds of examples, only complement subject control is possible. Relevant examples are, the flowers are ready to bloom, her teeth are ready for a cleaning, the tumor is ready to be operated on, the soup is ready to be served. Note that the last two examples are ambiguous; aside from their "inherent state" readings, they are also interpretable as passive versions of, the tumor is ready to operate on and the soup is ready to serve, respectively. There are further examples like, John is ready to quit his job, which, aside from the psychological-predicate interpretation discussed in the text, have another interpretation which is brought out in contexts like, John got so angry at his boss that he was ready to quit his job. Here, ready means roughly, "on the verge of doing...".

15. It has been observed (e.g., Jackendoff (1972) and Higgins (1973)) that the understood subject of the complement of a nominalization must be determined on the basis of the thematic patterns in the sentence. Thus, consider the sentences below (Jackendoff (1972: 218); Higgins (1973: 182)).

i. Mary gave Alex permission to go

ii. Mary gave Alex a promise to go

Here, the underlined nominalizations function as Themes. In (i), the understood complement subject is Alex, the Goal, while in (ii), the understood complement subject is Mary, the Source. As is well known, the subject of the complement of permit is controlled by the Goal of permit, and the subject of the complement of promise is controlled by the Source of promise. What appears to be needed, then, to correctly account for the control relationships in (i) and (ii) is a way of matching up thematic relations within the nominalizations with thematic relations in the sentence. Higgins (1973: 182-3) formulates the needed matching principle as follows: "To each of the understood noun phrases of the noun phrase whose head is the nominalization there must correspond a noun phrase in the sentence which bears the same thematic relation to the verb as that noun phrase bears to the nominalization." By this principle, the complement subject in (i), which bears the thematic relation of Goal to permission is correctly matched with Alex, which bears the thematic relation of Goal to give. Similarly for (ii), the complement subject, which bears the thematic relation of Source to promise, is matched up with Mary, which bears the thematic relation of Source to give.

In examples (8) and (9) in the text above, the manipulator of the deleted object is matched with the manipulator of the antecedent of the deleted object.

16. The control rule for the subject of infinitival relative clauses works in essentially the same way as the control rule for infinitival purpose clauses. That is, the subject NP of the relative clause, which exercises control over the NP deleted under identity with the head, is matched with the NP exercising control over the whole NP in the matrix sentence. Thus, the same principle is at work.

An incidental interesting fact about the matching of thematic relations within a nominalization with the thematic relations of the sentence is that, is some instances, there seems to be no single controller of the complement, and there is, in fact, some problem in determining what the interpretation of the complement subject is. Consider, e.g.,

i. permission to leave was transferred from John to Bill

It is unclear what the understood subject of <u>to leave</u> is. Observe how this works with respect to reflexivization:

ii. permission to indulge himself was transferred from John to Bill

iii. *permission to indulge oneself was transferred from John to Bill

From these examples, we may conclude that the subject is not interpreted as Unspecified. But consider what happens if one of the persons in the examples is female:

iv. *permission to indulge himself was transferred from John to Agnes

v. *permission to indulge himself was transferred from Agnes to John

vi. *permission to indulge herself was transferred from John to Agnes

vii. *permission to indulge herself was transferred from Agnes to John

The sentences are also out if oneself replaces himself/herself.

CHAPTER III

A DIGRESSION ON GERUNDIVE FOR-PHRASES

1. The prior-posterior distinction.

Consider now for-phrases whose objects designate a quality or attribute of someone or something. Contrast:

1. I designed the car for endurance at high speeds
2. I bought the car for its endurance at high speeds

In both (1) and (2), the object of for designates an attribute of the car, but there is a crucial difference: In (1), the property of have endurance at high speeds is a result of the action of designing. This is because design designates a creative action; its object is understood as being created or constructed by the action. By contrast, the cause-effect relationship between the matrix verb and the for-phrase is reversed in (1). The buying of the car is motivated by its quality of enduring at high speeds. The matrix predicate describes a subjective reaction to the attribute of the car in (2), and the car's endurance at high speeds is understood to be semantically prior to the act of buying the car.

In the presence of a motivational for-phrase of the kind in (2), the main verb describes some appropriate reaction inspired by the attribute of the object character-

ized in the for-phrase. This description seems to do for cases like (2), where there is a Theme-Goal relationship between the object and the subject -- i.e., with verbs of volitional acquisition like buy, take, and get and also with verbs of covetous emotions like want, love, and admire. But the semantic relationship between the for-phrase and the matrix predicate is much more complicated, as can be seen if we contrast (2) with

3. I sold the car for its endurance at high speeds

In (3), the for-phrase is understood as a facilitating factor in the transaction; the speaker is understood to be using the car's attribute of enduring at high speeds to effect the sale. Nevertheless, in (3), as in (2), the for-phrase is understood to be semantically prior to the matrix action.[1]

There are some facts which may be taken to indicate a structural difference between (1) and (2), although conclusive evidence seems hard to find. We suggested in an earlier discussion that resultative for-phrases like the one in (1) are sister constituents of the direct object. Verbs which take both purpose phrases and resultative phrases, like build, cannot have them co-occurring:

4. a. I built this car for the race next Tuesday

4. b. I built this car for endurance at high speeds

c. *I built this car for the race next Tuesday for endurance at high speeds

d. *I built this car for endurance at high speeds for the race next Tuesday

This situation is explicable if we assume that verbs like build take a for-phrase which, depending on context, lexical content, etc., can have a purpose or resultative interpretation. Thus, only one for-phrase complement is possible, and its interpretation varies. By contrast, the for-phrase in (2) is compatible with the presence of a purpose phrase, the principal restriction being that the purpose phrase must precede the motivational phrase:

5. I bought this car for Sunday drives for its endurance at high speeds

*I bought this car for its endurance at high speeds for Sunday drives

This restriction indicates (a la Williams) that the motivational phrase is generated higher in the matrix tree than the purpose phrase.

The prior-posterior distinction in the semantic relationship between for-phrases and the matrix predicate seems to be of some importance. (See, e.g., Chapter II of Bresnan (1972).) I would like to consider how this distinc-

tion interacts with the ability of for to take an infinitive phrase or gerund phrase object in various contexts.

To start with, we must point out a crucial distinction in the interpretation of gerunds. Wasow and Roeper (1971) draw the distinction between nominal gerunds, which have the internal structure of NP's, and verbal gerunds, which have the internal structure of sentences. (Cp. John's hunting of the snark and John's hunting the snark.) They correlate obligatory subject control with verbal gerunds and absence of subject control with nominal gerunds, and demonstrate how this correlation can be explained within the lexicalist framework on the basis of the fact that S's but not NP's have an obligatory subject position. The absence of a subject in verbal gerunds can be effected only through Equi-NP deletion. (See their paper for discussion.)

Later on in their paper, Wasow and Roeper (henceforth, W & R) discuss some counter-examples to their hypothesis. One interesting class of cases involves verbal gerunds whose missing subjects are not controlled by any NP in the matrix sentence. Examples they give are as follows (See p. 12 of their paper):

6. I disapprove of shouting loudly
7. the law forbids shooting deer

Following a suggestion of Postal's, W & R suggest that in such examples, the underlying subject of the gerund is the generic pronoun one, which is deleted by an ad hoc transformation:

8. I disapprove of one's shouting loudly

9. the law forbids one's shooting deer

The one-deletion rule converts (8) and (9) to (6) and (7) respectively.

It seems to me that there are cases where such a solution will not work. Consider examples like the following:

10. a. Bill talked to the boys about his seeing pink elephants after excessive drinking

b. Bill talked to the boys about their seeing pink elephants after excessive drinking

c. Bill talked to the boys about one's seeing pink elephants after excessive drinking

11. Bill talked to the boys about seeing pink elephants after excessive drinking

The gerunds in (10), with overt subjects, seem to me to have a factive interpretation; they designate actual states of affairs (I do not think,however, that they are precisely paraphrased by the fact that S construction.)

Notice now that (11) seems to be three ways ambiguous:

the understood subject of the gerund can be Bill or theyboys or neither of these. Thus, it seems that the understood subject of the gerund in (11) is identified by some rule of pronominalization, and we can posit PRO or Δ as the subject of the gerund, at least for the first two readings where the gerund subject is controlled by one of the matrix NP's. For the third reading(with the "unspecified" subject reading), W & R would posit one as the underlying subject of the gerund, i.e., they would derive (11) on this third reading from (10c) through the deletion of one.

Such a derivation is dubious to my mind. (10c) and (11) on the third reading are not synonymous. As I have pointed out, the gerund in (10c) has a factive interpretation and this is lacking in (11) on the third reading, where the gerund phrase seems to describe some hypothetical experience. Compare, further, examples like,

12. the doctors were unhappy about one's having gotten pregnant on their pill so often
13. the doctors were unhappy about having gotten pregnant on their pill so often

The subject of the gerund in (12) cannot delete to give (13); (13) has no generic reading for its subject. The subject of the gerund is obligatorily controlled by the doctors. Thus, W & R's treatment of these counterexamples

to their proposals is flawed by the fact that the distribution of verbal gerunds with one as their subject differs from the distribution of verbal gerunds with uncontrolled subjects. It is far from clear how to state the context in which their rule would be applicable. It is conceivable that we can impose conditions on the ad hoc one-deletion rule to account for the discrepancies, but, even so, such an analysis fails to take account of the differences between the interpretation of the two types of verbal gerunds.

Consider one further pair of examples:

14. Jonathan contemplated having only 30 years to live in Saudi Arabia
15. Jonathan contemplated one's having only 30 years to live in Saudi Arabia

(14) is an ambiguous sentence: On one reading, the subject of the gerund is understood to be Jonathan, and it means roughly that Jonathan contemplated that he would have only 30 years to live in Saudi Arabia. On the second reading, there is no controller for the subject of the gerund, and we understand that Jonathan is abstractly contemplating the hypothetical situation of having only 30 years to live in Saudi Arabia. Note that this reading is not equivalent to the reading of (15). In (15), Jonathan is contemplating a factual situation, viz. that one has only 30 years to live

in Saudi Arabia. This is quite distinct from the second reading of (14).

It seems to me that a more viable approach to this problem is to posit two structurally distinct types of verbal gerunds. One type, as W & R suggest, is verbal gerunds which have the internal structure of sentences. The other type is gerunds which have no lexically specified subject and no subject controller and a non-factive interpretation, and which have the internal structure of VP's. In other words, verbal gerunds can have either the structures of S's dominated by NP's or the structure of VP's dominated by NP's. Of course, the full elaboration of this theory would have to account for the distributional differences between the two types of gerunds. For example, the permissibility of the VP-gerunds correlates with certain possibilities in the interpretation of nominal gerunds. In (16), a VP-interpretation of the gerund is allowed, while in (17) it is not:

16. I was thinking about hunting the snark
17. I was glad about hunting the snark

In (17), the subject of the gerund is obligatorily understood as I; in (16), on the other hand, the gerund can optionally have a subjectless interpretation. Consider now the following:

18. I was thinking about the hunting of the snark

19. I was glad about the hunting of the snark

The nominalization in (18) can be understood to designate either a hypothetical endeavor or an actual event; only the latter interpretation is possible in (19).

I have raised these issues here because I wish to distinguish the interpretation of gerunds as objects of purpose for-phrases from their interpretation as objects of "upper" motivational for-phrases. It seems that only nominal gerunds and VP-verbal gerunds can serve as objects in a purpose for-phrase. Consider the following paradigm:

20. I bought this knife for the hunting of the snark (*with)

21. I bought this knife for hunting the snark with

22. I bought this knife for hunting the snark

23. *I bought this knife for Bill's hunting the snark with

24. *I bought this knife for Bill's hunting the snark

25. I bought this knife for Bill's hunting (of the snark) (*with)

(21) and (22) show that verbal gerunds can serve as objects to the purpose for-phrase, with the gerund phrase optionally being a semantically open expression; both (21) and (22) are good. This shows gerund phrases to be different from

infinitive phrases as objects of a purpose for-phrase, since infinitive phrases must, in these circumstances, be open sentences.[2]

(23) and (24) show that gerund phrases with specified subjects cannot serve as objects of a purpose phrase independently of the question of open sentences. (This fact will be brought up again in the next chapter.) I suggest that the anomaly of these examples is a result of the incompatibility of the factive element in the interpretation of sentential gerunds with the intentional meaning of the for-phrase. Non-sentential verbal gerunds (i.e., VP-verbal gerunds), which lack this factive element in their interpretation, are not in conflict with the intentional meaning of the for-phrase and, hence, can serve as objects of the purpose phrase. Nominal gerunds are compatible objects of purpose phrases, but, as (20) and (25) show, they cannot be interpreted as open expressions.

Now, when a for-phrase is associated with a matrix predicate which describes a reaction to a purpose or thing such that the for-phrase designates the reason for the reaction, a gerund phrase is a possible object of for, but an infinitive phrase is not. Consider, e.g., the verbs blame and admire and the adjective proud:

26. Bill blamed John for leaving the garden unattended

Bill admired John for having courage in the face of doom

Bill was proud of John for rebelling against the Establishment

27. *Bill blamed John to leave the garden unattended

*Bill admired John to have courage in the face of doom

*Bill was proud of John to rebel against the Establishment

The for-phrases in (26) are understood as semantically prior to the matrix predicates: John's blaming Bill is predicated on the garden's having been left unattended; Bill's admiration for John is based on John's show of courage; Bill's pride in John is based on John's rebellion. This is what I mean by calling these predicates reactive; the cause-effect chain leads from the for-phrase to the matrix predicate. Notice that the gerunds here are interpreted as describing actual states of affairs and that the gerund subjects are controlled by the objects of the matrix predicates. Their interpretation is, thus, substantially different from the interpretation of the gerund objects of purpose phrases. As the examples of (27) indicate, infinitive phrases are unacceptable in this context; in characterizing motivations for what goes on in the matrix predicate, infinitive phrases

can only represent intentions and are understood as semantically posterior to the matrix predicate. In other words the cause-effect chain proceeds in the opposite direction, from the matrix predicate to the for-phrase. Thus, in a sentence like

28. Bill blamed John for leaving the garden unattended to throw any suspicion off himself

both for-phrases represent, in some sense, motivations for the action of blaming, but whereas the act of blaming John is predicated on the garden being left unattended, the removal of suspicion from Bill is predicated on the act of blaming. Thus, the first for-phrase is semantically prior to the act of blaming, while the act of blaming is in turn prior to the second for-phrase (i.e., the rationale clause). Put another way, the for-phrase complement to a reactive predicate like blame is interpreted as motivational and non-intentional, actualized; it represents an actual event or state of affairs. This precludes infinitive phrases as objects of such phrases, because of their intentional, non-actualized interpretation.

There are some cases, however, in which an infinitive phrase can have a non-intentional, actualized interpretation, as in

29. I am glad to be feeling well again

30. I am proud to present you with this award

In these examples, the infintive phrase represents the "Goal" of the reaction, much as John is the "Goal" of the reaction in the examples of (26). The infinitive phrases in (29) and (30) are motivational, in the sense that they respresent the situations that call forth the emotional reaction of gladness or pride. Bresnan (1972:79) cites some further cases where both gerund for-phrases and infinitive phrases have non-intentional interpretations and are understood as motivations for moral judgments. However, in most of these cases, as in (29) and (30), it is unlikely that the infinitive phrases are objects of the preposition for:

31. I am glad of/*for that

32. I am proud of/*for that

In general, infinitive phrase objects of for have a non-actualized, intentional interpretation, and are understood as semantically posterior to the matrix predicate. Gerund phrase objects of for have an actualized interpretation and are understood as semantically prior to the matrix predicate. Thus, the distributions of infinitive phrases and gerund phrases as objects of for seem to be nearly complementary, with the exception of the non-factive gerunds which can

occur as objects of purpose for-phrases as well as infinitives.[3]

We have seen that sentential gerunds, which are factive as object of for[4], are unacceptable as objects of purpose for-phrases. They are, likewise, unacceptable as objects of objective phrases and of the for-phrase complements of psychological predicates, which have an intentional interpretation:

33. Jon sent Fred to get his books
*John sent Fred for getting his books
34. Jim was eager to see his first snowstorm
*Jim was eager for seeing his first snowstorm
35. Amanda was anxious to get away
*Amanda was anxious for getting away

One further demonstration of the differences in the interpretation of infinitives and gerunds as objects to for involves nominals taking for-phrase complements like permission, grant, chance, need, excuse, desire, etc. Permission differs from its verb counterpart permit in several ways: The nominalization takes no indirect object, while the verb does:

36. permission to leave came yesterday
*permission to/of John to leave came yesterday
they permitted John to leave yesterday

The verb takes a direct object and an optional indirect object but no for-phrase. The nominalization takes only a for-phrase and not a direct object:

37. they permit visits
they permit John visits
*they permit (John) for visits
permission for a visit/*of a visit

Also, while there is optional control of the subject of an infinitive complement to the nominalization permission, the subject of an infinitive complement to the verb permit is obligatorily controlled by the Goal:

38. they gave the US permission to withdraw
they gave the US permission for the troops to withdraw
they permitted the US to withdraw
*they permitted the US for the troops to withdraw

The verb excuse also differs crucially from its nominalization excuse. Both take for-phrase complements: an excuse for my bad behavior, she excused me for my bad behavior. However, the nominalization can take both infinitival and and gerundive for-phrase complements while the verb can take only gerundive for-phrase complements: excuse to leave, excuse for leaving, *she excused me to leave, she excused me

for leaving. Also, the verb can take a simple direct object while the nominalization cannot: she excused the error, she excused my leaving, *excuse of the error, *excuse of my leaving.

Now, the interpretation of the nominalization is different when it takes a gerund for-phrase from when it takes an infinitival for-phrase. The infinitive complement represents an intention, and the nominalization excuse to X is interpreted, roughly, as some sort of justification that is required before the intention can be carried out. On the other hand, the gerund phrase represents some already existing state of affairs or an action which has already been accomplished, or is in the process of being accomplished. Notice, for example, that a nominalization like excuse for being tall or excuse for having no checking account is possible while *excuse to be tall is not permitted. The latter nominalization is excluded because of the intentional meaning of the infinitive. Intentionality implies volitionality and control over an action, and, thus, to be tall does not qualify as a proper complement. On the other hand, a gerund complement is not interpreted as intentional with respect to excuse. Excuse for V-ing means justification for something ongoing or something which already is the case.

There are other aspects of the difference between the two. In comparing the phrases John's excuse for leaving and

John's excuse to leave, note that John is understood as the Agent-Source of excuse only in the first case. That is, in John's excuse for leaving, John is understood to be providing the justification for his actions. In John's excuse to leave, John is simply the Goal of excuse; excuse here denotes some external factor or circumstance which allows John to realize his intention. We can see this difference in comparison of the following sentences:

39. a. John's excuse for leaving wasn't exactly brilliant
    b. *John's excuse to leave wasn't exactly brilliant
    c. John's excuse to leave came when his wife phoned

The difference between the examples of (39a) and (39b) is analogous to the difference between:

40. a. John's attempt wasn't exactly brilliant
    b. *John's death wasn't exactly brilliant

In this context, only a nominalization with an agent subject is possible. Notice, in addition, that excuse here must be interpreted as a communicable product of John's efforts. Compare:

41. John gave the hostess an excuse for leaving early
    the candidate gave his committee an attempt to solve the mind-body problem as a dissertation

41. *the general gave Nixon an attack on a Vietnamese village as a justification for his promotion

The phrase an attack on a Vietnamese village cannot be interpreted as a communicable product, and the last sentence of (41) is excluded.

Consider now the difference between the following:

42. I gave the hostess an excuse for leaving the party

43. I gave the hostess an excuse to leave the party

The subject of leave in (42) is I, while the subject of leave in (43) is the hostess. Thus, excuse with a gerund for-phrase marks its Agent-Source as controller of the gerund subject, and this is matched with the Agent-Source of the matrix sentence by Higgin's matching principle. On the other hand, excuse with an infinitival for-phrase complement marks its Goal NP as controller of the complement subject, and this is matched with the Goal NP of the matrix sentence. In this way, the difference between (42) and (43) seems parallel to the difference between (44) and (45):

44. I gave the hostess a promise to leave the party

45. I gave the hostess permission to leave the party

The parallel is far from exact, however, because (42) is actually ambiguous: there is a reading on which the subject

of leave is understood to be the hostess; this is brought out more clearly in sentences like

46. My presence gave the hostess an excuse for leaving the party
    I (my presence) gave the hostess an excuse for ordering me off the premises

It seems to me that on this second reading of (42), the sentence is paraphrasable by (47a):

47. a. I gave the hostess a means of excusing herself from the party
    b.*I gave the hostess a means of excusing myself from the party
    c. My presence gave the hostess a means of excusing herself from the party

Notice, incidentally, that the sentence I excused myself for drinking heavily last night is ambiguous. On one reading, it is comparable to I excused John for drinking heavily last night, with myself simply replacing John. On the second reading, myself is a bound occurrence of the reflexive. There is an expression excuse oneself which has properties different from the simple verb excuse. Principal among the differences is the fact that excuse oneself can take a to-phrase:

48. I excused myself to Mary for drinking heavily last night

*I excused John to Mary for drinking heavily last night

One pair of sentences which further demonstrates the difference in the interpretation of the nominalization excuse with each of its two possible sentential complements is as follows:

49. my excuse to leave was my wife's telephone call

my excuse for leaving was my wife's telephone call

In the first sentence, my wife's telephone call is understood as the factor which allows me to leave; in the second sentence, it is understood as the substance of the excuse I offer for the fact that I am leaving or have left.

The noun reason is quite similar to excuse, but there are interesting differences. Like excuse, reason can take either a gerund for-phrase or an infinitive for-phrase complement: reason to leave the party, reason for leaving the party. Unlike excuse, however, the infinitive complement does not have an intentional interpretation. Compare, e.g., reason to have left, *excuse to have left, reason to hate Nixon, *excuse to hate Nixon. Nevertheless, the infinitive

complement must represent something which is controllable: reason for being tall, *reason to be tall.

As with excuse, the gerund phrase is interpreted as designating an existing state of affairs, and the phrase reason for V-ing is descriptive of an underlying causal factor. With an infinitive phrase complement, the head noun reason indicates a causal factor which is semantically prior to the instantiation of the infinitive phrase. It is interesting to note that reason with an infinitive phrase complement differs from excuse in not being able to take a definite determiner:

50. the excuse to leave came when his answering service telephoned
    his excuse to leave was his answering service's telephone call
    *the reason to leave came when his answering service telephoned
    *his reason to leave was his answering service's telephone call

Consider now the analogs to (42) and (43).

51. I gave the hostess a reason for leaving the party
52. I gave the hostess a reason to leave the party

As with (43), the subject of the infinitive phrase is unambiguously the hostess. And, as with (42), the subject of the gerund phrase is either I or the hostess. However, there is a difference: In (51), the matrix predicate cannot be an intentional action on the part of the matrix subject I if the hostess is understood as subject of the infinitive. Thus, (53) is fine:

53. my presence gave the hostess a reason for leaving the party

but compare the following:

54. Bill had the nerve to give the hostess an excuse for taking his leave
Bill had the nerve to give the hostess an excuse for taking her leave
Bill had the nerve to give the hostess a reason for taking his leave
*Bill had the nerve to give the hostess a reason for taking her leave

I think this has to do with the fact that an excuse but not a reason is controllable in the sense that the subject of the gerund phrase has the option of applying it:

55. the hostess has an excuse for leaving, if she wants it

*the hostess has a reason for leaving, if she wants it

Compare the following:

56. the hostess has a reason to leave, if she wants to/*it

the hostess has an excuse to leave if she wants to/*it

In sum, we find that gerund phrases in these contexts are interpreted as factive and semantically prior to the nominal head; infinitive phrases are interpreted as semantically posterior to the nominal head. Some nouns can take complements of only one or the other type. Examples of nouns taking only gerundive complements are the following: motive (motive for murder, motive for murdering someone, *motive to murder someone), justification (justification for that act, justification for acting that way, *justification to act that way) (cf. I am justified to act that way/*for acting that way/ *for that action. The infinitive phrase here is not a for-phrase.), apologies (apologies for his bad behavior, apologies for behaving so badly, *apologies to behave so badly.) Examples of nouns taking only infinitive complements are: urge (urge for an ice cream cone, urge to have an ice

cream cone, *urge for having an ice cream cone), desire (desire for that, desire to do that, *desire for doing that) and cause (cause for alarm, cause to cry/*for crying).

2. Observations on control in higher-generated for-phrases.

We have discussed before mechanisms by which the subjects of rationale clauses and lower-generated infinitival for-phrases are uniquely determined; the subjects of a rationale clause, when not overtly present, is controlled by the matrix subject. For clauses of the type discussed in Appendix A of the last chapter, the subject is controlled by that NP which the main verb designates as Agent of the complement, a la Jackendoff. Thus, in examples like

1. John paid me to waste my time

the subject of the infinitive phrase is the matrix subject John, if the infinitive phrase is interpreted as a rationale clause, and me otherwise. Let us compare subject control for gerundive for-phrases. With verbs like blame and admire, the object NP is designated as controller of the gerund phrase, i.e., as the NP which is understood as representing the individual responsible for the event described in the gerund phrase:

2. I blamed John$_i$ for ___$_i$ letting the cat out of the bag

   I admire John$_i$ for ___$_i$ not speaking until he is spoken to

Actually, there are differences between these two verbs. The verb admire requires that the for-phrase complement designate something specifically about its object -- some quality or action or activity for which the object bears direct responsibility. With blame, on the other hand, the object can have direct or indirect responsibility. Consider:

3. I admire my parents for an inability to procrastinate
4. I blame my parents for an inability to procrastinate

In (3), we are talking only of an inability on the part of parents to procrastinate. In (4), the inability to procrastinate can be attributed either to the parents or to the speaker:

5. I admire my parents for their inability to procrastinate

   *I admire my parents for my inability to procrastinate

6. I blame my parents for their inability to procras-

tinate

6. I blame my parents for my inability to procrastinate

With gerund objects of for, this contrast between admire and blame is reflected in obligatory vs. optional subject control.

7. I admire Gopal$_i$ for ___$_i$ daring to question the Guru

   ?I admire Gopal$_i$ for his$_i$ daring to question the Guru

   *I admire Gopal for Sanchi's daring to question the Guru

   *I admire Gopal for ___$_i$ daring to question the Guru

8. you can blame John$_i$ for ___$_i$ not getting out on time

   you$_i$ can blame John for ___$_i$ not getting out on time

   you can blame John$_i$ for his$_i$ not getting out on time

   you can blame John for your/Bill's not getting out on time

Nevertheless, even with blame, the matrix object is interpreted as Agent of the for-phrase. Thus, when the gerund

describes an Agent-controlled action, subject control must go to the object of blame. (Compare the scream-cases discussed in Chapter II, Appendix A.)

9. we blamed John$_i$ for ___$_i$ killing the pig
   *we$_i$ blamed John for ___$_i$ killing the pig

(This is, of course, exclusive of cases like, we blamed John for hurting ourselves, which have only the well-known "accidental" reading.)

The verb punish works like the verb admire. The subject of the gerund phrase is obligatorily controlled by the object of punish.

10. she punished Max$_i$ for ___$_i$ making a mess
    ?she punished Max$_i$ for his$_i$ making a mess
    *she punished Max for the dog's making a mess

The verbs compensate and pay are interesting in that they allow ambiguous control of the gerund phrase subject. Thus, there is a contrast between the case where pay takes a lower for-phrase complement, where there is a matrix Agent, and the case where pay takes a gerund for-phrase. Consider

11. Max paid me to waste my time
    Max paid me for wasting my time

12. Max compensated me for wasting my time

The control of the complement subject is unambiguously assigned to me on the lower for-phrase reading of the first sentence of (11), but in the second sentence, the subject of wasting my time can be either Max or me. It is possible that the sentence has different structures on each reading, but I am not positive about the status of the relevant data. If sentences like, Max paid me for fixing his gold watch for wasting my time or for wasting my time, Max paid me for fixing his gold watch are grammatical, then we can argue that the for-phrase is generated at a higher level in the matrix tree in the case where the subject of the gerund phrase is understood to be Max. It is quite possible that more than two levels of structure will be required to generate all the complement types. (See Williams (1971).) In the case of compensate, the analogous examples do not seem grammatical; for-phrases with gerund objects cannot be stacked: *Max compensated me for making the cookies for wasting my time; *for wasting my time, Max compensated me for making the cookies.)

Like rationale for-phrases with infinitive objects, gerundive for-phrases can function semantically as complements to modals. Compare:

13. the soldier punished his son for falling asleep on guard duty

14. the soldier had to punish his son for falling asl asleep on guard duty

The subject of the gerund phrase in (13) is uniquely interpreted as his son, in line with our previous observations. However, the complement subject in (14) is ambiguous; it can be understood as either the soldier or his son. On the reading where the soldier is understood as the subject of the gerund phrase, the for-phrase is interpreted as a complement to the modal. The modals which allow for gerund for-phrase complements are those which involve a sense of obligation: must, should, ought to, have to. The gerund for-phrase describes what motivates the obligation on the party of the matrix subject. Thus, in (14), falling asleep on guard duty incurs an obligation on the part of the soldier to punish his son. Observe that for-phrase complements to modals are generated higher in the matrix tree than the for-phrase complement to punish:

15. the soldier had to punish his son for playing hookey for falling asleep on guard duty

Notice that it is impossible to interpret the first for-phrase as the complement to the modal, which would allow the soldier to be understood as the subject of playing

hookey. Also, when an infinitival for-phrase is complement to the modal, the matrix subject cannot, of course, be the controller of the gerund phrase subject of the first for-phrase:

16. Judge Carswell had to punish the lady witness for perjuring herself
Judge Carswell had to punish the lady witness for perjuring himself
Judge Carswell had to punish the lady witness for perjuring herself to stay on the bench
*Judge Carswell had to punish the lady witness for perjuring himself to stay on the bench

The only way the last sentence of (16) can be grammatical is for the infinitive phrase to be interpreted as a rationale clause within the gerund phrase.

Finally, observe that with the verb get, the Goal NP is interpreted as understood subject of the gerund phrase, as in

17. Bill got the brush for cleaning the room so well
Bill got Mary the brush for cleaning the room so well

Similarly, with give, buy, etc.:

18. Bill gave Mary the brush for cleaning his room so well

    Bill bought Mary the brush for cleaning his room so well

In (17) and (18), the underlined NP's are the Goals, which are understood as the subjects of the gerund phrases. To be clear, the Goal is understood subject of the gerund phrase, when the matrix predicate is interpreted as a rewarding or punitive reaction to what is described in the for-phrase. Notice that in this sense, the Agent of buy, even when it is the matrix Goal, cannot control the gerund phrase subject:

19. #Bill bought the brush for cleaning his room so well

Compare this with:

20. Bill received the brush for cleaning his room so well

where Bill is Goal but not Agent. However, the gerund for-phrase can be understood as the motivation for some compensatory action on the part of the matrix Agent, in which case the matrix Agent subject does control the subject of the gerund phrase, as in

21. Bill gave Mary an ice cream cone for having wasted her time the day before

Bill bought Mary an ice cream cone for having wasted her time the day before

(I think the control is ambiguous in these examples.) The verb compensate allows for both construals of the motivational phrase (a rewarding for action on the part of the matrix Goal or compensation for some debt-incurring action on the part of the matrix Agent); hence, control is ambiguous. Once again, it is possible that the ambiguity of the sentences of (21) is structural, but clear evidence seems quite hard to find.

What all this shows is that, in the case of gerund for-phrases, the control of the complement subject is free but subject to the influence of various aspects of the interpretation of the relationship between the for-phrase and the matrix predicate. (At least from this point of view, sentences like John hit Bill for stealing grapes (See Note 5 of the first chapter) present no real problem for Williams' analysis. (Williams (1971)) The assignment of control of the subject of the gerund phrase works essentially like pronominalization, so that we would not expect it to be any more sensitive to the relative position of the for-phrase and the controlling NP than any other kind of pronominalization.)

As far as infinitival rationale clauses are concerned, excluding now the case where they are complements to a modal or to a conditional predicate, etc., the matrix predicate is interpreted as a volitional action on the part of the subject; the rationale clause describes the intention of that action and is semantically posterior to the matrix predicate; hence, the matrix subject is understood as an Agent with respect to the rationale clause. Thus, even when the matrix predicate is passive, it has to be interpreted as subject to the volition of the matrix subject with respect to the intention depicted in the rationale clause:

22. Sam was arrested in Dallas to make a name for himself

Most passive examples are, I think, dubious. (Note, incidentally, that the possibility of a volitional interpretation is an important difference between the construction seem + predicate and the construction seem + infinitive; for me, the sentence, Sam seemed cool to throw suspicion off himself is acceptable, while Sam seemed to be cool to throw suspicion off himself is not.

Compare the two constructions as complements to volitional verbs like try or appear: Sam tried to seem (*to be) cool, Sam appeared to seem (*to be) cool.

It is possible, however, to find interesting cases

where the subject of the rationale clause is not understood to be the matrix subject. In examples like

23. Kennedy was killed by certain unknown agents to prevent curtailment of the CIA's powers
    Tom was put in the driver's seat to confuse the police

the matrix subjects are not understood as Agents, and the subject of the rationale clause seems to be the matrix predicate itself:

24. Kennedy's being killed by certain unknown agents prevented curtailment of the CIA's powers
    Kennedy's being assasinated by unknown agents was to prevent curtailment of the CIA's powers
    Tom's being put in the driver's seat confused the police
    Tom's being put in the driver's seat was to confuse the police

(The second sentence of (23) has, of course, an objective clause reading which we can ignore.) Further, this kind of situation arises also in cases where the rationale clause is complement to a modal or a conditional predicate:

25. Oswald had to be arrested by the police to prevent suspicion from arising in the minds of the people it was necessary for Oswald to be arrested by the police to prevent suspicion from arising in the minds of the people

These facts need more thorough study.

FOOTNOTES

CHAPTER III

1. All of this is not to mention contrasts like

i. I bought the car for its bucket seats

ii. I took the car apart for its bucket seats

In (i), the bucket seats are understood as the attribute of the car that attracted the speaker and prompted the purchase. There is the possibility of understanding (i) in such a way that we infer that the speaker is interested only in the bucket seats, not in the whole car, and buys the car so that he can have access to them. This brings us closer to the way (ii) must be understood; in (ii), we understand that the action of taking the car apart is aimed at getting the bucket seats. Thus, while the object of <u>for</u> in a sentence like (i) can be anything designating a positive attribute, the motivating attribute in (ii) must involve a concrete object. Contrast:

iii. I bought the car for its bright color

iv. I bought the car for its smooth and easy ride

iv. *I took the car apart for its bright color

*I took the car apart for its smooth and easy ride

All of this, of course, goes to show that the factors influencing the interpretation in all these examples are numer-

ous and complicated in the way they interrelate and, for the most part, not readily subject to formalization.

2. Relevant judgments are not always clearcut. With a verb like buy, I judge semantically closed infinitive phrases as unacceptable objects of the purpose phrase (i.e., as unacceptable purpose clauses). That is, the rule of deletion or interpretation which applies in purpose clauses seems to be obligatory.

i. ?I bought this knife to hunt the snark with

ii. ?I bought this knife to hunt the snark

When the infinitive phrase has a lexically specified subject, the difference seems to me to be sharper:

iii. I bought this knife for Karin to hunt the snark with

iv. *I bought this knife for Karin to hunt the snark

(iv) seems to me acceptable only with a rationale clause interpretation. The matter is complicated by the fact that the verb use uniquely accepts infinitive phrases of both types:

v. I used this knife to hunt the snark with

vi. I used this knife to hunt the snark

I assume that the infinitive phrase in (vi) is not strictly speaking a purpose clause. (It would be nice if I could find a genuine ambiguity in the interpretation of non-clausal for-phrase complements to use which would correlate with this, but I haven't come up with anything convincing.) Note too that when purpose clauses figure in copular sentences, the infinitive phrase must be "open":

vii. this knife is to hunt snarks with
??this knife is to hunt the snark
this knife is for Bill to hunt the snark with
*this knife is for Bill to hunt the snark

I am inclined to take the most rigid position and claim that purpose clauses must be open sentences, which leaves me with the task of accounting for the difference between infinitive phrase objects and gerund phrase objects. (There is the further difference that infinitival purpose clauses can have lexically specified objects.) Notice (whether or not this has anything to do with the problem at hand) that there are a number of additional differences between gerunds and infinitive phrases. Compare, for instance:

viii. I chose this knife to hunt with
I chose this knife for hunting with
I chose this fox to hunt
??I chose this for hunting

In these examples, it seems odd for the object of choose to control the object of the gerund phrase, while there is no such oddity in the case of the infinitive phrase. Further, consider the contrast between ready on its objective (as opposed to subjective or psychological) interpretation, and ripe:

ix. the grass is ready for mowing
the grass is ready to mow
the grass is ripe for mowing
*the grass is ripe to mow

(See Note 14 of the last chapter.) With object-deletion, the infinitive phrase seems to carry an implication of some external influence on the state of the grass. This is seen in the difference between the two ready examples. Ripe, precluding such an implication, since it describes an inherent state, does not allow an infinitive complement. Actually, there are further complications, but such data indicate that there are subtle differences in the interpretation of gerunds and infinitive phrases in these contexts, and these may ultimately be seen to provide an explanation for the contrast between (21) and (22), on the one hand, and (i) and (ii) on the other.

3. There is an interesting argument to support our structural proposal for the gerunds that occur as objects of purpose for-phrases. We have seen that the Theme-controlled NP in infinitival purpose clauses can be generated in subject position as well as object position:

i. I bought the cat_i to catch mice with $\_\_\_i$

ii. I bought the cat_i $\_\_\_i$ to catch mice

We have also seen that a Theme-controlled NP can be generated in an object position in gerundive purpose phrases, as in

iii. I bought the cat_i for catching mice with $\_\_\_i$

Notice, however, that in the following example, the cat is not understood as the subject of the gerund:

iv. I bought the cat for catching mice

Consider these further examples:

v. Blind men_i use seeing-eye dogs $\_\_\_i$ to get themselves across the street

vi. Blind men_j use seeing-eye $dogs_i$ $\_\_\_i$ to get $them_j$ across the street

vii. Blind men use seeing-eye dogs for getting themselves across the street

viii. *Blind men$_i$ use seeing-eye dogs for getting them$_i$ across the street

The contrast between (vi) and (viii) shows that seeing-eye dogs is not the subject of the gerund in (viii). This contrast is explicable if the infinitive phrases are analyzed as sentences and the gerund phrases as VP's: There is no possibility of generating a Theme-controlled NP in subject position in the gerund phrases because there is no subject position.

Note that the reflexive themselves which is coreferential with blind men presents no problem here. The gerund phrase designates an activity which is engaged in by the NP which exercises control over the object of use, namely the matrix xubject. Thus, the subject of the sentence is designated as the Agent of the purpose phrase. In the case of purpose infinitives, this serves to determine a coreference relationship between the subject of the infinitive complement and the matrix Agent, but Agent-assignment is independent of complement subject interpretation, as we see from cases of indirect Agency. By contrast, for (viii) to be grammatical, there would have to be an empty subject position in the gerund phrase to serve as coreferent of the object of use, and the fact that (viii) is not grammatical shows, therefore, that there simply is no subject position.

4. Sentential gerunds do not have a factive interpretation in all contexts. In fact, the whole matter of the interpretation of sentential gerunds is very complicated and needs further study. Let me just mention one aspect of the problem which I find particularly fascinating. Consider the sentence

i. Penny talked about quitting her job

(i) is ambiguous; the gerund can be interpreted as hypothetical or as descriptive of an actual state of affairs; i.e., Penny can either be talking about the possibility or the fact of quitting her job. If the gerund has a specified subject, only the factive interpretation is possible:

ii. Penny talked about her/Sally's quitting her job

Now consider the following:

iii. Penny talked to Ray about quitting her job

iv. Penny talked to Ray about quitting his job

The gerund in (iii) has either a hypothetical or factive interpretation, while the gerund in (iv) has only a hypothetical interpretation. This is shown if we add a past time adverbial or the perfective aspect to bring out the actualized interpretation of the gerund:

v. Penny talked to Ray about quitting her job yesterday

vi. Penny talked to Ray about having quit her job (yesterday)

vi. *Penny talked to Ray about quitting his job yesterday

*Penny talked to Ray about having quit his job yesterday

(Of course, the perfective aspect is not in general incompatible with the hypothetical interpretation of the gerund, as can be seen from examples like, Penny talked to Ray about having gone to college before he would be forty. The exclusion of the hypothetical reading with the introduction of the perfective aspect depends on context, the particular verb at the head of the gerund, and the presence of certain adverbial modifiers.) Note further that a factive interpretation of the gerunds in (vi) is possible if we include specified subjects for the gerunds:

vii. Penny talked to Ray about his quitting his job yesterday

Penny talked to Ray about his having quit his job yesterday

Penny talked to Ray about their quitting their jobs yesterday

vii. Penny talked to Ray about their having quit their jobs yesterday

It seems to be the case, then, that in contexts like (v), the subject of the gerund is obligatorily controlled by Penny if the gerund has a factive interpretation. On the hypothetical reading of the gerund, control of the gerund subject is free, as (iii) and (iv) show. In fact, Penny and Ray can "share" control on this interpretation:

viii. Penny talked to Ray about quitting their jobs

(viii), of course, does not have a factive-gerund interpretation.

ix. *Penny talked to Ray about having quit their jobs yesterday

There is some indication that the facts we have just noted are representative of a more general phenomenon. Consider:

x. Ramsey Clark talked about a trek through the jungle to Hanoi

I want to focus attention on the interpretation of this sentence where the object of about is understood as descriptive of an already accomplished activity. On this reading, we can understand the sentence to mean that Ramsey Clark himself made the trek. There is another interpretation, on

which the object of about represents a hypothetical, unrealized, intended action which Clark is understood to be considering. These interpretations seem parallel to the interpretation of (i). Consider now the following:

xi. Ramsey Clark talked to reporters about a trek through the jungle to Hanoi

On the hypothetical reading of the object of about, Ramsey Clark can be understood to be proposing that he himself make the trek, or that the reporters make the trek, or that he and the reporters make the trek. However, on the interpretation where the about-phrase object is understood as a fait accompli, Ramsey Clark but not the reporters can be understood to have undertaken the trek. This is again parallel to the interpretation of the gerund phrases, as (v) and (vi) show.

Incidentally, in (x) and (xi) on both readings, there is also the possibility of interpreting the subject of trek as unspecified. This unspecified subject interpretation is not possible for the gerund phrases discussed above, and this contrast is precisely of the type analyzed by Wasow and Roeper in the paper cited above. That is, the possibility of the unspecified subject interpretation in (x) and (xi) is a function of the optionality of the subject position in NP's as opposed to the obligatoriness of the subject position

in sentential gerunds. We do, however, find sentences like, Penny talked (to Ray) about quitting one's job. But notice that the interpretation of the gerund in this example is distinct from the interpretation of the gerunds in (i), (iii), and (iv). The gerund here lacks the element of possibility and intentionality that is characteristic of the earlier examples. The sentence can be paraphrased roughly as, Penny talked (to Ray) about the business/ the matter of quitting one's job. On the Postal-Wasow-Roeper theory, we would derive the sentence from, Penny talked (to Ray) about one('s) quitting one's job. However, as I have suggested previously, such a derivation does not seem in tune with the semantics of the alleged variants. For example, consider the factive element in the interpretation of (xii).

xii. Penny talked (to Ray) about one's usually quitting one's job in this place after only three weeks
*Penny talked about usually quitting one's job in this place after only three weeks

Also, consider contrasts like, John talked about living high on the hog in Amsterdam vs. John talked about one's living high on the hog in Amsterdam. The subjectless gerunds in these cases describe abstract activities or experiences, while the gerunds with one as their subject describe actual

states of affairs. Thus, these particular subjectless gerunds are in a class by themselves and are, on our analysis, verbal gerunds with the internal structure of VP's. Observe that the contrast between (xii) and (xiii) strongly supports this analysis: Since usually is a sentential adverb, it is precluded from the VP-verbal gerund in (xiii). (As I recall, similar conclusions are reached in Williams (1971).) Incidentally, note the good, she talked about usually quitting her job after about only three weeks.

CHAPTER IV

REMARKS ON OBJECT DELETION

1. "Object deletion" and the internal structure of purpose clauses.

There are a number of reasons for analyzing purpose infinitives as sentential complements. For examples, we have seen that the entire infinitive phrase can serve as the postcopular focus constituent in pseudo-cleft and cleft sentences:

1. what he bought the piano for was <u>for Jane to practice on</u>
   it was <u>for Jane to practice on</u> that he bought the piano

Furthermore, the infinitive phrase, including the <u>for NP</u>, behaves as a semantic unit. Consider examples like the following:

2. a. he bought the piano more for Jane to practice on than for anything else
   b. *these problems were more difficult for the teachers to invent than for the students to solve
   c. he bought the piano especially for Jane to practice on

2. d. this problem was especially difficult for Bill to solve

In (2a), the terms of comparison or contrast are _for Jane to practice on_ and _for anything else_. This is possible because _for Jane to practice on_ is interpretable as a semantic unit. Note that this contrasts with (2b): In (2b), _for the teachers to invent_ and _for the students to solve_ are not permissable terms of comparison, because they are not semantic units. It has been argued by several linguists (including Joan Bresnan and Lasnik and Fiengo) that the _for NP VP_ sequence in a sentence such as (2b) must be analyzed as a dative _for_-PP followed by a VP rather than as a sentential complement. Since, on this analysis, there is no node which dominates the _for NP VP_ sequence exclusively, the analysis predicts that it cannot be interpreted as a semantic unit. This contrast also shows up in (2c, d). In (2c), _especially_ can modify the whole infinitive phrase inclusive of _for Jane_; otherwise put, the adverb _especially_ can modify the entire purpose clause, _for Jane to practice on_. By contrast, in (2d), _especially_ can modify either _for Bill_ or _to solve_, but not the sequence including both:

3. this problem was especially difficult _for Bill_ to solve -- but not so much for the rest of the class

3. this problem was especially difficult for Bill to solve, though he had very little trouble formulating it

   *this problem was especially difficult for Bill to solve, though not so much for his teacher to formulate

It appears that an adverb like especially, exclusively, principally, particularly, etc., can modify only semantic units. If we analyze the for NP VP sequence in the purpose clause example (2c) as a sentence, it will clearly function as a semantic unit, allowing the interpretation available in (2c), which is not available in (2d), where the for NP VP sequence, being analyzed as a PP VP sequence, does not function as a semantic unit.

We can approach this another way. Consider the following:

4. a. *I built this harpsichord more for Alice to practice on than for Bill

   b. these problems were more difficult for the teachers to solve than for the students

   c. *I built this harpsichord especially for Alice to practice on and not so much for Bill

   d. these problems were especially difficult for the teachers to solve, but not so much for the

4. d. students

(I use upper case letters to indicate contrastive stress.) In (4a) and (4c), the sequence for Alice cannot function as a term of contrast, whereas in (4b) and (4d), the sequence for the teachers can. (The judgments are not very clearcut.) This contrast is immediately accounted for if for Alice is not a constituent while for the teachers is analyzed as a PP. For Alice could be either a COMP NP sequence or Alice could be the subject of the sentential object for. (See below.) Then, only for the teachers is interpreted as a semantic unit and hence is a permissable term of contrast. The oddity of (4a, c) is analagous to the oddity of an example such as

5. *I wanted more for Bill to come than for Harry
   *I especially hoped for Bill to come, though not so much for Harry

where for Bill is a COMP NP sequence rather than a for-PP.

Another fact which testifies to the sentence hood of purpose clauses is that the subject of the purpose clause is one of the possible syntactic positions of the Theme-controlled NP, as in

6. I borrowed Fido$_i$ ___$_i$ to watch over my children for the afternoon

Given that purpose clauses are sentential complements, there would appear to be an immediate problem for any analysis that attempts to account for the anaphoric relationship in a sentence like (7) in terms of a rule which relates the two NP's by deletion or interpretation; i.e., a rule which crucially involves the controlling NP and the variable NP inside the purpose clause.

7. I bought the car_i for Sam to drive around in $\_\_\__i$

Any such rule would be in clear violation of Chomsky's (1973) Specified Subject Condition, since Sam is the specified syntactic subject of the purpose clause. The Specified Subject Condition (SSC) is stated in (8):

8. No rule can involve X, Y in the structure

   ... X ... [$_\alpha$ ... Z ... -WYV ...] ...

   where Z is the specified subject of WYV

Noam Chomsky (personal communication) has suggested to me that there would be no problem here if the structure of the for-phrase in (7) were analyzed as in (9).

9. I bought the car_i [$_{PP}$ for [$_{S_{red}}$ Sam to drive around in $\_\_\__i$]]

S_{red} is what Chomsky calls "reduced sentence", which figures in the base rules as follows:

10. $S \rightarrow COMP \quad S_{red}$

$S_{red} \rightarrow NP \quad AUX \quad VP$

.
.
.

Given that α in (8) is a cyclic category and that Chomsky's analysis assumes that S, rather than S_{red} is the domain of cyclic rules, it follows that the Specified Subject Condition does not apply in the case of (7) assuming (9) to be the correct structural analysis.[1,2]

Following Chomsky's suggestion, we hypothesize that PP can have the expansion indicated in (11).

11. $PP \rightarrow P \quad S_{red}$

Rule (11) provides the internal structure of purpose clauses and, presumably, of the for-phrase complements of adjectives like ready.[3]

The rest of this chapter will be devoted to remarks on other constructions that manifest complement object deletion. We will first consider tough-predicates and then move on to an analysis of too and enough constructions.

2. Remarks on tough-class predicates.

Interest in the tough-predicates began with the problem of accounting for the difference between:

1. John is easy to please

2. John is eager to please

John is the understood object of please in (1) but the understood subject of please in (2). The traditional generative analysis posits a movement rule which derives (1) from, it is easy to please John by promoting the object John to the position of matrix subject. Lasnik and Fiengo (1973) (henceforth L & F), who challenge the traditional movement analysis for (1), account for the difference as follows: (see their paper for a summary of the issues): (1) There is a rule of Object Deletion (OD) which deletes the objects of infinitive complements under identity with some NP in the matrix sentence. (2) OD is subject to the Specified Subject Condition -- more specifically, the 'strong' form of the condition, according to which the complement subject is specified unless it is controlled by the NP containing the term X in (8). (3) OD is obligatory in VP complements and optional in S complements. (4) Predicates like easy, hard, etc. take VP complements, a fact of subcategorization. (5) Eager takes a sentential complement, and OD, which is optional in this case, is prohibited from applying by the SSC. Consider the following examples:

3. John is easy for Max to live with

4. *John is eager for Max to live with

5. John is eager for there to be books about him

6. *John is easy for there to be books about him

7. *John is eager for there to be books about

8. *John is easy for there to be books about

(3) is grammatical; the complement of easy is interpreted as a PP VP sequence, and OD applies obligatorily into the VP complement. (4) is excluded, since eager takes a sentential complement, and the application of OD is prohibited by the SSC. (5) is perfectly good, with eager taking a sentential complement with no application of OD. (6) is excluded, since the application of There-Insertion requires a sentential analysis of the complement, while easy is subcategorized for a (PP) VP complement. (7) is out for the same reason as (4), and (8) is out both because the subcategorization of easy does not allow for a sentential complement and because the rule of OD has applied over a specified subject.

Given the analysis of for-phrases developed in this thesis, the deviance of (4) and (7) has an alternative description. Eager, like other psychological predicates, takes a for-phrase complement. It might therefore seem possible for (4) to be generated with the structure shown in (9).

9. John is eager $[_{PP}$ for $[_{S_{red}}$ Max to live with PRO]]

Given such a structure, the OD rule would not be blocked by the SSC. But recall that we argued in Chapter II that the applicability of the rule effecting OD is subject to conditions on the semantic relation between the controlling NP and the for-phrase. In the discussion of ready and related predicates, it was observed that psychological predicates do not mark a semantic relation between their subjects and for-phrase complements that correlates with the possibility of OD. Therefore, the application of the rule in (9) is blocked by semantic conditions, and (4) is out. Clearly, we cannot assign (3) a structure analogous to (9). Tough-predicates do not take for-phrase complements.[4]

There is a good deal of plausibility to the claim that the infinitive complements to tough-predicates that have missing objects are VP's rather than sentences. For instance, it has been shown in Bresnan (1971) that the following kind of sentence is ambiguous:

10. it would be good for John to play with Sally

(10) can be bracketed in two ways, as follows:

11. a. it would be good [for John] [to play with Sally]
    b. it would be good [for John to play with Sally]

In (11a), for John is a PP functioning as a dative complement to good, while in (11b), for John to play with Sally is a

sentential complement. The two possible readings of (10) are clearly distinguished in the two possible unextraposed versions of that sentence:

12. a. to play with Sally would be good for John
    b. for John to play with Sally would be good

As is well-known, good is one of the tough-predicates which allows a missing complement object, as in (13).

13. Sally would be good for John to play with ___

But, in this kind of example, the only possible bracketing is of the type where for John is a PP:

14. a. Sally would be good [for John] [to play with___]
    b. *Sally would be good [for John to play with___]

As evidence for this, consider the following: When good takes a sentential complement, as in (11b), it can also take a for-PP dative complement, as in (15).

15. it would be good - for the family - for John to play with Sally

Notice, however, that there is no grammatical "missing object" version of (15):

16. *Sally would be good for the family for John to play with___

The presence of the for-phrase for the family forces us to construe John as the syntactic subject of the infinitive complement; and, under these circumstances, the hypothetical object-deletion or object-promotion rule is prohibited from applying.

Further, note that the object of the for-PP dative complement of good is restricted to nouns that can be animately conceived. Thus, in a sentence like

17. it would be good for the chalk to stick to the blackboard

we would normally construe the chalk as the syntactic subject of the infinitive phrase:

18. a. for the chalk to stick to the blackboard would be good

b. *to stick to the blackboard would be good for the chalk

(Compare (18b) with, to stick to the point would be good for John.) Observe now that (19) is odd in exactly the same way as (18b).

19. *the blackboard would be good for the chalk to stick to ___

This fact shows that, as in (18b), for the chalk is analyzed as a dative for-PP complement in (19). The oddness of these examples is due to the fact that the chalk does not satisfy the selectional restrictions on the object of the dative for-PP.

It would be plausible at this point to follow Bresnan and suggest that the transformation operates only into VP complements and, therefore, that the infinitive phrase in (13) is a VP rather than an S:

20. Sally would be good [$_{PP}$ for John] [$_{VP}$ to play with ___]

However, there is clearly at this point an alternative. Notice that our evidence really shows only that when the object of the infinitive complement of a tough-predicate is missing, a for NP sequence appearing after the adjective head must be construed as a dative for-PP complement rather than as a complementizer followed by the syntactic subject of the infinitive. One could propose that the infinitive phrase to play with in (13) is a sentence with a syntactically empty subject (interpreted as coreferential with the object of the dative for-PP) and formulate the object-deletion or object-promotion rule so that it will block if the subject of the infinitive phrase is filled. To illustrate, we could formulate OD roughly as follows:

21. NP Pred (PP) V* (P) NP

1 2 3 4 5 6 $\rightarrow$ 1 2 3 4 5 $\emptyset$

In (21), V* represents an arbitrarily long string of verbs (see Bresnan (1971:266, 276)). Note that (14b) and (16) do not satisfy the structural description of the rule (21) and are consequently excluded. Suppose we analyze (13) as follows:

22. Sally would be good for John [$_S$ for PRO [$_{VP}$ to play with NP]]

Notice that (22) could satisfy the structural description of (21), if we assume that Equi deletes COMP NP and that it is ordered before OD. However, assuming a rule like OD or Bresnan's Object Shift (an object-promotion alternative), the application of (21) in (22) would still be blocked by the strong form of the SSC, because Sally, the antecedent of the object of with, does not control the complement subject. (Incidentally, the assumption that Equi would apply before OD is natural if the complement structure of good is dominated by the AP node and the AP node is cyclic.)

There are certain facts which may indicate that a promotion rule rather than a deletion rule is involved, contrary to L & F's claims. On p. 24 of their paper, L & F contrast the examples

23. a. *prime numbers are easy to prove Euclid's theorems about

b. prime numbers are easy to prove theorems about

The contrast between these examples is supposed to illustrate the workings of the Specified Subject Condition: QD is blocked in (23a) because the NP containing the object to be deleted has a specified subject, Euclid. But clearly this misses the point. Observe that in (23b), prove theorems must be analyzed as a phrase, equivalent to theorize.

24. prime numbers are easy to [prove theorems] about

prime numbers are easy to theorize about

(23b) cannot paraphrase, theorems about prime numbers are easy to prove; i.e., it cannot have the structure indicated in (25).

25. *prime numbers are easy to prove [theorems about]

Note that if we substitute for prove a verb that cannot form a phrase with theorems, the sentence is ungrammatical.

26. a. *prime numbers are easy to comprehend theorems about

b. theorems about prime numbers are easy to comprehend

Consider further the differences between the a- and b-examples of (27) and (28).

27. a. Bill is hard to take pictures of
    b. *Bill is hard to look at pictures of
28. a. this topic would be difficult to write a book about
    b. *this topic would be difficult to read a book about

Take pictures and write a book are taken as phrases in (27a) and (28a) respectively, while look at pictures and read a book in (27b) and (28b) cannot be taken as phrases.

29. a. Bill is hard to [take pictures] of
    b. *Bill is hard to look at [pictures of]
30. a. this topic would be difficult to [write a book] about
    b. *this topic would be difficult to read [a book about]

The data indicate that the rule involved here is subject to the A-over-A condition. We would consequently not need to appeal to the SSC to account for the ungrammaticality of (23a). This observation would seem to favor a movement rule over a deletion rule. For example, if, corresponding to (29b), we had the underlying form,

31. $Bill_i$ be hard $[_{VP}$ to look at $[_{NP}$ pictures of $[_{NP}$ $Bill_i]]]$

assuming a deletion analysis, the most inclusive NP inside the VP complement to which the rule could apply is the object of pictures of. Thus, the A-over-A Condition would not block the application of the deletion rule, predicting that (29b) should be grammatical.

On the other hand, on a movement alternative, the underlying form corresponding to (29b) would be (32).

32. be hard $[_{VP}$ to look at $[_{NP}$ pictures of $[_{NP}$ Bill]]]

The most inclusive NP to which the movement rule can apply in (32) would be pictures of Bill. Therefore, from (32), only (33) would be generated, and (29b) would be excluded.

33. pictures of Bill are hard to look at

The evaluation of this argument is complicated by the fact that the relevant observations are related to facts about the distribution of indefinites like someone, something. For example, compare the a- and b-examples of (34) and (35).

34. a. he was working through (Euclid's) proofs about triangles

    b. *he was working through (Euclid's) proofs about something

35. a. he was proving theorems about triangles

    b. he was proving theorems about something

The examples indicate that when the about-phrase forms a phrase with proofs, the object of about cannot be unstressed indefinite something. Notice that in (35b), proving theorems must be a phrase. Compare, *he was memorizing theorems about something.

A proponent of the deletion alternative for tough-predicates could argue that the deleted object is PRO in underlying structure and that the distribution of PRO is tied to the distribution of indefinites like someone, something. In this case, (31) would be revised to (36).

36. Bill be hard [$_{VP}$ to look at [$_{NP}$ pictures of PRO]]

The deletion rule would make PRO coreferential with the subject of hard and delete it. The ungrammaticality of (29b) on this alternative would be accounted for in terms of constraints on the distribution of PRO related to constraints on the distribution of indefinites like someone, something.[5]

(See Oehrle (1974) for relevant discussion.)

3. Too and enough constructions.

At this point, I would like to turn our attention to too and enough constructions, with the aim of attempting to determine whether or not the infinitive complements to these degree modifiers are sentential. Notice that too and enough are subcategorized for for-phrase complements.

1. this music is too slow for modern dancing
   Nixon is too right-wing for my vote
   Fifi was not good enough for first prize
   he's too short for a Watusi
   the dean considered her intelligent enough for a full scholarship

This raises the possibility that the infinitive complements to these detree modifiers are for-phrases with reduced sentential objects. (See rule (11) of section one.)

Let's consider the nature of the rule effecting object "deletion". Consider the following examples.

2. the statue$_i$ was too small ___$_i$ to attract attention
3. the statue$_i$ was too small for anyone to notice ___$_i$

It has been proposed that the deletion rule operating in (2) is distinct from the one operating in (3): for (2), there

would be a rule of Equi-NP deletion deleting the subject of the infinitive complement under identity with the subject of the matrix sentence, while for (3), the object of notice would be deleted by a rule of OD, as in the analysis outlined by L & F. The distinctness of the two rules is observable from the fact that OD operates only when the degree modifier modifies a predicative, while the Equi rule is indifferent to whether the degree modifier modifies a predicative, an adverb, or a bare Q like much. (Cf. Bresnan 1972).

4. the statue$_i$ was too obviously obscene ___$_i$ to attract attention
5. *the statue$_i$ was too obviously obscene for anyone to take notice of ___$_i$
6. Mary$_i$ runs too fast ___$_i$ to see what's happening around her
7. *Mary$_i$ runs too fast for me to keep up with ___$_i$
8. Homer$_i$ eats too much ___$_i$ to lose any weight
9. *Homer$_i$ eats too much for Jim to keep up with ___$_i$

Notice that for (5), (7), and (9), if we have full pronouns instead of the deletion sites, the sentences are grammatical.

10. the statue$_i$ was too obviously obscene for anyone to take notice of it$_i$

11. Mary$_i$ runs too fast for me to keep up with her$_i$
12. Homer$_i$ eats too much for Jim to keep up with him$_i$
13.

Also, with regard to (7), if fast is an adjective, OD is possible:

13. when it comes to running, Mary$_i$ is too fast for me to keep up with ___$_i$

While these observations are correct as far as they go, the facts are actually slightly more complicated. The problem is that, in the examples considered above, the subject of the AP is the subject of the matrix sentence. In sentences where the subject of the AP is a constituent of the VP, additional relevant observations come to light.

14. Mary made the statue$_i$ too small ___$_i$ to attract attention
15. Mary$_i$ made the statue too small ___$_i$ to attract attention
16. Mary made the statue$_i$ too small for anyone to take notice of ___$_i$
17. *Mary$_i$ made the statue too small for anyone to take notice of ___$_i$
18. Mary$_i$ made the statue too small for anyone to notice her$_i$

From (14) and (15), we see that there are two possibilities for the deletion of the complement subject: It can be controlled either by the subject of the AP or by the subject of the matrix sentence. Further, if OD applies, neither the subject of the AP nor the subject of the matrix sentence can control the complement subject. In the sentence,

19. Mary made the statue$_i$ too small to notice ___$_i$

the subject of the infinitive is unspecified. If OD does not apply, the subject of the infinitive can be controlled by the matrix subject, as in

20. Mary$_i$ made the statue$_j$ too small ___$_i$ to notice it$_j$

These examples point up a difference between too and enough constructions and tough-predicate constructions: only in the former is it possible for the subject of the AP to control the complement subject. Corresponding to (2) and (14), we do not find any sentences like

21. *the statue$_i$ is hard ___$_i$ to attract attention
*Mary made the statue$_i$ hard ___$_i$ to attract attention

In accounting for this, we could adopt L & F's suggestion that there are two alternative subcategorizations for too and enough. That is, they can take full sentential comple-

ments or (PP) (VP complements. When the complement is sentential, we have complement subject deletion, as in (2), (4), (6), (8), (14), and (20). When the complement has a (PP) VP structure, we get complement object deletion (OD). For tough-predicate constructions, only the latter type of subcategorization is available. Hence, only OD is possible.

Now notice that there seems to be a generalization concerning the deletion of the complement subject and the deletion of the complement object in too and enough constructions. We saw above that OD could not apply if too and enough did not modify a predicative. Thus, (22a) is impossible.

22. a. *Mary made the statue$_i$ too slowly for anyone to notice ___$_i$
    b. Mary made the statue$_i$ too slowly for anyone to notice it$_i$

But it is significant that the statue is also prohibited from controlling the complement subject as well, when too does not modify a predicative. Thus, compare (14) and (15) with

23. *Mary made the statue$_i$ too slowly ___$_i$ to attract attention

24. $Mary_i$ made the statue too slowly $\_\_\__i$ to attract attention

Quite clearly, then, the subject of the AP can control either the subject or the object of the complement of too and enough. That is, when the infinitive complement is part of a predicative expression, the complement subject or object is controlled by the NP which is the subject of the predicative expression. (22a) and (23) do not work because Adverbial Phrases are not predicative. (24) is grammatical because there is an Equi rule which assigns control of the complement subject to the matrix subject. This Equi rule operates when the infinitive complement is not part of the predicative expression, as in (15) and (20). It does not operate in (19) because the infinitive phrase of that example is part of the predicative expression.[6]

In the light of these facts, it would seem plausible to consider an alternative to L & F's proposal. The generalization noted between complement subject deletion and complement object deletion can be accounted for if it is assumed that when the infinitive complement is part of the predicative expression, it has the internal structure given by rule (11) of the first section. On this analysis, the structures of (14) and (16) would be as given in (25) and (26), respectively.

25. Mary made the statue$_i$ too small [$_{PP}$ for [$_{S_{red}}$ ___$_i$ to attract attention]]

26. Mary made the statue$_i$ too small [$_{PP}$ for [$_{S_{red}}$ anyone to take notice of ___$_i$]]

An obligatory rule of pronominalization makes the subject of the predicative expression coreferential with the subject of the complement in (25), and with the object of the complement in (26). Given such an analysis, the application of this rule in (26) would not violate the SSC.

The two major arguments that L & F adduce against a sentential analysis for such complements involve the fact that two transformations, Passive and There-Insertion, which operate only on sentences, are prohibited from applying to the complements of too and enough if OD applies. Thus, the following examples are ungrammatical:

27. *John is not famous enough for there to be a book about ___

28. *John is too disoriented for the parade to be led by ___

It is not at all clear, however, that the unacceptability of such examples is due to syntactic violations. For example, as Roger Higgins pointed out to me, examples like the first sentence of (27) must be excluded even if There-Insertion does not apply:

28. *John is not famous enough for a book to be about

Or consider pairs like the following:

29. a. *this garden is not big enough for there to be people in
    b. *this garden is not big enough for people to be in

(29b) is out, even though for people qualifies as a dative for-phrase, since its object is animate.

It seems, in fact, quite likely that sentences like those in (27)-(29) are to be excluded on semantic grounds. Purpose clauses in many cases manifest the same resistance to There-Insertion:

30. a. I wrote this play for Kazin to review
    b. *I wrote this play for there to be reviews of
31. a. I bought this cottage for my guests to stay in
    b. *I bought this cottage for there to be guests in

Note, however, that certain verbs like pick and choose do allow There-Insertion complements:

32. I chose this play for there to be review of
    I picked this topic for there to be debates about

Much the same situation holds for Passive. Sentences like the following are not acceptable:

33. *Socrates is intelligent enough for us to be convinced by
*the police are too stupid for Bonnie to be captured by
*this music is too cacaphonous for me to be put to sleep by

However, it is possible to find passive examples of OD complements to <u>too</u> and <u>enough</u>.

34. this word is too short for the stress to be placed on
this stuff is not nutritious enough for a baby to be weaned on

Such examples as in (34) seem quite acceptable.[7]

Concerning purpose clauses, there are many cases where a passive infinitive complement is not acceptable, depending on the matrix verb, the content of the infinitive phrase, etc. While (35b) is out, (36b) seems perfectly acceptable:

35. a. we needed $Bill_i$ $\_\_\__i$ to lead the parade
b. *we needed $Bill_i$ for the parade to be led by $\_\_\__i$

36. a. we chose $Bill_i$ $\_\_\__i$ to lead the parade

    b. we chose $Bill_i$ for the parade to be led by $\_\_\__i$

As we saw with There-Insertion, choose imposes fewer restrictions on its purpose clause complements than other matrix verbs. Verbs that take purpose clause complements impose different restrictions on the functional role that the purpose clause can characterize. For instance, the object of use cannot control the object of the complement, but the object of buy can:

37. a. I used these $glasses_i$ to read with $\_\_\__i$

    b. I bought these $glasses_i$ to read with $\_\_\__i$

38. a. *I used this $novel_i$ to read $\_\_\__i$ on the train

    b. I bought this $novel_i$ to read $\_\_\__i$ on the train

It seems to me that (38a) is unacceptable simply because it is not proper to speak of a novel as being used in the act of reading when it is being read. On the other hand, when one reads with a pair of glasses, it is perfectly proper to speak of using the glasses in the act of reading.

Returning for a moment to There-Insertion, notice that There-Insertion complements are compatible with eager (the predicate that L & F contrast with the tough-predicates) but often not with ready. Compare:

39. a. I am eager for there to be books about me
    b. ?I am ready for there to be books about me
40. a. I am eager for there to be guests in my home
    b. *I am ready for there to be guests in my home

The contrasts in (39) and (4)) do not involve object deletion at all. Passive complements contrast with ready and eager in a similar way:

41. a. I am eager for John to be arrested by the police
    b. ?I am ready for John to be arrested by the police

The following, however, seem equally good:

42. a. I am eager for my film to be shown on television
    b. I am ready for my film to be shown on television

Thus it seems clear that There-Insertion and Passive can interact in (sometimes subtle) ways with the interpretation of the complement to diminish acceptability. It seems likely that the violations represented in (27) and (33) are of this type. The fact that judgments in this area are often so delicate and change with the lexical content of the infinitive complement suggests that the violations are not of a general structural sort, as L & F's OD analysis claims.

We are led now to consider the question whether there are any arguments in favor of analyzing OD complements of

too and enough as sentential. Certain facts indicate that the for NP sequence of the OD complements of too and enough do not behave as dative for-PP's. For example in tough-predicate constructions, the for-PP is semantically a dative complement and its object NP is limited to NP's which can be animately conceived. However, there is no such restriction in the case of too and enough. Thus, consider the following examples:

43. a. the surface was not porous enough for the chalk to adhere to
    b. the salt crystals were too large for the water to break down
    c. the liquid was too viscous for the sponge to absorb
44. a. *the surface would not be easy for the chalk to adhere to
    b. *the salt crystals would be useful for the water to break down
    c. *the liquid would be dangerous for the sponge to absorb

Naturally, for those tough-predicates which are also subcategorized for sentential infinitive complements, there is no animacy restriction on the complement subject NP:

45. a. it would be useful for the water to break down these crystals
    b. it would be dangerous for the sponge to absorb this liquid

Furthermore, if the underlined NP's in (44) are replaced by animates, the sentences analogous to (44) become grammatical, and the ones analogous to (45) become ambiguous:

46. a. this surface would not be easy for a fly to stick to
    b. these substances would be useful for the liver to break down
    c. this chemical would be dangerous for the cells to absorb
47. a. it would be useful for the liver to break down these substances
        1. to break down these substances would be useful for the liver
        2. for the liver to break down these substances would be useful
    b. it would be dangerous for the cells to absorb this chemical
        1. to absorb this chemical would be dangerous for the cells
        2. for the cells to absorb this chemical would be dangerous

Second, as we observed before, contrary to what L & F suggest, it is possible to find some examples of passive constructions in OD complements of too and enough where, moreover, the sentences are synonymous with their active counterparts.

48. a. this product is not nutritious enough for a baby to be weaned on
    b. this product is not nutritious enough to wean a baby on
49. a. this word is too short for the stress to be placed on
    b. this word is too short to place the stress on

Compare these examples with ones like the following.

50. a. it could be dangerous to wean a baby on this product
    b. it could be dangerous for a baby to be weaned on this product

The sentences of (50) are synonymous only when the complement of (50b) is construed as a sentence. If for a baby is analyzed as a PP complement, there is a direct implication of danger to the baby, which is lacking in (50a). Thus, the facts indicate that active/passive synonymy holds only if a baby is taken to be the syntactic subject of be weaned on.

Since this is not possible in the OD analog to (50b), we would predict that (51b) is not synonymous with (51a), the OD analog to (50a). This prediction is, in fact, correct.

51. a. this product could be dangerous to wean a baby on ___

b. this product could be dangerous for a baby to be weaned on ___

Since in (51b), for a baby must be construed as a dative complement, we infer that there is danger for the baby itself. There is no such inference from (51a). From these considerations, we conclude that the active/passive synonymy of the examples in (48) and (49) indicates that the for NP sequences are not dative complements.

One further argument has to do with the distribution of unstressed indefinite someone, anyone. Some of the tough-predicates are affective, in Klima's sense (Klima (1964)); they allow for unstressed any in their infinitive complements.

52. it would be hard to force anyone to come
it would be hard to force someone to come

53. it would be dangerous to force anyone to come
it would be dangerous to force someone to come

The sentences of (52) and the sentences of (53) are equally

good, but different in meaning.

These predicates do not allow for the presence of anyone as the object of their dative for-PP complements.

54. a. it would be hard for someone to force Bill to come

    b. *it would be hard for anyone to force Bill to come

55. a. it would be dangerous for someone to force Bill to come

    b. it would be dangerous for anyone to force Bill to come

Since hard does not take a sentential complement, (54b) is ungrammatical and (54a) is unambiguous. On the other hand, (55b) is acceptable if anyone is taken as the syntactic subject of the infinitive phrase, since dangerous can take sentential complements.

56. a. *for anyone to force Bill to come would be hard
    *to force Bill to come would be hard for anyone

    b. for anyone to force Bill to come would be dangerous
    *to force Bill to come would be dangerous for anyone

(55a) seems to me to be ambiguous; someone can be construed

as the object of the preposition for, or as the syntactic subject of the infinitive phrase. The distributional pattern for unstressed someone, anyone is shown in the following examples.

57. a. it would be [hard for someone] to adhere to such a diet consistently
    b. *it would be [hard for anyone] to adhere to such a diet consistently
58. a. it would be [dangerous for someone] to contract this disease
    b. *it would be [dangerous for anyone] to contract this disease
    c. it would be dangerous [for someone to contract this disease]
    d. it would be dangerous [for anyone to contract this disease]
59. a. this diet would be [hard for someone] to adhere to consistently
    b. *this diet would be [hard for anyone] to adhere to consistently
60. a. this disease would be [dangerous for someone] to contract
    b. *this disease would be [dangerous for anyone] to contract

In conclusion, the relevant observation is that the affective tough-predicates allow for the occurrence of unstressed anyone only within the infinitive complement. In particular, anyone in the above examples must be analyzed as the syntactic subject of the sentential infinitive complement and not as the object of a dative for-PP.

Now, observe that too (but not enough) is also affective:

61. a. he's too cheap to carry some/any money
    b. he's smart enough to carry some/*any money

Notice that unstressed anyone can occur after for in too-constructions:

62. a. the statue was too small for anyone to notice
    b. the problem was too intricate for anyone to solve
    c. *the problem was simple enough for anyone to solve

On the basis of the distributional facts that we have observed above, the data of (62) argue that anyone is the syntactic subject of the infinitive complement of too. Notice that if we postpose the for NP in such examples, forcing a PP analysis, the resulting sentences are ungrammatical. (I do not mean to imply that there is any postposing transformation

at work here.)

63. a. *the statue was too small to notice, for anyone
    b. *the problem was too intricate to solve, for anyone

To make the examples of (63) acceptable, we would have to add another affective element to allow for anyone as the object of for:

64. a. the statue wasn't too small to notice, for anyone
    b. the problem wasn't too intricate to solve, for anyone
    c. it was surprising that the problem was too intricate to solve, for anyone

In conclusion, the data examined above seem to indicate that too can take a (reduced) sentential for-phrase complement when the complement has a missing object.

FOOTNOTES

CHAPTER IV

1. I had been assuming that the underlying structure of (7) was

i. I bought the car_i [$_{PP}$ for [$_S$ Sam to drive around in $\_\_\_i$]]

with the preposition <u>for</u> being ultimately deleted (see Bresnan (1972)). The only reason for this assumption was that a full sentence complement appeared to show up in the pseudo-cleft sentence, <u>what I bought the car for was for Sam to drive around in</u>. But Chomsky pointed out to me the acceptability of such a pseudo-cleft sentence as, <u>what I bought the car for was for pleasure trips</u>, with a <u>for</u>-phrase in focus position. (Compare, <u>what I bought the car for was pleasure trips</u>.) Thus, it would seem possible to analyze the infinitive phrase in focus position as a full <u>for</u>-phrase rather than a simple sentential complement. Therefore, pseudo-cleft sentences provide no argument against the structural analysis in (9).

2. Gilbert Harman (personal communication) pointed out a possible problem with this suggestion. If a purpose clause has the structure indicated in (9), the application of the

rule of Each-Insertion into purpose clauses should not be blocked. But consider:

i. a. John and Bill each bought a few of Sam's books for Sally to read to the other

b. *John and Bill bought a few of Sam's books for Sally to read to each other

Clearly, (ib) cannot be derived from (ia). The ungrammaticality of (ib) indicates that the SSC applies to movement into purpose clauses and, therefore, that (9) is not the correct structural description of (7).

This argument is dubious, however. Compare (iia) and (iib).

ii. a. John and Bill each bought a few of Sam's books to read to the other

b. John and Bill bought a few of Sam's books to read to each other

These two sentences are quite distinct in meaning, and it is highly doubtful that (iib) is derived from (iia). If this is so Each-Insertion must be prohibited from applying into purpose clauses independently of the SSC. Therefore, the ungrammaticality of (ib) does not provide evidence against (9).

3. Furthermore, because of our observations about gerunds in Chapter III, we will require the rules

i. PP → P NP

ii. NP → VP

to provide the internal structure of gerundive purpose _for_-phrases, as in

iii. John bought it for hunting snarks with

which would be analyzed as

iv. John bought it $[_{PP}$ for $[_{NP}$ $[_{VP}$ hunting snarks with]]]

4. Consider in contrast what I will call _evaluative predicates_. Evaluative predicates are a class of predicates (including some of the _tough_-predicates) which exhibit "object deletion" in their complements but which enter into constructions which are formally distinct from _tough_-predicate constructions. Some examples are _good_, _appropriate_, _acceptable_, and _useful_.

i. this gift$_i$ wouldn't be acceptable for a man to give ___$_i$ to a woman

ii. such music$_i$ only seems good for teeny-boppers to dance to ___$_i$

iii. these toys$_i$ are useful for exhausted parents to keep their children amused with ___$_i$

Evaluative predicates are subcategorized for <u>for</u>-phrase complements.

iv. this gift wouldn't be acceptable for a bar mitzvah

v. such music only seems good for slow dances

vi. these toys are useful for educational purposes

Observe the similarity in interpretation of these <u>for</u>-phrases and purpose <u>for</u>-phrases.

vii. I purchased this gift for the bar mitzvah

viii. this music was only intended for slow dances

ix. the manufacturer designed these toys for educational purposes

Compare the following with (i-iii):

x. such things$_i$ were meant for men to give ___$_i$ to women

xi. I bought this new record$_i$ for all of us to dance to ___$_i$

xii. we borrowed our neighbor's toys$_i$ to keep our children amused with ___$_i$

It seems, then, that the infinitive complements in (i-iii) are interpreted as purpose clauses, like the complements in (x-xii). Semantically, evaluative predicates evaluate their subjects with respect to the purpose or function depicted by the for-phrase complement:

xiii. aspirin is good for arthritis
doctors often prescribe aspirin for arthritis
aspirin is often used for arthritis
aspirin is for arthritis

xiv. such an instrument is not appropriate to play classical music on
she bought this expensive instrument to play classical music on
this instrument has never been used to play classical music on

These considerations indicate that the proper structural analysis for a sentence like (i) is roughly as given below.

xv. this gift$_i$ wouldn't be [$_{ADJ}$ acceptable]
[$_{PP}$ for [$_{S_{red}}$ a man to give ___$_i$ to a woman]]

Note that in many cases (acceptable seems to be an exception), the purpose clause complement of the evaluative predicate can be pseudo-clefted:

xvi. what this kind of music is good for is for teeny-boppers to dance to
what these toys are useful for is for exhausted parents to keep their children amused with

Also, as we would expect, there are cases where the subject of the evaluative predicate controls the complement subject:

xvii. John$_i$ was not deemed acceptable ___$_i$ to lead the parade
aspirin$_i$ is useful ___$_i$ to reduce pain and swelling
marijuana$_i$ is good ___$_i$ to ease nervous tension

In addition, the for-phrase complements of evaluative predicates can be gerundive, as in

xviii. chanters$_i$ are useful for practicing on ___$_i$
ovens$_i$ are good for baking cakes in ___$_i$
this refrigerator$_i$ isn't fit for keeping fresh food in ___$_i$

Thus, evaluative predicate constructions provide us with a further example of "object deletion" into reduced sentential complements. The OD rule operates obligatorily, as with purpose clauses.

xix. *this gift$_i$ wouldn't be appropriate for a guy to give it$_i$ to a girl

*such music$_i$ only seems good for teeny-boppers to dance to it$_i$

*these toys$_i$ are useful to keep children amused with them$_i$

Observe that a sentence like, this music is good for people to dance to, is ambiguous between a tough-predicate and evaluative-predicate interpretation:

xx. a. this music is good [$_{PP}$ for people] [$_{VP}$ to dance to ___]

b. this music is good [$_{PP}$ for [$_{S_{red}}$ people to dance to ___]]

The pseudo-cleft sentence, what this music is good for is for people to dance to isolates the evaluative-predicate reading.

5. Notice that while, *he was looking at Bill's pictures of someone is impossible, he was looking at pictures of someone (where pictures of someone is a phrase) is as acceptable as, he was taking pictures of someone. It would seem, then, that the ungrammaticality of sentences like, *Bill is fun to look at pictures of cannot be accounted for in terms of the distri-

bution of indefinites. However, such cases seem to be isolated.

6. It is possible that the fact that the subject of the infinitive in (19) is interpreted as unspecified will require that the infinitive phrase be analyzed as a VP. That is, it is possible that the structure of (19) is, underlyingly,

i. Mary made the statue$_i$ too small [$_{PP}$ for [$_{VP}$ to notice ___$_i$]]

rather than

ii. Mary made the statue$_i$ too small [$_{PP}$ for [$_{S_{red}}$ Δ to notice ___$_i$]]

with Δ interpreted as unspecified. What is at issue here is whether or not there is a rule that would interpret Δ as unspecified in the context provided in (ii).

7. L & F argue that the complement of <u>try</u> must be a VP rather than an S, since, on their analysis, OD is prohibited from applying into sentences and yet examples like (i) are grammatical:

i. the problem was too intricate for John to try to solve ___

However, it is well known that try can have passive complements as in, I tried to be arrested by the police. Thus, if try takes a VP complement, Passive is not restricted to sentences and L & F's argument is vitiated. Otherwise, try must take sentential complements, and their entire OD analysis is flawed.

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