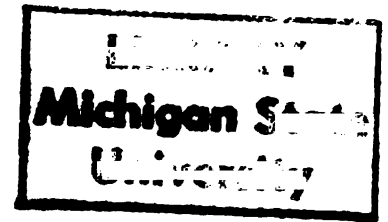


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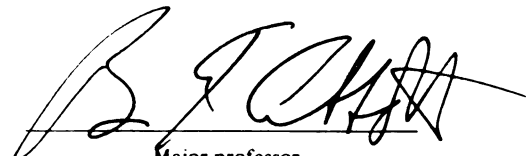
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DETERMINERS AND RELATIVE CLAUSES IN ENGLISH

By

Pi-fen Liu Chen

A THESIS

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

MASTER OF ARTS

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ABSTRACT

DETERMINERS AND RELATIVE CLAUSES IN ENGLISH

By

Pi-fen Liu Chen

This thesis discusses determiners and relative clauses in English. First, it presents syntactic, semantic and pragmatic properties of restrictive and non-restrictive (appositive) relative clauses in English. Second, it discusses interactions of articles as head NP determiners with relative clauses. It is argued that (contrary to standard analyses) NP's of the form "a/an X which Y's" do not presuppose that there is more than one X which Y's. Even if there is only one X which Y's, we still can use a/an to introduce the new referent. This thesis presents a hearer-oriented psychological analysis of articles with relative clauses. When there is only one X which Y's, the choice between a/an and the depends essentially upon the hearer's "familiarity" with the referent denoted by the whole NP. Finally, this thesis presents a unified semantic explanation for the co-occurrence of head NP determiners with restrictive/appositive relative clauses.

Dedicated to
My husband, Tung-jung, and
My daughters, Shih-wen and Hsiao-wen

ACKNOWLEDGEMENTS

First of all I wish to thank Dr. Barbara Abbott, my thesis director, for her illuminating instruction, constant encouragement, and invaluable comments. It was she who initiated me into the realm of linguistics and who kindly lent me her books related to my topic. During the whole process of my writing this thesis, she has shown untiring patience to render her help, answer my queries, challenge my viewpoints, and modify my observations. To her I owe my deepest indebtedness.

Two other members in my advisory committee deserve my special gratitude, too. I have greatly benefited from Professor Ruth Brend's careful editorship and valuable suggestions and from Professor James Wang's generous support and encouraging remarks.

To those who answered my questionnaire I should also like to express my heartfelt thanks. Last but not the least, I am deeply grateful to Professor Carol Scotton for giving me an article pertinent to my topic and for her insightful comments on my questionnaire.

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INTRODUCTION

As a student of the English language, I have always been puzzled and intrigued by the semantic differences among sentences like the following two pairs:

- (1)a. A linguist whom I met downtown last night
is giving a lecture today.
- b. A linguist, whom I met downtown last night,
is giving a lecture today.
- (2)a. The linguist whom I met downtown last night
is giving a lecture today.
- b. The linguist, whom I met downtown last night,
is giving a lecture today.

Both the (a) sentences contain a restrictive relative clause and both the (b) sentences, a non-restrictive (appositive) relative clause. How are the two types of relative clauses different from each other? The main contrast between (1) and (2) is the articles of the head NP's of the relative clauses. The use of English articles is one of the trickiest areas for second language learners. Both the definite and the indefinite article can co-occur with both types of relative clauses. How do the above four sentences differ from one another? When do we use the and when do we use a(n)?

The interaction of articles with restrictive and appositive relative clauses is one type of problem I would like to look into in this thesis. Another type of problem that

interests me is the restrictions on the co-occurrence of head NP determiners and relative clauses. Certain determiners can co-occur with only one type of relative clause. For example:

- (3)a. {Every, Each, Any, No} student that Professor Hall teaches learns fast and well.
- *{Every, Each, Any, No} student, whom Professor Hall teaches, learns fast and well.

In (3), we see that universal determiners can co-occur only with the restrictive relative clause. Why is the appositive relative disallowed?

Another example:

- (4)a. John's book, which was on the desk a moment ago, is missing.
- b. *John's book which was on the desk a moment ago is missing.

In (4), we see that possessives as head NP determiners can co-occur only with the appositive relative clause. Why is the restrictive relative blocked?

Some determiners can take both types of relative clauses in certain constructions, but allow only one type of relative in other constructions. For example, in (1) we see that the indefinite article can co-occur with both types of relatives. However, in

- (5)a. William Labov is a linguist who has just conducted an important study on Black English.
- b. *William Labov is a linguist, who has just conducted an important study on Black English.

We see that the indefinite article as the determiner of a predicate NP cannot co-occur with the appositive relative. Why?

Facts like those in (3)-(5) have long been observed in the literature of generative grammar. Most linguists have

devoted themselves to giving transformational rules for these facts. They are mainly interested in proposing syntactic analyses for their data. In this study, however, I adopt a different approach--a semantic approach, exploring the possibility of giving semantic explanations for the co-occurrence of determiners and relative clauses in English.

To solve the co-occurrence problem from a semantic standpoint, and also to understand the interaction of articles with relative clauses, we need two sets of rules, one for the semantic properties of restrictive/appositive relatives and the other for those of the head NP determiners at issue.

This thesis is thus divided into three chapters. In the first chapter, properties of restrictive and appositive relative clauses are discussed. In the second chapter, the referential meanings of the definite and the indefinite article are presented first. Then the interaction of articles with relative clauses is discussed. Finally, in the third chapter, some semantic features are introduced to give a unified semantic explanation for the co-occurrence phenomena.

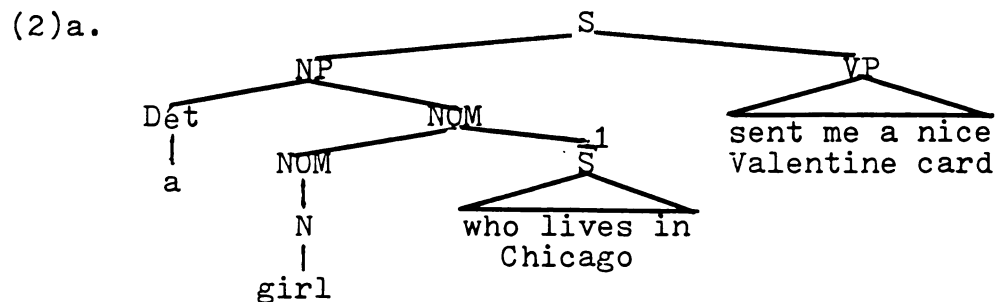
CHAPTER I

This chapter is intended to explore the properties of restrictive and appositive relative clauses in English. I will discuss syntactic, semantic, and pragmatic properties of both restrictive and appositive relatives.

Let's start with the discussion of syntactic properties of these two different types of relative clause. What is the syntactic difference between sentences such as:

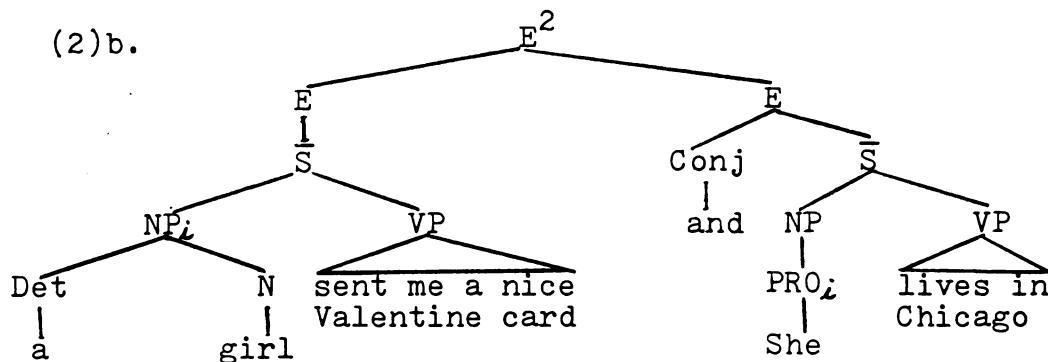
- (1)a. A girl who lives in Chicago sent me a nice Valentine card.
- b. A girl, who lives in Chicago, sent me a nice Valentine card.

In the literature of generative grammar, various syntactic analyses have been proposed for relative clauses. Here I will present only the most commonly accepted analyses. For restrictive relatives, a standard analysis, the so-called "Nom-S analysis," was presented in Stockwell et al. (1973). According to this analysis, sentence (1a) will be assigned the following underlying structure:



Under this analysis, the head noun, girl, and its determiner, a, do not form a single constituent. Rather, it is the head noun and the restrictive relative, who lives in Chicago, that form a single constituent. Here, the restrictive relative serves as a restrictive modifier of the head noun, and the determiner modifies the constituent girl who lives in Chicago.

In contrast with restrictive relatives, for the appositive relatives, the so-called "Main Clause Hypothesis," presented in Emonds (1979), is most commonly accepted. According to this analysis, sentence (1b) will be assigned the following deep structure:



Under this analysis, the head noun and its determiner do form a single constituent, and very differently, the appositive relative originates from a conjoined sentence. Thus, instead of being a modifier of the head noun, the appositive relative has the status of a main clause.

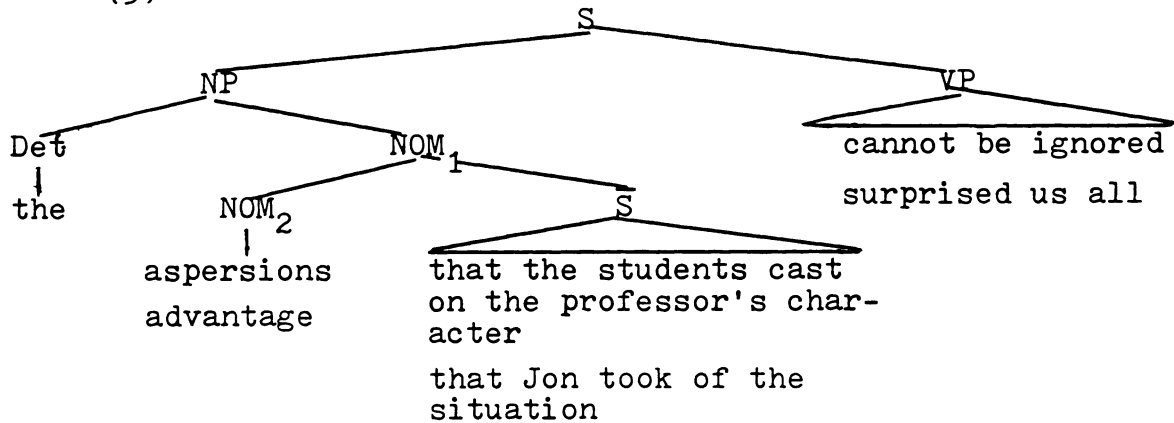
One of the arguments for the above analyses can be drawn from facts such as:

- (3)a. The aspersions that the students cast on the professor's character cannot be ignored.
- b. *The aspersions, which the students cast on the professor's character, cannot be ignored.

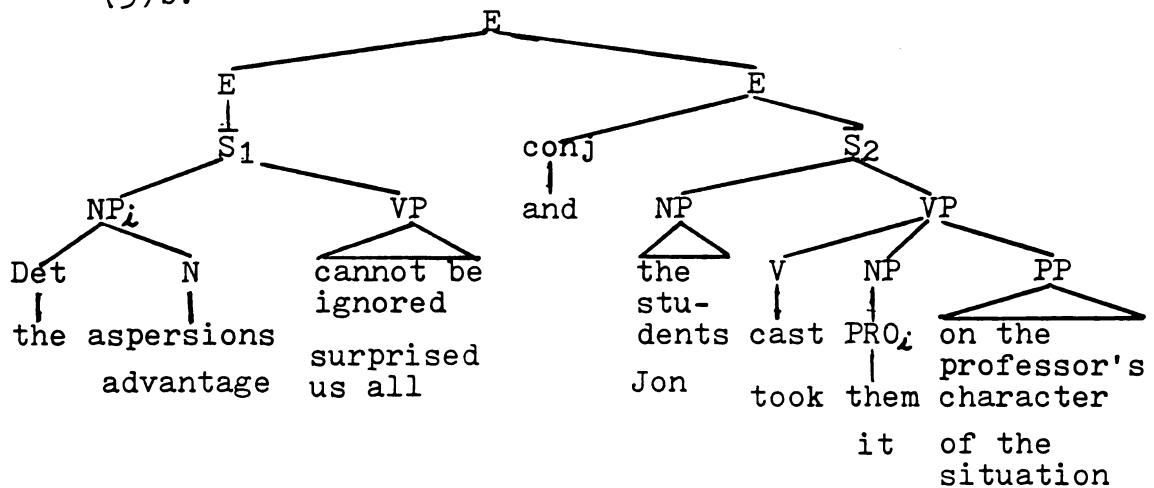
- (4)a. The advantage that Jon took of the situation surprised us all.
 b. *The advantage, which Jon took of the situation, surprised us all.

Following the Nom-S analysis and the Main Clause Hypothesis, the deep structure of (3a) or (4a) and (3b) or (4b) will be (5a) and (5b) respectively:

(5)a.



(5)b.



In fixed idiomatic expressions such as cast aspersions on and take advantage of, once the noun aspersions or advantage is moved out of the idiom chunk, in restrictive relative constructions, the noun still forms a single constituent (NOM₁) with the rest of the idiom; whereas in appositive relative

constructions, the noun is left alone in the matrix sentence (\bar{S}_1). Thus, in the appositive relative construction, the subcategorization of the lexical item aspersion or advantage is violated. This is why (3b) and (4b) are ill-formed.³

Although the Main Clause Hypothesis can correctly predict the ungrammaticality of (3b) and (4b), it actually has some problems of its own. Consider:

(6) Does John, who is a journalist, write novels?

According to the Main Clause Hypothesis, the source for (6) should be:

(6') *Does John write novels and he is a journalist?

Also consider:

(7) John did not eat the apple, which I bought for him yesterday.

Under the Main Clause Hypothesis, the source for (7) should be:

(7') *John did not eat the apple and I bought it for him yesterday.

We can see that neither (6') nor (7') is well-formed.

To solve the problems stated above, I propose a modification for the Main Clause Hypothesis as follows. Instead of saying that a sentence containing an appositive relative originates from one single sentence conjoined by and, it is better to say that the appositive originates from the second sentence of a sentence sequence in which the first sentence is the matrix sentence and the second the appositive. Thus, the source for (6) and (7) would be (8) and (9) respectively:

(8) Does John write novels? He is a journalist.

- (9) John did not eat the apple. I bought it for him yesterday.

Besides, in cases like:

- (10) Bachelors, who are unmarried, know what loneliness means. (Hawkins, 1978: 306)

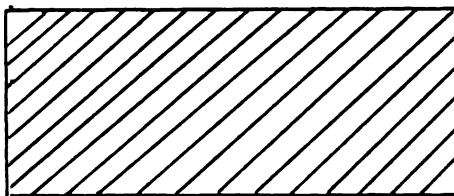
the source for (10) would be (11a) under the Main Clause Hypothesis, and (11b) under the modified analysis:

- (11)a. Bachelors, and they are unmarried, know what loneliness means.
 b. Bachelors know what loneliness means. They are unmarried.

It is found that (11b) is closer in meaning to (10) than (11a) is. Therefore, I argue that the modified analysis not only can solve the question and negation scope problem shown in (6') and (7'), it also offers a better semantic interpretation for appositive relatives.

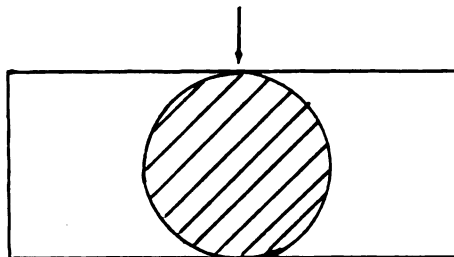
The syntactic difference between restrictive and appositive relatives, as revealed by their respective deep structure assigned by the S-NOM analysis and the modified analysis of Main Clause Hypothesis, reflects semantic properties of these two types of relative clause. Since a restrictive relative functions as a restrictive modifier of the head noun, in semantic interpretation, it is used to restrict the set of objects that the head noun refers to. In the case of (1a), the restrictive relative serves to restrict the class of girls to a subset of girls with the property of living in Chicago. This process of restriction can be diagrammed as follows:

(12)a.



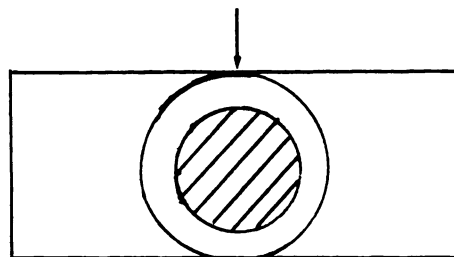
the universe of discourse; including all objects

b.



the set of objects referred to by the head noun
girl, including all girls

c.



the subset of objects referred to by the NOM
girl who lives in Chicago.

In semantic interpretation, appositive relatives, like their deep structure, are different from restrictive relatives. Since an appositive relative originates from the second sentence of a sentence sequence, it is a semantically independent unit, and is generally used to provide additional parenthetical information about the head NP. This claim can be further supported by the fact that an appositive relative clause is always separated from the rest of the sentence by commas in writing and by pauses in speaking.

Evidence for this semantic differentiation between restrictive and appositive relatives can be cited from facts

such as:

- (13)a. A girl, who by the way lives in Chicago, sent me a nice Valentine card.
- b. *A girl who by the way lives in Chicago sent me a nice Valentine card.
- c. A girl, who lives in Chicago, by the way, sent me a nice Valentine card.
- d. A girl who lives in Chicago, by the way, sent me a nice Valentine card.

Sentence adverbs (or parenthetical adverbs) such as by the way can modify the content of a main clause, but cannot modify the content of a restrictive modifier. Because an appositive relative clause is a semantically independent unit and has a main clause status, (13a) is well-formed; whereas because a restrictive relative clause is a restrictive modifier, (13b) is ill-formed. By the way in (13c) is ambiguous --it can modify the content of either the appositive relative or the rest of the sentence; in (13d), by the way unambiguously modifies the whole sentence.

The above-mentioned semantic properties of restrictive and appositive relatives have immediate pragmatic implications. Since appositive relatives are generally used to provide additional parenthetical information about the head NP, they are not "asserted," but rather "presupposed." Negation is known to be a test for presupposition. If we negate (1b), we get:

- (14) A girl, who lives in Chicago, did not send me a nice Valentine card.

In (14), we see that the appositive relative is not affected by the negation of the main verb outside the relative clause, and thus gives rise to presupposition.

By contrast, if we apply the negation test to (1a), we get:

- (15) A girl who lives in Chicago did not send me a nice Valentine card.

(15) can be interpreted as (16):

- (16) It is not the case that a girl who lives in Chicago sent me a nice Valentine card.

Thus, the complex NP a girl who lives in Chicago is affected by the negation of the main verb in that (16) could be said under circumstances when there exists no girl who lives in Chicago. The restrictive relative, being part of the complex NP, hence fails to pass the negation test and does not give rise to presupposition. However, if a restrictive relative is part of a definite description as in cases such as

- (17) The girl who lives in Chicago sent me a nice Valentine card.

since the definite description is not affected by negation, as shown in (18):

- (18) The girl who lives in Chicago did not send me a nice Valentine card.

we say that both (17) and (18) presuppose (19):

- (19) There exists a girl who lives in Chicago.

A different kind of presupposition that restrictive relatives carry was mentioned in the literature. Recall that a restrictive relative serves to restrict the set of objects that the head noun refers to. Consequently, "a restrictive relative clause presupposes the existence of entities of which the description given in the relative clause is not true" (Bach, 1974: 272). If there exist no

entities of which the description given in the relative clause is not true, there is no need to use a restrictive relative. This point is best illustrated by generic sentences such as:

- (20)a. Cats, which are mammals, are warm-blooded.
- b. *Cats which are mammals are warm-blooded.

The badness of (20b) can be accounted for by the semantic and pragmatic properties of restrictive relatives discussed above. Our semantic property of restrictive relatives tells us that the restrictive relative in (20b), which are mammals, is used to restrict the whole set of cats to a subset of cats with the property of being mammals. But all cats are mammals. Thus, there is no need for such a restriction. Besides, our pragmatic property of restrictive relatives tells us that (20b) presupposes (21):

- (21) There exists a cat which is not a mammal.

Obviously, (21) is false. This again accounts for the badness of (20b).

Let's summarize what we have discussed so far about the properties of restrictive and appositive relative clauses by stating them in rules:

- R1 (R stands for restrictive):
Underlyingly, a restrictive relative clause forms a single constituent with the head of the NP containing the relative clause, but the determiner of the head does not form a single constituent with this head.
- R2:
A restrictive relative is a restrictive modifier which restricts the set of objects referred to by the head noun to a subset of objects with the property ascribed by the relative clause.

R3:

A restrictive relative presupposes the existence of entities of which the description given in the relative clause is not true.

A1 (A stands for appositive):

Underlyingly, an appositive relative originates from a sentence sequence and the determiner of the antecedent of the relative clause forms a single constituent with the antecedent.

A2:

An appositive relative is a semantically independent unit and has main clause status. It is generally used to provide additional parenthetical information about the head noun.

A3:

An appositive relative is presupposed, rather than asserted.

For all these distinctions between restrictive and appositive relatives, we can find a parallel in another syntactic category, ordinary adjectives. Consider sentences such as

(22) The philosophical Greeks loved to talk.

In (22), the adjective philosophical has two readings, restrictive and appositive. In the restrictive reading, (22) can be paraphrased as

(23) The Greeks who are philosophical loved to talk.
and in the appositive reading, as

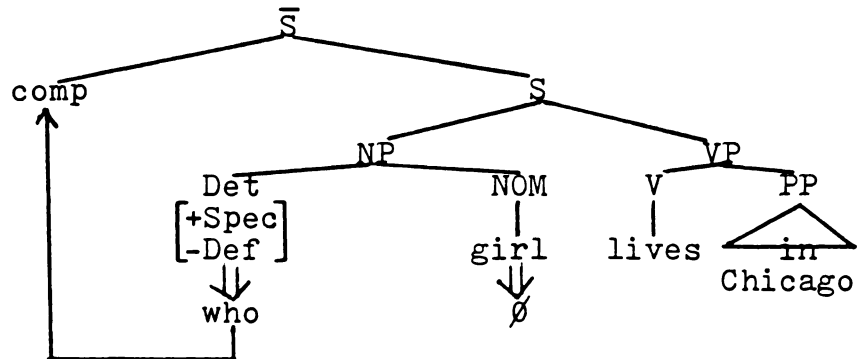
(24) The Greeks, who are philosophical, loved to talk.

From the properties of restrictive and appositive relatives stated above, we get a clear picture of the two interpretations for (22). In the restrictive reading, as manifested in (23), the speaker presupposes that there exist some Greeks who are not philosophical (R3). The objects referred to are restricted to a subset of Greeks with the property of being

philosophical (R2). In the appositive reading, as manifested in (24), the speaker presupposes as parenthetical information that the Greeks, all Greeks, are philosophical (A2) and asserts that they loved to talk (A3).

Notes

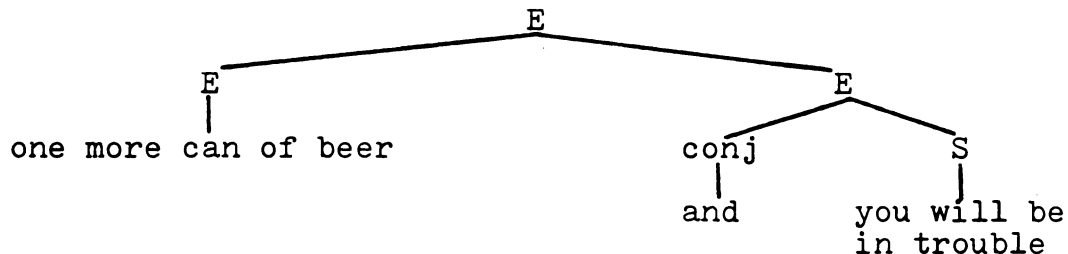
¹ Under the Nom-S analysis, the underlying form of \bar{S} , the relative clause who lives in Chicago is shown in:



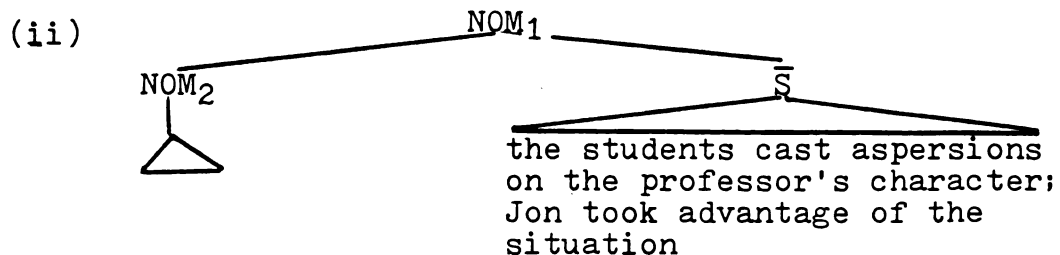
² The symbol "E" is not explained in the article where the Main Clause Hypothesis is presented. However, in Emonds (1976: 52-53), it is stated that E stands for "expression," "which is only optionally expanded as S." For example:

(i) One more can of beer and you'll be in trouble.

The underlined element in (i) is generated under E, but outside of any S. It is further stated that E's can be coordinately conjoined. Thus, the following tree would be assigned to (i) as its deep structure:



³ As a matter of fact, (5a) reveals a problem for the Nom-S analysis. If aspersions or advantage (*Nom₂*) is generated in the deep structure, the subcategorization is also violated in the restrictive relative structure. To solve this problem, the Nom-S analysis must be modified somehow. One of the possibilities is to modify *Nom₁* in (5a) as follows:



In tree (ii), we see that NOM_2 is modified to be an empty category so that the subcategorization is not violated. Then a raising rule can be postulated to move aspersions or advantage out of \bar{S} into NOM_2 .

CHAPTER II

In the preceding chapter, I discussed some properties of restrictive and appositive relatives. In this chapter, I will discuss articles as head NP determiners with these two types of relative clause. I want to answer the question, "How are sentences like the following different from one another?"

- (1)a. A girl who lives in Chicago sent me a nice Valentine card.
- b. The girl who lives in Chicago sent me a nice Valentine card.
- (2)a. A girl, who lives in Chicago, sent me a nice Valentine card.
- b. The girl, who lives in Chicago, sent me a nice Valentine card.

I have presented some distinctions between restrictiveness and appositiveness in the last chapter. In order to answer my question here, we must deal with distinctions between the definite and the indefinite article.

With regard to definiteness¹ and indefiniteness, Hawkins (1978) proposed a "location" theory. The location theory, first of all, spells out the appropriateness conditions for the uses of the and a. The is to be used when the referent is "locatable" in a speaker-hearer shared previous discourse set such as in:

- (3) She gave me some water to drink, but the water was too hot.

or in the immediate situation of utterance such as in:

- (4) Pass me the salt, please.

or in a larger situation such as in:

- (5) I'm going to the public library.

In (5), when speaker and hearer live in the same town, and there happens to be one and only one public library in the town, this library will be locatable to the hearer. The referent can also be locatable because of knowledge of a specific association shared by all the members of the speech community, such as in:

- (6)a. I'm reading a fantastic book. The author is really good at playing with words.
 b. ?The postman brought us a box this morning. The snake was half dead. (Hawkins, 1978: 121)

In (6a), after a person mentions a certain book, he can go on to talk about the author (of the book), but in (6b), after he mentions a certain box, he cannot go on to talk about the snake because there is no natural association between a box and a snake. In other words, this kind of association is not part of the shared knowledge of the speech community. Following this line, we can have (7a), but not (7b):

- | | |
|-------------------------|----------------------|
| (7)a. a house: the roof | a wedding: the bride |
| b. ?a jar: the fish | ?a village: the lion |

In all the above uses of the, locatability of the referent in a relevant pragmatic set is presupposed. In other words, only when the referent can be located unambiguously within a shared set can the be used. On the other hand, Hawkins points out that in some cases, even if an object is identifiable to both the speaker and the hearer, the use of

the can be inappropriate because this object has not been explicitly discussed and hence it has not explicitly entered a shared previous discourse set. For example:

- (8) So you were at UC, Berkeley at that time. Then
 you are certain to know a/*the fellow called
 Ted Howard.

Secondly, Hawkins' location theory claims that the concept of inclusiveness and exclusiveness is essential in discussing the referential meanings of definiteness and indefiniteness. By inclusiveness, it is meant that a referring expression with the linguistic form the (modifier) noun (modifier) refers inclusively to the totality of the set of objects designated by the definite description. And by exclusiveness, it is meant that an indefinite description refers exclusively to "not-all," i. e., there exists at least one object meeting the description to be excluded from the reference of the indefinite description. Some examples to illustrate this point are as follows:

- (9)a. Fred lost a leg/?nose in the war.
 b. Fred lost some fingers/?arms in the war.
- (10)a. Fred is the/*a taller of the two.
 b. We went to see a house, but we didn't buy
 the house because the/*a roof was broken.

In (9a), Fred lost a nose is odd because Fred has only one nose, but the use of a requires that there should exist at least one other nose of Fred's to be excluded from the reference. In (9b), Fred lost some arms is odd because it means Fred lost at least two arms, but the use of the indefinite some requires that besides the two arms that Fred lost,

there should exist at least another arm of Fred's to be excluded from the reference. Similarly, in (10a), within a set of only two people, the number of the taller people must be exactly one and in (10b), a house usually has only one roof, hence in both cases, it is impossible to exclude at least one object from the reference of the indefinite description.

I have presented Hawkins' location theory in detail because we want to see how well this theory holds up when applying to the definite and the indefinite article as head NP determiners of restrictive and appositive relative clauses. Now let's consider the indefinite first.

Hawkins (1980) says that

I would therefore argue that the restrictive/appositive distinction in indefinite NPs is reflected in whether the modifier does or does not join the head noun in requiring the existence of at least one excluded object within the relevant domain of interpretation. (p. 57)

The claim here is that restrictives do, but appositives do not, require that there exists at least one other object satisfying the description of the head noun and the relative clause. I agree with his claim about appositives. Recall that appositives are semantically separated from the rest of the sentence and therefore they do not join the head noun in requiring the exclusiveness meaning of a to apply. Thus in (2a), repeated here:

(2a) A girl, who lives in Chicago, sent me a nice Valentine card.

the indefinite article of the head noun requires that there exists at least one excluded referent, that is, there exists at least one other girl; whereas the appositive relative clause does not join the head noun in requiring that there exists at least one excluded referent, that is, at least one other girl living in Chicago is not required. There is no problem about this because an appositive relative, as we discussed in Chapter One, is not a restrictive modifier, but merely serves to add parenthetical information about the head noun. In contrast, it is argued that the restrictive relative, being a restrictive modifier, must join the head noun in requiring the exclusiveness meaning of a to apply. Thus in (1a), repeated here:

- (1a) A girl who lives in Chicago sent me a nice
Valentine card.

at least one other girl living in Chicago is required. This seems very obvious; nobody will disagree that there is more than one girl living in Chicago.

However, in cases like:

- (11)a. A friend who lives in Chicago sent me a nice
Valentine card.
b. A book that I read last night gave me a big
headache.

it is equally obvious to native speakers of English that (11a) does not necessarily indicate that I have more than one friend living in Chicago and (11b) does not necessarily indicate that I read more than one book last night, either.

Therefore, the above quoted claim of Hawkins' needs some modification. In fact, Hawkins himself notices this point.

In Hawkins (1978), two subtypes of restrictive relatives are introduced to solve the problem. These two subtypes are called "establishing relative clauses" and "non-establishing relative clauses." Two major diagnostics are presented for these two types of relative clause. The first diagnostic is as follows:

. . . sentences with establishing relative clauses permit semantically identical paraphrases in which the content of the establishing relative clause becomes a main clause. (p. 267)

For example:

- (12)a. A story that I read ten years ago contained the same plot.
- b. A story which was very long contained the same plot.

(12a) contains an establishing relative clause, and (12b) a non-establishing relative clause, because (12a) can be paraphrased as (12a'), but a similar paraphrase of (12b) is unacceptable as shown in (12b'):

- (12)a'. I read a story ten years ago and it contained the same plot.
- b'. ?A story was very long and it contained the same plot.

The second diagnostic for establishing relatives is as follows:

[An establishing relative clause] functions pragmatically to relate the new referent to previously mentioned or known objects, to participants in the talk exchange, or to objects in the immediate situation. (p. 263)

For example:

- (13)a. What's wrong with Tom? Oh, he flunked in a test he took yesterday.

- b. What's wrong with you? Oh, a tape-recorder that I bought last week was broken.
- c. Would you please go and get me a book that is over there on the shelf in the right-hand corner?

The relative clauses in these examples are all establishing relatives. In (13a), the relative clause he took yesterday relates the new referent test to a previous mentioned object, Tom; in (13b), the relative clause I bought last week relates the new referent tape-recorder to a participant in the talk exchange, I; and in (13c), the relative clause that is over there on the shelf in the right-hand corner relates the new referent book to the immediate situation.

By distinguishing these two subtypes of restrictive relatives, Hawkins has the following to say with regard to the exclusiveness concept applying to indefinite head NPs followed by restrictive relative clauses:

We say in the last chapter that indefinite head NPs followed by non-appositive relative clauses generally required that there should exist other referents of the whole NP. (p. 246. Emphasis mine.)

. . . indefinites with establishing relatives do not carry the exclusiveness presupposition.
(p. 266)

. . . these sentences [containing establishing relatives] do not presuppose that there are other excluded referents, but only that there may be such referents, whereas a truck which is blue [a non-establishing relative] does presuppose the existence of more than one. (p. 267)

As can be seen from the above quotes, it is clear that Hawkins holds that indefinites with non-establishing relatives carry

the exclusiveness presupposition, whereas indefinites with establishing relatives do not.

It is a good point of Hawkins' to distinguish establishing relatives from non-establishing relatives. However, I find that his diagnostics for these two subtypes of restrictive relatives are far from reliable. In order to test Hawkins' diagnostics for establishing and non-establishing relatives, an investigation was made. A questionnaire² containing the following four sentences was given to 28 native speakers of English:

- (14)a. A friend who lives in Detroit is coming to see me this Sunday.
- b. A book that I have long been looking for has just been acquired by our main library.
- c. A linguist who works on Black English Vernacular is giving a lecture tonight.
- d. A man who became quite well-known for receiving an artificial heart died yesterday.

The result³ shows that 100% of the subjects agree that all the four sentences in (14) do not necessarily indicate that there are other excluded referents. In other words, all of the four sentences should fall into Hawkins' establishing relatives category. However, only (14b) actually lives up to Hawkins' criteria for establishing relatives. (14a), (14c), and (14d) all fail in the paraphrasability test (Hawkins' first diagnostic for establishing relatives):

- (14)a'. ?A friend lives in Detroit and he is coming to see me this Sunday.
- b'. I have long been looking for a book and it has just been acquired by our main library.
- c'. ?A linguist works on Black English Vernacular and he is giving a lecture tonight.
- d'. ?A man became quite well-known for receiving an artificial heart and he died yesterday.

Besides, only in (14b), the relative clause relates the new referent book to a participant in the talk exchange, I. In (14a), (14c), and (14d), the relative clauses do not relate the new referents to previously mentioned or known objects, or to participants in the talk exchange, or to objects in the immediate situation (Hawkins' second diagnostic for establishing relatives).

From the above discussion, we can see that Hawkins' diagnostics for establishing and non-establishing relatives are not reliable. What might be a better alternative? Consider:

- (15)a. A girl who lives in Boston is visiting me
this weekend.
- b. A friend who lives in Boston is visiting me
this weekend.

(15a) and (15b) are syntactically identical, but everybody agrees that (15a) shows that there is more than one girl living in Boston, whereas (15b) does not necessarily indicate that the speaker has more than one friend living in Boston. Hence cases like (15) can be taken as evidence that whether or not the indefinite article with a restrictive relative presupposes that there are other excluded referents cannot possibly be syntactically-based.

Instead of making the distinction between establishing and non-establishing relatives for the exclusiveness presupposition, I argue that NPs of the form "a/an X which Y's" do not actually carry the exclusiveness presupposition. They only suggest that there is a possibility of more than one X satisfying the description of Y's. The linguistic form a girl who lives in Boston itself does not carry the exclusiveness

presupposition. Rather, it is the world knowledge that does it. The indefinite article can be used with a restrictive relative even if there is only one object meeting the description of the restrictive relative.

Hawkins' distinction of establishing and non-establishing relatives might well be abandoned because, as discussed above, it does not hold up for cases like (14). Furthermore, it does not hold up for the claims Hawkins makes about definites with restrictive relatives, either.

Hawkins (1978: 131-38) claims that the definite article with an establishing relative can function successfully as a first-mention, whereas the definite article with a non-establishing relative cannot. For example:

- (16)a. The game that we played in gym today was terrific.
- b. The man who was from the South was disgusting.

According to Hawkins, in (16a), the relative clause is an establishing relative because it relates the new referent game to participants in the talk exchange, we, and because it can be paraphrased as:

- (16)a'. We played a game in gym today and the game was terrific.

Hawkins says, "The purpose of the establishing relative is thus to do what a previous mention would do" (p. 138). The in (16a) hence can function successfully as a first-mention. In (16b), however, the relative clause is a non-establishing relative because the following paraphrase is unacceptable:

- (16)b'. ?A man was from the South and the man was disgusting.

The in (16b) hence cannot function as a first-mention. In

other words, the in (16b) must be anaphorical.

Following this line, since (1b), repeated here:

(1b) The girl who lives in Chicago sent me a nice
Valentine card.

contains a non-establishing relative, the in (1b) cannot function as a first-mention. There seems no problem about this.

However, we find that in fact, the use of the with restrictive relatives is much more complicated than Hawkins thinks. I have mentioned before that an investigation was undertaken to test Hawkins' establishing and non-establishing relatives. The above-mentioned questionnaire which was given to 28 native speakers of English also included questions on the use of the with restrictive relatives. The questions were designed to test Hawkins' claim that establishing relatives make the as a first-mention possible. The subjects were asked to make a choice between a and the in telling somebody something which has not been mentioned in the discourse set. They were also asked whether or not they felt odd when somebody used the to introduce a new referent with an establishing relative.⁴

The result⁵ shows that the use of the and a with restrictive relatives is not categorical; that is, native speakers of English do not seem to have absolute consensus about the as a first-mention with restrictive relatives. Hawkins' claim that the with establishing relatives can function successfully as a first-mention does not hold up.

Only 31% of the subjects agreed that the could be a first-mention in talking about a poet that I met downtown last night; 69% of the subjects chose to use a (poet that I met downtown last night) instead of the. 96% of the subjects, however, agreed that the could be a first-mention in talking about the plumber who came to fix my kitchen sink this morning. 78% of the subjects accepted the as a first-mention in the woman I went out with last night was nasty to me, but only 57% of the subjects accepted the as a first-mention in the woman he went out with last night was nasty to him.

After detailed discussion with five of the subjects,⁶ it is concluded that whether or not the with restrictive relatives can be a successful first-mention depends essentially upon the hearer's familiarity with the events described in the restrictive relatives. For example, in the case of talking about a poet that I met downtown last night, since it is rather unusual for a person to meet a poet downtown, it is hard for the hearer to accept the (poet) as a first-mention; whereas in the case of talking about the plumber who came to fix my kitchen sink this morning, since a plumber's fixing kitchen sinks is not something unusual, it is much easier for the hearer to accept the (plumber) as a first-mention.

In the case of the woman he (Tom) went out with last night, if the hearer knows that Tom occasionally, or often, goes out with women, his going out with a woman last night would be readily acceptable to the hearer and thus the can

be a successful first-mention; otherwise, the as a first-mention would be odd to the hearer.

Similarly, in the case of the woman I went out with last night, in this context, since the speaker is assumed to be familiar to the hearer, the (woman) as a first-mention was accepted by most of the subjects. Note that the dialogue in question, "What's wrong with you?" "Oh, the woman I went out with last night was nasty to me," due to the semantic contents, is probably taken to have occurred between close friends by most of the subjects.

Based upon the findings of my empirical study, I agree that a restrictive relative clause can serve as a grammatical previous mention, as proposed by Hawkins and some other linguists.⁷ However, I argue that this must occur under either of the following circumstances. First, the restrictive relatives must relate the head noun to the immediate situation of utterance, such as in:

- (17) Would you please go and get me the book that is over there on the desk in the right-hand corner?

In (17), the underlined the can function successfully as a first-mention because the head noun is related to the immediate situation of utterance, the hearer becomes familiar with the referent.

Second, the restrictive relative must relate the head noun to a previously mentioned or known object, or to participants in the talk exchange to make the hearer become familiar with the new referent. This "effort" of restrictive relatives,

however, sometimes does not succeed in bringing familiarity for the hearer. In these cases, something else must be done. That is, the speaker must go on talking more about the referent, providing further information about it. For instance, in the case of talking about the poet that I met downtown last night, in natural conversations, after the speaker introduces the new referent, the head noun, (modified by the definite article) with a restrictive relative, very probably he will go on talking more about the referent. By contrast, if a is used to introduce a new referent followed by a restrictive relative, like those cases in (14), the speaker makes no commitment to go on talking more about the referent.

Here I am making two important points. First, the difference between (18a) and (18b):

- (18)a. A boy that lives next door to me punctured my tires.
- b. The boy that lives next door to me punctured my tires.

is not that (18a) necessarily indicates that there is more than one boy living next to me, whereas (18b) indicates that there is only one boy living next door to me, as suggested by Stockwell, et al. (1973).⁸ Even if there is only one boy living next door to me, a can be used because, as argued above, the indefinite article with a restrictive relative like that in (18a) does not carry the exclusiveness presupposition.

The second point I am making is that to some native speakers of English, the in (18b) can function as a first-mention, but to others, it cannot. To those who do not accept

the in (18b) as a first-mention, they, no doubt, will use a, as in (18a), to introduce the new referent boy. In doing so, they are free to stop at that sentence. To put it in another way, if they stop there, the hearer will not be left unsatisfied. By contrast, those who use the as a first-mention in (18b) might run a risk of being abrupt, if they do not go on talking more about the boy. Why?

Through the discussion with some of the subjects about the use of the and a, it is found that the hearer more or less feels some friction when a restrictive relative is used as a grammatical previous mention. In the case of the plumber's fixing the kitchen sink, the friction is very small because this event is very common, whereas in the case of meeting a poet, the friction is much greater because this event is unusual. The greater the friction is, the greater is the hearer's demand that the speaker go on to talk more about the referent.

In brief, I have proposed a hearer-oriented psychological analysis of the definite and the indefinite article with restrictive relatives. I have pointed out that Hawkins' claim about the definite article as a first-mention with establishing relatives is only partly true.

After the discussions of restrictive-/appositiveness in the previous chapter and definiteness/indefiniteness in this chapter, now we can answer the question we started with in this chapter. How do sentences like (1)-(2), repeated here:

(1)a. A girl who lives in Chicago sent me a nice

- Valentine card.
- b. The girl who lives in Chicago sent me a nice Valentine card.
- (2)a. A girl, who lives in Chicago, sent me a nice Valentine card.
- b. The girl, who lives in Chicago, sent me a nice Valentine card.

differ from one another?

In the preceding chapter, I discussed several differences between restrictive and appositive relatives. Here I will focus on showing the differences in the existential presuppositions carried by the articles with relative clauses. I will sum up the differences among the four sentences by locating the head noun in a reference map.

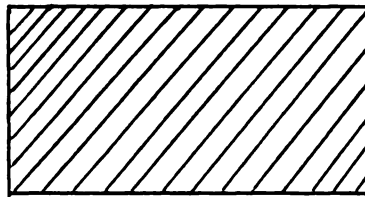
In terms of existential presuppositions, (1a) and (1b) are different in that (1a), containing the indefinite article with a restrictive relative, does not carry the exclusiveness presupposition, but due to our world knowledge, (1a) is consistent with there being more than one girl living in Chicago; whereas (1b), containing the definite article with a restrictive relative, presupposes that within the relevant domain of interpretation, there is one and only one girl who lives in Chicago.⁹ This domain of interpretation is delimited by the anaphoric use of the. That is to say, a particular girl living in Chicago must have been mentioned in a previous discourse and thus this girl has explicitly entered the speaker-hearer shared set. And in this shared set, the girl under discussion becomes unique. By contrast, in (1a), the use of the indefinite article with the restrictive relative indicates that the girl under discussion can be any arbitrary girl

living in Chicago from the hearer's point of view.

In the last chapter, I presented a series of diagrams to show the process of restriction for the object referred to by the head noun and the restrictive relative. At that point, we left out the determiner of the head noun. Now we can finish the whole process of locating the object referred to by the whole NP in (1a) and (1b):

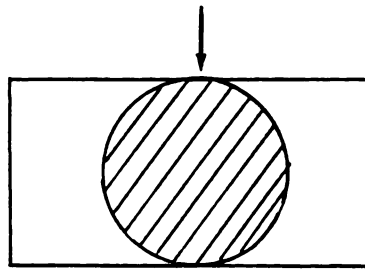
(19) a girl who lives in Chicago (in (1a))

a.



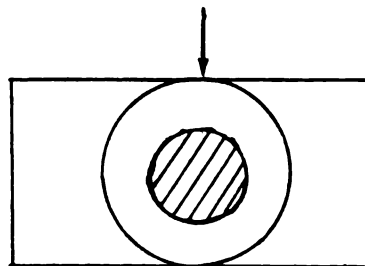
the universe of discourse: including all objects

b.



the set of objects referred to by the head noun girl, including all girls

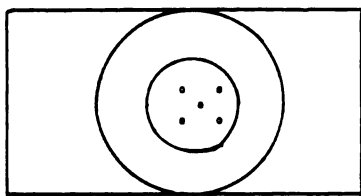
c.



the subset of objects referred to by the NOM girl who lives in Chicago



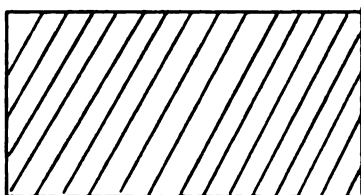
d.



any arbitrary dot representing a girl who lives in Chicago

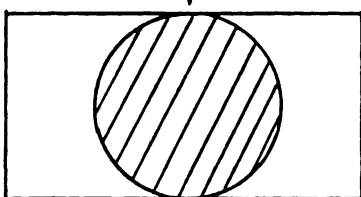
(20) the girl who lives in Chicago (in (1b))

a.



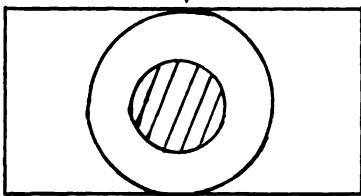
the universe of discourse: including all objects

b.



the set of objects referred to by the head noun girl, including all girls

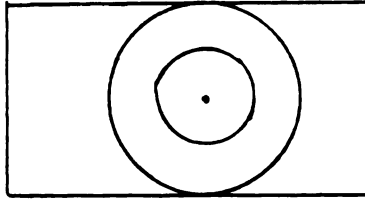
c.



the subset of objects referred to by the NOM girl who lives in Chicago



d.



the relevant domain of interpretation delimited by the anaphorical use of the with only one member in this particular set, representing the girl who lives in Chicago

In the above, we have seen the difference between the definite and the indefinite article with restrictive relatives. How about the definite and the indefinite article with appositives? (2) differs from (1) in that appositive relatives do not join the head noun in the inclusiveness/exclusiveness presuppositions. Recall that under the modified Main Clause Hypothesis, (2a) and (2b) derive from (2a') and (2b') respectively:

- (2)a'. A girl sent me a nice Valentine card.
She lives in Chicago.
- b'. The girl sent me a nice Valentine card.
She lives in Chicago.

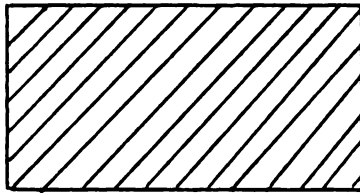
From (2a') we can see that (2a) is consistent with there being other girls, but not consistent with there being other girls who live in Chicago.

Similarly, from (2b') we can see that (2b) carries the inclusiveness presupposition that within the relevant domain of interpretation, there is one and only one girl. Here again, the in (2b), like that in (1b), must be anaphoric; otherwise the use of the would be inappropriate. That is, a particular girl must have been mentioned in a previous discourse and has thus explicitly entered the speaker-hearer

shared set. But it differs from (1b) in that the appositive relative does not join in this shared set. To see this point, the reader can compare the following diagrams with those in (19) and (20):

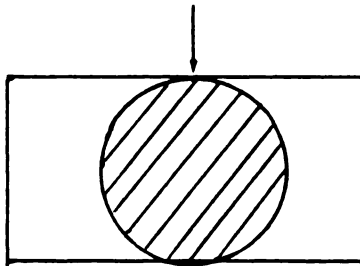
(21) a girl (in (2a))

a.



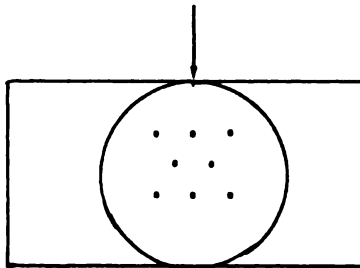
the universe of discourse: including all objects

b.



the set of objects referred to by the head noun girl, including all girls

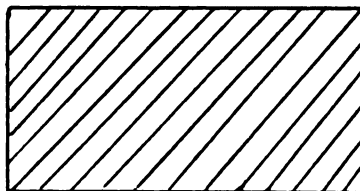
c.



any arbitrary dot representing a girl

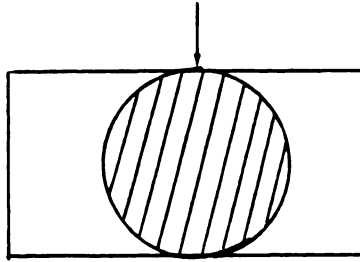
(22) the girl (in (2b))

a.



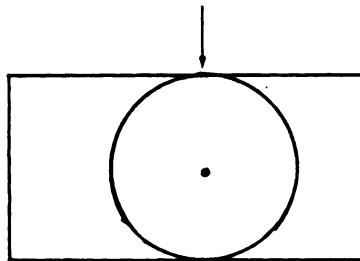
the universe of discourse: including all objects

b.



the set of objects referred to by the head noun girl, including all girls

c.



the relevant domain of interpretation delimited by the anaphorical use of the with only one member in this particular set, representing the girl

In conclusion, we have seen the interaction of articles with relative clauses in this chapter. I have pointed out that Hawkins' location theory about definiteness and indefiniteness does not hold up well for articles as head NP determiners.

There are three aspects where Hawkins' theory is flawed. First, Hawkins claims that non-establishing relatives carry the exclusiveness presupposition. Following this claim, cases like a friend who lives in Detroit should presuppose more than one friend living in Detroit. But this is not true. It is argued in this chapter that NP's of the form "a/an X which Y's" do not presuppose that there exists more than one X satisfying the description of Y's. Thus, the

fact that a friend who lives in Detroit does not carry the exclusiveness presupposition can be correctly predicted. As for cases like a car which is blue, it is argued that such NP's themselves do not carry the exclusiveness presupposition. Rather, it is our world knowledge that makes us infer that there is more than one blue car, etc.

Second, Hawkins claims that the with establishing relatives can function successfully as a first-mention. It is pointed out that this claim is not always true. Whether or not the can be a successful first-mention depends essentially upon the hearer's familiarity with the referent. It is argued that if the restrictive relative can successfully bring the hearer familiarity with the referent, the can be a successful first-mention; otherwise, the cannot function successfully as a first-mention. This kind of familiarity actually involves a cultural component. It also involves individual variations.

Finally, Hawkins' theory does not discuss the choice of the and a when either of the two is acceptable. (18), repeated here:

- (18)a. A boy that lives next door to me punctured my tires.
- b. The boy that lives next door to me punctured my tires.

is an example of such cases. I have discussed the difference between (18a) and (18b). Using a to introduce a new referent, the speaker can avoid causing confusion in case the hearer is not familiar with the referent qualified by the

restrictive relative. However, the can be a successful first-mention in numerous cases where the hearer's familiarity with the referent is guaranteed.

Notes

¹ The traditional analysis for definiteness is the so-called "uniqueness" theory. In Russell's "On Denoting" (1905), the was taken to involve uniqueness. Russell's example:

(i) The author of Waverley was a man.

(i) means (ii):

(ii) One and only one entity wrote Waverley and that one was a man.

As Hawkins points out, the uniqueness analysis of the definite article only accounts for definite singular count nouns, but not definite plurals or mass nouns.

² See Appendix I. This questionnaire was designed to test Hawkins' diagnostics for establishing and non-establishing relatives. The first four questions (1-4) were to test Hawkins' claim that sentences with non-establishing relatives carry the exclusiveness presupposition. The last four questions (5-8) were to test Hawkins' claim that the with establishing relatives can function successfully as a first-mention.

³ See Appendix II. The results here may not perfectly reflect native-speakers' intuition about the usage of the and a because of some inherent problems of doing questionnaires. In answering the questions, the subjects are likely to use their knowledge of grammar (or what they think the language should be) instead of their intuition. However, the results, as a whole, provided significant first-hand information for the researcher to arrive at some generalizations about the usage of the and a with relative clauses.

⁴ See Appendix I, 5-8.

⁵ See Appendix II.

⁶ My thanks go to Barbara Abbott, Ruth Brend, Carol Scotton, Greg Miracle, and Tim Wilt for their insightful comments. Errors in the subsequent conclusion, of course, are my sole responsibility.

⁷ Beverly Robbins (1961), C. S. Smith (1969: 262) and Quirk, et al. (1972: 154) all hold that relative clauses can serve as grammatical previous mention.

⁸ Stockwell, et al. (1973: 433) makes the following comments:

Definitivization of the coreferential NP of the matrix sentence as proposed by Beverly Robbins (1963), on the other hand, can only be made optional or dependent upon presence of a constituent determiner uniqueness feature.

⁹ Elżbieta Tabakowska (1980: 195) makes the same observation that a restrictive relative clause with a singular head NP modified by the definite article presupposes the existence of one and only one referent that fits the description of the relative clause.

CHAPTER III

In the preceding two chapters, some properties of restrictive and appositive relative clauses were presented and the interaction of definite/indefinite articles with these two types of relatives were discussed. In this chapter, I will explore the possibility of giving semantic explanations for the co-occurrence of head NP determiners with restrictive/appositive relatives.

In the literature of generative grammar, linguists usually try to solve the co-occurrence problem by setting up different classes of determiners and then stipulating what class of determiner co-occurs with what type of relative clause. Smith (1964) provides a good example of this approach.

Smith (1964: 248-9) sets up three classes of determiners: (a) Unspecified determiners: any, all etc., co-occurring only with restrictives; (b) Specified determiners: a, the, \emptyset , co-occurring both with restrictives and appositives; and (c) Unique determiner: \emptyset (for proper names), co-occurring only with appositives. With this classification, she can account for cases like the following:

- (1)a. Any book which is about linguists is interesting.
- b. *Any book, which is about linguists, is interesting.

- (2)a. John, who knows the way, has offered to guide us.
- b. *John who is from the South hates cold weather.

Smith's triple division of determiners to account for the co-occurrence of determiners and relative clauses has two problems. First, it is not clear whether or not she includes existential quantifiers (most, many, several, a few, etc.) in her category of Unspecified determiners. If she does, then her claim that Unspecified determiners co-occur only with restrictives does not hold up in cases like the following:

- (3)a. A few linguists, who have been working on Black English Vernacular, are giving lectures tonight.
- b. A few linguists who have been working on Black English Vernacular are giving lectures tonight.
- (4)a. Several boys, who are standing in front of the class now, have just been punished by the teacher.
- b. Several boys who are standing in front of the class now have just been punished by the teacher.

In (3) and (4), we can see that existential quantifiers can co-occur with both restrictives and appositives. On the other hand, if Smith does not intend to include existential quantifiers in her category of Unspecified determiners, her triple division of determiners suffers from a shortcoming of being not exhaustive.

The second problem for Smith is that her category of Unique determiner, \emptyset , for proper names, which she claims to co-occur only with appositives, fails to account for cases like the following:

- (5)a. The Mary who is from South Africa has returned to her home country.

- b. *The Mary, who is from South Africa, has returned to her home country.

In (5), we see that a proper name can be used as a common noun in the sense that it can be modified by the definite article. But it is different from a common noun in that when modified by the, it can co-occur only with restrictives.¹

To solve Smith's problems and at the same time to be able to achieve what Smith attempts to account for, I propose that a semantic approach is worth trying. My contention is that it is the semantic properties of a head NP determiner that decide the acceptability of the co-occurrence of this particular NP with restrictive/appositive relative clauses. The semantic properties of the head NP determiner are determined by the context where it occurs. The same determiner may have different semantic properties in different contexts. And the same semantic property may be carried by different determiners.

In this chapter, I will use four semantic features and their combinations to deal with the co-occurrence problem. They are [⁺Def] (Def=definite), [⁺Uni] (Uni=unique), [⁺Spec] (Spec=specific) and [⁺FM] (FM=first-mention). These four features will be defined one by one as follows.

First of all, by [⁺Def] it is meant that within the relevant domain of interpretation, or the speaker-hearer shared set, a determiner with the feature [⁺Def] enables its NP to refer to the totality of the shared set. In other words, [⁺Def] equals Hawkins' inclusiveness concept. In

English, concerning [+Def] and [-Def], we have the following:

[+Def]	proper names	e.g.	John, New York City
	demonstratives	e.g.	this man, that book
	definite article	e.g.	the sun, the man
	possessives	e.g.	John's book, the man's car, my friend
[-Def]	indefinite article	e.g.	a book, a man
	cardinals	e.g.	three books, five girls
	existential quantifiers	e.g.	{most, several, many, some, a few} books
	universal quantifiers	e.g.	{all, every, each, any, no} books

Secondly, by [+Uniq] is meant "one and only one." For example, the proper name John refers to the unique individual John. In the NP John, its determiner is null. The feature [+Uniq] is assigned to this null determiner. However, if there are two people named John within the speaker-hearer shared set, the term John loses its uniqueness feature and the determiner which goes with it becomes [-Uniq]. For example, in the NP the John, the feature [-Uniq] is assigned to the.

Thirdly, specificity refers to the semantic property of a determiner, or an NP, to be specific or non-specific. For example, the indefinite article in the following sentence is ambiguous between a specific and a non-specific reading:

- (6) Mary wants to marry a Norwegian.

On the specific reading, (6) means that Mary wants to marry a certain Norwegian, a particular individual; whereas on the non-specific reading, it simply means that Mary would like a husband who is a Norwegian. The specific/non-specific dichotomy is related to Donnellan's (1966) distinction between referential and attributive use of a definite description. In (6), on the specific reading, the NP a Norwegian is intended in the referential sense and on the non-specific reading, it is intended in the attributive sense. In the former sense, the NP is used to pick out a unique referent, whereas in the latter sense, the NP is used to denote a type of objects.

A syntactic diagnostic for specificity has been proposed by Karttunen (1968). Ioup (1977) summarizes Karttunen's position as follows:

He [Karttunen] distinguishes the specific and non-specific readings linguistically by whether or not they establish discourse referents. The specific reading is capable of being talked about at a later point in the discourse by using a personal pronoun or definite description, i.e., a discourse referent. The non-specific reading does not permit such later references. (p. 237)

To see this point, let's take (6) for example again. On the specific reading, (6) can be followed by (7):

(7) She wants to marry him in June.

In (7), the personal pronoun him is used to substitute for a Norwegian. Hence the specific reading of (6) is capable of establishing a discourse referent. By contrast, on the non-specific reading, (6) cannot be followed by (7).

Instead, it can be followed by (8):

- (8) She wants to marry one in June.

In (8), the indefinite one is used to substitute for a Norwegian. Hence the non-specific reading is not capable of establishing a discourse referent.

Finally, [+FM] refers to the definite article's being used as a first-mention. For example:

- (9) I'm fed up with the plumber who came to fix my kitchen sink this morning.

The in (9) can be [+FM] because it can be used in the case that the plumber in question has never been mentioned before. Recall that in this case it is the restrictive relative clause following the head noun that makes the as a first-mention possible. Following Hawkins, (9) can be paraphrased as:

- (9') A plumber came to fix my kitchen sink this morning and I'm fed up with the plumber.

However, in

- (10) The girl who lives in Detroit sent me a nice Valentine card.

the is [-FM] because (10) cannot be paraphrased as:

- (10') ?A girl lives in Detroit and the girl sent me a nice Valentine card.

Having defined the four semantic features that I am going to use in dealing with the co-occurrence problem, I now proceed to discuss different types of co-occurrence problem. First of all, determiners which are $\begin{bmatrix} +\text{Def} \\ +\text{Uni} \end{bmatrix}$ occur only with appositives. Consider Smith's example:

- (12)a. John, who knows the way, has offered to guide us.

- b. *John who knows the way has offered to guide us.

This fact can be easily accounted for on semantic grounds. Recall that a restrictive relative is to restrict the set of objects referred to by the head noun. In (12b), since the head noun is a proper name, John, which refers to a unique individual, there is no need for any further restriction for the head noun. By contrast, in (12a), an appositive is used. There is no problem for this because an appositive merely serves to add parenthetical information about the referent of the head noun. Thus we have a semantic explanation why the form Ø+proper name occurs only with appositives.

However, there are cases where proper names can be followed by restrictives, such as in:

- (13)a. The John who knows the way has offered to
guide us.
b. *The John, who knows the way, has offered to
guide us.

In (13), we see that a proper name modified by the definite article cannot be followed by an appositive. Here, the proper name John has lost its property of referring to a unique individual. Instead, the use of the before John indicates that there is more than one person named John in the discourse context and that the speaker, at the point of uttering this sentence, is talking about a particular John. This particular John needs to be specified by a restrictive relative, but not an appositive. This is why (13a) is well-formed and (13b) ill-formed. In (13), the in the John is $\begin{bmatrix} +\text{Def} \\ -\text{Uni} \end{bmatrix}$. Hence we have another co-occurrence type which

can be stated as follows. Determiners which are $\begin{bmatrix} +\text{Def} \\ -\text{Uni} \end{bmatrix}$ occur only with restrictives.

Another type of co-occurrence problem is found in cases like:

- (14)a. John's book, which was on the desk a moment ago, is missing.
- b. *John's book which was on the desk a moment ago is missing.

In (14), we see that genitive NP's such as John's book co-occur only with appositives. This fact becomes explainable when we consider the semantic properties of both the head NP and the restrictive/appositive relatives. When a speaker utters (15):

- (15) John's book is missing.

instead of (16a) or (16b):

- (16)a. A book of John's is missing.
- b. One of John's books is missing.

we know that in the relevant domain of interpretation, John has one and only one book. Otherwise, the speaker will not use (15); instead he will use (16a), which indicates that John may or may not have more than one book, or he will use (16b), which indicates that John has more than one book. In other words, John's book in (15) carries the inclusiveness presupposition. The same presupposition holds true with plural genitive NP's. For example:

- (17) John's books are missing.

In (17), John's books has an inclusive reference; that is, it refers to all of John's books. Hence we can see that possessives as determiners are $\begin{bmatrix} +\text{Def} \\ +\text{Spec} \end{bmatrix}$.

Having worked out the semantic properties of the head NP, we can see why (14b) is ungrammatical. Since the head NP John's book implies that John has one and only one book in the relevant domain of interpretation, there is no need of any restriction for it.

At this point, the reader might point out that in cases like the following:

- (18) The book of John's which was on the desk a moment ago is missing.

the head NP the book of John's (note that this expression is ungrammatical by itself) is also $\begin{bmatrix} +\text{Def} \\ +\text{Spec} \end{bmatrix}$, why can it be followed by a restrictive relative clause?

This is an interesting point, indeed. The whole story goes back to the behavior of possessives as determiners.

Consider:

- (19)a. *a John's book
b. a book of John's
- (20)a. *this John's book
b. this book of John's
- (21)a. *several John's books
b. several books of John's

From (19)-(21) we see that John's as a determiner must be postposed obligatorily when immediately following another determiner, such as a, this, and several.

However, in (22):

- (22)a. *the John's book
b. *the book of John's

we see that with the determiner the, even if John's is postposed, (22b) remains ungrammatical. But interestingly enough, the ungrammaticality of (22b) can be cured by embedding a

restrictive relative clause to it, as in:

(23) the book of John's that is on the desk

By contrast, if we embed an appositive to (22b), as in:

(24) *the book of John's, which is on the desk

the ungrammaticality of (22b) cannot be cured. Here we can see what a restrictive relative can do and what an appositive cannot do. An appositive does not have any effect on the head NP syntactically. It has only a semantic function, that is, to add parenthetical information about the head NP. In contrast, a restrictive relative can serve as a grammatical previous mention and make an indefinite head NP definite.

(23) actually is related to (25):

(25) There is a book of John's on the desk.

Why? Notice that in (23), the restrictive relative that is on the desk relates the new referent the book of John's to the immediate situation of utterance. Recall that in such a case, the is a first-mention, originating from a.

Similarly, in (18) the in the book of John's carries the feature $\begin{bmatrix} +\text{Def} \\ +\text{Spec} \\ +\text{FM} \end{bmatrix}$. To make it more explicit, this the is different from the anaphoric the, which carries the feature $\begin{bmatrix} +\text{Def} \\ +\text{Spec} \\ -\text{FM} \end{bmatrix}$. It is the restrictive relative that makes definite the head NP the book of John's in (18).²

To summarize briefly, an explanation for the interesting facts such as:

- (26)a. John's book
- b. John's book, which is on the desk
- c. *John's book that is on the desk

- (27) a. *the book of John's
 b. *the book of John's, which is on the desk
 c. the book of John's that is on the desk

has been offered. Determiners which are $\begin{bmatrix} +\text{Def} \\ +\text{Spec} \end{bmatrix}$, such as John's in (26), occur only with appositives because the head NP does not need any further restrictions. However, the determiner the, besides being $\begin{bmatrix} +\text{Def} \\ +\text{Spec} \end{bmatrix}$, sometimes carrying an additional feature [+FM], such as the first the in (27c), occurs only with restrictives, because it is exactly the restrictive relative makes the possible in that particular context.

Now let's look at the anaphoric the. Consider:

- (28) The girl is coming to see me this Sunday.

In (28), the is $\begin{bmatrix} +\text{Def} \\ +\text{Spec} \\ -\text{FM} \end{bmatrix}$. To an NP with a determiner carrying this feature, we can embed an appositive, as in:

- (29) The girl, who lives in Detroit, is coming to see me this Sunday.

because the appositive merely serves to add parenthetical information about the head NP. We can also embed a restrictive relative to the same NP, as in:

- (30) The girl who lives in Detroit is coming to see me this Sunday.

In (30), it is the case that in a previous discourse, either a certain girl has been mentioned and that she lives in Detroit has already been mentioned, too, or several girls have been mentioned and that one of these girls lives in Detroit has been mentioned, too. (Other girls may live in other places such as in Ann Arbor.) In the former situation, the whole NP the girl who lives in Detroit is purely

anaphoric; whereas in the latter situation, the whole NP is also anaphoric, but at the same time, the restrictive relative serves to restrict the class of girls referred to to the one who lives in Detroit.

In the above discussions, we have seen the co-occurrence of relative clauses with the determiners, \emptyset (for proper names), [-Uni] the, [+FM] the, and [-FMI] the, and possessives such as John's, all of which carry a common feature [+Def]. Now let's proceed to another type of co-occurrence problem where the head NP determiners are [-Def]. Let's look at universal quantifiers first.

The fact that an NP preceded by a universal quantifier all, any, each, every or no (=not any) cannot be followed by an appositive has been observed by various linguists. Besides Smith, Ross (1967: 435), Hawkins (1978: 286-87), and Emonds (1979: 235-36) all point out this fact. Although it has long been observed, no semantic explanation has been given for this well-known fact. Here I will present a semantic account for it.

Consider:

- (31)a. {All, Every, Each, Any} student(s) that
 Professor Hall teaches learn(s) fast and well.
 b. *{All, Every, Each, Any} student(s), whom
 Professor Hall teaches, learn(s) fast and well.

In order to give semantic explanations for cases like (31), we need to look into semantic properties of universal quantifiers. Vendler (1967), McCawley (1977), and others have presented nice analyses of all, every, each, and any. They

all emphasize the semantic distinctions among the four quantifiers. What concerns us most here, however, is their common properties, especially their specificity.

In terms of specificity, any has the most clear-cut property--being non-specific. Consider:

- (32) Any student that Professor Hall teaches learns fast and well.

Following Vendler (1967: 85), in (32), the speaker offers a challenge to us that whichever student we pick from the set of students that Professor Hall teaches, this student learns fast and well. In other words, the NP any student in (32) is non-specific, and non-referential.

How about all, every, and each? Consider:

- (33)a. All students that Professor Hall teaches learn fast and well.
 b. Every student that Professor Hall teaches learns fast and well.
 c. Each student that Professor Hall teaches learns fast and well.

Are the three head NP's in (33) specific or non-specific? Let's use Karttunen's syntactic diagnostic for specificity to decide it. Consider:

- (34)a. All students learn fast and well.
 b. *All students_i learn fast and well. Professor Hall teaches them_i.
 (35)a. Every student learns fast and well.
 b. *Every student_i learns fast and well. Professor Hall teaches him_i.
 (36)a. Each student learns fast and well.
 b. *Each student_i learns fast and well. Professor Hall teaches him_i.

From (34)-(36), we see that none of the three NP's with universal quantifiers is able to establish a discourse

referent. Hence we can say that the three head NP's are all non-specific. The same result arises when this diagnostic applies to any:

- (37)a. Any student learns fast and well.
- b. *Any student_i learns fast and well.
 Professor Hall teaches him_i.

Having ensured that universal quantifiers are non-specific, now we can give a semantic explanation for the badness of (31b). As a matter of fact, from (34)-(37), we have already had a syntactic explanation for the badness of (31b). Recall that a sentence containing an appositive relative clause originates from two sequenced sentences in which the first sentence is the matrix sentence and the second the appositive. Hence (34)-(37) are the sources for (31b). Their badness automatically accounts for the badness of (31b).

From a semantic standpoint, the badness of (31b) is also explainable. A non-specific NP such as any student is non-referential; that is, it cannot be used to pick out a particular referent. Then, how can a piece of parenthetical information about a particular referent be added to a head NP which does not refer to this particular referent? Thus, we can see that there is incompatibility between the semantic property of the head NP and that of the appositive. Where there is incompatibility of rules, ungrammaticality arises.

The above discussion about the universal determiners all, every, each, and any met with some disagreement from

my committee members. It was pointed out that (34b), repeated here:

- (34b) All students_i learn fast and well.
Professor Hall teaches them_i.

did not sound too bad. A similar example was given:

- (34b') All students study hard. They have to
or they'd fail.

In the above two cases, although they pass Karttunen's syntactic test for specificity, I still do not want to say that all students in either case is specific. (34b') is actually a generic sentence sequence. Hence, they in (34b') is different from the ordinary pronoun, they, used to substitute for, say, John, Mary, and Tom, or the students. Besides, consider more generic sentences such as the following:

- (34)c. Cats that have short tails tend to live longer.
d. A woman who marries young can expect to have a lot of troubles.
e. The hand that rocks the cradle rules the world.
f. The person who goes looking for trouble usually finds it.

Can the restrictive relatives in (34)c-f be changed to appositives? Consider:

- (34)c'. ?Cats, which have short tails, tend to live longer.
d'. ?A woman, who marries young, can expect to have a lot of troubles.
e'. ?The hand, which rocks the cradle, rules the world.
f'. ?The person, who goes looking for trouble, usually finds it.

When we are making a generic statement, we are not talking about any particular individual. Therefore, none of the head NP's in (34)c-f can be specific. This is why (34)c'-f'

are bad. Let's reconsider (33a), repeated here:

- (33a) All students that Professor Hall teaches
learn fast and well.

How is it different from

- (33a') All the students that Professor Hall
teaches learn fast and well.

Does the difference lie in that (33a) is more like a
generic sentence whereas (33a') is surely non-generic?

If (33a) is generic, all students in (33a) is non-specific.

A similar case of ungrammaticality is found in the
case where an indefinite predicate NP is followed by an
appositive. Consider:

- (38)a. William Labov is a linguist.
b. *William Labov is a linguist, who has just con-
ducted an important study on Black English.
c. William Labov is a linguist who has just con-
ducted an important study on Black English.

In (38a), a linguist is an indefinite predicate NP. A pre-
dicate NP is non-referential. That is, in (38a), it is the
NP William Labov that is used to pick out the individual in
question, but not the predicate NP a linguist. A linguist
is used to ascribe a property to William Labov, saying that
he belongs to the species of linguists. To put it in an-
other way, a predicate NP is non-specific in that it does
not refer to a particular individual. This non-specificity
can be further confirmed by Karttunen's syntactic diagnostic:

- (39) *William Labov is a linguist_i. He_i has just con-
ducted an important study on Black English.

Here, again, we see the incompatibility of the semantic prop-
erties of the appositive and the head NP. How can paren-
thetical information about a particular individual be added

to an NP which does not refer to this particular individual?

From the above discussions, we can see that the universal quantifiers and the indefinite article in a predicate NP have a common semantic property; that is, they are $\begin{bmatrix} -\text{Def} \\ -\text{Spec} \end{bmatrix}$. Any head NP carrying this property cannot be followed by an appositive.

As stated before, the same determiner may have different semantic properties in different contexts. We have seen that the definite article is sometimes [+FM], and sometimes [-FM]. The indefinite article provides another good example of this point. It has been pointed out that a can be either [+Spec] or [-Spec]. When it is [-Spec], it cannot co-occur with the appositive. How about when it is [+Spec]?

Consider:

- (40)a. A linguist is giving a lecture today.
- b. A linguist, whom I met at a party last night, is giving a lecture today.
- c. A linguist whom I met at a party last night is giving a lecture today.

In (40a), the underlined a can be either [+Spec] or [-Spec]. Hence, when a is [+Spec], it can co-occur with both restrictives and appositives, as shown in (40b) and (40c).

A similar category of determiners which is capable of being interpreted either as [+Spec] or [-Spec] is found in cardinals and existential quantifiers. For example:

- (41)a. I'm going to buy {three, several, a few} books.
- b. I'm going to buy {three, several, a few} books, which deal with the history of World War II.
- c. I'm going to buy {three, several, a few} books which deal with the history of World War II.

In (41a), the underlined determiners can be interpreted

either as [+Spec] or as [-Spec]. In (41b), they are forced to be interpreted on the specific reading because of the appositive. And in (41c), they again can be either [+Spec] or [-Spec]. Thus, cardinals and existential quantifiers have the same occurrence phenomenon as the indefinite article. When they are [+Spec], they can co-occur with both restrictives and appositives, and when they are [-Spec], they can co-occur only with restrictives. To put it in another way, they can co-occur with restrictives whether they are [+Spec] or [-Spec].

Carlson (1977), however, points out the following facts:

(42) *{Most, Several, Many} dollars that Marx owes Bill
will be paid. (p. 531)

(43) *{Several, Twenty} miles that the road went on
for past Dry Gulch were tough ones indeed.
(p. 530)

In these examples, the cardinal and existential quantifiers, whether interpreted as [+Spec] or as [-Spec], do not allow restrictives.

This seems to constitute an exception to our generalization that cardinals and existential quantifiers can co-occur with restrictives. However, as Carlson argues, contexts like those in (42) and (43) actually require a very different type of relative clause. Carlson argues that these relatives constitute a distinct class of relative clause called amount relatives. He points out that amount relatives occur only with the following determiners: all, any, the, that (those), what and every, all of which can precede an expression of amount.

Whether or not amount relatives should be postulated as a distinct class of relative clause is not my concern here. What is interesting is that the ungrammaticality of (42) and (43) both can be cured by the, which has an inclusive reference:

(42') {Most, Several, Many} of the dollars that Marx owes Bill will be paid.

(43') The {several, twenty} miles that the road went on for past Dry Gulch were tough ones indeed.

One more example of this kind:

(44)a. *{Some, Much, Most, Little} headway that Mel made was satisfactory.

b. {Some, Much, Most, Little} of the headway that Mel made was satisfactory.

It is found that in fact abstract nouns and mass nouns as head NP's followed by restrictive relatives (or amount relatives) all behave in the same way as found in (44). Why? Is it because uncountable nouns cannot be individuated and have to be talked about as a whole amount and hence the inclusive the is needed? As for countable nouns, as in (42) and (43), is it because the predicate of the relative clause and/or the matrix predicate act(s) upon the head NP as a whole amount, but not individually, and hence a determiner which has a collective reference such as all and the is required? The answers to these questions are not evident at this point.

In conclusion, I have attempted to deal with the co-occurrence of determiners and relative clauses from a semantic approach. In the above discussions, I have left out stacked relatives and pied piping. Thus, what I have

attempted to account for is expressions of the form X + head NP + relative clause + Y where the head NP contains a single determiner and Y is not a relative clause. It has been pointed out that semantic properties of the head NP determiner decide what type of relative clause this head NP can take. If there is incompatibility between the semantic properties of the head NP determiner and the type of relative clause this head NP takes, ungrammaticality arises.

For all the different types of co-occurrence problem discussed in this chapter, I present the following diagram as a summary:

	+Def +Uni	+Def -Uni	+Def +Spec	+Def +Spec +FM	+Def +Spec -FM	-Def +Spec	-Def -Spec
R	*	✓	*	✓	✓	✓	✓
A	✓	*	✓	*	✓	✓	*

In this diagram, we can see that there are two cases where restrictives are disallowed. One is in the case where determiners are $\begin{bmatrix} +\text{Def} \\ +\text{Uni} \end{bmatrix}$. For determiners which are $\begin{bmatrix} +\text{Def} \\ +\text{Uni} \end{bmatrix}$, such as \emptyset in the NP John and the in the NP the sun, they do not co-occur with restrictives, because the NP's with such determiners are unique and hence there is no need for any further restriction. The other case where restrictives are disallowed is found in determiners carrying the feature $\begin{bmatrix} +\text{Def} \\ +\text{Spec} \end{bmatrix}$. Like $\begin{bmatrix} +\text{Def} \\ +\text{Uni} \end{bmatrix}$ determiners, $\begin{bmatrix} +\text{Def} \\ +\text{Spec} \end{bmatrix}$ NP's such as John's book(s) have inclusive reference and therefore

restrictives are blocked.

By contrast, in this diagram, we can see that there are three cases where appositives are disallowed. First, the $\begin{bmatrix} +\text{Def} \\ -\text{Uni} \end{bmatrix}$ determiner, such as the in the John, does not co-occur with appositives. Why? If the appositive, instead of the restrictive, were used, the hearer would not know which John is being referred to in the case that there is more than one John in the relevant domain of interpretation. On the other hand, if which John being referred to is known to the hearer, then there is no need to use the before John.

Second, the $\begin{bmatrix} +\text{Def} \\ +\text{Spec} \\ +\text{FM} \end{bmatrix}$ determiner, such as the in the plumber who came to fix my kitchen sink, does not co-occur with appositives. This is because it is exactly the restrictive relative that makes the possible in this particular context. If, instead, an appositive were used, the determiner of the head NP must be [-FM]. In the case of the plumber, the hearer must have already known which plumber is being referred to so that the appositive can be allowed.

Finally, $\begin{bmatrix} -\text{Def} \\ -\text{Spec} \end{bmatrix}$ determiners, such as a in a predicate NP and universal quantifiers, disallow appositives. This is because appositives cannot be embedded to NP's which are not referential.

In brief, if the head NP determiner has an inclusive reference, the restrictive relative is disallowed. However, there are cases where the head NP determiner has a "superficial" inclusive reference, the restrictive relative is needed to make this inclusive reference possible; hence,

appositives are disallowed. By contrast, if the head NP determiner is non-referential, appositives are disallowed. The co-occurrence of determiners and relative clauses, therefore, is explainable on these semantic principles.

Notes

¹ Tabakowska (1980) makes the following comments on Smith's classification of determiners:

. . . her classification of determiners into three groups (Indefinite, Specified, and Unique) collapses when the indefinite article, the definite article and proper names are shown to occur with both restrictive and non-restrictive relatives. (p. 191)

This attack of Tabakowska's on Smith is only partly true. As shown in (5b), the definite article and proper names cannot occur with appositives. This fact will be explained later in the chapter.

² Hawkins (1980) argues that in constructions such as:

- (i) I recalled the sweet child that Harry used to be. (p. 41)

the definite article in (i) "is a surface definite article only, derivable from an underlying indefinite" (p. 41).

In (18), we can also say that the definite article of the head NP is only a surface definite article, originating from an indefinite.

However, there is a difference between these two cases. In (i), the underlying indefinite cannot remain indefinite in the surface structure:

- (ii)a. I recalled that Harry used to be a sweet little child.
b. *I recalled a sweet little child that Harry used to be.

But for (18), the underlying indefinite can remain indefinite in the surface structure:

- (iii)a. There was a book of John's on the desk a moment ago. It is missing.
b. A book of John's that was on the desk a moment ago is missing.

CONCLUSION

In this thesis, first of all, I discussed the properties of restrictive and appositive relative clauses. The most important distinction between these two types of relative clauses is that the restrictive relative is a restrictive modifier which is to restrict the set of objects referred to by the head noun to a subset of objects with the property ascribed by the relative clause; whereas the appositive relative is a semantically independent unit which is generally used to provide additional parenthetical information about the referent of the head noun.

Secondly, I discussed the interaction of articles with relative clauses. It is argued that NP's of the form "a/an X which Y's" do not presuppose that there is more than one X satisfying the description of Y's. Even if there is only one X which Y's, we can use the indefinite article to introduce the new referent. By contrast, NP's of the form "the X which Y's," where X is singular, presuppose that within the domain of interpretation, there is one and only one X satisfying the description of Y's. Besides, it is argued that the can be a successful first-mention only when the restrictive relative can successfully help bring familiarity to the hearer. Finally, I presented a unified

semantic explanation for the co-occurrence of the head NP determiners and relative clauses. It is argued that the semantic properties of the head NP determiner decide which type of relative clause this head NP can take. If there is incompatibility between the semantic properties of the determiner and those of the relative clause, ungrammaticality arises. It is pointed out that being non-referential is inconsistent with appositive relatives. And determiners which have a genuine inclusive reference (not including the surface the) are inconsistent with restrictive relatives.

The above is what has been done. What has not been done is the following. Among others, in dealing with the co-occurrence problem, I have left out cases such as:

- (1)a. Few windows here, the curtains on which I really dislike, let in enough light.
 - b. *Few windows here the curtains on which I really dislike let in enough light.
- (Emonds, 1979: 224)

The question why, in general, heavy pied-piping such as the curtains on which blocks restrictive relatives needs to be answered.

The last thing worth mentioning is concerning the methodology of studying grammar. The use of the English articles the and a(n) has been notoriously difficult for students of English as a second language (ESL students), because "the linguistic information the student needs to use and interpret articles is often discourse-related" (Pica, 1983: 222). In doing this research, I am convinced that through empirical studies of communicative contexts,

linguists can help ESL textbook writers spell out some rules which describe the language actually in use. On the other hand, I am also convinced that through studying minimal pairs of grammatical and ungrammatical sentences, we can gain some insight of how the language works.

APPENDICES

APPENDIX I

QUESTIONNAIRE

1. A friend who lives in Detroit is coming to see me this Sunday.

Does this sentence necessarily indicate that you have more than one friend living in Detroit?

a) Yes b) No c) I'm not sure.

2. A book that I have long been looking for has just been acquired by our main library.

Does this sentence necessarily indicate that you have long been looking for more than one book?

a) Yes b) No c) I'm not sure.

3. A linguist who works on Black English Vernacular is giving a lecture tonight.

Does this sentence necessarily indicate that there is more than one linguist working on Black English Vernacular?

a) Yes b) No c) I'm not sure.

4. A man who became quite well-known for receiving an artificial heart died yesterday.

Does this sentence necessarily indicate that there is more than one man who became quite well-known for receiving an artificial heart?

a) Yes b) No c) I'm not sure.

5. Suppose you had a plumber fix your kitchen sink this morning and you were disgusted with the plumber. Now you are going to tell this to somebody who does not know anything about it. Which sentence will you use?

(1) I'm fed up with a plumber who came to fix my kitchen sink this morning.

(2) I'm fed up with the plumber who came to fix my kitchen sink this morning.

a) (1) b) (2) c) either d) I'm not sure.

6. Suppose you met a poet downtown last night and he is giving a lecture today. Now you are going to tell this to somebody who does not know anything about it. Which sentence will you use?

- (1) A poet that I met downtown last night is giving a lecture today.
 (2) The poet that I met downtown last night is giving a lecture today.

a) (1) b) (2) c) either d) I'm not sure.

7. A: What's wrong with Tom?

B: Oh, the woman he went out with last night was nasty to him.

Suppose A, B, and Tom are friends. Suppose you are A, and you don't know anything about Tom's going out with a woman last night. If you are given such an answer, you probably feel

a) a little bit odd b) not odd at all c) very odd
(odd not in terms of content)

If you feel odd, does the following sentence sound better?

B: Oh, a woman he went out with last night was nasty to him.

a) Yes b) No c) I'm not sure.

8. A: What's wrong with you?

B: Oh, the woman I went out with last night was nasty to me.

Suppose you are A, and you don't know anything about B's going out with a woman last night. If B gives you such an answer, you probably feel

a) a little bit odd b) not odd at all c) very odd

APPENDIX II

RESULTS OF THE QUESTIONNAIRE

		a)	b)	c)	d)
1	(i) ¹	0	28	0	
	(ii) ²	0%	100%	0%	
2	(i)	0	28	0	
	(ii)	0%	100%	0%	
3	(i)	0	28	0	
	(ii)	0%	100%	0%	
4	(i)	0	28	0	
	(ii)	0%	100%	0%	
5	(i)	0	18	9	1
	(ii)	0%	64%	32%	4%
6	(i)	19	4	5	
	(ii)	69%	14%	17%	
7 ³	(i)	11	16	1	
	(ii)	39%	57%	4%	
8	(i)	6	22	0	
	(ii)	22%	78%	0%	

Notes

¹ (i) shows the number of subjects who chose that particular answer.

² (ii) shows the percentage of the particular answer chosen.

³ Of the 11 subjects who chose (a), that is, who feel a little bit odd about the answer Oh, the woman he went out with last night was nasty to him, 7 think that a woman he went out with last night was nasty to him sounds better, and 4 do not.

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