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THE GRAMMAR OF EMOTIVE AND EXCLAMATORY
SENTENCES IN ENGLISH.

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THE GRAMMAR OF EMOTIVE AND EXCLAMATORY
SENTENCES IN ENGLISH

DISSERTATION

Presented in Partial Fulfillment of the Requirements for
the Degree Doctor of Philosophy in the Graduate
School of The Ohio State University

By

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The Ohio State University
1971

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INTRODUCTION

This is a study in the syntax and semantics of some classes of English sentences which express "emotive" or "exclamatory" predications. In Chapters I and II, I examine a group of nouns, verbs and adjectives which I call the "exclamatory" predicates. The predicates in this class, which include amaze, awful, fascinate, etc., are of interest because they govern the occurrence of a complement type which I call embedded exclamations and the application of a syntactic rule which I call noun-phrase extraposition. I provide evidence that embedded exclamations are syntactically distinct from embedded questions, a complement type with which they have sometimes been confused, and show that exclamatory predicates are a distinct subclass of the larger class of "emotive" predicates described by Kiparsky and Kiparsky (1968). In my discussion of the rule of noun-phrase extraposition, I show that this rule must be distinguished from the syntactic rule of "dislocation," which in some cases derives superficially similar sentences. In addition, I discuss some interesting constraints on the noun-phrase extraposition rule. Sentences (1) and (2) below contain embedded exclamations, and sentence (3) is derived by the application of the noun-phrase extraposition rule.

(1) It's amazing how extremely intelligent he is.

(2) It's fantastic what an expensive car she drives.
(3) It's awful the things they said to me.

In Chapter III, I survey recent syntactic research as it pertains to the so-called "flip" rule, which is governed by verbs such as *annoy, amuse, frighten*, etc. This rule relates sentences like (4) and (5).

(4) Bill amuses me.

(5) I am amused at Bill.

In this chapter, I present a number of facts which cast doubt on some important aspects of previous accounts of the nature of this rule and present an alternative, but still tentative, analysis.

In Chapter IV, I treat the syntax and semantics of "concessive" constructions. Sentences (6) and (7) contain instances of these constructions as, respectively, subject and object complements.

(6) Whoever has the lucky number will win a prize.

(7) I will buy whatever you have to sell.

Although earlier grammarians such as Jespersen have made extensive comments on these constructions, they have never, so far as I know, been treated within the framework of transformational syntax. I therefore provide a general analysis of the characteristics of concessive constructions, followed by a discussion of their emotive aspects, based largely on their paraphrase relationships with sentences containing predicates like *irrelevant* and *unimportant*.

The major claim of this thesis is that sentences in English containing emotive or exclamatory predicates exhibit some unique syntactic properties: Thus, besides the intrinsic interest of an analysis of these sentences, a study such as this has a wider theoretical interest because it has something to say about a particular aspect of
the relationship between syntax and semantics. Some recent papers, such as Kiparsky and Kiparsky (1968) and Zwicky (forthcoming), have demonstrated that some semantic classes of words govern the occurrence of particular syntactic constructions, and thus that, at least in the particular cases considered by these authors, syntactic classes can in fact be specified semantically. It is, I think, quite likely that future syntactic research will uncover many more such cases. This particular research strategy thus joins several other recent lines of inquiry which point to the conclusion that no sharp distinction between syntax and semantics can be made.

The relationship between syntax and semantics has been a point of controversy among transformational linguists since the publication of Chomsky's *Syntactic Structures* in 1957. In this work, Chomsky proposed a syntactic theory which was "completely formal and non-semantic." (p. 93). To support his contention that such a theory is the only possible basis for constructing a grammar, Chomsky listed and rejected six "common assertions put forth as supporting the dependence of grammar on meaning" (p. 94). The last three were these:

[T]he grammatical relation subject-verb (i.e., NP-VP as an analysis of *Sentence*) corresponds to the general "structural meaning" actor-action;

[T]he grammatical relation verb-object (i.e., Verb-NP as an analysis of *VP*) corresponds to the structural meaning action-goal or action-object of action;

[A]n active sentence and the corresponding passive are synonymous.
As things have turned out, the realization that the first two points are untrue is essentially the insight that underlies the theory of case grammar as proposed by Fillmore (1968), a theory which is by no means "formal and non-semantic." To demonstrate the falsity of the last point, Chomsky gave the following examples (pp. 100-101):

(8) Everyone in the room knows at least two languages.

(9) At least two languages are known by everyone in the room.

He claims that these two sentences are not in fact synonymous, even though actives and passives in general are. Again, the syntax of "quantificational" sentences such as these has been the focal point of much later discussion, especially since many native speakers disagree with Chomsky's claim that (8) and (9) are not synonymous.

The essential point, however, is that at the stage in the development of his theory represented by Syntactic Structures, Chomsky was unable to find any substance in the proposal that appeals to meaning aid in the construction of a grammar. Therefore, at this point, a clean break was envisioned between the syntactic and semantic descriptions of a language.

Katz and Fodor (1964) made the first effort within the theory of transformational grammar to bring what is now called a "semantic component" into a total linguistic description. This component was to contain lexical entries breaking individual words down into more primitive semantic elements relevant to systematic semantic relationships within a language. In addition, there were to be "projection rules" which would, by taking account of these relationships within and between sentences, provide semantic interpretations of sentences.
and appropriately characterize some sentences as ambiguous, anomalous, or synonymous with other sentences. These rules operated on complete structural descriptions of sentences, including their transformational history, and were tentatively to be of two types: those operating on "kernel" sentences, derived by obligatory transformations, which never change meaning, and another type operating on sentences derived by one or more optional transformations, which sometimes change meaning.

However, Katz and Fodor pointed out that "it would be theoretically most satisfying if we could take the position that transformations never change meaning" (p. 515). The difficulty with this was just those cases where transformations as they were formulated at the time, such as the question, negative and imperative rules, did change meaning. But, Katz and Fodor continued, "such troublesome cases might be troublesome only because of an inadequacy in the way we are now formulating these transformations" (p.515).

Katz and Postal (1966) later maintained that this was indeed true and that all transformations could be formulated as obligatory (except for late stylistic rules) and therefore non-meaning-changing.¹

²See Partee (1971) for a challenge to the proposal that no transformations change meaning.

As later developed by Chomsky (1965), this led to the view that "all information relevant to a single interpretation of a particular sentence" (p. 16) is contained in the base phrase-marker or "deep structure" of that sentence, and that semantic projection rules operate only upon deep structures. Thus by this point, semantics had been brought into the total linguistic description. But the semantic
component simply provided semantic interpretations for the deep structures generated by the syntactic base component. Thus it would be merely an accident if certain syntactic configurations defined by the base component always contained one of a semantically specifiable set of words. Nowhere would the theory predict the occurrence of such a situation.

Around 1965, there began to appear a large number of syntactic studies in which deep structures were proposed which were increasingly more "abstract" than any which had been proposed up to that time. That is, deep structures came to be more and more unlike the actual surface form of the sentences which they were supposed to underlie. Very soon, a number of people, particularly Lakoff and Ross (1968), Bach (1968), and McCawley (1967, 1968a, 1968b) noticed that such structures were beginning to look very much like full semantic representations, i.e., there were reasons for putting into the syntactic structures of sentences information that might previously have been assumed to be the work of the semantic component.

It was an easy step from this to proposing that such a trend might continue all the way, and that there should in fact be no difference between syntactic and semantic representations, that they are simply the same thing.

Of course, this view is not universally accepted. Chomsky (forthcoming) and some of his students (e.g., Jackendoff (1969a), (1969b)) have focused their attention on many cases where, they claim, surface structure appears to be relevant to semantic interpretation. Thompson (1969) maintains that there is no motivated way of representing in deep structures information about presupposition and definiteness.
versus indefiniteness, and that such information must remain outside what she calls the "base elemental structure" of a sentence.

The present study is relevant primarily to one particular aspect of the relationship between syntax and semantics, namely, the fact that some semantic classes of words have, so to speak, their own syntax. That is, there are various constructions and transformational rules which can be shown to correlate with semantic classes.

Zwicky (1968) has explicitly proposed that the investigation of such cases be made a goal of linguistic theorizing. He points out that there is an obvious parallel between the notion of semantic classes which govern particular transformational rules, and the notion of natural classes in phonology. A phonological theory must make it easier to refer to a class of sounds, e.g., voiced stops, that undergo particular phonological rules, e.g., final devoicing, than to arbitrary groups of sounds that never function as a class in any rules. However, as Zwicky says, although the idea of naturalness has a long history in phonology, it is very rarely made explicit in studies of syntax.

Nevertheless, Zwicky continues, "virtually every word class that has received attention in the literature on transformational grammar is characterized by a high degree of semantic coherence" (p. 97). He mentions particularly the class of factive verbs, that is, verbs taking that-complements whose truth is presupposed by the speaker. These verbs are analyzed in detail in Kiparsky and Kiparsky (1968), a paper to be referred to again later, since the notion of factivity plays an important role in the discussion of some of the constructions considered here.
This thesis attempts to demonstrate that there are several widely scattered areas of English syntax where appeal must be made to the notion of "emotive" or "exclamatory" predications in order to account for a wide array of syntactic and semantic facts. Zwicky (1968, p. 101) suggests two ways in which considerations of naturalness might be made a part of syntactic theory. The first of these appears to be an adequate way to characterize the general type of situation described in the present study. He says that "it may be possible to press the correlation of semantic and syntactic classes to the conclusion that a syntactic class is no more than a semantic class minus or plus a small list of exceptions. In other words, some natural syntactic classes might be referable to semantic classes in the same way that some phonological classes might be referable to phonetic classes."

It seems to me that this approach to syntactic analysis may turn out to be one of the most fruitful of those currently available. However, its advantages and limitations are by no means entirely clear. This thesis is intended as a contribution towards determining the viability of such an approach to the study of grammar.
CHAPTER ONE

THE GRAMMAR OF EXCLAMATIONS

Many grammarians have attempted to provide systems for the classification of sentence types in a language. Jespersen (1965, p. 301) notes that Brugmann, in his Verschiedenheiten der Satzgestaltung, proposed eight separate types, with each type having up to eleven subclasses. Jespersen finds it "difficult to see the rationale" of such an elaborate classification, and suggests that the "older classification", including only statements, questions, desires and exclamations, is "much clearer" (p. 301). But even here, he suggests that the boundaries between the different types are not entirely distinct. Such attempts at classification have as yet received little attention from transformational linguists, and to my knowledge, exclamatory sentences have never been studied at all by grammarians working within the generative framework.

My purpose here is to provide evidence that an adequate grammar of English must recognize exclamations as a separate sentence type. I will discuss independent or "absolute" exclamations, but will concentrate on embedded exclamations.

As Jespersen says, it is possible to classify sentences in two ways: notionally and syntactically. However, the two types of classification "should be kept strictly apart" (1965, p. 302).
The sentence "There is a snake in the icebox" may, with normal intonation, be a simple declarative statement of fact. But in the proper circumstances, and with a different intonation, it might qualify notionally as an exclamation.\(^1\) Jespersen remarks (1965, p. 302) that

\(^1\)It is possible, of course, that intonation is as important a marker of sentence type as any of the syntactic criteria I use here. This, however, is an area which I have not as yet investigated.

some "statements" and "questions" such as "I want a cigar" or "Will you give me a light, please?" can be classed notionally as imperatives. This point has been taken up by Sadock (1970), who shows that some yes-no questions in fact behave syntactically like imperatives, and thus must be analyzed as, in their underlying structure, conjunctions of questions and imperatives.

Furthermore, there are various types of expressions which may be said to have an exclamatory force, but for which I am not yet able to propose any motivated analysis as such. Sentence (1) is an example.

(1) The things I have to put up with!

(1) may well be related to sentences such as (2).

(2) It's \{fantastic, awful, incredible\} the things I have to put up with!

The latter type of sentence is discussed in detail in Chapter II. It is mentioned there that sentences like (2) do not allow head nouns with indefinite articles. The same is true of (1).

(3) It's awful the things she said to me.

(4) The things she said to me!

(5) "It's awful a thing she said to me."
(6) *A thing she said to me!

It will be easy to see, therefore, that this chapter and the following one do not constitute an exhaustive study of exclamations in English. They do provide clear indication that the particular properties of these sentences must be taken account of in the grammar of English.

A. ABSOLUTE EXCLAMATIONS

The paradigm examples of absolute exclamations are sentences like the following:

(7) What an attractive woman she is!
(8) What a good boy I am!
(9) How attractive she is!
(10) How beautiful this mountain is!

(7)-(10) have paraphrases with so or such.

(11) She is such an attractive woman!
(12) I am such a good boy!
(13) She is so attractive!
(14) This mountain is so beautiful!

(7)-(10) show the WH-forms what and how, and sentences with these forms are consistently judged grammatical by speakers of English. However, the grammatical status of absolute exclamations with other WH- words is not so clear.

(15) *Which countries he chose to go to!
(16) *Why he bought that coat!
(17) *Who you meet on the street!
(18) ?*Where our campus is located!
(19) ?*When they chose to get married!

Many native speakers, including the writer, have difficulty arriving at clear judgments about the grammaticality of such sentences. (20)-(24) would probably be acceptable to most speakers.

(20) He chose to go to such countries!
(21) He bought that coat for such a reason!
(22) You meet such people on the street!
(23) Our campus is located in such a place!
(24) They chose to get married at such a time!

And (25)-(29) may be related to (20)-(24) as (7)-(10) are related to (11)-(14).

(25) What countries he chose to go to!
(26) What a reason he bought that coat for!
(27) What people you meet on the street!
(28) What a place our campus is located in!
(29) What a time they chose to get married at!

Presumably (30) is to be derived from something roughly like (31) and (32) from something like (33).

(30) Why did you go?
(31) You went for WH-some reason.
(32) Where does John live?
(33) John lives in WH-some place.

Synonymous with (30) and (32) respectively, we have (34) and (35).

(34) What reason did you go for?
(35) What place does John live in?
Thus, if we reject (15)-(19), as I think we would probably want to do, then we are left to conclude that the ungrammaticality of these sentences is idiosyncratic. This impression is reinforced when we observe (see

As this was being written, J. R. Ross, in a lecture at U.C.L.A., used as examples sentences very similar to (15)-(19), but intended them to be taken as instances of Yiddish-influenced English.

Part B below) that (15)-(19) are all perfectly acceptable when embedded. So we can propose that absolute exclamations with what and

The same sort of situation is found with whether clauses, which also are grammatical only when embedded.

(i) I don't know when he is going.
(ii) I don't know whether he is going.
(iii) When is he going?
(iv) *Whether is he going?

how are derived from the corresponding forms with such and so, with absolute exclamations limited to these two WH-forms, at least in standard dialects.

Although these exclamatory sentences show some morphological similarities to questions, it should be obvious that they are not questions. Semantically, of course, there is no relationship. In fact, as will be seen below, exclamatory complements are always interpreted as factives. Syntactically, there are several differences.

1. Independent questions require subject-verb inversion.

(36) How attractive is his wife?
(37) *How attractive his wife is?

Exclamations typically do not show inversion, but with it are grammatical, if somewhat archaic.
(38) How attractive his wife is!
(39) How lovely is Thy dwelling place, O Lord of Hosts!

2. Exclamations do not allow else.
   (40) What else did Marvin do?
   (41) *What else Marvin did!

3. Exclamations do not allow ever.
   (43) What did you ever do for me?
   (44) *What you ever did for me!

4. Exclamations do not allow any.
   (45) How does John make any money?
   (46) *How John makes any money!

On the other hand, there are some interesting similarities between questions and exclamations, which will be discussed below.

B. EMBEDDED EXCLAMATIONS

There are two basic processes by which complex sentences are constructed out of simple ones: conjoining and embedding. An enormous amount of research has been done on the properties of these two fundamental syntactic processes. Various types of embedded sentences have been recognized, including subject and object complements, embedded questions, relative clauses, etc. I wish to show here that an additional type must be recognized: embedded exclamations.

Some traditional grammarians have recognized the existence of such constructions in their treatments of English syntax. Onions (1969, p. 70) posits two types of noun clauses, those introduced by that, and "those which are introduced by an interrogative or exclamatory word." As an example of a clause introduced by an exclamatory
word, he gives the following sentence:

(46) It is strange how unjust you are.

According to Onions, "Here the Subordinate Clause is exclamatory and is called a Dependent Exclamation, the sentence as a whole being a statement." ¹

¹Onions (1969, p. 3) recognizes four sentence types: statements, commands or expressions of wish, questions and exclamations.

Kruisinga (1932, Part II.2, p. 182) remarks on the use of what in "dependent exclamations." This use of what "...is formally distinguished from the interrogative function of what by the article before singular class nouns." He offers the following example:

(47) Mr. and Mrs. Ambrose were far from guessing what an intimacy had sprung up between the two.

It will be demonstrated in this chapter that embedded exclamations must be clearly distinguished from embedded questions. Poutsma (1929, Part I, 2nd half, p. 630) does not observe this distinction, but comments that "subordinate questions introduced by what or by how often correspond to exclamatory sentences." He gives (48) and (49) as examples.

(48) They began to talk of what a dreadful storm it had been the night before.

(49) It was curious how emotion seemed to olden him.

Exclamations can be embedded as objects on certain factive verbs:

(50) I know what an attractive woman she is.

(51) I know she is such an attractive woman.
(52) John realizes what a good boy I am.
(53) John realizes I am such a good boy.

Some speakers accept sentences with exclamations embedded as non-extraposed subject complements onto factive predicates.

(54) ?What an attractive woman she is amazes me.
(55) ?How beautiful this mountain looks is fantastic.5

5Notice that questions embedded as subject clauses without extraposition are unquestionably grammatical.

(i) How intelligent he is is a mystery.
But (ii) is marginal in my dialect.

(ii) ?How intelligent he is is fantastic.

(15)-(19), as I said above, are grammatical when embedded.

(56) It's terrible which countries he chose to go to.
(57) It's unbelievable why he bought that coat.
(58) It's awful who you meet on the street.
(59) It's a crime where our campus is located.
(60) It's amazing when they chose to get married.

It is immediately obvious that some of these embedded exclamations are on the surface identical with embedded questions. But again there are several reasons why the two constructions cannot be identified syntactically, and therefore why embedded exclamations must be recognized as a separate type.

1. The "what a..." construction is not even superficially identical to any embedded question type.

(61) It's fantastic what a nice house he has.
(62) *I wonder what a nice house he has.

2. Exclamations allow modification by very and other adverbs such as really, extremely, unbelievably, unusually, etc., which questions do not allow.

(63) It amazes me how very long he can stay under water.

(64) I asked how very long he can stay under water.

(65) *It infuriates me how extremely rude he is.

(66) *I wonder how extremely rude he is.

But exclamations do disallow adverbs like slightly, somewhat, reasonably, etc.

(i) *It infuriates me how slightly rude he is.

3. Exclamations allow appositive constructions; questions do not.

(67) It's incredible what sort of house he lives in, a two-room shack.

(68) *It's unknown what sort of house he lives in, a two-room shack.

4. Exclamations allow namely; questions do not.

(69) It's unbelievable who I met on the street, namely Mary Queen of Scots and Attila the Hun.

(70) *Can you guess who I met on the street, namely Mary Queen of Scots and Attila the Hun?

Points 3 and 4 are true only of those embedded questions which can be thought of as actually "posing a question." Thus, (i) and (ii) are grammatical.

(i) It's known what sort of house he lives in, a two-room shack.
Ross, in his U.C.L.A. lecture referred to above, talked about what he called "conjunctive questions," which should apparently be identified with my "embedded exclamations." Ross gave no evidence why these constructions should be considered a type of question. He provided, as evidence for distinguishing "conjunctive" from true embedded (or "disjunctive") questions points very similar to my 3 and 4 above. In addition, he noted that "disjunctive questions" allow whether and expressions like the hell, whereas "conjunctive questions" exclude both. The following examples illustrate these facts.

(71) I wonder whether he's coming or not.
(72) *It's fantastic whether he's coming or not.
(73) Do you know what the hell he's doing?
(74) *It's awful what the hell he's doing?

Finally, we may note that at least two of the points given in section A above to distinguish independent exclamations from independent questions can also be used to distinguish embedded exclamations from embedded questions. I pointed out that questions allow ever and any, but exclamations do not.

(75) Can you tell me what you ever did for me?
(76) *It's incredible what you ever did for me.
(77) I wonder how John makes any money.
(78) *It's fantastic how John makes any money.

These facts suffice to show that embedded exclamations are a separate syntactic type. There are cases, such as (79), where an
embedded complement is ambiguous as between a question and an exclamation.

(79) John knows what lies Charles tells.

This ambiguity will be discussed later in this chapter.

One piece of recent syntactic research which is relevant to the problems considered here is Kiparsky and Kiparsky's "Fact" (1968). The authors posit a class of predicates distinguished by the feature "emotive," which they write [EMOT]. This feature is relevant to "all predicates which express the subjective value of a proposition rather than knowledge about it or its truth value" (p. 27).

The Kiparskys wish to claim syntactic consequences for this feature, arguing that complementation with FOR-TO depends on the presence of head items with this feature. They reject the analysis of FOR-TO complementation given by Rosenbaum (1967), and propose instead that this type of complementation is dependent on the "semantically natural" class of emotive predicates, since "it is this class of predicates to which FOR-TO complements are limited."

This feature intersects with the feature [±FACT] proposed in the same paper. That is, the class of [±EMOT] predicates includes both factives and non-factives. Kiparsky and Kiparsky provide the following lists:

\[
\begin{array}{ll}
\text{[+EMOT, +FACT]} \\
\text{important} & \text{alarm} \\
\text{relevant} & \text{exhilarate} \\
\text{crazy} & \text{fascinate} \\
\text{odd} & \text{nauseate} \\
\text{instructive} & \text{defy comment} \\
\text{sad} & \text{surpass belief} \\
\text{suffice} & \text{a tragedy} \\
\text{bother} & \text{no laughing matter}
\end{array}
\]
More recent research has provided evidence that the Kiparsky's claim about FOR-TO complementation cannot be maintained. Stockwell (1970) has attempted to show that this type of complementation cannot in fact be tied to emotive predicates. It was early noted by several people that, although the Kiparsky's listed regret, resent and deplore as factive emotives, very few native speakers accept FOR-TO complements with these verbs.

(80) *I regret for Howard to be sick.

(81) *I resent for him to make more money than me.

(82) *I deplore for Latin to have been replaced by English.

Furthermore, as Stockwell points out, there are a number of other predicates that are semantically emotive, but do not allow FOR-TO.

(83) *I desire for that to happen.

(84) *Michael hopes for the stock market to crash.

(85) *Nelson anticipates for his wife to divorce him.

He also notes that several predicates which cannot reasonably be considered to be emotives do allow FOR-TO.

(86) It is usual for Scotch to be drunk straight.

(87) It is customary for enlisted men to salute officers.

(88) It is legal for men to have six wives in some countries.
As Arnold Zvicky has pointed out to me, there seem to be two classes of non-emotive predicates which allow FOR-TO. One includes predicates such as those in (86) and (87) and semantically similar ones such as typical, general and normal. The other includes predicates such as legal, permissible, allowable, possible, O.K., etc. However, Gaberell Drachman has noticed that circular also allows FOR-TO, as in (i).

(i) It is circular for you to argue in that way.

Circular, as Drachman observes, does not seem to fit readily into either class.

Criminal allows FOR-TO in both the literal sense of "illegal" and the emotive sense.

(89) It is criminal for groups of companies to fix prices.
(90) It is criminal for him to be so rude to his elders.

Stockwell proposes a more inclusive analysis of FOR-TO complementation, involving a rule of "FOR-insertion" governed by a class of nouns, verbs and adjectives specified by the strict subcategorial feature [+ (DAT) S], since the semantic feature [EMOTIVE] cannot reasonably be expanded to cover all the eligible predicates. Thus in this treatment the relevant semantic notion is Dative, not Emotive. However, Dative must be made an optional element in the case frame above, because of sentences like the following:

(91) It is impossible for such a catastrophe to overtake us.
(92) It is illegal for the streets to be so dirty.

Laurence Horn has proposed, at a U.C.L.A. Linguistics Department Colloquium, that the presence or absence of a Dative in these sentences is reflected syntactically. In his dialect, (i) is grammatical, but not (ii).

(i) It is illegal for men to do that, but not for women.
(ii) It is illegal for the streets to be so dirty, but not for the sidewalks.

I would admit both of these indifferently, however.

It seems, then, that the flat statement that FOR-TO complements are limited to the class of emotive predicates, although supported by much evidence, cannot be maintained in either direction, since there are emotive predicates which do not allow FOR-TO, and non-emotive predicates which do.\(^\text{10}\)

\[^{10}\text{This summary of Stockwell's remarks is based on an informal presentation at U.C.L.A. in July 1970.}\]

The Kiparskys present a few brief remarks about other syntactic properties of emotive predicates. The purpose of this chapter is to show that there is a large subclass of emotives which must be separated out as the "exclamatory" predicates.

In the example sentences so far, I have used a number of factive predicates other than those given by Kiparsky and Kiparsky (1968). One of the most important claims made by these authors is that there are several syntactic constructions found only in sentences with factive predicates. Thus only such sentences allow the "fact that \(S\)" construction and POSS-ING complementation, and whereas some non-factive predicates require extraposition, application of this rule is optional in sentences with factive predicates. Conversely, sentences with factive predicates do not allow subject-raising.

The additional predicates that I have used in my examples fit the semantic definition of factives, in that they presuppose the truth of their complement sentences. For example, (93) presupposes
that John eats tuna fish for breakfast.

(93) It's amazing that John eats tuna fish for breakfast.

The following examples illustrate that exclamatory predicates satisfy the syntactic criteria for factivity.

FACT THAT S
(94) The fact that John eats tuna fish for breakfast is terrible.

(95) *The fact that John eats tuna fish for breakfast is possible.

POSS-ING
(96) John's eating tuna fish for breakfast is unbelievable.

(97) *John's eating tuna fish for breakfast is likely.

SUBJECT RAISING
(98) *John is awful to eat tuna fish for breakfast.

(99) John is certain to eat tuna fish for breakfast.

OPTIONAL EXTRAPosition
(100) That John eats tuna fish for breakfast is infuriating.

(101) It's infuriating that John eats tuna fish for breakfast.

(102) *That John eats tuna fish for breakfast seems.

(103) It seems that John eats tuna fish for breakfast.

In the light of this syntactic evidence, and because these predicates obviously fit the semantic definition for emotives, we may establish exclamatory predicates as factives, and as a subclass of emotives.

It is now necessary to show that exclamatory predicates are indeed a subclass of emotives, and are not simply co-extensive with that class. \[11\] Consider the following sentences with important, given

\[11\] It is likely that these two classes can be arrayed along a scale with exclamatory predicates farther toward the "top" than
emotives. Some remarks suggestive of such an interpretation have been made recently by Lakoff (1970b). He observes that semantically similar predicates can be arranged from strongly positive to strongly negative, and that only predicates at the "ends" of the scale allow, for example, modification by absolutely.

(i) She's absolutely beautiful.
(ii) *She's absolutely attractive.
(iii) She's absolutely repulsive.

by Kiparsky and Kiparsky (1968) as a factive emotive.

(104) It's important how attractive she is.
(105) It's important which countries he chose to go to.
(106) It's important why he bought that coat.

These appear to be on the same pattern as sentences like (56)-(60).

But now notice that (107), in many dialects at least, is not grammatical.

(107) *It's important what an attractive woman she is.

We have also, of course, sentences (108)-(110).

(108) It's amazing how attractive she is.
(109) It's amazing which countries he chose to go to.
(110) It's amazing why he bought that coat.

And (111) is grammatical.

(111) It's amazing what an attractive woman she is.

Now although both important and amazing are emotives by the criteria used so far, including the semantic criterion of the speaker's subjective reaction, the semantic force of the complement sentences in (104)-(106) seems to be quite different from that of the complements in (108)-(110).

One illustration of this is the fact that (104)-(106) can be paraphrased by a sentence with a FOR-TO complement with we as
subject. Cf. (112).

(112) It's important for us to know how attractive she is.

But (113) is not at all synonymous with (108).

(113) It's amazing for us to know how attractive she is.

The complement sentences in (104)-(106) are actually embedded questions. The complement sentences in (108)-(110), however, cannot be so interpreted. This is fairly obvious, but there is evidence in addition to that given above. It has been pointed out by Baker (1968) that sentences containing indirect questions can be paraphrased by sentences with "the answer to the question..." or expressions of that sort. For example, (104) is essentially paraphrased by one reading of (114).

(114) The answer to the question "How attractive is she?" is important.

However, there is an important difference between (108) and (115).

(115) The answer to the question "How attractive is she?" is amazing.

(108) presupposes that she is in fact attractive, but "the answer to the question" in (115) could be "She isn't attractive at all." That is to say, in these exclamatory expressions, the opposition between antonym pairs is not neutralized. It has been frequently observed that such neutralization does occur in questions and comparatives. For example, one may ask

(116) How tall is Lew?

or say

(117) Lew is taller than Jerry.

even if one knows that it would be appropriate to say of Lew that
he is short. This neutralization remains in indirect questions.

(118) Can you tell me how tall Lew is?
But (119) is appropriate only if Lew is tall, and not if he is short.

(119) It's amazing how tall Lew is.
Thus we have found evidence that the Kiparskys' class of emotive predicates display syntactic differences among themselves with respect to certain complements they may take.

There are at least two other examples in the above list of factive emotives that seem to act like important, namely relevant and instructive. These two, although they are semantically emotive, do not really convey the exclamatory meaning of amazing or, for that matter, of the other predicates given by the Kiparskys in this particular list of examples. And here again we may note paraphrase pairs like those given above.

(120) It's relevant how many hot dogs he ate.
(121) It's relevant for us to know how many hot dogs he ate.
(122) It's instructive how many hot dogs he ate.
(123) It's instructive for us to know how many hot dogs he ate.
But compare these with (124) and (125).

(124) It's fascinating how many hot dogs he ate.
(125) It's fascinating for us to know how many hot dogs he ate.
In rather impressionistic terms, in (124), it is the number of hot dogs he ate that is fascinating, whereas in (125), it is the knowledge that he ate a certain number of hot dogs that is fascinating, although the number itself may not be fascinating at all. Notice that we may say
(126) It's fascinating merely to know how many hot dogs he ate.

but not

(127)*It's fascinating merely how many hot dogs he ate.

although (128) is grammatical.

(128) It's relevant merely how many hot dogs he ate.\textsuperscript{12}

\textsuperscript{12}Facts like these may be taken as an indication that the verb "to know" is in fact present in the underlying structure of a sentence like (120).

In conjunction with a number of facts pointed out above, it is important to observe another characteristic of the predicates important, relevant and instructive. It seems to me that at least with FOR-TO complements they are not semantically factive.

(129) It's important for Mary to take this medicine.

(130) It's relevant for John to criticize these proposals.

(131) It's instructive for you to do these exercises.

I think it is accurate to say that the truth of the proposition expressed by the complement sentences in (129)-(131) is not presupposed. Compare these with (132)-(134).

(132) It's odd for Mary to take this medicine.

(133) It's alarming for John to criticize these proposals.

(134) It's a tragedy for you to do these exercises.

Here, on the other hand, I would agree with the Kiparskys' judgment that these predicates take factive complements.

The interesting thing to note is that the three predicates in (129)-(131) are exactly those which do not take exclamatory complements.
Also as noted above, those predicates which do permit exclamatory complements preserve factuality in these complements as well, just as they do with FOR-TO and other complement types.

This is one of the most important observations to be made about exclamations, namely, that they are always factive. This shows up in several interesting ways. The examples of exclamatory complements given so far have all been in affirmative sentences. Most speakers find negatives ungrammatical.

(135) *It isn't fascinating how beautiful Jane is.

Correspondingly, (136) and (137) are also ungrammatical.

(136) *What a beauty Jane isn't!

(137) *How beautiful Jane isn't!

The ungrammaticality of all three of these sentences can be explained on the same basis: the exclamatory complement presupposes that Jane is remarkably beautiful, but this is denied by the rest of the sentence.

Negative questions with exclamatory predicates are grammatical, but positive questions are at best marginal.

(138) Isn't it fascinating how beautiful Jane is?

(139) ?*Is it fascinating how beautiful Jane is?

This is easily explainable on the usual account of the particular semantic function of negative questions. Such questions presuppose that the answer will be yes. Therefore a speaker using (138) must assume that Jane is in fact fascinatingly beautiful. Plain yes-no questions, on the other hand, make no assumption either way. Therefore, in (139), the presupposition of the exclamatory complement contradicts the presupposition of the question as a whole.
To be considered in Chapter II is a type of noun-phrase extrapolation that is possible only in sentences with exclamatory predicates. Here, negative declaratives and positive questions are clearly excluded.

(140) It's awful the prices you pay for tomatoes.
(141) *It isn't awful the prices you pay for tomatoes.
(142) *Is it awful the prices you pay for tomatoes?

Both (143) and (144) are grammatical.

(143) I think the prices you pay for tomatoes are awful.
(144) He thinks the prices you pay for tomatoes are awful.

But some speakers claim that for them NP extrapolation is possible only in (143).

(145) I think it's awful the price you pay for tomatoes.
(146) ?*He thinks it's awful the price you pay for tomatoes.

Ross (1970) and Sadock (1969) have proposed that in the underlying structure of every sentence there is an abstract "performative" verb.\(^{13}\) Thus it is claimed that (147) is closer to the underlying structure of (148) than (148) itself.

(147) I declare to you that your house is on fire.
(148) Your house is on fire.

Ross and Sadock present much persuasive evidence in favor of the performative analysis. Although it will require a considerable amount

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\(^{13}\) Sadock uses the term "hypersentence." Ross borrowed the term "performative" from the philosopher J. L. Austin.
of further research to establish the point, the facts outlined in examples (135)-(146) may be taken as evidence that there is an abstract performative "I exclaim that..." in the underlying structure of all exclamations.

We can now return to a problem alluded to earlier. It was noted that in sentences like (149) the complement is ambiguously interpretable as an embedded question or as an exclamation.

(149) Do you know what stories John tells?
The ambiguity remains in declaratives, e.g. (150).

(150) I know what stories John tells.
There are cases, however, where this ambiguity does not appear. One such case is that of an exclamatory complement the surface form of which does not match that of an embedded question, as in (151).

(151) Do you know what a nice person John is?
This raises the general question as to when this ambiguity is and is not possible. The explanation for cases like (151) is obvious. Embedded questions are presumably related to "independent" questions, but there is no independent question corresponding to the complement in (151).

(152) *What a nice person is John?
As noted above, the existence of an exclamatory complement with a unique surface form provides one reason for isolation of the class of exclamatory predicates.

It appears that an account of the possibilities for ambiguity in these constructions must treat exclamatory complements as full sentences, i.e., behaving like THAT- complements. But the exclamatory predicates, whether they occur overtly or are assumed to be present
as abstract performatives, are all factive, and so the truth of the exclamatory complement is always presupposed. THAT- complements, of course, can occur with both factive and non-factive predicates.

(153) I regret that John murdered Hubert. (Factive)

(154) I claim that John murdered Hubert. (Non-factive)

But exclamatory complements can occur only with factive predicates.

(155) I regret how tall she is.

(156) *I suppose how tall she is.

(157) *He maintained what lies Bill told.

There is a group of verbs we may call "knowledge" verbs, such as know, realize, forget, have no idea, remember, etc.\(^1\) These verbs exhibit certain restrictions with respect to negation and the use of some tenses, when used with first-person subjects.

(158) I know that John loves Marsha.

(159) *I don't know that John loves Marsha.\(^1\)

\(^1\)This class of verbs has been studied by Baker (1968).

(160) I realize that John loves Mary.

(161) *I don't realize that John loves Mary.

(162) I forgot that you like milk in your tea.

(163) *I forget that you like milk in your tea.

(164) I had no idea that Bill is a pothead.

(165) *I have no idea that Bill is a pothead.
(166) I remember that Elizabeth I died in 1603.

(167) *I don't remember that Elizabeth I died in 1603.

The starred sentences are starred because they are contradictions. Kiparsky and Kiparsky (1968) provide some discussion of sentences like these. As they put it, "the top sentence denies what the complement presupposes" (p. 9).

Now consider the situation with WH-complements, for example with know.

(168) I know how tall she is.

(169) I don't know how tall she is.

(168) is ambiguous, but (169) is not. The complement in (169) is interpretable only as an embedded question, but the complement in (168) is ambiguously an embedded question or an embedded exclamation. For example, in (168) tall can be modified by very, but not in (169).

(170) I know how tall she is.

(171) *I don't know how very tall she is.

Lakoff (1970a) has offered a test for distinguishing ambiguity from vagueness. He claims that "...identity of underlying and not superficial structure is required for the operation of the rule of VP-deletion" (p. 358). The sentence

(172) Selma likes visiting relatives.

has two meanings:

A. Selma likes to visit relatives.

B. Selma likes relatives who are visiting.

But (173) must be understood either with meaning A for both conjuncts, or with meaning B for both conjuncts.

(173) Selma likes visiting relatives and so does Sam.
It cannot be understood with meaning A for the first conjunct and meaning B for the second, or vice versa.

Lakoff's observation can easily be extended to show the ambiguity of sentences like (168). If a complement is ambiguous as to what type of complement it is, specifically in this case as between a question and an exclamation, then if we conjoin to it another complement which is unambiguous on the surface, the ambiguity is removed.

(174) I know how tall she is and whether she is overweight.
(175) I know how tall she is and what a fantastic shoe size she takes.

In (174), the underlined complement can only be an embedded question; in (175), only an embedded exclamation. It is clear that in (174), the first conjunct is interpretable only as "I know her height," and that in (175) the first conjunct is interpretable only as "I know how very tall she is," i.e., as an exclamation.

The same ambiguity that is found in (168) is found in (176), and, like (169), (177) is unambiguous.

(176) I had no idea how tall she is.
(177) I have no idea how tall she is.

Furthermore, sentences like (178) are ungrammatical.

(178) *I have forgotten what a genius he is.\[16\]

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16 I am perhaps on somewhat shaky ground in starring (178). This sentence can be used as a sort of self-accusation, meaning approximately, "My actions hitherto have indicated that I have forgotten, but now I will act properly." How or whether a fact like this is to be represented systematically is not clear.
The semantic functions of tense and negation and their interactions with factivity must be investigated in order to account for sentences like (160)-(167). But, in the more limited context of this discussion, we can say that the lack of ambiguity in WH- complements as between embedded questions and embedded exclamations matches exactly the instances of ungrammaticality in THAT- complements.

It was pointed out above that absolute exclamations have paraphrases with so and such. So and such appear to be in a general suppletive relationship in exclamations, since the same paraphrase possibilities exist in embedded exclamations.

\[(179) \text{It's unbelievable how intelligent he is.}\]
\[(180) \text{It's unbelievable that he's so intelligent.}\]
\[(181) \text{It's unbelievable what an intelligent person he is.}\]
\[(182) \text{It's unbelievable that he's so intelligent a person.}\]
\[(183) \text{It's unbelievable that he's such an intelligent person.}\]

All of these are semantically equivalent, and it is reasonable to suppose that there is a syntactic relationship holding at least between (178) and (180) on the one hand, and (181)-(183) on the other. But this relationship does not hold with interesting, instructive or relevant, none of which, I have claimed, take exclamatory complements.

Consider the following examples.

\[(184) \text{It's important how tall he is.}\]
\[(185) \text{It's important that he's so tall.}\]
\[(186) \text{It's relevant how tall he is.}\]
\[(187) \text{It's relevant that he's so tall.}\]

(184) and (185) are not paraphrases, nor are (186) and (187). This is
of course due to the fact that how in (184) and (185) introduces an
embedded question, but does not in (179), for example. These observa-
tions provide further support for the analysis given here.

In this chapter, I have demonstrated that exclamations are a
syntactically isolable complement type in English. I showed that
although the predicates which take embedded exclamations belong to
the class of active predicates, they must in fact be considered as a
subclass of factives, since their syntactic behavior is different
from non-exclamatory members of the general class. I showed also that,
although embedded exclamations are in many (but not all) cases identical
on the surface with embedded questions, there are several points of
difference between the syntactic behavior of the two constructions.

It is obvious that there are numerous other constructions in
English which are at least notionally exclamatory, but which have not
been considered here. The treatment of the particular construction
types considered here will, I hope, provide a framework and a point
of departure for any future work on exclamations.
CHAPTER TWO

NOUN PHRASE EXTRAPOSITION IN SENTENCES WITH
EXCLAMATORY PREDICATES

It was demonstrated in the preceding chapter that sentences with "exclamatory" predicates show particular syntactic and semantic properties, and thus that these predicates must be specifically recognized in a grammar of English. The present chapter, which investigates the properties of a syntactic rule in English which is governed by this class of predicates, provides further evidence for the basic claims of Chapter I.

A. THE MECHANISM OF EXTRAPOSITION

The term "extraposition" is generally attributed to the Danish grammarian Otto Jespersen. In his Essentials of English Grammar (1964), he discusses what he calls "preparatory it," which is used to represent a whole group of words which it would not be convenient to put in the place required by the normal rules of word-order without causing ambiguity or obscurity. The group itself (an infinitive with its complements, a clause, etc.) then comes afterwards in "extraposition."

This it may be the subject.
It is wrong to lie
It rests with you to decide.
It was splendid that you could come today. (p. 154)

Jespersen included a wide variety of grammatical processes under this
heading. Generative grammarians have taken over Jespersen's term to refer primarily to sentences like those just quoted, and to similar sentences such as the following:

(1) It is clear that your solution is correct.
(2) It seems that the rain has stopped.
(3) A man — me yesterday who was selling encyclopaedias.

Deep structures like the following have been proposed for sentences such as (1).

\[
(1a) \quad S \\
\quad \quad NP \quad VP \\
\quad \quad it \quad \quad clear \\
\quad \quad that \quad NP \quad VP \\
\quad \quad your \ solution \ correct
\]

Sentence (1) is derived from the deep structure (1a) by moving the circled S node around the predicate of the top S. The rule is stated as follows (some details omitted) by Rosenbaum (1967, p. 6).

\[
X \quad N \quad S \quad Y \\
[+PRO] 1 \quad 2 \quad 3 \quad 4 \\
1, 2, \emptyset, 4, 3
\]

Stockwell, Schachter and Partee (1968), for several reasons, reject the "IT-S" analysis illustrated in (1a), but give a rule having otherwise the same effect as the one above. It is given in "schematic" form as follows: (p. 621)
Extraposition of relative clauses is also possible, as sentence (3) illustrates. Given a deep structure like (3a), it can be seen that (3) also is derived by moving a sentence, after relativization in this case, around a higher predicate.

\[
(3a) \quad S \\
\quad NP \quad S \quad VP \\
\quad a \text{ man} \quad a \text{ man was selling encyclopaedias} \quad \text{came yesterday}
\]

However, Stockwell et al. (1968) do not provide for this type of extraposition, since the "conditions under which extraposition is permitted for relative clauses are more restricted than those for nominalizations, and not as well understood."

Extraposition from object position is shown in (4).

(4) I regret it that Lucy broke her arm.

This is called by Rosenbaum "vacuous extraposition from object" because the sentence does not in fact "move around" anything. The extraposition transformation has the effect here of simply raising the embedded sentence and attaching it to the top S.

The foregoing is meant as a brief illustration of the mechanism of extraposition transformations. Typically, it is a sentence that is extraposed, although this notion has occasionally been applied to other constituents than S, as in Langendoen (1966).

B. THE RULE OF NOUN PHRASE EXTRAPPOSITION

This chapter treats the syntax and semantics of sentences derived by a particular type of noun phrase extraposition. The following are
examples of such sentences.\(^1\)

\(^1\) The only recent reference that I have seen to the existence of these sentences is in Langendoen's syntax textbook (1969), where they are given in a problem. Accordingly, I have used his examples in (5)-(8). Jespersen gives the following sentence as an example in his discussion of extraposition:

\[(i) \text{ It is strange the number of mistakes he always makes.}\]

(5) It's awful the price you have to pay for tomatoes in the winter.

(6) It's a disgrace the way he behaves when he's drunk.

(7) It's marvelous the amount of weight I've lost since I started on the diet.

(8) It never ceases to amaze me the size dress my neighbor wears.

The first point to be made is obviously that (5)-(8) are paraphrased by (9)-(12).

(9) The price you have to pay for tomatoes in the winter is awful.

(10) The way he behaves when he's drunk is a disgrace.

(11) The amount of weight I've lost since I started on that diet is marvelous.

(12) The size dress my neighbor wears never ceases to amaze me.

It might be maintained that (5)-(8) are related to (9)-(12) by a process not of extraposition, but of "dislocation."\(^2\) However, there

\(^2\) This term is due to Ross (1967).
are several arguments that can be presented against this interpretation.

First, sentences (5)-(8) are perfectly grammatical in my dialect, but (13), derived by dislocation from (14), is not.

(13) *It's awful the price.
(14) The price is awful.

(13) is grammatical in some dialects of American English. If (5) is derived from (9) by the same rule that derives (13) from (14) in the dialects of those who accept (13), then (5) should be unacceptable for me, or, conversely, (13) should be acceptable, but this is not the case. One might argue that appropriate restrictions on the dislocation rule would allow (5) and prevent (13), but the points below provide further evidence against this solution.

Second, I suspect that in the dialects of those who accept (13), (5) and (13) have noticeably different intonation patterns, suggesting that even in these dialects, two different rules are involved. In fact, as the arguments below indicate, this is almost certainly the case.

Third, (15), starred because it is ungrammatical for me, is related to (16) just as (13) is related to (14).

(15) *They're awful those prices.
(16) Those prices are awful.

But if price in (9) is pluralized, then in my speech, the noun phrase extraposition rule derives (17), not (18).

(17) It's awful the prices you have to pay for tomatoes in the winter.
(18) *They're awful the prices you have to pay for tomatoes in the winter.
In other words, dislocation requires number agreement on the "place-holding" pronoun, but noun phrase extraposition does not.

Fourth, in dialects which accept (13), (15) and (18), if the dislocated NP is [+HUMAN], the pronoun shows gender agreement.

(19) That girl is beautiful.

(20) *She's beautiful that girl.

(21) **It's beautiful that girl.

Thus there are several reasons for making a distinction between the rule that derives (5)-(8) from (9)-(12) and the dislocation rule that derives a superficially similar sentence type. The remainder of this chapter will illustrate further the distinctive characteristics of the former rule.

To repeat, the claim that I wish to make is that sentences (5)-(8) are derived from the structures underlying (9)-(12) by a rule which extraposes noun phrases (of a highly restricted sort, as will be seen later) around predicates (also of a highly restricted sort). Sentence extraposition is an iterative rule, as shown by (22).

(22) It's clear that it's obvious that you pay a high price for tomatoes.

(22) is derived from a deep structure roughly like (23).

(23)

```
S  
  S_0
    |
    NP  VP
  /
S_1
  |
  NP  VP
  /
  S_2
    you pay a high price for tomatoes
    
    clear
    
    obvious
```
First, $S_2$ is extraposed around the predicate of $S_1$, then $S_1$ is extraposed around the predicate of $S_0$, as shown below:

![Diagram]

It appears, however, that if, in a structure like this, the circled NP does not dominate $S$, no noun phrase extraposition is possible. For example, consider (24).

(24)

![Diagram]

By my proposal, $S_1$ is the structure underlying (25).

(25) It's awful the price you pay for tomatoes.

From (24), I can derive in my speech (26), without extraposition, or (27), with extraposition.

(26) That the price you pay for tomatoes is awful is clear.

(27) It's clear that the price you pay for tomatoes is awful.

However, (28), by NP extraposition in $S_1$ and without sentence extraposition, is impossible.

(28) *That it's awful the price you pay for tomatoes is clear.
(29), by NP extraposition and sentence extraposition, is somewhat better, perhaps, but still highly questionable.

(29) *It's clear that it's awful the price you pay for tomatoes.

These facts may be taken to indicate that NP extraposition and sentence extraposition are separate rules, since they are incompatible. On the other hand, the two rules share an important characteristic. It was pointed out above that, even with a plural head noun, NP extraposition leaves behind it, singular, not they, plural. (Cf. (17) and (18).)

From (30), we can derive (31).

\[
\begin{array}{c}
S \\
\mid \\
NP \\
\mid \\
S \\
\mid \\
John is here
\end{array}
\]

(31) It is clear that John is here.

But (32) yields (33), not (34).

\[
\begin{array}{c}
S \\
\mid \\
NP \\
\mid \\
S \\
\mid \\
\mid \\
\mid \\
John is here \\
\mid \\
and \\
\mid \\
S \\
\mid \\
clear
\end{array}
\]

(33) It's clear that John is here and Mary isn't.

(34) *They're clear that John is here and Mary isn't.

This is true despite the difference in verb agreement between (35) and (36).
(35) That John is here is a fact that we must take into consideration.

(36) That John is here and Mary isn't are facts that we must take into consideration.

That is, in both NP and sentence extraposition, the subject-place-holding pronoun is it, regardless of the number of the extraposed constituent.

The example sentences (5)-(8) all have approximately the following form:

```
IT { NP } { VP } NP REL-CL
```

As Langendoen (1969) notes, in (5) the adjective cannot be high. A sentence like (5) with high instead of awful is ungrammatical in both Langendoen's dialect and mine, although I presume that it is acceptable to speakers who accept (13), (15), etc. He says further that the class of nouns, adjectives and verbs that may appear as head in this construction can be specified semantically. This class is made up of the exclamatory predicates. Note the following examples.

(37) *It's a good thing the way he behaves when he's drunk.

(38) It's a shame the way he behaves when he's drunk.

(39) *It's vital the amount of weight I've lost since I started on that diet.

(40) It's wonderful the amount of weight I've lost since I started on that diet.

(41) *It amuses me the size dress my neighbor wears.

(42) It infuriates me the size dress my neighbor wears.
(37), (39), and (41) are all grammatical without extraposition.

(43) The way he behaves when he's drunk is a good thing.

(44) The amount of weight I've lost since I started on that diet is vital (to my health).

(45) The size dress my neighbor wears amuses me.

These examples are sufficient to demonstrate that there is a transformation which extraposes noun phrases around exclamatory predicates. In what follows, I will discuss some particular features of this rule.

First, it appears that only the definite article is allowable.

(46) *It's awful a price I paid for tomatoes last week.

Second, I have so far been able to find no examples of concrete head nouns that are allowable here.

(47) *It's amazing the twenty pounds I've lost since I started on that diet.

(48) *It never ceases to amaze me the dress my neighbor wears.

(49) *It's beautiful the house he lives in.

Again, all of these are grammatical without extraposition.

(50) The twenty pounds I've lost since I started on that diet is amazing.

(51) The dress my neighbor wears never ceases to amaze me.

(52) The house he lives in is beautiful.

As noted above, the extraposed NPs in (5)-(8) etc. are in fact NPs with relative clauses. It appears that, in some dialects at least, the head noun cannot have functioned as subject or indirect object in the relative clause sentence. Consider the following:
(53) It's awful the paint job he did on that house.

(54) The paint job he did on that house is awful.

(53) is derived by NP extraposition from the same deep structure as (54).

(55)

\[
\begin{array}{c}
S \\
\quad NP \\
\quad \quad \quad S \\
\quad \quad \quad \quad VP \\
\quad \quad \quad \quad \quad \text{awful} \\
\quad \quad \quad \quad \quad \quad \quad \quad \text{the paint job} \\
\quad \quad \quad \quad \quad \quad \quad \quad \quad \text{he} \\
\quad \quad \quad \quad \quad \quad \quad \quad \quad \text{did} \\
\quad \quad \quad \quad \quad \quad \quad \quad \quad \text{a paint job} \\
\quad \quad \quad \quad \quad \quad \quad \quad \quad \text{on that house}
\end{array}
\]

Note that a paint job is direct object in the relative clause. The same NP can be subject in a relative clause.

(56)

\[
\begin{array}{c}
S \\
\quad NP \\
\quad \quad \quad S \\
\quad \quad \quad VP \\
\quad \quad \quad \quad \text{awful} \\
\quad \quad \quad \quad \quad \quad \quad \quad \text{the paint job} \\
\quad \quad \quad \quad \quad \quad \quad \quad \quad \text{the paint job} \\
\quad \quad \quad \quad \quad \quad \quad \quad \quad \text{exhausted} \\
\quad \quad \quad \quad \quad \quad \quad \quad \quad \text{Bill}
\end{array}
\]

(57) can be derived from this deep structure, but not (58).

(57) The paint job that exhausted Bill was awful.

(58) *It was awful the paint job that exhausted Bill.\(^3\)

\[^3\text{It is perhaps worth noting that the abstract nouns that can occur in this construction are obviously not a severely limited set like, for example, those that take noun phrase complements, such as story, claim, and so on.}

Nor can the abstract noun be a deep-structure indirect object.

Consider the following structures:
These (almost) deep structures are identical, except that in (59) the head noun of the relative clause structure is repeated as the direct object of the relative clause sentence, whereas in (60) the head noun of the relative clause structure is repeated as the indirect object of the relative clause sentence. From (59), we can derive (61), and from (60), we can derive (62).

(61) The thorough going-over that he gave to the proposal was amazing.

(62) The proposal that he gave a thorough going-over to was amazing.

NP extraposition can be applied to (59) to produce (63), but I find completely ungrammatical sentence (64), derived by NP extraposition from (60).
(63) It was amazing the thorough going-over that he gave to the proposal.

(64) *It was amazing the proposal that he gave a thorough going-over to.

These examples provide evidence that the head noun of the extraposed NP can be neither the subject nor the indirect object of the relative clause. Of the original examples given above, (5), (7) and (8) exhibit this restriction. In (6), however, the head noun apparently is repeated not as direct object in a relative clause, but in an adverb phrase. That is, the deep structure of (6) is something like (65).

(65)

\[
\begin{array}{c}
  \text{S} \\
  \text{NP} \\
  \text{the way NP} \\
  \text{he VP} \\
  \text{behave V MAN in some way} \\
  \text{when he is drunk} \\
  \text{a disgrace} \\
\end{array}
\]

The situation with respect to head nouns from adverb phrases is not altogether clear as yet. I find (66) to be grammatical, although not everyone else does.

(66) (?) It's awful the time I have to get up in the morning.

(66) is presumably derived from the deep structure (67).
I also accept (68), derived from (69).

(68) It's amazing the tenacity with which he attacked the problem.

(69)

To summarize what has been said so far, it appears that the construction being considered is a type of noun phrase extraposition possible only in sentences where two conditions obtain:

1. the sentence must have a subject consisting of a definite abstract noun modified by a relative clause in which the head noun is repeated as the direct object of the relative clause sentence or in certain types of adverb phrases;

2. the predicate of the main sentence must contain a noun, verb or adjective of the exclamatory class.

It is not surprising that one of the restrictions on this construction should be that the predicate of the main sentence must contain an
exclamatory noun, adjective or verb, since this semantic class has already been shown to correlate with other syntactic processes. The other restrictions are somewhat less convincing. I presented them as I did because they hold in my own dialect. It appears, however, that some interesting dialect variation exists. Arnold Zwicky has provided the following examples, which for him are grammatical.

(70) It was awful the paint job that greeted Bill when he arrived.

(71) It was awful the sort of stuff that filled the wagon.

I find both of these ungrammatical, but a complete account of the NP extraposition transformation will of course require a statement of the variation shown across speakers.

One might argue that the grammaticality in some dialects of sentences like (70) and (71) indicates that the restriction on this transformation is not to direct objects and NPs from certain types of adverbials, but rather against the major case roles, as defined in Fillmore's theory of case grammar (1968), such as Agent, Experiencer, Instrument, etc. Anyone whose dialect contained such a restriction would find (70) and (71) grammatical, but would still not allow (58).

(58) *It was awful the paint job that exhausted Bill.

However, the restriction as I stated it for my own dialect additionally requires that the head noun be abstract. This rules out Agents and Experiencers automatically, since they must be animate, and hence concrete. Zwicky has also stated (personal communication) that the following sentences are at least marginally grammatical in his speech.

(72) It was awful the dreams he was haunted by.

(73) It was awful the method they used to destroy him.
For a dialect in which these sentences are grammatical, Instruments must be removed from the above list of excluded cases. But even in such dialects, I suspect that, although (74) would be grammatical, (75) would not be.

(74) It was fantastic the intense emotion with which the actor captured the attention of his audience.

(75) *It was fantastic the modern surgical tool with which the doctor cured my rheumatism.

Even here, the restriction to abstract nouns would hold.

C. SOME POSSIBLE COUNTEREXAMPLES

I will discuss now some possible counterexamples to the claims I have made for my own dialect.

The relation between (76) and (77) has been accounted for.

(76) The way he plays that concerto is brilliant.

(77) It's brilliant the way he plays that concerto.

In addition, a reason has been offered why (79) cannot be derived by NP extraposition from the structure underlying (78).

(78) The girl he married is brilliant.

(79) *It's brilliant the girl he married.

It appears, at first glance at least, that (80) and (81) are counterexamples to my proposals.

(80) The girl he married is awful.

(81) It's awful the girl he married.

Now if (81) is related to (80) as (79) is related to (78), the credibility of my proposals is weakened considerably, since the head
noun is in each case concrete. However, whereas (76) and (77) are for me synonymous, (80) and (81) are not, and other speakers whom I have questioned who accept (81) agree with me. The semantic difference between (80) and (81) is unfortunately rather subtle, but apparently clear enough to those who accept (81). (81) means, roughly, "It's awful that he married the girl he married." Perhaps (82) will make this clearer.

(82) It's amazing the girl he married.

This, I think, would be taken to imply that one would not have expected him to marry such a girl. (83), on the other hand, could not be used with this meaning.

(83) The girl he married is amazing.

Furthermore, if (82) is taken to be derived from the structure underlying (84),

(84) That he married the girl he married is amazing.

it becomes possible to account for the ungrammaticality of (79), on a reading analogous to that of (81), since (85) and (86) are also ungrammatical.

(85) *It's brilliant that he married the girl he married.

(86) *That he married the girl he married is brilliant.

In other words, the resemblance between (77) and (81) is purely a matter of surface structure, since the two sentences are in fact understood quite differently. (77) results from NP extraposition of
the type I have been discussing, but (81) is derived by a type of
normal sentence extraposition. This type of sentence extraposition
has its own peculiarities, however. It too seems to be conditioned
by the presence of exclamatory predicates. Note the ungrammaticality
of (87) and (88).

(87) *It's a good thing the girl he married.
(88) *It's important the girl he married.

(89) and (90), on the other hand, are both grammatical.

(89) It's a good thing that he married the girl he
married.

(90) It's important that he married the girl he
married (instead of someone else.)

I have no particular proposals to make about the underlying structures
of such relative clause sentences. It would seem obvious, however,
that there is a close relationship semantically between (90), and
a sentence like (91).

(91) It's a good thing that he married that particular
girl.

(91) is susceptible to an interpretation in which that particular
girl means simply the girl he married.

It appears, then, that this type of exclamatory sentence extra-
position also requires a relative clause on the head noun, but
obviously it must be a particular type of relative clause. Note
that (92) is well-formed, but not (93).

(92) It's awful that he decided to marry the girl who
lives next door.
(93) *It's awful the girl who lives next door he decided to marry.

The relative clause, apparently, must simply duplicate the top sentence of the THAT-complement, which is then deleted. The following examples may indicate that it is in fact the complement sentence and not the relative clause sentence which is deleted.

(94) It's awful that he decided to marry the girl he decided to marry, who lives next door.

(95) *It's awful the girl, who lives next door, he decided to marry.

Presumably, (95) would result if the restrictive relative clause were deleted, then the object NP preposed, with deletion of that.

However, I find (96) rather bad.

(96) It's awful the girl he decided to marry, who lives next door.

If (96) is rejected, then this argument is irrelevant.

This discussion had led up to a paradox the resolution of which is perhaps still problematic. I have proposed that, for example, (82) is derived, following sentence extraposition, from the deep structure underlying (84), both of which are repeated here, along with the intermediate stage.

(84) That he married the girl he married is amazing.

→ (by sentence extraposition)

(84a) It's amazing that he married the girl he married.

→ (by deletion)

(82) It's amazing the girl he married.

(77), on the other hand, was said to be derived from (76), by NP
extraposition.

(76) The way he plays that concerto is brilliant.

(77) It's brilliant the way he plays that concerto.

A derivation for (77) analogous to (84) + (84a) + (82) was rejected because of the ungrammaticality of the required source sentence, (97).

(97) #That he plays that concerto the way he plays that concerto is brilliant.

But consider (98).

(98) It's amazing the way he plays that concerto.

A derivation for (98) analogous to (84) + (84a) + (82) cannot be rejected on the same grounds on which I rejected such a derivation for (77), because (99) is grammatical.

(99) That he plays that concerto the way he plays that concerto is amazing.

Perhaps it should be said that anyone considering the syntax of sentences (5)-(8) and similar examples, like (98), would probably never be led to consider such a derivation for (98) if he did not notice the existence of sentences like (82). Indeed, a linguist who did not accept (82) at all would certainly not consider such a solution.

I think, however, that there is a subtle but important difference semantically between (98) and (99), and that this distinction is sufficient to allow us to claim that (98) is derived not from (99), but from (100).

(100) The way he plays that concerto is amazing.

I am able to state the difference only in rather impressionistic terms, but it is simply that in (98) and (100), as they would ordinarily be
understood, **amazing** is predicated only of **way**, but in (99), this predication is on the entire complex sentential subject of **is amazing**. (98) and (100) would be appropriate comments on one of Sviatoslav Richter's customarily brilliant performances of a Beethoven concerto. But (99), even in a less awkward version with extraposition and pronominalization of the second occurrence of **that concerto**, would not be. Rather, (99) might be appropriate if Richter had played a concerto in an untypically bad manner.
CHAPTER THREE

THE FLIP RULE

A number of recent writers, including G. Lakoff (1970c), Chapin (1967), R. Lakoff (1968), and Postal (1970a, 1970b) have discussed, in various contexts, a rule which has the effect of placing a subject NP in the predicate of its sentence and moving a noun phrase in the predicate to grammatical subject position, in the presence of a restricted class of predicates. G. Lakoff and Chapin, calling the rule "flip," limited their discussion to sentences with emotive predicates. R. Lakoff and Postal, who uses the term "psych movement," extended the general process to a larger class of predicates. I will limit myself here to emotive sentences.

Each of the writers mentioned above used sentences of the type to be discussed here in the context of more general theoretical discussions, and thus left a number of important points unmentioned or only briefly touched upon. Furthermore, in Postal's case especially, conclusions have been arrived at on the basis of rather dubious grammaticality judgments. Thus, as has been the case in a disturbingly large number of recent grammatical studies, the analyses proposed lose a considerable amount of their force.

I will first review the comments made in the aforementioned publications, then present some facts which cast doubt on crucial
features of these analyses, along with some further observations.

A. PREVIOUS ANALYSES

Lakoff (1970c, pp. 126-127) discussed the "flip" rule as part of his attempt to provide evidence for the claim that adjectives and verbs are members of the same category, Verbal, and that they differ only with respect to their value for the feature [±VERB]. The apparent synonymy of sentences like the following, one containing an adjective, the other a verb, is taken as providing evidence for this claim.

(1a) What he did amused me.

(1b) I was amused at what he did.

(2a) What he did surprised me.

(2b) I was surprised at what he did.

Lakoff contends that the "flip" rule has applied to the (a) sentence in each pair, for two reasons. First, he claims, we know what the basic sentences are "...from our intuitions about what the underlying subjects and objects are..." (p. 126). Second, Lakoff maintains that the direction of derivation that he proposes is supported by the fact that "the underlying subject-object relation is unchanged under nominalization." That is, corresponding to the sentences above, we have:

(3) My amusement at what he did.

(4) My surprise at what he did.¹

¹Chomsky (1970) discusses these examples also. He finds in them support for the "lexicalist hypothesis," and claims that only on this hypothesis does the solution proposed by Lakoff have any
motivation. But of course, this stands or falls with the lexicalist hypothesis itself.

Chapin (1967) has still another motivation for discussing the "flip" rule. He is concerned with the fact that, if, as Lakoff claims, the (b) sentences in (1) and (2) above underlie the (a) forms, we are faced with apparent violations of certain deep-structure like-subject constraints. For example, given the direction of derivation

\[ S \]

\[ \text{NP} \quad \text{VP} \]

\[ \text{Mary} \quad \text{V} \]

\[ \text{try for/to} \]

\[ \text{Sally be amused at Mary} \]

But the verb *try* obeys the like-subject constraint, since (6) is ungrammatical.

(6) *Mary tried for Sally to be amused (at her).*

However, the application of the "flip" rule to the embedded sentence creates an "amnesty" from the constraint (Chapin attributes this term to J. R. Ross), and (5) is grammatical.

As far as I am aware, it was Chapin who made the first real attempt to defend the existence of the "flip" rule. He claims that
sentences like (1) and (2) above are not variants of the passive although this is "a common intuitive reaction" (p. 81). He offers two pieces of evidence in support of this. The first is that "passive and reflexive are mutually exclusive" (p. 81). 3 Since (7) is ungrammatical, but not (8), the latter cannot be a passive.

(7) *Henrietta was amused by herself.
(8) Henrietta was amused at herself.

Chapin's second argument depends on facts about co-occurrence with instrumental adverbs. His examples are (pp. 81-82):

(9) Jerry amused Irma with a harmonica solo.
(10) Irma was amused by Jerry with a harmonica solo.
(11) *Irma was amused at Jerry with a harmonica solo.

Chapin's point is simply that "Irma was amused at Jerry" cannot be a passive, because unlike true passives, it cannot co-occur with instrumental adverbs.

K. Lakoff (1968) repeats some of the observations about "flip" sentences made by other writers, and offers some additional ones. She claims that the following two sentences are not synonymous (p. 38).

(12) I was surprised by John.
(13) I was surprised at John.

She proposes further that in the sentence

(14) I was surprised at you.

the you is actually a reduced form of what you did or something of that sort.
Postal (1970a, 1970b) was concerned with finding evidence for his "crossover principle" which, simply stated, says that no rule which reorders constituents may move one NP over another NP, if the two are coreferential. There are of course a number of obvious cases which argue for such a constraint. Postal provides what might conceivably be clear proof that sentences like (1b) and (2b) above are basic, and that the (a) forms are derived by "psych movement."

(15) Max disgusted me.
(16) Max was disgusting to me.
(17) I was disgusted with Max.
(18) Max disgusted himself.
(19) Max was disgusting to himself.
(20) I was disgusted with myself.

Postal marks (18) and (19) as ungrammatical, and thus can claim that (15) and (16) must be derived by "psych movement."

B. ADEQUACY OF THESE ANALYSES

The two pieces of evidence that Lakoff (1970c) provides for his contention that the "flip" rule has applied to the (a) forms in (1) and (2) above are both weak. He claims that the underlying sentences are obvious "... from our intuitions about what the underlying subjects and objects are...." My own intuitions about this are apparently not as strong as Lakoff's, and I do not see how such a statement can be used as evidence one way or the other.

Lakoff's second claim, that "the underlying subject-object relation is unchanged under nominalization" is not an obviously valid argument, since it seems to assume that nominalizations typically
reflect underlying order. But in the face of an example like "the Archduke's assassination by a Serbian radical," this cannot be maintained.

The arguments given by Chapin (1967) arrive at the proper conclusion, but by a misleading route. He wishes to argue that sentences like (1b) and (2b) above cannot be variant forms of passive sentences. But even a consideration of this possibility rests on a false assumption, which Chapin does not mention.

(21) and (22) are both grammatical, lending initial support to the possibility that they are both passives.

(21) Henrietta was amused by Bill.
(22) Henrietta was amused at Bill.

Chapin argues that (7) is ungrammatical because "passive and reflexive are mutually exclusive," and that therefore neither (8) nor (22) can be passives, because they are both grammatical.

(7) *Henrietta was amused by herself.
(8) Henrietta was amused at herself.

But if (21) and (22) were variants, their common deep structure would have to be that underlying (23).

(23) Bill amused Henrietta.

The crucial fact is that (23) is ambiguous, and (22) corresponds to only one reading. Consider the following pair of sentences.

(24) Bill amused Henrietta by wearing a lampshade on his head.
(25) Bill amused Henrietta by forgetting to tie his shoelaces.
The ambiguity of (23) lies in the fact that the action may be interpreted as *purposeful* or as *non-purposeful*. Since one can wear something on purpose, but cannot forget something on purpose, we may conclude that (23) is ambiguous as described.

It seems clear that although (21) retains this ambiguity, (8) and (22) do not. That is to say, (8) and (22) can only be interpreted as *not* involving purpose. The ungrammaticality of (26) might be taken as evidence for this.

(26) *Henrietta was amused at herself by listening to a Bill Cosby record.*

But (27) is also ungrammatical.

(27) *Henrietta was amused at herself by forgetting to tie her shoelaces.*

Apparently, the availability of by-clauses here is conditioned by the surface form of the main clause. Notice that both (28) and (29) are grammatical.

(28) Henrietta was amused at herself for listening to a Bill Cosby record.

(29) Henrietta was amused at herself for forgetting to tie her shoelaces.

But now the "listening" in (28) is no longer interpretable as a purposive action, at least not for the specific purpose of amusement. I have at present no explanation for the ungrammaticality of sentences like (27). The relevant point here, however, is that sentences like (23) are ambiguous, whereas sentences like (22) are not.

The purpose of this discussion was to show that Chapin's argument with respect to sentences like (21), (22) and (23) is
misleading, since $(21)$ and $(22)$ could not possibly be considered to be simply "variants" of each other. The second point of his argument that sentences like $(22)$ are not passives is faulty for similar reasons. If $(21)$ and $(22)$ could not be simply variants, because $(21)$ and $(23)$ are ambiguous, but $(22)$ is not, then there is no more point in arguing from cooccurrence with instrumentals than there is in arguing from the mutual exclusiveness of passives and reflexives.

As I have said, the arguments given by Postal (1970a, 1970b) might be convincing proof of the derived nature of sentences (1a) and (2a) above. But his conclusions are highly suspect, because they are not based on clear facts about grammaticality and ungrammaticality. His argument depends on the ungrammaticality of (18) and (19). I find them acceptable, and it has not been at all difficult to find other (linguistically trained) speakers who agree. Thus, for anyone who finds (18) and (19) acceptable, Postal's arguments can have no force.

Of all the observations made on "flip" sentences by the writers that have been mentioned, Postal's would no doubt be the most convincing, if they were based on persuasive judgments about grammaticality and ungrammaticality. But they are not. Postal himself (1968) has investigated (apparently quite informally) some instances of dialect variation with respect to crossover phenomena,\footnote{Labov (1970) reported that he and his co-workers, after extensive investigation, were unable to identify dialect variation patterns like those found by Postal.}

\footnote{but in Postal (1970a) he merely noted that although there might be}
some disagreement about his grammaticality judgments (this was rather an understatement), he was sure that everyone would agree with enough of his examples to be convinced of the correctness of his analysis (p. 39). But the status of (15)-(20) is entirely fundamental to the analysis, more so than many of his other examples.

It is, of course, eminently satisfying to find evidence for a very general constraint like the crossover principle in widely scattered areas of English syntax. But here, at least, our joy cannot be complete, for there is no agreement on the basic data. Thus we must content ourselves with an analysis weaker than one based on clear facts, or else shift our ground, and concentrate precisely on the observed variation.

R. Lakoff (1968), some of whose comments on "flip" sentences have been quoted above, accepts the proposals made by the other writers for the basic structure of these sentences, but the quoted comments, although merely programmatic and quite brief, do contain what I think are basic insights necessary for an adequate analysis of these sentences.

Mrs. Lakoff notes that (12) and (13), repeated below, are not synonymous.

(12) I was surprised by John.
(13) I was surprised at John.

It should be obvious from the discussion above that the recognition that (12) and (13) are not synonymous is what renders irrelevant any attempts to show that (13) is not a passive. This non-synonymy is in fact explained by regarding "John" in (13) as the reduced
form of a complement sentence. I will expand further on these points below.

C. FURTHER REMARKS AND IMPLICATIONS

I think we can conclude that there is in fact little or no real evidence that sentences like (30) can be taken to be closer to an underlying form than sentences like (31).

(30) Frances was frightened at Geraldine.

(31) Geraldine frightened Frances.

In this section, I will outline an alternative analysis, and make some additional general comments on the issues raised by "flip" sentences.

One of the fundamental facts brought out above is that a sentence like (23) is ambiguous as to whether the "action" denoted is purposeful or non-purposeful.

(23) Bill amused Henrietta.

A few recent studies have touched upon the problem of sentences that are ambiguous in this way. Notice that sentence (9) shows this ambiguity, despite the presence of what appears to be an "instrumental adverb." On one reading, and only on one reading, (9) can be paraphrased by (32).

(9) Jerry amused Irma with a harmonica solo.

(32) Jerry used a harmonica solo to amuse Irma.

Lakoff (1968) has proposed that sentences like (32) typically paraphrase sentences with instrumental adverbs, like (9). Of course, this is a very general fact. Lakoff's original examples were the following:
(33) Max cut the salami with a knife.

(34) Max used a knife to cut the salami.

He points out that (33), unlike (34), is ambiguous as between what he calls the "accidental" and "purposive" senses and concludes tentatively that the two senses must have distinct underlying structures. Although Lakoff's terminology may not be entirely appropriate, we are dealing here with essentially the same distinction.

The problem of the deep structure representation of purpose has been studied by Lee (1970), who attempts to provide a far more general account than is possible here. His conclusion is that sentences which express purpose are configurationally defined as having deep structure subjects, and conversely, that sentences which do not express purpose are subjectless in deep structure. At present, I am in agreement with Fillmore (1970), who holds that such an approach is not in fact distinct from an approach, such as his own case grammar, which labels deep structure NPs for different roles. I take this to mean that a sentence like (35) would be configurationally the same on both its readings.

(35) Bill amused Jack.

But regardless of how it is decided to represent purpose, sentences like (35) are of interest for two reasons. First, (35) is paraphrasable by "Jack was amused at Bill" only on the purposive reading, and this provides evidence that purpose must be taken account of. Second, what is particularly relevant here, only emotive predicates allow such paraphrases.5

5It is interesting to note that some verbs are ambiguous such
that one interpretation is "metaphorically" emotive. For example, injured in (i) cannot be interpreted literally.

(i) Wendy was injured at your remarks.

The same is true of sickened in (ii).

(ii) Mervin was sickened at her actions.

The discussion of Chapin's comments provided some idea of the problems involved in dealing with the "flip" rule. However, they were perhaps misleading in one sense, since all the example sentences had human subjects. This is not always the case, however. 6

6Chapin does discuss the verbs benefit and profit, which are apparently "flip" verbs, and which take nouns like experience.

(i) The experience profited John.

(ii) John profited from the experience.

My own initial reactions, at least, indicate that sentences with profit receive an atypical interpretation. Suppose that this verb has both a "literal" interpretation, meaning "financial profit," and a "metaphorical" interpretation. I allow both these meanings for (iii).

(iii) John profited from the stock market.

But only the metaphorical interpretation is possible for (iv).

(iv) The stock market profited John.

This does not seem to be in accord with the observations made about the other examples. However, my reactions are not entirely clear-cut, and I would therefore hesitate to depend on them very heavily.

The notion of ambiguity as between a purposeful versus a non-purposeful interpretation of a sentence presumably makes sense only when we are dealing with human, or at least animate, subjects. But of course, non-animate nouns can occur as subject in sentences like (35).

Given the case framework of Fillmore (1968), (36) could presumably be derived by the subjectivation of an instrumental complement.

```
S
  \---V
    | EXP INST
    | amuse John book
```

This would be compatible with Fillmore's definition of instrumentals: "the case of the inanimate force or object causally involved in the action or state identified by the verb" (1968, p. 24).

It has been pointed out, e.g. by Stockwell et al. (1968, p. 10), that this analysis lumps together under the Instrumental case a number of semantically disparate subject types. Although this is clearly an unsatisfactory situation, I am not aware of any proposed alternatives.

Fillmore proposes that if there is an Agent in any given underlying structure, it typically becomes the surface subject, and if there is an Instrument, but no Agent, then the Instrument becomes the subject. On this account, as I understand it, sentence (37) comes from a deep case structure which contains, inter alia, an Instrument but no Agent.

(37) The plane carried the tourists to Acapulco.

"The plane" in (37) is not an Agent, because Agents are defined as being animate. Why are Agents defined as being animate? Because we know, not from our language, but from our "knowledge of the world," that inanimate objects do not do things on their own, so to speak. Agents and Instrumentals, as subjects, do not in general enter into different syntactic constructions. Thus the decision to label one
NP as Agent and another as Instrument is made on purely semantic, or in this case, perhaps pragmatic grounds.

It seems that the obvious next step is to say that Instruments can occur only in deep case structures where there is also an Agent. A number of things follow from this. We can of course show the relationship between (38) and (39).

(38) John hit Marsha with a baseball bat.
(39) A baseball bat hit Marsha.

We can also show that (40) is not related to a sentence like (38), which would provide for the oddity of (41).

(40) A baseball bat hit Marsha when it fell off the shelf.
(41) *John hit Marsha with a baseball bat when it fell off the shelf.

That is, a baseball bat in (40) would not be a deep Instrument, but some as yet unnamed case.

Furthermore, for many speakers, including me, (42) can be related either to (38) or to (40), but (43) can be related only to (40). Finally, this would imply that (39) is in fact ambiguous, which is certainly not very far off the mark, if at all.

(42) Marsha was hit with a baseball bat.
(43) Marsha was hit by a baseball bat.

These programmatic remarks have implications that go beyond the limited topic considered here, but, if they lead in the right direction, allow us to look for a somewhat more comprehensive analysis. Let us propose that the purposive and non-purposive readings of sentence (44) correspond respectively to the structures of (45) and (46).

(44) John annoys Lucy.
The "flip" rule, if indeed it can be stated formally, will be applicable only to structures like (46). Thus, of course, we reflect the observation of R. Lakoff that in a sentence like "Lucy is annoyed at John," John is in fact interpreted as a reduced form of something like "what John does," which I think is essentially correct. Certainly, (44) on the non-purposive reading can in many contexts be paraphrased by (47).

(47) What John does annoys Lucy.

However, this is not always the case, since it might be, for example, that it is John's appearance, and not his actions, that annoy Lucy. It is possible that the unspecified predicates in structures like (46) can be limited to some large but finite class, and thus the VP in (46) can be realized as an "abstract" verb, representing the members of this class.\(^7\)

\(^7\)Such an analysis might proceed along the lines suggested by Newmeyer (1970) in his analysis of some uses of begin.
This accounts for (44) on both interpretations, and for (49), which is synonymous with one interpretation of (44). The structure shown in (45) can of course be passivized to yield (49).

(48) Lucy is annoyed at John.

(49) Lucy is annoyed by John.

As I have pointed out, R. Lakoff has noted that (12) and (13) are not synonymous.

(12) I was surprised by John.

(13) I was surprised at John.

It is at least true that (12) has one reading that (13) does not have. However, for many speakers, (12) can be synonymous with (13). That is, (12) has two readings, one of which is the same as that of (13), which presumably has just one.

There are many cases where several prepositions are possible in a sentence like (13) with no appreciable meaning difference. This appears to be in general a lexical matter. (However, I will discuss below a case where the particular preposition is important.) For example, (50) is fine, but (51) not obviously so.

(50) I was annoyed with John.

(51) *I was surprised with John.

Suppose then that (49) is either a straight passive, derived by application of the passive transformation to (45), or synonymous with (48). Then the question is, can the passive rule apply as well to (46), with deletion of the unspecified VP, or is (49) also the result of the "flip" rule, with a non-meaning-bearing choice of preposition? The existence of a particular class of emotive verbs leads us to choose the latter alternative. Verbs such as
amaze, disgust, elate, flabbergast, and outrage apparently do not allow agents, and thus cannot appear in structures like (45). This is shown by the ungrammaticality of (52) and (53).

(52) *John deliberately amazed Harold.
(53) *I persuaded Henry to flabbergast Eleanor.

But these verbs do appear in the "flip" form with both at and by.

(54) Harold was amazed \{at\} John.
(55) Eleanor was flabbergasted \{at\} Henry.

Since (48), and (49) on an interpretation synonymous with (48), seem quite analogous to (54) and (55), it seems most revealing to treat (49), on its reading synonymous with that of (48), as being derived by the "flip" rule.

As the above discussion suggests, "flip" sentences are subject to a number of lexical constraints. For example, apparently only interested allows the preposition in. However, sentences with about, in some dialects at least, are interpreted in a particular way. Consider sentences (56) and (57).

(56) Carol is annoyed about Joe.
(57) Lester is frightened about Beulah.

It is immediately obvious that (56) and (57) are not paraphrased by sentences with at or with.

(58) Carol is annoyed at Joe.
(59) Carol is annoyed with Joe.
(60) Lester is frightened at Beulah.
(61) *Lester is frightened with Beulah.

Furthermore, (62) and (63) are also not paraphrases of (56) and (57).
(62) Joe annoys Carol.

(63) Beulah frightens Lester.

Notice that (57) is essentially paraphrased by (64).

(64) Lester is frightened about Beulah's situation.

But (57) is not paraphrasable by (65).

(65) Lester is frightened about Beulah's hairdo.

Thus it appears that sentences like (56) and (57) are understood as having been derived by the deletion of some indefinite predicate on the NP following about. Notice that (57) can be paraphrased by (66).

(66) Beulah's situation frightens Lester.

But again, (67) can be related only to (68), not to (65).

(67) Beulah's hairdo frightens Lester.

(68) Lester is frightened at Beulah's hairdo.

There are apparently a number of nouns that can substitute for situation in this sort of paradigm, for example, problems, trouble, predicament, actions, etc., a fairly large set of almost "contentless" nouns.

The important point, then, to give another example, is the fact that, in some speech styles at least, (69) and (70) are synonymous, but (72) is synonymous with neither.

(69) I am worried about my car.

(70) My car's situation worries me.

(71) My car worries me.

For example, (69) and (70) would be appropriate if my car were being worked on by an inept mechanic, and (71), if it were making strange noises, but not vice versa.
Of course, the abstract nouns listed are by no means synonymous with each other. Thus the forms underlying sentences like (57) must be of the form "Beulah's NP frightens Lester" where the NP can be any of a large but limited set of abstract NPs.

There are, of course, a number of what appear to be largely idiosyncratic facts about "flip" sentences that have been left untouched. I have attempted to show that much of the earlier discussion of these sentences has been either misleading or based crucially on extremely doubtful grammaticality judgments, and to provide an alternative treatment based in part on facts which, so far as I know, have not before been treated in print.
I will deal here with a set of constructions in English which I will refer to as "concessives". These constructions are defined morphologically by the occurrence of WH-forms with -ever, such as whoever, whatever, etc. I will restrict myself here to sentences with whoever, but the discussion can easily be extended to the other forms, since the surface form depends simply on the nature of the underlying NP, whether Human, non-Human, Locative, Temporal, etc.

The term "concessives" is chosen because it has been used by some of the traditional grammarians who have remarked on these forms. A brief survey of some of their observations appears below. These constructions have never to my knowledge been considered by transformational linguists.

A study of concessive constructions is relevant to the general purposes of this study because these constructions, in some and perhaps all of their uses, provide another example of a syntactic construction whose primary purpose is to indicate an emotive judgment. I will discuss concessives as they appear in two major syntactic roles: as subject, object or indirect object complements, and as sentence adverbials. Following are a few example sentences. (1) and (2) illustrate subject complements, (3) an object complement, and (4), a sentence adverbial.
(1) Whoever painted that picture is a genius.
(2) Whoever disrupts college classes should be jailed.
(3) We want to talk to whoever wrote that book.
(4) Whoever reached the New World first, Christopher Columbus is the man who is remembered.

The claim that concessive constructions have an emotive function is based in part on intuition, as are judgments about the semantic properties of other constructions or of particular words, and in part on paraphrase relationships. There are, however, a number of general comments that need to be made in order to place the analysis of concessives in perspective. I will therefore reserve specific comments about the emotive function of concessives until after a more general survey of their properties.

As I said above, I am unaware of any writings on concessives by transformationalists. Earlier grammarians, however, have made a number of comments. I will first give a brief sample of these comments, and then proceed into my own analysis of concessives, which will be divided into three main sections: 1) the syntactic characteristics of concessives, 2) the semantic facts about concessives which account for their syntactic behavior, and 3) some speculations on the underlying syntactic representation of concessive constructions.

A. ANALYSES BY TRADITIONAL GRAMMARIANS

Jespersen (1964) offers the most comprehensive treatment of concessives among the traditional grammarians. In his Essentials of English Grammar, he gives the following examples (p. 353):

(5) Who steales my purse steales trash.
(6) Whoever says so is a liar.
(7) Whatever I get is at your disposal.

(8) You may marry whom you like.

(9) He wants to shoot whoever comes near him.

(10) He will eat whatever he sets his heart on.

(11) You may dance with whom you like.

(12) He will shoot at whoever comes near him.

Jespersen considers these constructions to be a type of relative clause. Thus in (5)-(7), the "relative clause is the subject," and so on. He notes that (5) has "for centuries been archaic only," and of course whom in (8) and (11) would in contemporary English be replaced by who(m)ever.

Jespersen begins his commentary with the following:

In all these sentences it is the relative clause itself in its entirety that is the subject or object. It would not do to say that in [5] who stands for he who, and that he is the subject of (the verb in) the main clause, and who that of the relative clause, for the supposition of an ellipsis of he is quite gratuitous—and in many of the sentences quoted it would be impossible to insert any pronoun that would give sense and that might be said to have been omitted.

The correctness of this analysis, which makes the whole clause the subject, etc., is brought out clearly when we consider those cases in which a clause which is itself the object of a preposition contains a preposition having for its object the relative pronoun:

To take a note of what I stand in need of.

(Shakespeare)

I had been writing of what I knew nothing about. (Ruskin)

Jespersen makes only one relevant semantic comment here. He says, "While what is used very extensively in clause primaries, the same is not true of who. ...There is, however, one condition on which similar clauses may be used in natural speech, namely, that
the meaning is distinctly generic and that indifference of choice is expressly indicated." He refers to sentences like (14) or

(13) He abuses whoever crosses his path.

The exclusion in the quotation is in reference to sentences like

(14) He abuses whom he knows.

which Jespersen notes are inadmissible.

In A Modern English Grammar (1954), of which Essentials of English Grammar is a shortened version, Jespersen makes a few somewhat more explicit statements. The quotation directly above from Essentials of English Grammar is taken almost verbatim from this work. But here Jespersen adds a most contemporary-sounding observation when he notes that the "generic meaning" or "indifference" may be expressed "...by such a verb as choose, please, like, would in the clause itself ([cf.] no matter who)." And then, "The parallelism between these two idioms, and, in fact, the peculiarity of the latter kind of clauses, have never [ca. 1927] been noticed by grammarians, so far as I know." (Vol. III, p. 62).

Later, Jespersen notes that whoever, whatever, etc. are, in "ordinary grammars...given as a separate class, termed indefinite relative pronouns." He does not accept this classification, however. "There is...no reason why they should be set up as a class by themselves; they are not more indefinite in their meaning than the simple who or what...: the really characteristic trait of the clauses introduced with -ever is that they are not adjuncts as are most relative clauses." (1954, p. 62).

Curme (1931), in Volumes II and III of A Grammar of the English Language, establishes himself as an "ordinary grammarian" by his use
of the term indefinite relative, but makes no very helpful observations.

Ralph B. Long (1961), author of The Sentence and its Parts, makes
roughly the same comment as Jespersen: "Often whoever expresses
indifference to identity in a way that relates it semantically to
anyone and no matter." (p. 372).

R. W. Zandvoort (1962), in his brief comments on concessives,
decides that whoever, whichever, etc., are "very indiscriminate in
meaning." (p. 166).

B. THE SYNTAX OF CONCESSIVES

The fundamental syntactic fact about concessive constructions is
that they impose a rather specific restriction on the NPs that may
appear in the main clause of any sentence containing a concessive.
This restriction is explainable by appeal to the particular semantic
function of concessives, which is discussed at length in the next
section of this chapter. Briefly, however, the restriction is that
the identity of the person or thing described by the concessive clause
must be unknown to speaker, hearer, or both, and so cannot be revealed
by the main clause. This constraint is subject to fairly well-defined
dialectal variation, and will be more carefully described later.

Consider first sentences like the following, in which whoever
appears as the head noun in subject complements.

(15) Whoever says so is a liar. (=6)

(16) Whoever robbed the bank should be punished.

(17) Whoever comes will be welcome.

(18) Whoever murdered George lives in that house.
(19) Whoever wrote that book is the man we want.

Now note that (20) and (21) are completely ungrammatical.

(20) *Whoever robbed the bank is John.

(21) *Whoever wrote that book is the man who lives in that house.

(15)-(19) freely permit negation of the main predicate, as in (22).

(22) Whoever robbed the bank should not be punished.

(20) and (21) with negation of the main clause are, if not completely acceptable, at least better than they are without the negation.

(23) Whoever robbed the bank isn't John.

(24) Whoever wrote that book isn't the man who lives in that house.

The types of relative clauses which can appear with concessive complements are similarly restricted.

(25) *Whoever robbed the bank, Ma Barker, should be punished.

(26) *We will buy whatever is cheapest, a Volkswagen.

(27) *I will give the prize to whoever finishes first, the brightest student.

(28), (29), and (30), however, are grammatical.

(28) Whoever robbed the bank, probably Ma Barker, should be punished.

(29) We will buy whatever is cheapest, undoubtedly a Volkswagen.

(30) I will give the prize to whoever finishes first, very likely the brightest student.
Qualifiers like *probably* are sufficient to indicate that the speaker is not certain of the identity of the referent of the concessive, and so the restriction as it applies to appositives is removed. This restriction will be somewhat expanded on below, but an exhaustive statement of it must await more extensive research on the properties of qualifiers like *probably* and *undoubtedly*.

Similar comments can be made about concessives used as sentence adverbials. Some additional examples follow.

(31) I still don't believe it, whoever told you.
(32) Whoever robbed the bank, the police have a big job ahead of them.
(33) Whoever told us, we're going to have a good time.
(34) Whoever murdered George, there's no sense in our worrying about it.
(35) Whoever wrote that book, the whole matter is no concern of ours.

Predictably, (36) and (38) are grammatical, but (37) and (39) are not.

(36) Whoever robbed the bank, John didn't do it.
(37) *Whoever robbed the bank, John did it.
(38) Whoever wrote that book, we know it wasn't Nathanael West.
(39) *Whoever wrote that book, we know it was Nathanael West.

Concessive complements obviously bear a surface resemblance to embedded questions, but it is plain that they are not embedded questions. For example, (40) and (41) are clearly ungrammatical.
(40) *I know whoever won the election.

(41) *John told me whatever he bought at the store.

The concessive adverbials in, for example, (31)-(35) can be paraphrased by any of several synonymous constructions like "It makes no difference..." or "No matter...." For example,

(42) I still don't believe it, no matter who told you.

(43) No matter who robbed the bank, the police still have a big job ahead of them.

To a large extent, the properties of concessives and their paraphrases like those mentioned are alike. For example, compare (44) and (45) with (46) and (47). All are ungrammatical.

(44) *No matter who robbed the bank, it was John.

(45) *No matter who wrote that book, it's the man who lives in that house.

(46) *Whoever robbed the bank, it was John.

(47) *Whoever wrote that book, it's the man who lives in that house.

Now observe that (48) and (49) are grammatical.

(48) No matter who you think robbed the bank, it was John.

(49) Whoever you think robbed the bank, it was John.

It is, as implied above, a sufficient condition for the use of concessive clauses or their paraphrases that the hearer be unaware of the identity of the HP described by the clause. In (48) and (49), the speaker must presuppose that his hearer is mistaken in any idea he has as to the identity of the robber, and so is in fact unaware of the robber's identity.

With a negative main clause (46) and (47) are grammatical
(50) Whoever robbed the bank, it wasn't John.
(51) Whoever wrote that book, it's not the man who lives in that house.

However, for my speech at least, this is not true of sentences like (44).

(52) *No matter who robbed the bank, it wasn't John.

I have at this point no explanation for this syntactic difference between concessives and the apparently synonymous constructions of the "no matter..." type.

Another syntactic difference between these constructions (in some dialects) is that the former in some circumstances allow deletion of the copula, while the latter do not.

(53) \[
\begin{align*}
\text{Whatever the reason is} \\
\text{No matter what the reason is}
\end{align*}
\]

(54) \[
\begin{align*}
\text{Whatever the reason} \\
*\text{No matter what the reason}
\end{align*}
\]

These examples provide an idea of the relevant syntactic characteristics of concessive constructions. The next section of this chapter attempts to correlate these facts with the semantics of concessives.

C. THE SEMANTICS OF CONCESSIVES

I have already quoted Jespersen as saying that concessive constructions, in many cases at least, connote "genericness" or "indifference to choice." This is illustrated by sentences like (6) and (9). Now notice that we have sets like the following:

(55) Anyone who robbed a bank should be punished.
(56) Everyone who robbed a bank should be punished.
(57) Whoever robbed a bank should be punished.
(55), (56), and (57) are obviously very close to each other in meaning, and perhaps are all "generic", on a broad definition of that term. But they are not in fact completely synonymous, and cannot be on syntactic or semantic grounds considered to be merely surface variants.

Consider first (55) and (56). There is a crucial presuppositional difference between these two sentences. (55) does not presuppose that someone did in fact rob a bank, but (56) does. Thus (58) is not internally contradictory, although (59) is.

(58) Anyone who robbed a bank should be punished, but no one robbed a bank.

(59) *Everyone who robbed a bank should be punished, but no one robbed a bank.

(57) is like (56) in this respect, i.e., (57) also presupposes the existence of a bank robber. But of the following pair of sentences, only the first is grammatical.

(60) Everyone who robbed a bank, namely Joe, Bill and Tom, should be punished.

(61) *Whoever robbed a bank, namely Joe, Bill and Tom, should be punished.

Thus we can see that concessives differ from anyone with respect to the presuppositions involved, and from everyone with respect to the possibility of co-occurrence with appositives. These facts, and many others, are, I think, explained by an appeal to the semantic properties of concessives. As I said above, there is dialect variation here, but its general features appear to be fairly easily describable.
The crucial fact is that while concessives do, as pointed out above, presuppose the existence of a referent, they also presuppose that the identity of the referent is not known, either to both speaker and hearer or to just one of them, depending on the dialect. In both dialects, however, the speaker may indicate that he believes his hearer thinks he knows the identity of the referent, but is mistaken. Sentence (50) illustrates this situation. This "concealment" of the identity of a referent is one of the basic characteristics of concessives, and, as the examples just given indicate, it requires that they be distinguished from other constructions which are at first glance quite similar. Since my own dialect is the former of the two described, i.e., that in which the identity of the referent must be unknown to both speaker and hearer, I will for the most part limit myself to a description of this dialect in what follows.1

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1 Labov (1970) has pointed out that such a use of the term "dialect" is quite odd and misleading, but I know of no better term, and no one has made any proposals. I have no idea what might account for such a "dialect" difference. In general, however, it has recently become clear that variations of this sort must be dealt with, and they have attracted the attention of a number of linguists. See for example Bolinger (1968), Carden (1970), Elliott, Legum and Thompson (1969), Heringer (1970), Labov (1969, 1970), and Postal (1968).

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Notice now that example (16) is essentially paraphrased by (62).

(16) Whoever robbed the bank should be punished.

(62) The person who robbed the bank should be punished.

But (62) is ambiguous, and (16) paraphrases it on only one reading. (62) is also appropriate to a situation in which the speaker knows who robbed the bank, and thus (63) is grammatical.
The person who robbed the bank, Ma Barker, should be punished.

Notice also the following pairs:

The man who robbed the bank, whom I just arrested, should be punished.

*Whoever robbed the bank, whom I just arrested, should be punished.

The man who robbed the bank drove a blue car. He told me so himself.

*Whoever robbed the bank drove a blue car. He told me so himself.\(^2\)

\(^2\)In (67), of course, the asterisk is meant to indicate that the discourse, not its component sentences, is ill-formed.

At this point, our interests coincide to some extent with those of a recent philosophical discussion of an aspect of the problem of reference, and we are able perhaps to offer a clarification of this discussion. Donnellan (1966) draws a distinction between what he calls the "referential" and "attributive" uses of certain nominal constructions, of which "the person who robbed the bank" is a typical example.

According to Donnellan, when a speaker uses a noun phrase referentially, he intends for his listener to be able to pick out some person, object, etc., which is the referent of that noun phrase. It does not matter, on this account, whether or not the referent actually fits the description used. To take an example of Donnellan's, if I ask, "Is the man carrying the walking stick the professor of
history?" it may turn out that the man was in fact carrying an umbrella, or even that what I took to be a man with a walking stick was actually a rock. Nevertheless, I have used the noun phrase "the man carrying the walking stick" referentially, since I intended that my hearer be able to pick out something referred to by that expression.

On the other hand, when a speaker uses a noun phrase attributively, he does not intend that his hearer be able to pick out or find a referent for the NP, but here, for reasons which Donnellan goes into detail, it is crucially important that the referent of the NP fit the description given.

One of Donnellan's key examples is the sentence "Smith's murderer is insane." We can use the phrase "Smith's murderer" to refer to some particular person, who may not in fact have murdered Smith (the referential use), or we may use the same phrase if we decide, having "come upon poor Smith foully murdered," that there must have been a murderer (the attributive use). When using such an expression in the attributive sense, Donnellan says, "in a quite ordinary sense we do not know who murdered Smith (though this is not in the end essential to the case)" (p. 285; my emphasis).

Donnellan cites no examples involving "whoever" or similar forms. I believe that objections can be made to Donnellan's claims based on the examples he uses, but that is probably not relevant here. It is my contention, however, that for the class of constructions I am considering here, it is quite essential that "we do not know" this or that, and that this is exactly the semantic force of these constructions.

It should be pointed out that there are also noun phrases which are not ambiguous as to the referential-attributive distinction. For
example, the NP "the man who is sitting in that chair," it would seem, has only the referential use. As far as I know, no one has as yet given any general characterization of noun-phrases which can and cannot be used both referentially and attributively. It is not even clear whether such a characterization can be given in any systematic way.

This qualification aside, we may say that a sentence like (16) may be paraphrased by a sentence like (62) only on the attributive interpretation of the subject NP in (62). It may be inferred from the immediately preceding paragraph that all a syntactician can do with these facts is to mark them in an ad hoc way by using "features" like [+referential] and [-referential]. It is plain enough, however, that one reason why a speaker might use a sentence like (62) attributively is that although he may know that there exists a "man who robbed the bank," he might not know who that man is, and therefore could not use the expression to refer to any particular person.

It might be objected that the class of non-referential noun-phrases and the class of noun-phrases which imply that the speaker "does not know" something simply coincide. The main reason why I think this is not so, for my own speech at least, is given above. There are, however, some other observations that can be made to indicate that this is not the case.

Heringer (1969) gives the following sentences as containing examples of attributive noun phrases.

(68) John wanted to catch a fish.
(69) Henry tried to locate a winged horse.
(70) Max is a doctor.
(71) I didn't find an osteopath.

(72) Did you hit a pig in the snout?

Now, although the underlined noun phrases in (68)-(72) are interpreted attributively, these sentences are in no way taken to mean that someone "does not know" this or that. In fact, if we bring in this notion, as in (68a) and (69a), the underlined noun phrases are now interpreted as specific, and hence referential.

(68a) John wanted to catch a fish, but I don't know which fish.

(69a) Henry tried to locate a winged horse, but I don't know which winged horse.

Similar continuations of (70) and (71) produce unacceptable sentences.

(70a) #Max is a doctor, but I don't know which doctor.

(71a) #I didn't find an osteopath, but I don't know which osteopath.³

³For extensive discussion of sentences of this kind, see Karttunen (1969).

Thus, in these examples at least, the provinces of the two notions we are considering do not appear to be the same.

Following is a summary of the arguments so far:

I. Concessive constructions are not synonymous with the general quantifiers any and every because:

   a. concessives are unlike any in that they presuppose the existence of a referent and

   b. concessives are unlike every in that they presuppose that the identity of the referent is unknown to (at least) the speaker.
II. Point b. in I offers an explanation for the fact that concessives cannot cooccur with referential nominals.

III. Concessives cannot be considered to be "attributive" NPs in precisely the sense of Donnellan (1966) also because of point b. in I.

I said above that (55), (56), and (57) are all, on a broad definition of the term, "generic" sentences. However, a sentence like (73) is in some sense ambiguous.

(73) He gave a present to whoever came through the door. This sentence can be paraphrased in two distinct ways:

(74) He gave a present to everyone who came through the door.

(75) He gave a present to whoever it was that came through the door.

It is not necessary, however, to say that in cases like this there are two separate and distinct uses of concessives: the "generic" use and the "lack of knowledge" use. On both interpretations of (73), it is implied that the speaker does not know the identity of "whoever came through the door." The difference between the two interpretations of (73) lies in the fact that the concessive can be interpreted either specifically or non-specifically, and it- (and there-) insertion are applicable only to specifics.

The preceding discussion gives some idea of the general semantic properties of concessive constructions, and provides, I think, motivation for a more detailed study of these properties as part of the general investigation of the important philosophical problem of
reference. Coupled with these properties is the emotive aspect of concessive constructions. They are paraphrasable by any of the several members of a specific subclass of emotive predicates, such as irrelevant, unimportant, it makes no difference, no matter, etc. (42) and (43) were given above as examples of this. Notice also (76).

(76) It's irrelevant (unimportant) who robbed the bank;
the police still have a big job ahead of them.

Concessive adverbials appear always to carry this semantic interpretation. Concessive subject and object complements are susceptible to it. This appears to be, although I can speak only intuitively, just the effect of adding extra stress to -ever. The important fact is that the corresponding attributive NPs cannot be stressed to produce the same effect. At present, I am not certain as to what the implications of this fact might be, nor am I able to offer any convincing proposals for representing these facts within any currently available formulation of the general theory of transformational grammar.

It is clear that the adverbial function of concessives must be kept distinct from their function as subject and object complements, since both constructions can appear in the same sentence.

(77) The man who robbed the bank, whoever he was, will be caught soon.

(78) Whoever robbed the bank, whoever he was, will be caught soon.

(79) The man who robbed the bank will be caught soon.

(80) Whoever robbed the bank will be caught soon.

It is my impression that (80) can be read with neutral intonation, in which case it is completely synonymous with (79), or with stress on
ever, in which case it is not. In (78), on the other hand, stress on the whoever of the main clause is not possible. If this is true, it indicates that (80) with stress on whoever is related to (78) in a way that (80) without stress on whoever is not. Rather, (80) without stress on whoever is related directly to (79).

We appear to be faced here, not with a problem involving the behavior of a particular class of words, but with another syntactic construction one of whose major functions is the bearing of an emotive predication. But in some cases, the emotive interpretation appears to depend crucially on stress, and it is not clear what the correlates of this stress change may be in the semantic or syntactic representations of the sentences involved, any more than it is clear what the correlates of any other type of emphatic or contrastive stress may be. The discussion here, although far from complete, provides the motivation and the groundwork for a more extensive investigation of the many interrelated topics that have been touched upon.

D. SOME SPECULATIONS ON THE SYNTACTIC ANALYSIS OF CONCESSIONS

I have said that concessive subject and object complements can be paraphrased by attributive noun phrases. This fact provides an extra piece of syntactic evidence for the distinction proposed by Donnellan (1966) between referential and attributive NPs. It seems natural to propose that concessives are derived from attributive NPs. The details of the syntactic description remain to be worked out, but some observations can be made.

It is obvious that concessives must themselves have the syntactic form of full sentences, but attributive noun phrases need not.
(81) The murderer is insane.  
"The murderer" in (81) can be interpreted either referentially or attributively. But the only concessive construction corresponding to the attributive reading of (81) is (82).

(82) Whoever is the murderer is insane.  
This fact appears to fit in very nicely with Bach's (1968) proposal that the more basic form of a sentence like (81) is something like (83).

(83) The one who is the murderer is insane.  
That is to say, the rule of concessive formation can apply to the structure underlying (82) or the appropriate deletion rule can apply to the same structure, producing (81). In this way, the synonymy of the three sentences can be brought out clearly.

Bach's proposal is essentially equivalent to saying that all nouns are introduced into sentences by way of relative clauses. Such a derivation as that proposed would also bring out the relationship of concessives to relative clauses, which, as I have said, has been noticed by traditional grammarians.

The syntactic analysis of concessive adverbials presents some problems which go beyond these constructions themselves, and which up to this time have received little attention. The syntax of the formation of complex sentences in English, and especially the syntax and semantics of particular complement structures, has received a great deal of attention from generative grammarians. The most widely accepted view, at the present time, is that there are two basic principles of complex sentence formation: **conjoining** and **embedding**. It is fairly easy to give a definition of an embedded sentence. Such a sentence is one that bears one of the basic grammatical relations, such as subject or
A definition of conjoining is not so easy to come by, but this is usually taken to include sentences joined by and, but, or and perhaps a few other "coordinate conjunctions."

There remains the very ill-defined notion of "subordinate clause."

A number of studies have commented on various aspects of the syntax of such clauses, but there has been little general discussion. Thompson (forthcoming) notes the arguments in Geis (1969) that several constructions that were previously considered to be subordinate clauses can be shown to be underlying relative clauses or noun complements. She then proposes, on the basis of several pieces of syntactic evidence, that we must recognize a new type of complex sentence formation, which she calls "subjoining."

According to Thompson (personal communication), the evidence she has collected so far would not allow us to include concessive adverbials in the class of subjoined clauses. She points out, for example, that subjoined clauses are typically introduced by various "subordinate conjunctions," and are subject to several general grammatical processes, such as deletion and gerund formation. This is not true of concessives. And, as she remarks, there are a number of other constructions whose analysis is at present quite unclear, such as the underlined clause in (84).

(84) Ernestine never became Miss America, her famous beauty notwithstanding.
A number of other such problematic examples are discussed in the appendix to Rutherford (1970).

It is clear that concessive adverbials will have to be derived from sentences, that is, in a loose sense, they are "complement sentences" of some sort. Their specific semantic function has been described above. What is needed is some motivated way of representing the syntactic relationship of the concessive to the main clause, so that this syntactic relationship, whatever it may be, can be shown to be a specific instance of a general grammatical phenomenon.
As I stated in the Introduction, the fundamental purpose of this study has been to establish the claim that an adequate grammar of English must recognize the fact that there are a number of syntactic constructions which express only emotive or exclamatory predications, and that these constructions can be distinguished by syntactic criteria from other superficially similar constructions.

It is evident that a study such as this provides a number of facts which must be taken into account by anyone interested in constructing a theory of sentence types. I alluded briefly in Chapter I to the fact that many such theories have been offered by traditional grammarians. Although Postal, in his critique of taxonomic syntax (1964, p. 74), listed as one criticism the fact that "the notion of sentence type is not reconstructed," only recently have transformational linguists, such as Ross (1970) and Sadock (1968, 1970), made any progress toward a theory of universal sentence types.

As mentioned in Chapter I, at least four basic sentence types have been widely recognized: declaratives, imperatives, questions and exclamations. One thing that emerges quite clearly from this study is that there are at least morphological similarities linking the last two types in unique ways. In Chapter I, I devoted some
effort to showing that embedded exclamations and embedded questions are syntactically distinct. This of course would not have been necessary were it not for the fact that in many cases the two constructions are on the surface quite identical.

The similarities do not end here. Another point is to be made with respect to the rule of noun-phrase extraposition discussed in Chapter II. It happens that at least some of the sentences analyzed in that chapter have paraphrases with what appear to be embedded exclamations. Compare the following examples to sentences (5)-(8) in Chapter II.

(1) It's awful what a price you have to pay for tomatoes in the winter.
(2) ?It's a disgrace what a way he behaves in when he's drunk.
(3) It's a disgrace how he behaves when he's drunk.
(4) It's marvelous what an amount of weight I've lost since I started on that diet.
(5) It never ceases to amaze me what size dress my neighbor wears.

Again, this construction is not permitted with non-exclamatory predicates.

(6) *It's high what a price you have to pay for tomatoes in the winter.

Extraposition is obligatory in all of these except (3).

(7) *What a price you have to pay for tomatoes in the winter is awful.
(8) *What a way he behaves in when he's drunk is a disgrace.

(9) How he behaves when he's drunk is a disgrace.

(10) *What size dress my neighbor wears never ceases to amaze me.

It is here that we can demonstrate an interesting analogue to a situation described in a recent paper by LeRoy Baker (1969). He discussed what he calls "concealed questions," giving the following examples:

(11) I'm not sure I know the one you mean.

(12) See if you can find out the person or persons that committed that atrocity.

(13) Tell me the house you wish that package delivered to. (p. 2)

Baker refers to sentences like (11)-(13) as "concealed questions" because they are understood interrogatively, and because they have paraphrases with embedded questions containing WH-words.

(14) I'm not sure I know which one you mean.

(15) See if you can find out which person or persons committed that atrocity.

(16) Tell me which house you wish that package delivered to.

The major claim in Baker's paper is that concealed questions cannot be derived from embedded questions, and, conversely, that embedded questions cannot be derived from concealed questions. The evidence for this claim is that there are embedded questions without
corresponding concealed questions, and that derivation in the opposite order appears to require ad hoc restrictions.

Baker proposes instead that there is in fact no syntactic relation at all between embedded questions and concealed questions, but only the obvious semantic one. He does not state precisely the conclusions for linguistic theory that he draws from this, but does say that the "level at which these constructions [embedded and concealed questions] are defined... is not that of semantic representation" (p. 10).

What is particularly relevant to this study is Baker's observation that his concealed questions appear to have the surface form of relative clauses. He in fact maintains that they are syntactically relative clauses, and claims therefore that this renders untenable the argument that relative clauses are derived from conjunctions (see Thompson 1971) since concealed questions have no conjunction paraphrases.

(17) The police figured out the man who committed the murder.

(18) *A man committed the murder and the police figured out the man.

Whether or not one accepts Baker's arguments against deriving concealed questions from embedded questions, it is clear that although Chapter I had as its aim the analysis of a class of non-interrogative English sentences, it seems to have uncovered a situation very much like that found by Baker. As a comparison of sentences (1)-(5) above and sentences (5)-(8) in Chapter II will show, we have another group of synonymous sentences, one of which
has a WH- construction, the other of which has a relative clause.

So far, I have made the following observations:

A. Both questions and exclamations make use of WH- forms.
B. Despite demonstrable syntactic differences, questions and exclamations have identical surface forms in many cases.
C. Embedded questions and embedded exclamations both show paraphrases with relative clauses.

There is at least one other point to be noted, one which depends largely on intuition. In general, any yes-no question in English can be used not only as a "real" question, asking for information, but also as an exclamation. Consider (19) as an example:

(19) Does she have beautiful legs?

As an exclamation, such a sentence would typically be pronounced with a falling intonation, not a rising one, as is true of yes-no questions. A demonstration of this ambiguity is the existence of sentences like (20).

(20) Boy, does she have beautiful legs!

Here, the use of "interjections" like Boy, Wow, My God, Man, etc., is limited to exclamations, and is not possible with questions. That is, (20) with rising question intonation is distinctly ill-formed.

These facts take on additional interest when we observe that similar statements can be made about a number of languages besides English.

FRENCH
(21) Quelles belles maisons il a acheté!
what pretty houses he bought!
(22) Quelles maisons a-t-il acheté?
What houses did he buy?

1Also of interest here is the French "Que S" construction, exemplified by (i), which is also interpreted exclamatorily.

(i) Que je suis content!
That I am happy = How happy I am!

But this construction cannot be used with just any sentence expressing a proposition which can be "exclaimed" about.

(ii) *Que ce livre coûte 200 dollars!
That this book costs 200 dollars

I have not yet been able to look into this very far, but my guess is, and my informants suspect that I am right, that this construction is limited to sentences with "sealed predicates" like those mentioned in note 11 to Chapter I.

RUMANIAN
(23) Ce om placut este!
What man nice is = What a nice man he is!

(24) Ce fel de om este?
What kind of man is = What kind of man is he?

(25) Cat de placut este ?
Ambiguously, depending on intonation, "How nice is he?" or "How nice he is!"

GERMAN
(26) Wie angenehm ist es!
How nice it is!

(27) Wie tust du das?
How do you do that?

(28) Was für ein schöne Tag ist es!
What a nice day it is!

(29) Was hast du gelesen?
What have you read?

CHINESE (Mandarin)
(30) Ta duoma gao ?
He how tall = "How tall is he?" or "How tall he is!"
RUSSIAN
(31) Kak ona kras'ivaya!
How she beautiful = How beautiful she is!
(32) Kakaya kras'ivaya devochka!
What beautiful girl = What a beautiful girl!
(33) Kakaya devochka te vidal?
What girl you saw = What girl did you see?
(34) Kak vy zhiv'o't'e?
How you live = How are you?

JAPANESE (Literary)
(35) Nan to yuu uso o tsuku no deshoo!
What lies he tells!
(36) Nan no uso o tsukimashitaka?
What lies does he tell?

My informant tells me that this correlation also exists in colloquial Japanese. Although he does not know the historical details, he suspects that these constructions were borrowed from Chinese.

TURKISH
(37) Ne lezzetli yemek yapiyon!
What delicious meals she is cooking!
(38) Ne yemek yapti aksam icin?
What meal did she cook dinner for?

I am at present making a necessarily random inquiry to see just how widespread this phenomenon is. But in just these examples, it appears in six separate linguistic families or subfamilies.

Other similarities between interrogatives and relatives in English have of course been remarked on many times. Kuroda (1968) attempted to account for their morphological similarities, but "(left) open the problem of whether the WH- interrogative and WH- relative words are related not just formally but even substantially or semantically." No one would deny, however, that an answer to the
question neglected by Kuroda would be even more satisfying and significant than an account based purely on morphological similarities.

At the present time, I have only a vague speculation or two as to why questions and exclamations should share so many characteristics, despite their demonstrable syntactic and semantic distinctness, or as to why at least some languages have distinctly "exclamatory" constructions.

In any event, we may have here another route to this study of "substantive semantic universals" in the sense of Chomsky (1965), and one which is interestingly restricted. It is not surprising that all languages should have words referring to persons, or ways of denying propositions, but it is conceivable that they might be able to get along without syntactically definable exclamatory constructions. Of course, given only the spotty evidence I have been able to accumulate so far, it is not even clear how many languages do in fact have such constructions. But the evidence given for English, and the remarkable similarities across even a few languages, should be sufficient to convince us that we have here an area of syntax that is distinct and that must be accounted for in any theory of language.
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