THE PSEUDO-CLEFT CONSTRUCTION IN ENGLISH

by

FRANCIS ROGER HIGGINS

B.A., Cambridge University

1963

SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE
DEGREE OF DOCTOR OF
PHILOSOPHY

at the

MASSACHUSETTS INSTITUTE OF
TECHNOLOGY

September, 1973

Signature of Author ..........................................................

Department of Foreign Literatures and Linguistics,

June 22, 1973

Certified by .................................................................

Thesis Supervisor

Accepted by .................................................................

Chairman, Departmental Committee

on Graduate Students

Hum.

JUL 25 1973

M ASS. INST. TECH. LIBRARIES
THE PSEUDO-CLEFT CONSTRUCTION IN ENGLISH

by

F. Roger Higgins

Submitted to the Department of Foreign Literatures and Linguistics on June 22, 1973, in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

ABSTRACT

The central point of this thesis is a demonstration that the derivation of English sentences of a certain type, called pseudo-cleft sentences, does not involve the application of a specific pseudo-cleft transformation. Rather, it is argued that the null hypothesis—in this case, that the deep structure of the sentence is essentially identical to the surface structure form—is correct.

A characterization is given of the object of investigation, the pseudo-cleft construction in English. Sentences of this form characteristically are ambiguous. The two readings are introduced to the reader and given the names "predicational" and "specificationnal". In previous studies of this construction it has been argued that a specific pseudo-cleft transformation is required for the generation of specificational pseudo-cleft sentences. Some of the evidence for this claim is reviewed and the two main competing analyses, the "deletion" analysis, and the "extraction" analysis, presented. Arguments are given to show that these analyses fail to reach the level of descriptive or observational adequacy, and therefore the existence of a pseudo-cleft transformation is thrown into doubt.

When certain sentences involving nominalizations are considered, it is seen that they behave identically to specificational pseudo-cleft sentences with respect to those properties which led to the positing of a pseudo-cleft transformation. It is then shown that within the theoretical framework known as the "extended standard theory", which incorporates the "lexicalist" approach to nominalizations, these properties cannot be accounted for by means of a transformational rule. The null hypothesis is accepted as correct. The meaning of specificational sentences is discussed, their similarity to lists being noted, and the phenomena which seem to require a transformational explanation are examined again. The explanatory and predictive power of the null hypothesis is noted. The problem of ambiguity in copular sentences is discussed and further distinctions drawn. Finally, certain restrictions on the syntactic behavior of specificational pseudo-cleft sentences are
listed, and a tentative explanation offered for some of them in terms of properties of anaphora. The thesis implicitly contains much material which, in a theory that derives all nominalizations transformationally, is relevant to the status and ordering of rules such as nominalization and pronominalization, although no effort has been made to spell out all of these implications in detail.

Thesis supervisor: A. Noam Chomsky

Title: Ferrari P. Ward Professor of Modern Languages and Linguistics
ACKNOWLEDGMENTS

In spite of the fact that I finally presented him with a thesis on a different topic from the one which he had expected, Professor Chomsky has helped me considerably with both the form and content of this essay. He has had the burden of reading critically a large amount of material which does not appear here in the final version, and has coaxed me out of the exploration of too many sidetracks (though the length of some of my footnotes may seem to belie that claim). He has listened patiently to my at times incoherent verbal explanations—his look of puzzlement then a wonderfully efficacious stimulus to the elicitation of a more sensible (though usually delayed by a week or more) response—and has saved me from many a blunder. Above all he has had the magnanimity not to bar me from entertaining ideas and exploring solutions which have not always been in accord with his own views.

Professor Hale has been ready at all times to discuss problems and solutions, and I have exploited his open-door policy quite mercilessly. I am very grateful to him for helping me to thrash out some of the problems associated with the pseudo-cleft construction in the early days when it was difficult to tell what was a real problem and what was not.

The third member of my thesis committee, Professor Halle,
I must thank for not having been as rigorous in his disciplinary functions as he might have been and for having a healthy dis-\taste for reading long papers. He has allowed me to proceed at my own pace, but has always been heart-warmingly enthusiastic when I have discussed my work with him.

I would like to thank Professor Ross for reading the completed draft of the thesis and making a large number of very useful comments. I have taken account of as many of them as possible in the final version.

During the early stages of the preparation of this thesis I was able to have several helpful discussions with Professor Perlmutter.

One of the most rewarding and sustaining factors in my work has been regular discussion of matters linguistic and non-linguistic with Jean-Roger Vergnaud, to whom I owe a great debt of gratitude. He has often been the first person on whom I have tried out my ideas, and has been very tactful and yet saved me from embarrassing error.

I owe a great indirect debt to Professor Akmajian, from whose thesis (Akmajian 1970b) I gained my initial detailed acquaintance with the pseudo-cleft construction. It is mainly through working carefully through his treatment that I have learnt what I have about the construction. I have tried to make my indebtedness clear in the body of the text.

At a greater remove in time, I would like to thank Professor Halliday, whose course on the structure of English at
Yale University in the winter of 1967-1968 first aroused my interest in copular sentences, and to Professor Wells of Yale University, through whose advocacy I was first persuaded that it might be worth my while to read some philosophy (in particular, that of Bertrand Russell and Quine) and who therefore helped provide me with some of the background for chapter five.

Apart from these particular causes for gratitude, I owe a collective debt to all the faculty of the linguistics department at the Massachusetts Institute of Technology for the excellent and open atmosphere which prevails there, in which creative argument is rated more highly than dogma. I hope that this thesis reflects something of what I have learnt from them.

Finally, I would like to thank Patricia Maden for agreeing to type the final version, and for doing it from not the tidiest of manuscripts.
# TABLE OF CONTENTS

CHAPTER 1: INTRODUCTION ---------------------------------- 11

FOOTNOTES TO CHAPTER 1 -------------------------------- 25

CHAPTER 2: THE PSEUDO-CLEFT TRANSFORMATION ----------- 28

1. The need for a pseudo-cleft transformation ------- 28

2. Specific transformational analyses of the pseudo-
   cleft construction --------------------------------- 33
   2.1. The deletion analysis ------------------------ 33
   2.2. The extraction analysis ---------------------- 34
   2.3. Deletion versus extraction ------------------- 35
      2.3.1. The argument from selection re-
              restrictions ------------------------ 36
      2.3.2. The argument from the derivation
              of cleft sentences ------------------ 42
      2.3.3. The argument from negative raising 52

3. Difficulties common to both analyses -------------- 54
   3.1. The determination of focus ------------------ 54
   3.2. Non-existent deep structure sources -------- 56
   3.3. Semantics of the deep structure source ---- 60
   3.4. Pseudo-cleft sentences with noun an-
        cedents ---------------------------------- 64
   3.5. Extraposition ------------------------------- 70

4. Summary ------------------------------------------ 73

FOOTNOTES TO CHAPTER 2 ------------------------------- 74
CHAPTER 3: AMBIGUITY, CONNECTEDNESS, AND THE EXTRACTION ANALYSIS ---------------------------------- 98

1. Akmajan's treatment of ambiguity -------------------- 99
   1.1. A sketch of Akmajan's treatment of
        ambiguity -------------------------------- 100
   1.2. Difficulties with Akmajan's analysis ---- 106
2. Towards the null hypothesis ----------------------- 111
   2.1. Syntactic connectedness in noun phrase
        examples ---------------------------------- 111
   2.2. Focal verb phrases and the source of do -- 116
3. Summary ------------------------------------------- 119

FOOTNOTES TO CHAPTER 3 -------------------------------- 121

CHAPTER 4: NOMINALIZATIONS, THE TRANSFORMATIONAL ANALYSIS,
AND SYNTACTIC CONNECTEDNESS ---------------------- 127

1. Nominalizations and the transformational analysis- 129
2. Base derivation and specification ------------------ 151
   2.1. Specification and nominalizations ------- 151
   2.2. Specification and connectedness ------- 155
3. Summary ------------------------------------------- 168

FOOTNOTES TO CHAPTER 4 -------------------------------- 169

CHAPTER 5: COPULAR SENTENCES AND AMBIGUITY -------- 189

1. Towards an analysis of copular sentences ------- 193
   1.1. Terminological framework ------------------ 194
   1.2. Tests for underlying word order and function
        in copular sentences ---------------------- 209
       1.2.1. Indirect questions and answers -- 210
1.2.2. Modal verbs and verbs of propositional attitude -------- 211
1.2.3. Pronouns and verb agreement ----- 213
1.2.4. Predicational noun phrases ----- 224

1.3. Wh-words in copular sentences ---------- 239

2. Ambiguities in copular sentences ---------- 244

3. Summary --------------------------------- 257

FOOTNOTES TO CHAPTER 5 ---------------------- 259

CHAPTER 6: SOME SPECIAL PROPERTIES OF SPECIFICATIONAL

PSEUDO-CLEFT SENTENCES ---------------------- 275

1. Movement and deletion constraints ---------- 278

1.1. ---------------------------------------- 279
1.2. ---------------------------------------- 281
1.3. ---------------------------------------- 283
1.4. ---------------------------------------- 285
1.5. ---------------------------------------- 287

2. Tense properties -------------------------- 289

2.1. Tense harmony -------------------------- 290
2.2. Non-finite copula ----------------------- 295

3. "Semantic" properties --------------------- 296

3.1. Modal verbs ----------------------------- 297
3.2. Adverbs ------------------------------- 298
3.3. Negation ------------------------------- 300
3.4. Tag questions --------------------------- 301
3.5. "Transparency" -------------------------- 302

4. Pronominalization ------------------------- 308
5. Towards an explanation of the special properties of Specificational pseudo-cleft sentences 311
6. Summary 322
FOOTNOTES TO CHAPTER 6 323
CHAPTER 7: EPILOGUE 336
APPENDIX 341
REFERENCES 349
BIOGRAPHICAL NOTE 361
CHAPTER 1
INTRODUCTION

The ostensible central topic of this essay is a construction which is generally known as the "pseudo-cleft" construction. This term is relatively new and seems to have arisen within the transformation-generative tradition, its formation emphasizing the formal and semantic kinship of the construction concerned to that which Jespersen termed the "cleft" construction. The term is by now well established in the literature and has received quasi-official recognition by being accorded a section in the most recent grammar of English to appear (Quirk et al. 1972, 954-955: 14.21-14.22). Unfortunately, the domain of application of the term is not completely clear, and there is much confusion in the literature. There are two features which are by many authors taken as defining features: (i) a semantic kinship to cleft sentences, and a consequent semi-formal requirement that pseudo-cleft sentences should have a bipartite form, looking like a broken-up form of a simple sentence, with a "focal" constituent which in some sense is being emphasized, and a remainder; (ii) a formal requirement that the sentence is a copular sentence with a subject that consists of a clause introduced by a Wh-item, usually what, this subject clause constituting the remainder of the simple sentence, and a portion -11-
which follows the copula and constitutes the focal constituent, the constituent which is being emphasized. Examples such as the following would typically be called pseudo-cleft sentences:

(1) a. What he bought was a donkey.
   b. What they are is silly.
   c. What appeals to them most is a go on the swings.
   d. What he then did was cut his finger.
   e. What proves that you are wrong is that they weren't even there.

Certain speakers accept some or all of the following kinds of sentences, and these are also classified as pseudo-cleft sentences:

(2) a. Who told me about it was Jane.
   b. Where he spends his summers is Chester.
   c. How he cut his face was by trying to eat while shaving.
   d. Why they did it was to impress Mary.

This latter type of pseudo-cleft sentence will be ignored in this essay. It appears to add nothing to what can be learned from the more restricted type exemplified in (1), at any rate with respect to the problems that concern me here.

I can now explain in a preliminary way why the pseudo-cleft sentence is the ostensible central topic of this essay. There are various difficulties in applying the term. The chief of these difficulties is that many of the kinds of sentences which are called pseudo-cleft sentences are ambiguous; it is then not
clear whether the term pseudo-cleft is or should be applied to a particular one of the readings of such a sentence or to the superficial shape of the sentence. If one accepts both of the points which I have suggested as defining characteristics of pseudo-cleft sentences one must take the former alternative; if one accepts only the second of those points, then the latter alternative. However, it turns out, and it is a major task of this essay to show this in some detail, that the semantic defining characteristics given in point (i) and various other characteristics which accompany them are not limited to sentences of the form given in point (ii). In other words, sentences which conform to points (1) and (ii) are nevertheless special cases of a more general type of phenomenon. This essay is in fact about this more general type of phenomenon, of which the examples in (1) and (2) are special cases, and not solely about sentences of that form. Since there is no well-known name, or indeed any name, for the more general type of construction, the term pseudo-cleft construction has been used in the title of this essay (on the principle that it is easier to sail under false colors than under none at all). Because of this confusing situation I will in general use the term pseudo-cleft as a purely taxonomic term to refer to sentences which conform to point (ii), in that they are copular sentences with a subject clause that is introduced by a Wh-word. If it should be necessary to talk about, say, the type of sentence which conforms to both point (i) and point (ii), then the particular reading intended will be
specified independently, using terms that will be presented later in this chapter and in chapter five.

Having made it thoroughly unclear what the subject of this essay is, I will now give reasons for discussing the construction at all, by pointing out why it is important. This essay as a whole will, I hope, show why yet another treatment of it is necessary, even though it has already been the subject of several investigations, some of them quite detailed.¹

The pseudo-cleft construction is ubiquitous in the literature of transformational-generative grammar. It has figured in discussions of at least the following topics: the deep structure of sentences containing embedded complement sentences (Rosenbaum 1967 to Bresnan 1972); pronominalization (Bach 1969 to Wasow 1972); stative verbs (Lakoff 1966); the deep structure of adjectival phrases (Ross 1969a); the reanalysis of phrase categories as features (Chomsky 1970a); constraints on transformations (Chomsky 1971); the analysis of sentential extraposition (Bresnan 1972, Higgins forthcoming). The arguments that have been offered for particular analyses of the pseudo-cleft construction involve, among others, questions of selection, strict subcategorization, reflexivization, the interpretation of the subjects of non-finite verbs (the "EQUI" problem), and the derivation of phrases like easy to please (the "tough-movement" problem). This comes close to being a list of the major preoccupations of transformational-generative grammarians since the early nineteen-sixties. There can be no doubt that the topic is
important and impinges on a wide range of "sensitive" areas. Furthermore, the pseudo-cleft construction occupies an important place in the study of the structure of discourse, and has therefore also been studied in connection with the Prague school notions associated with the term "functional sentence perspective".

It is plain that I cannot deal with the connections between the pseudo-cleft construction and all of these matters in any detail, within the limits of this essay. I will therefore choose certain areas which seem to me to be important or especially interesting, leaving most other areas vague or ignoring them altogether. My aim is to give an overall picture of the construction, and I shall leave many loose ends.

Having sketched out the subject of this essay and suggested why it is important, I shall now indicate the form of the rest of this chapter. The essential purpose of this chapter is to act as a guide to the structure of this essay, and therefore I shall enumerate the chapters and indicate their content, so that the reader may obtain an overall plan of the arguments and understand their direction. In order to do this, I must first present a certain amount of material, mostly of a terminological nature, and make clear a fundamental ambiguity which is present in many kinds of pseudo-cleft sentences. I will now present this latter material and then describe the contents of the individual chapters.
I shall use the traditional term "predicate complement" to refer to the constituent which immediately follows the copula in a copular sentence. It will not in general matter whether this is understood as a deep structure or as a surface structure post-copular constituent because, given various other constraints that will be operative, it will always be clear what I am talking about. The most important of these constraints is an arbitrary one: I shall not in this essay provide a treatment of "inverted" pseudo-cleft sentences, of the type:

(3) a. A donkey was what he bought.
   b. ?Silly is what they are.
   c. A go on the swings is what appeals to them most.
   d. ?Cut his finger was what he then did.
   e. That they weren't even there is what proves that you are wrong.

These examples, in which the subject and predicate complement of the examples of (1) have apparently changed places, show rather different properties from pseudo-cleft sentences, being more akin to cleft sentences in some ways, and they require a separate investigation. Thus, essentially, "predicate complement" here corresponds to "Predicate" in Chomsky's rule (57111) (1965, 107); I use it instead of "Predicate" to avoid the possibly misleading semantic connotations of this term.

The chief ambiguity which occurs in pseudo-cleft sentences can now be described. Following Akmajian (1970b, 152-155) I shall use the terms "predicational" and "specificationa"
refer to the two readings (rather than Halliday's (1967, passim) "intensive" and "extensive", which are less easy to extend in the way which I require in chapter five). The ambiguity is most easily seen in pseudo-cleft sentences with adjective phrases as predicate complements. Consider:

(4) a. What John is is silly.
    b. What John is is enviable.

The subject of (4a) can refer to some job or position which John holds, and the sentence says of it that it is silly; (4b) similarly says that it is enviable. On this reading the sentences say nothing about John himself directly. In effect, they say:

(5) John is an X. \{(Being) an X\} is silly.

where "X" is some unstated property of John. This is the predicational reading of (4a) and (4b). On the other hand, (4a) can simply be saying something rather similar to John is silly, and (4b) to John is enviable. That is, a property is being predicated of John directly, and not a property of a property of John, as on the other reading. This is the specificational reading. It is as if one said:

(6) John is \{this the following \} : \{silly enviable \}.

In other words, on the specificational reading the sentence functions rather like a list, in which the subject is the heading of the list and the predicate complement is an item on the list. One can help oneself to focus on the two readings in
various ways. The following examples are, for selectional reasons, unambiguous:

(7) a. What John is is worthwhile.
   b. What John is is proud.

(7a) has no specificational reading (unless one accepts the simple sentence John is worthwhile), and (7b) has no predicational reading. Similarly, for various reasons (which will be discussed in later chapters), the following are unambiguous:

(8) a. What John is is important to himself.
     b. What John is is important to him.

(where underlining, as throughout this essay, indicates coreference). (8a) is specificational, of the same order of acceptability as (9):

(9) ?John is important to himself.

(8b) is predicational.

(10) a. What John is is enviable.
     b. What John was is enviable.

(10a) has both readings, (10b) only a predicational reading.

(It says of something that John did or was at one time that it is enviable even now.)

(11) a. What John also is is enviable.
     b. What John is is also enviable.

(11a) can only be specificational, (11b) only predicational.

The same ambiguity appears in examples with noun phrases as predicate complements. Consider:

(12) What I am pointing at is a kangaroo.
On the predicational reading the subject noun phrase is used to refer to that object in the real world which the pointing gesture is being used to indicate, and the sentence predicates kangaroohood of that object. It is similar in meaning to:

(13) That (animal) is a kangaroo, accompanied by a pointing gesture. (This account is somewhat inaccurate and will be modified in chapter five, but it is, I hope, sufficiently clear for present purposes.) It could be used as an answer to a question such as:

(14) What is what you are pointing at?

where the questioner can tell what object the pointing gesture picks out, but does not know what name to give to that object. On the specificational reading of (12), on the other hand, the subject noun phrase does not refer to any object at all, in any direct sense of the word "refer"--this remark will be clarified in chapter five--and the sentence does not require the interlocutor to look along the speaker's finger or mentally produce its longitudinal axis to intersect the nearest object in order to achieve communicative success. The interlocutor may learn all that he wants to know even if he is talking over a telephone. If he knows no more than that the speaker is pointing at something he can ask:

(15) What are you pointing at?

and receive (12) as an answer. The subject noun phrase of (12) is then not acting like a deictic, but more like (16):

(16) I am pointing at the following thing: a kangaroo.
Again, one can separate the two readings in various ways:

(17) a. What he seems to be pointing at is a kangaroo.
    b. What he is pointing at seems to be a kangaroo.

(17a) has both readings; (17b) has only the predicational reading.

(18) a. What he is also pointing at is a kangaroo.
    b. What he is pointing at is also a kangaroo.

(18a) has the specificational reading, (18b) the predicational reading.

(19) What he is pointing at was a kangaroo.

(19) has only a predicational reading.

The contrast between the two readings can also be brought out rather strikingly in examples with conjoined items as predicate complement. Consider:

(20) What we saw in the park was a man and a woman.
This can be interpreted specificationally, list-like, and makes good sense, similar to:

(21) a. We saw a man and a woman in the park.
    b. We saw the following in the park: a man and a woman.

On the predicational reading, however, one is claiming that the object referred to by the subject noun phrase has the property of being both a man and a woman. Thus, on the predicational reading (20) says that we saw a hermaphrodite in the park.

As a final example, which does not involve a pseudo-cleft sentence but a copular sentence with a nominalization as subject
(one of the broader class of examples which this essay treats of), consider the following grim pun, whose effect depends precisely on the predicational/specificational ambiguity:

(22) Nixon's peace plan is a bomb.

On one reading, the predicational, this says that Nixon's peace plan is disastrous (or whatever "being a bomb" predicates of an object in current slang). It passes judgment on the plan. On the other reading, the specificational, it says, hyperbolically, that the plan consists in or is made up of a bomb. It gives the content of the plan.

The main point to grasp is that on the predicational reading the subject noun phrase is referential and it is not on the specificational reading. On the specificational reading the pseudo-cleft sentence functions essentially as a list.² This somewhat oversimplified picture of the ambiguity will be refined in the course of this essay, especially in the fifth chapter.

The term "focal item" will be used to refer to the predicate complement in specificational sentences, following Akmajian's usage. The focal item always bears the nuclear tone in specificational sentences and therefore it will not in general be necessary to mark the prosody of the examples in this essay. Where it does seem to be advisable to mark the position of the nuclear tone I shall follow the convention of Quirk et al. (1972, 1044), and write the stressed syllable of the word bearing the nuclear tone in capital letters. It will
not be necessary to indicate the direction of the tone, which can be taken to be a mid-fall tone in all cases.

The final pair of terms which require explanation are "transformational derivation" and "base derivation" in connection with pseudo-cleft sentences. It has been argued that there is a specific pseudo-cleft transformation rule (for references, see chapter two) which is involved in the generation of specificational pseudo-cleft sentences. For short, again following Akmajian 1970b, I shall talk of a transformational derivation or analysis of specificational pseudo-cleft sentences when referring to such proposals. This is not meant to imply that there is an alternative analysis in which no transformations at all are used, but rather one in which there is no specific pseudo-cleft transformation. In connection with this alternative analysis I shall talk of a base derivation of specificational pseudo-cleft sentences, or, alternatively, of a null-hypothesis derivation or analysis. One of the aims of this essay is to argue for the obvious null hypothesis concerning the derivation of such sentences. That null hypothesis is:

(23) The surface structure form of a specificational pseudo-cleft sentence is essentially identical to its deep structure form.

This null hypothesis is, I repeat, not intended to imply that no transformational rules (as, for instance, rules of relative clause formation) are involved in the derivation of specificational pseudo-cleft sentences, but merely that no specific
pseudo-cleft transformation is involved in their derivation. Acceptance of the null hypothesis entails, of course, acceptance of the claim that no simple unclefted sentence underlies the pseudo-cleft sentence.

The structure of this essay can now be outlined. Essentially it falls into two parts. In the first part, consisting of chapters two and three, previous analyses of pseudo-cleft sentences are discussed and rejected; in the second part, consisting of chapters four to six, the null hypothesis is taken as correct and various aspects of pseudo-cleft sentences and of a wider range of copular sentences are explored.

Chapter two outlines the arguments that have been given for requiring a transformational derivation of specificational pseudo-cleft sentences, presents the two most important transformational analyses, the deletion analysis and the extraction analysis, and discusses several difficulties which they face. These difficulties essentially remove the possibility of any transformational analysis of specificational pseudo-cleft sentences.

Chapter three is a short chapter which is devoted to showing why Akmajian's implementation of the extraction analysis of pseudo-cleft sentences would not work even if the transformational analysis turned out to be correct, and uses some of his material as a transition to the topics of chapter four.

Chapters two and three are fairly general in their
theoretical bias: there is little specific reliance on any particular doctrine or hypothesis about linguistic structure beyond those which follow from the "generative ideal", and the associated modes of argumentation. In chapter four I tighten the theoretical framework by accepting the lexicalist hypothesis and various other hypotheses which are associated with it, and proceed to discuss a broader class of specificational sentences, those with a nominalization as the head of the subject noun phrase. This material also leads automatically to the conclusion that there can be no pseudo-cleft transformation, confirming the results of chapter two. Some consequences of the null hypothesis derivation are then discussed.

Chapter five is a preliminary attempt at sorting out the ambiguities which are to be found in copular sentences. The analysis of the ambiguities found in pseudo-cleft sentences is embedded in a somewhat broader framework, and it is shown that the lack of a transformational analysis is no hindrance (as Akhavan in part saw) to the explanation of their various readings.

Chapter six enumerates certain peculiar properties of specificational pseudo-cleft sentences, and provides a plausible explanation for some of them.

Finally, in a very short seventh chapter, I give a summing-up of the view of pseudo-cleft sentences which emerges from this essay.
FOOTNOTES

CHAPTER 1

1. The main works of which I am aware that deal wholly or in part with the analysis of pseudo-cleft sentences in English within a generative framework are: Peters and Bach 1968; Clifton 1969; Akmajian 1970b; Muraki 1970a, 1970b; Faraci 1971; Ross 1972a. I have not seen Muraki 1970a, but Muraki 1970b consists of a summary of the fourth and fifth chapters of it and no doubt gives the basic form of his approach, which is a development of that found in Peters and Bach 1968. Moreau 1970, of which I have seen chapters four and five (pp. 230-431), deals with pseudo-cleft sentences in French, but essentially gives merely a critical survey of the proposals found in the literature just listed, using examples in French. (I am very grateful to Alain Rouveret of the University of Paris, Vincennes, for having obtained and sent me a copy of this work.) There are also important discussions of the pseudo-cleft construction from a more "functional" point of view in Halliday 1967, Kirkwood 1969, 1970, Huddleston 1971, and Quirk et al. 1972. I have learnt something from all of these authors, particularly Clifton, Akmajian, Faraci, Ross, Halliday, and Kirkwood.

On the day before the typing of the final version of this essay began, I received a copy of Grosu 1973, in which the
pseudo-cleft construction is discussed. Grohmann gives arguments for a transformational derivation of (specificationally) pseudo-cleft sentences, presents the deletion and extraction analyses, and argues in favor of the extraction analysis. Furthermore, he gives arguments against the indirect question analysis of pseudo-cleft sentences, and notes some of the facts which I discuss in chapter six. I will add references to his paper at relevant points, but nothing which he says affects the analysis which I have argued for.

2. I am obviously indebted to Akmajian for the fundamental clarification of the predicational/specificational contrast which he achieved. One passage which has been of value is the following (Akmajian 1970b, 163), in which Akmajian says that pseudo-cleft sentences "are always specificational: that is, the clause of the clefted sentence contains a semantic variable (represented by the WH word), and this variable is specified by the post-copular item." This he later develops in such a way that the following sentence (Akmajian 1970b, 183: (41)):

(1) What we must avoid is the draft.

receives a semantic interpretation of the form:

(ii) [we must avoid x], [x = the draft]

(see Akmajian 1970b, 137: (45); 262: (11a)). In (ii) the equality sign is intended to represent the specification relation. Akmajian clearly considers that the specification relation is akin to an identity relationship of some kind, as one can see from the choice of notation, and from other details of his
analysis which I shall not document here. The analysis which I shall develop implies a representation not unlike that of (ii), but the relationship involved is not the identity relationship.
CHAPTER 2
THE PSEUDO-CLEFT TRANSFORMATION

This chapter is in three main sections. The first gives a summary of the arguments that have been adduced as showing the need for a specific pseudo-cleft transformation. The second gives a brief sketch of the two main analyses of this type, the "deletion" analysis and the "extraction" analysis, and touches on some arguments that allege the superiority of one over the other. The third discusses some difficulties that inher to a lesser or greater extent in either analysis. The material in sections one and two is popular lore, and the same is true of parts of section three. It is not necessary to labor the arguments since their import should be obvious. For the most part I follow Akmajian's excellent account (essentially pp. 21-32 and 54-71 of Akmajian 1970b) in the expository passages.

1. The need for a pseudo-cleft transformation

The argument to show the need for a pseudo-cleft transformation takes the following form:

(1) For various reasons (which will be discussed directly), the underlying structure of a pseudo-cleft sentence must include in intact form a phrase marker identical with that underlying the simple, non-clefted sentence that corresponds to the pseudo-
cleft sentence.

(11) The surface structure of a pseudo-cleft sentence does not contain an intact form of the simple sentence; the simple sentence has been dismembered in such a way that one part of it appears in the subject of the copular sentence, the other part in the focus position as the predicate complement of the copular sentence. The transformational rule is required to perform this dismemberment.

Thus, it is argued that the phrase marker underlying sentence (1a) is contained intact in the phrase marker underlying sentence (1b) and is dismembered in the course of the derivation of (1b):

(1) a. I bought those fire-tongs yesterday.
   b. What I bought yesterday was those fire-tongs.

The strength of this argument depends on the strength of the reasons for requiring the inclusion of the intact phrase marker underlying the simple sentence in that underlying the pseudo-cleft sentence. Two kinds of reasons have been offered:

(1) Derived constituents as focal items.

Items can appear in the focus position that allegedly are not deep structure constituents, and hence could not be generated as constituents in that position by the base rules (Akmajian 1970b, 24-25 and 86:fn. 4). The only convincing examples of this kind that I know of involve constituents that are said to arise by the application of the rule of tough-movement (for some discussion of which, see Miller and Chomsky 1963, 476-480;
Rosenbaum 1967, 107; Ross 1967, 418-421; Postal 1971, 27-31; Bresnan 1971, 264-268 and Appendix 1; Postal and Ross 1971; Akmajian 1972; Lasnik and Fiengo 1973). Thus, according to this analysis the structure underlying (2a) is roughly of the form (2b):

(2) a. John is easy to please.

b. [to please John] is easy.

The string easy to please is not a constituent in deep structure, and yet it can appear in the focus position of a pseudo-cleft sentence:

(3) What John is is easy to please.

Since it is also assumed in the tough-movement analysis that easy to please can not be generated as a constituent at the deep structure level, and since the structural description of the tough-movement transformation embraces the whole of the phrase marker underlying (2a) and not merely some portion of it, it is evident that the whole structure (2b) must be incorporated intact in the phrase marker underlying (3). Any other proposal would involve a loss of generality in the statement of the tough-movement transformation.¹

There is, of course, a purely mechanical derivation of (3) from the phrase marker underlying (4):

(4) #It is easy to please what John is.²

But here the grammatical relations are wrong: it is not what John is that is understood as the object of please in (3), but John. Of course, there do exist sentences related in just this
kind of way, as witness (5) (with a free relative clause object) and (6) (with an indirect question object):

(5) a. What John is buying is easy to use.
    b. It is easy to use what John is buying.

(6) a. What John is buying is easy to guess.
    b. It is easy to guess what John is buying.

Therefore (4) must be blocked on selectional grounds, and there is, in fact, a second reading of (3) which corresponds to it and is anomalous in the same way.

Another construction which might be expected to behave similarly to easy to please is that in:

(7) John is certain to leave.

However, here the pseudo-cleft construction sounds very odd:

(8) What John is is certain to leave.

The fronting tests of footnote 1 suggest that certain to leave may not be a constituent, and therefore this construction gives no clear evidence for a transformational derivation of pseudo-cleft sentences.

(11) Syntactic connectedness.

Certain kinds of cooccurrence restrictions obtain between elements in the subject clause of the pseudo-cleft sentence and elements in the focus constituent. Akmajian mentions three examples: (a) Selection restrictions (Akmajian 1970b, 21-22, with references to Peters and Bach 1968); (b) reflexive pronouns (Akmajian 1970b, 22-24, with references to Peters and Bach 1968 and lectures by J.R. Ross); (c) some/any alternations (Akmajian
1970b, 86-87: fn. 5, with references to lectures by J.R. Ross).
The only one of these that carries any great weight is the reflexive pronoun case. Akmajian notes the parallelism between the sentences of (9) and (10) (Akmajian 1970b, 22-23: (8) and (9) resp.):

(9) a. What John did was wash \{ \frac{\text{him}}{\#\text{him}} \over \frac{\text{himself}}{\#\text{him}} \over \frac{\text{herself}}{\#\text{herself}} \}.

b. What John wants Mary to do is wash \{ \frac{\text{him}}{\#\text{him}} \over \frac{\text{herself}}{\#\text{herself}} \}.

(10) a. John washed \{ \frac{\text{him}}{\#\text{him}} \over \frac{\text{herself}}{\#\text{herself}} \}.

b. John wants Mary to wash \{ \frac{\text{him}}{\#\text{him}} \over \frac{\text{herself}}{\#\text{herself}} \}.

If the deep structures of the pseudo-cleft sentences contain the phrase-markers that underlie the simple sentences this fact is automatically explained without any extension of the principles which account for the distribution of reflexive pronouns in simple sentences. If the examples of (9) were generated in essentially their surface structure form it would appear that one would have to extend the reflexive rule in some way, and this would of course be ad hoc.

Other evidence of this kind could be produced, but the reflexivization evidence (or any equivalent of it, such as the distribution of reciprocal pronouns) is the most powerful, for the rule is more clearly defined and the phenomenon better understood than, for instance, that governing some/any alternations.
When I discuss the syntactic connectedness manifested by pseudo-cleft sentences I shall essentially be referring to these reflexivization phenomena.

2. Specific transformational analyses of the pseudo-cleft construction

2.1. The deletion analysis (Peters and Bach 1968; Clifton 1969; Ross 1972a). In the underlying structure the phrase marker corresponding to the simple sentence constitutes the predicate complement, and the non-focal items in it are deleted under identity to part of the subject clause. The rule is as follows (modified from Ross 1972a, 89: (37)):

(11) \[[NP - [X - NP - Y]_{S}]_{NP} - be - [X - NP - Y]_{S}\]
    \[
    \begin{array}{cccccccc}
    1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 \\
    1 & 2 & 3 & 4 & 5 & \emptyset & 7 & \emptyset
    \end{array}
\]

Conditions: 2 = 6
            4 = 8

Thus, sentence (12):

(12) What John is buying is a tie-press.

is derived from the underlying structure (13), which is generated by independently necessary rules, by using rule (11) to delete the material indicated:
2.2. The extraction analysis (Ross, cited in Lakoff 1965, F-40 - F-41; Chomsky 1970, 197-198, 209; Akmajian 1970b; Grosu 1973, 295-298). In deep structure the phrase marker corresponding to the simple sentence is to the left of the copula, constituting the relative clause, and the predicate complement position is empty. The focal item is extracted from the relative clause and inserted into the empty predicate complement node. The rule is as follows (Akmajian 1970b, 30: (21)):

\[(14) \left[ S[X - A - Y]_S \text{ be } [A]\right] + \left[S[X - [+\text{PRO, } +\text{WH}] - Y]_S \text{ be } [A]\right]\]

Sentence (12) is derived from deep structure (15) by using rule (14) to extract the noun phrase a tie-press as indicated:
2.3. Deletion versus extraction. Both of these analyses ensure that the focal element is a constituent and account for the occurrence of derived phrases in the focus position and the existence of syntactic connectedness. The two analyses also provide what appears to be a quite natural explanation for another feature of pseudo-cleft sentences, the fact that they are characteristically ambiguous in the fashion discussed in chapter one. (I will not attempt to clarify further the nature of the ambiguity at this point, since it will form a major topic in chapters four and five, nor will I point out the ambiguities in examples that I cite until it becomes necessary at that point.) Since both theories also allow sentences of the form $NP_1$-be-$NP_2$ to be generated in the base, where $NP_1$ can be a free relative clause such as what John is buying and $NP_2$ can be a noun phrase such as a tie-press, the ambiguity of example (12) can be attributed to the two distinct deep structures.
(Akmajian dissents from this view and claims that both deep structures have both readings. His proposal will form the topic of the next chapter.)

Naturally, efforts have been made by proponents of each of these analyses to find ways of demonstrating that their analysis is superior to the other. I will examine here three of these arguments, and try to show that none of them when made sufficiently detailed to work will provide any evidence one way or the other. Two of the arguments are taken from Akmajian 1970b, simply because his is the most recent discussion known to me, and I follow his exposition. The third is from Clifton 1969, and has so far remained unanswered.

2.3.1. The argument from selection restrictions. Peters and Bach give examples of the following kind (1968, 5):

(16) a. "What I persuaded to leave was Mary.
    b. What I saw was Mary.
    c. "What I amazed was Mary."

and suggest that in such examples "a noun phrase can be pseudo-clefted if changing the unclefted sentence by substituting something for that noun phrase and making no other changes leaves us with a grammatical sentence." Corresponding to (16) one finds:

(17) a. "I persuaded something to leave.
    b. I saw something.
    c. "I amazed something."

Their discussion of such material leads to the following claim
(Peters and Bach 1968, 6):

Now this is a decisive fact disconfirming all Extracting Analyses in which the selection of the pseudo-clefted noun phrase is carried out by a transformation: for it is impossible to tell at the time when this rule applies whether the noun phrase selected could be replaced by something since it can ... have been removed arbitrarily far from the element(s) with which it participates in selectional restrictions. Thus, there is no way to tell from the surface structures of (18) whether the bold face noun phrases can be replaced by something.

(18)(i) John is thought to have been amused by the joke.

(ii) John is likely to be surprised.

(iii) My brother is difficult to imagine being in love.

(iv) I expect Harry to be said by most people to resemble an elephant.

Acceptance of this argument causes Akmajian no trouble, for he maintains (1970b, 58) that the relevant examples are base-derived. Thus, he would derive a sentence like what I saw was Mary not by extraction but from the alternative source which has Mary in the predicate complement position in the deep structure. In fact, he turns the argument around and uses it against the deletion analysis. He points out (1970b, 59-61) that although it may well be possible to block the generation of:
(19) "What I believe is John.
by positing two different verbs believe, one of which takes only human objects, the other of which takes only abstract objects, this will not in the deletion analysis suffice to block:

(20) a. "What he kicked was Mary.
    b. "What he found in the garden was Mary.
as opposed to:

(21) a. What he kicked was the tree.
    b. What he found in the garden was the abcvel.
because the occurrences of kick and find in (20) and (21)
"cannot be considered as non-identical (i.e. the sense of the verb is completely independent of the marking for animacy of the object of the verb)." The sentences of (20) can, he claims, only be base-derived (because the extraction rule always inserts who for noun phrases that are [+human], and never what), and they are then rejected by the interpretive processes that he had described earlier (1970b, 34-38) in connection with sentences such as *what I cooked yesterday was Hemingway's suicide and *the food was Hemingway's suicide, which check for feature compatibility across the copula in all copular sentences.

I believe that Akmajian gave in too easily to the argument given by Peters and Bach, though it probably is valid when used in conjunction with the theory of selection presented in Chomsky 1965. Let us suppose that their claim that one can use what in the pseudo-clefted sentence for any noun phrase for which something could appear in the unclefted version is correct (at least
with respect to the examples discussed; it is patently incorrect in general—see Grosu 1973, 297-299). Now, they also claim that, owing to the action of movement rules, it might be impos-
sible to tell at the time when the extraction rule applies whether a given noun phrase could be replaced by something and hence that the extraction analysis is unviable. But this claim is essentially empty as it stands, for there is in their vague proposal no provision for recognizing whether a noun phrase can be "replaced" by something even when it has stayed in its ori-
ginal position, let alone when it has been moved. So let us analyze what could be meant in this context by the notion "a noun phrase replaceable by something" and see how the insight that lies behind it might be incorporated in the theory of selection.

If one examines examples like those given as (11) in Peters and Bach (1968, 5—see (16) above), it becomes obvious that something can be used wherever the position occupied by some-
thing can be filled by a noun phrase with a lexical head that refers to a concrete object, without regard to its animacy or any other property. (This contradicts Akmajian's assessment of the grammaticality of examples (20) above, but I think that there can be no doubt that these are acceptable.3) This sug-
gests that there might be a selectional feature, call it [iconcrete], which cuts across the other dichotomies such as common/proper, count/mass, animate/inanimate and so on. (I am following here the scheme proposed in Chomsky 1965, 79-85.)
Verbs such as see take [+concrete] direct objects (on the relevant reading). Now suppose that when noun phrases are generated in the base they do not have to receive a full complement of inherent lexical features, that is, relax the conditions of application of the rules so that it is not obligatory to run through all of them to the bottom of the hierarchy, so to speak. In this way, one is permitted to generate a noun phrase which carries no feature lower in the hierarchy than [+concrete]. One does not have to state, for instance, whether it is, in addition, [+animate] or [-animate]. By the distinctness condition, nouns referring to concrete objects of all kinds, including those marked [+human], could then be inserted into such a noun phrase. However, if the noun phrase had received the feature [+human] in addition to the feature [+concrete], then only nouns marked [+human] could be inserted into it. It is now easy to state the difference between, say, see and persuade: see (in the relevant reading) takes a [+concrete] object; persuade takes a [+human] object. This is a very natural analysis of part of the difference in meaning between see and persuade; one does not "do" something different when seeing human and non-human objects.

Now, given this new feature and mechanism, as long as the features of the inserted noun are not amalgamated with the features of the noun phrase into which it is inserted (as they are not, for instance, in Lakoff's framework (1965, 0-10 - 0-14), where "grammatical" features are kept distinct from "lexical"
features), it will be possible to identify the base "type" of the noun phrase at any later stage of the derivation, regardless of whether that noun phrase has been moved or not. If the noun phrase bears the (original) feature [+concrete], but not the (original) feature [+human], then what can be substituted for it; if it bears the original feature [+human], then what cannot be substituted for it.

The point about movement in the objection that Peters and Bach made is irrelevant; as soon as one sets up a feature mechanism of this kind that will deal in an intuitively satisfying way with cases such as (16b) in which the noun phrase has not been moved "arbitrarily far from the element(s) with which it participates in selectional restrictions", then the same mechanism will also deal with the cases where such movement has taken place. The problem with the framework that Akmajian was using was that the features that governed the insertion of what were, in effect, those that were borne by the inserted noun itself, because in Chomsky's 1965 proposal those features were identical in all relevant respects to the features that were generated on the noun phrase into which that noun was inserted. By not insisting on the generation of the full gamut of features on the noun phrase, and by keeping the "original" features separate from the "inserted" features, one can avoid this difficulty.  

It will be objected that this proposal smuggles the equivalent of a global rule or even of some kind of transderivational
constraint into the theory, since a transformation can now, in effect, look back to the beginning of the derivation to see what other kinds of nouns might have been inserted into a particular noun phrase. This is correct, but if it turns out to be necessary, objections are vain. It would be pleasant to find evidence that this device was needed elsewhere in the grammar, but at present I have no incentive to look for any since my later arguments, if correct, change the import of selectional evidence quite considerably. At the least, one can say that the argument against all extracting analyses offered by Peters and Bach is not decisive, and that there is at least one fairly natural way around it within a theory that uses selection restrictions as conditions on lexical insertion. The matter would be handled differently in a theory such as Jackendoff's, which dispenses with a "syntactic" theory of selection based on syntactic features (Jackendoff 1972, passim, esp. 18-20), though its essential features could obviously be implemented in such a theory too.

Other comments could be made to show how neither side gains any advantage over the other by using this material, but since the whole transformational approach to pseudo-cleft sentences will later be argued to be mistaken, there is no need to go any further at this point.

2.3.2. The argument from the derivation of cleft sentences. Akmajian gives a rather complex argument which is intended to show that the deletion analysis would be unable to derive the
following type of cleft sentence, in which the focal item is a prepositional phrase (1970b, 67: (76c)):

(22) It was to John that I gave the book.

The argument is vitiated from the outset by the fact that it depends on Akmajian’s derivation of cleft sentences from pseudo-cleft sentences (Akmajian 1970a, 1970b Chapter 2), for I have shown elsewhere that this analysis is unlikely to be correct (Higgins 1972b). On Akmajian’s analysis (see also Emonds 1970, 167-170—it is not clear to me which of them originated this argument), the source of (22) is the deep structure (23) (Akmajian 1970c, 68: (80)):

(23)

\[
\begin{aligned}
\text{NP} & & \text{VP} \\
\text{it} & & \text{be} \\
\text{S} & & \text{Pred} \\
\text{that} & & \Delta \\
\text{NP} & & \text{PP} \\
\text{I} & & \text{NP} \\
\text{gave} & & \text{NP} \\
\text{the book} & & \text{to John} \\
\end{aligned}
\]

The extraction rule can transfer the prepositional phrase to John to the predicate position, and in so doing leaves behind no Wh-pro-form, for "there are no syntactic pro-forms available in English for PPs such as to John..." (Akmajian 1970b, 69). Because of this, no Wh-pro-form is left behind in S\(^2\), and therefore no Wh-word should appear at the front of the cleft sentence S\(^2\) after the cleft extrapolation rule has applied to it and placed
it to the right of the predicate complement to John. In such a situation, according to Akmajian, that, which is not a Wh-pro-
form, is used to introduce the clause. This prediction is ful-
filled very strikingly, as shown by the paradigm (24) (Akmajian 1970b, 70: (83)):

(24) a. It was to John that I gave the book.
   b. *It was to John who I gave the book.
   c. *It was to John to whom I gave the book.

Furthermore, there are no sentences such as (25) (Akmajian 1970b, 67: (79)):

(25) a. *Who I gave to book was to John.
   b. *Who I gave the book to was to John.

However, Akmajian still has to be able to block sentence (26), which would derive by his rules from a structure which is like (23) but has the one as the antecedent of the relative clause rather than it:

(26) *The one that I gave the book was to John.

Here, following Akmajian's claim about the absence of pro-forms for such phrases, to John has been extracted without leaving a Wh-pro-form (hence the that), and yet the sentence is still ungrammatical. The reason is of course plain: there are in fact no specificational pseudo-cleft sentences in English in which a subject is specified as a prepositional phrase of place except where that subject itself has a spatial sense. Thus, the sen-
tences of (27) are grammatical:
(27) a. Where I put it was under the bed.
    b. The best place to sleep in hot weather is in a bath.

whereas those of (28) are not:

(28) a. #The thing that I put it was under the bed.
    b. #The best thing to sleep in hot weather is in a bath.

(The same is of course true of temporal prepositional phrases and of some other types.) This is quite natural, given the semantic properties of such sentences, and it explains the deviance of (26) without further ado. The antecedent the one in (26) cannot be specified as the prepositional phrase to John, but where, which is in fact a Wh-pro-form for locative prepositional phrases, and place can be equated with locative phrases. 

This explanation, however, does more. It explains why (25a) and (25b) are ungrammatical, since even in those dialects in which who can introduce a free relative clause it certainly cannot be specified as a prepositional phrase. Furthermore, it predicts that the following should be ungrammatical, whatever their derivation:

(29) a. #The one who I gave the book was to John.
    b. #The one who I gave the book to was to John.
    c. #The one to whom I gave the book was to John.

Thus, the sentences of (29) would be ungrammatical within Aknajian's theory whether who as a simple relative pronoun functions as a pro-form for prepositional phrases or not, because
its antecedent, the one, could not be specified as a prepositional phrase.

Now, Akmajian claims that the deletion theory would, from an underlying structure like (30) (1970b, 70: (84)):

allow the derivation of (29b) and (29c) (his (85a) and (85b) resp., 1970b, 71). This is simply incorrect, given the structural description of the deletion rule and the identity requirement on relativization. One could only derive:

(31) a. The one \{that\} I gave the book to was John.

b. The one to whom I gave the book was John.

It is correct that one could not derive the structure which Akmajian claims underlies (22) at all from (30), again for the same reason: the identity condition on relativization. In order to leave the prepositional phrase to John in the focus position one must find a pro-form for the whole phrase to someone. If Akmajian is correct, this pro-form is zero. However, the
relativized constituent is now a prepositional phrase and so its antecedent must also be a prepositional phrase. Hence one requires a sentence with a prepositional phrase as subject. That is, one needs an underlying structure like (32):

(32)

\[
S_1 \\
| \quad PP \\
| \quad \quad \quad PP \\
| \quad \quad \quad \quad to the one \\
| \quad \quad \quad \quad S_2 \\
| \quad \quad \quad \quad I gave the book PP \\
| \quad \quad \quad \quad \quad to wh-someone \\
| \quad \quad \quad \quad \quad \quad NP \\
| \quad \quad \quad \quad \quad \quad \quad it \\
| \quad \quad \quad \quad \quad \quad \quad S_3 \\
| \quad \quad \quad \quad \quad \quad \quad \quad I gave the book PP \\
| \quad \quad \quad \quad \quad \quad \quad \quad \quad to John
\]

Now, there are no pro-forms for either to someone or to wh-someone in English, and hence both of these are zero. Extraposition of \(S_2\) from the subject position now does give (22), contra Akmaian, if one adds a rule that inserts it into a subject node which otherwise is only occupied by a zero pro-form. The only question is whether one should allow a deep structure like (32). If one should not, then it would appear that Akmaian is correct in claiming that (22) cannot be derived using the deletion analysis of pseudo-cleft sentences and the extraposition analysis of cleft sentences.

Unfortunately, Akmaian has overlooked one vital feature of his own analysis. The subject clause of the pseudo-cleft sentence is a relative clause and undergoes the relative clause
formation rule after the pseudo-cleft formation rule has applied. (It is in this way that Wh-pro-forms inserted by the extraction rule reach the front of the clause.) If, however, a zero pro-form was left by the extraction rule, the relative clause rule cannot apply correctly. Although I cannot go into all the possibilities here, since there are so many different views on how the relative clause rule functions, it is nevertheless clear that as long as one views the rule as obligatory in the environment \([_{NP}NP\ S]_{NP}\), and as a filter which requires a noun phrase within the relative clause which is related anaphorically in some way to the antecedent noun phrase (following Chomsky 1965, 137-138), then the derivation will block in the situation described. If one changes the filtering process to allow relative clause formation to take place in spite of the zero pro-form, that is, to phrase it more perspicuously, in spite of the absence of a clause-internal pro-form, then one cannot without further constraints avoid producing relatival structures of impossible form such as:

\[(33)\]
\[a. \#\text{the man that I put the book on the table}\]
\[b. \#\text{the rose that the rose is a rose}\]

Moreover, from the deep structure (34) one could produce by extraction the pseudo-cleft sentence (35) by extracting the noun phrase that girl and leaving no pro-form:

\[(34)\] \[[\text{the one} \; [I \text{introduced that girl to someone}]\]
 \[was [\Delta]]\]

\[(35) \#\text{The one I introduced to was that girl.}\]
What has gone wrong here? Obviously the notion "zero pro-form". One cannot simply leave nothing at all when one extracts a constituent. There must be at least a trace (in the sense in which this term is used in Chomsky 1971, esp. 40-43 and fn. 49, and in Wasow 1972, 138-142), which behaves in all respects like a pronoun, and can function as the element within the relative clause that is anaphoric to the antecedent of that clause. But this surely means that where a trace represents a prepositional phrase the antecedent of the trace must also be a prepositional phrase or be equivalent to a prepositional phrase in some way, such as a Wh-form like where or a noun like place; simply by virtue of the identity requirement on the relativization rule. Hence, in order to permit the extraction of a prepositional phrase such as to John, the relative structure in the subject must have a prepositional phrase or some equivalent of one as its antecedent. In other words, a deep structure such as (36) is required:

(36)

That is, there is no difference between the extraction analysis and the deletion analysis in this respect.

The argument that has just been presented is perhaps
something of a hoax as it stands and could be attacked at various points, but it shows at least that the view of the derivation of relative clauses in that which Akmajian espouses cannot be correct if taken literally. I do not see any point in pursuing the topic any further since, as already mentioned, it is unlikely that the extraposition derivation of cleft sentences can be maintained. A couple of small points might be noted for further research:

(a) Jespersen (1969, 78-79) gives the following examples from Spanish:

(37) a. De un rey es de quien hablamos.
   (Lit. "Of a king is of whom we speak")
   'It's a king that we are talking about'

   b. Con quien hablabas es contigo.
   (Lit. "With whom I/he was talking is with you")
   'It was you that I/he was talking to'

(Ivonne Bordelois has confirmed for me that such sentences are grammatical.) Prima facie it would therefore appear that at least in Spanish prepositional phrase subjects must be countenanced. The same may be true of English, depending on how one wishes to derive the "inverted" forms of (27):

(38) a. Under the bed was where I put it.

   b. In a bath is the best place to sleep in hot weather.

If there is an inversion rule, it must within Emonds's framework (1970) be a structure-preserving rule (since examples like (38)
can appear in embedded sentences), and hence the subject position must be a prepositional phrase in the structure-preserving framework. If there is no inversion rule and examples like (38) are generated directly in that form then, a fortiori, there can be prepositional phrase subjects.

(b) The lack of (24b) (repeated here as (39)) does not require either the extraposition analysis or the extraction analysis for its explanation:

(39) #It was to John who(m) I gave the book.
The pro-form which introduces the clefted clause must be suited to the focal item. As Akmajian notes, there is no unitary Wh-pro-form for to John, and it is obvious that who(m) is certainly not suitable. No more explanation is required. The real puzzle is why (24c) (repeated here as (40)) should be ungrammatical:

(40) #It was to John to whom I gave the book.
Jespersen notes (1969, 78) that in French examples such as c'est à vous à qui je parle "were formerly usual; now they are considered incorrect", and the Fowler brothers (1930, 115-116; 1965, 312) castigate this type in English as "a common blunder", a variety of pleonasm due to confusion or "haziness". (Does this suggest that prescriptive grammarians may have killed the construction?) At any rate there is no reason to believe that an adequate theory of cleft sentences must be such that it automatically excludes examples like (40). A simple surface filter might be more adequate.
2.3.3. The argument from negative raising. A further argument against the extraction analysis was offered by Clifton (1969, 14-18; 25), based on the putative rule of NEG-raising, which he claims is cyclic. He gives a paradigm of the usual kind (1969, 15: (33)):

(41) a. The train doesn't arrive until 10.00.
    b. #The train arrives until 10.00.
    c. I don't think the train arrives until 10.00.,

and points out that there is no pseudo-cleft sentence corresponding to (41c) (his (35)):

(42) #What I don't think is that the train arrives until 10.00.

He claims that "Using the Chomsky deep structure there is no natural way to block this sentence", for the rule of NEG-raising, being cyclic, would apply before the extraction rule and there would be no principled way of preventing this from happening. He then points out that the deletion analysis does provide an explanation for the ungrammaticality of (42). The underlying structure would be roughly:

(43) [[[the thing [I think something]] be [I think that the train doesn't arrive until 10.00]]

There is no way of obtaining what I don't think from the left-hand clause. One can only derive:

(44) What I think is that the train doesn't arrive until 10.00.

This argument is specious, however, unless he can provide some
principled reason why the left-hand clause cannot contain a deep structure negation. That is, what prevents (45) or (46) from giving (42)?

(45) "[the thing [I don't think something]] be [I think that the train doesn't arrive until 10.00]]

(46) "[the thing [I don't think something]] be [I don't think that the train arrives until 10.00]]

Clifton does not discuss this problem.

The presence of until is not relevant, of course. (47) is just as bad as the other example:

(47) "What I don't think is that the train has arrived.

Clifton could only fall back here on a weaker claim depending on the fact that the following are not very good either:

(48) a. "I don't think \{something\} .

b. "What don't I think?

He might therefore be able to claim that the deep structures in (45) and (46) are inadmissible, but to do that he must show that the examples of (48) must be rejected at the deep structure level.

It seems more likely to me that, regardless of questions about the existence of a rule of NEG-raising, (42) is bad for reasons that have to do with the discourse function or semantic function of the pseudo-cleft construction and that of phrases such as I don't think that... The emphatic or presuppositional nature of the pseudo-cleft construction and the tentative
"warrant-giving" or modal nature of the latter construction are fundamentally opposed. This is not to say that I know how such facts might be expressed in a grammar, but if this is a correct assessment of the reasons for the unacceptability of (41) it means that the semantic component of the grammar will have to be capable of some fairly complex calculation, and the matter is well worth looking into. A similar point could be made with sentences of the form what I believe/don't believe is that John did it. Note that one loses the "parenthetical" reading of believe here; only the reading which expresses conviction about the truth of the claim remains in this environment (and this is, of course, the reading that does not permit NEG-raising).

In short, it is safe to claim that Clifton's objection is at the very least much weaker than it at first sight might appear to be.

It is fair to conclude from the material that has been discussed in this section that it provides no reason to choose one analysis rather than the other.

3. Difficulties common to both analyses

Certain difficulties seem to inhere in both analyses to a lesser or greater extent.

3.1. The determination of focus. As Akmajian has pointed out, in reply to Peters and Bach 1968, neither analysis allows a satisfactory identification of the focal constituent at the
deep structure level (1970b, 54-55). With respect to the extraction analysis this is obvious, but it is also true of the deletion analysis, for the rule which determined the focus "would essentially have to be a restatement of the deletion transformation" (Akmajian 1970b, 55). This represents an inadmissible loss of generality.

Akmajian's criticism does not hold (as Professor Chomsky has pointed out to me) of the formulation of generative semantics found in Lakoff 1971, for there the focus is represented at the deep structure level as a matter of course. Derivational constraints ensure the correct relationship between the semantic representation, which includes the focus, and the surface structure representation. However, there is little evidence that devices of this kind are necessary (see Chomsky 1970b, 1972), and the impression of repetition in the derivation of specificational pseudo-cleft sentences remains if one retains the deletion transformation in the form in which Ross has proposed it.

Similar remarks apply to the kind of sentence found in certain types of colloquial speech which Ross has adduced as evidence in favor of the underlying structure required by the deletion analysis, in which no deletion has taken place (1972a, 89; also Clifton 1969, 38). Thus, beside (49) he cites (50) (Ross 1972a, 88-89: (34) and (38) resp.):

(49) What I like to angle for is killer whales.

(50) What I like to angle for is I like to angle for killer whales.
In a grammar with a deletion rule but no derivational constraints, there is no way of determining the focal item in (50) without further mechanisms. (For instance the deletion rule, even though it does not apply in the derivation of (50), might leave an arbitrary mark on the focal item. This could be used to govern the position of the nuclear stress of the sentence.) If the focus is represented in the underlying semantic representation, as in generative semantics, then (50) is interpretable as long as derivational constraints are utilized. (I will return to this type of sentence in section 3.4 below, and in footnote 11.)

3.2. Non-existent deep structure sources. It has been pointed out by Green (1971; see also Morgan n.d., 34-35 and Kajita 1972) that there are sentences apparently of the pseudo-cleft type to which no simple sentence corresponds. A typical example is (Green 1971, 3: (10) and (11) resp.):

(51) What I like about John is his sense of humor.

(52) a. "I like John's sense of humor about him.
    b. "I like his sense of humor about John.
    c. "I like about John his sense of humor.

As Green points out, there is a large class of such sentences. If sentences such as (52) are ungrammatical as a result of a deep structure restriction of some kind, then it would appear that (51) can have no transformational source.

* Green does not press the argument far enough. It could be claimed that sentences such as (51) are derived in the base,
from a plain NP-be-NP structure. This solution is, however, demonstrably incorrect (within the framework which derives specificational pseudo-cleft sentences transformationally), for two reasons. Firstly, sentences such as (51) do not have the reading that is typically associated with these base-derived structures, in which the subject clause is referential (in a sense which will be clarified in chapter five). (51) has only the typical pseudo-cleft reading. 7 Secondly, such sentences exhibit syntactic connectedness, and therefore have precisely that property which gives the strongest argument for the transformational derivation of pseudo-cleft sentences in the first place. Consider example (53):

(53) What he doesn't like about the R.O.T.C. is having to conduct himself at all times like an officer and a gentleman.

The reflexive pronoun himself and its antecedent he do not fulfill the standard requirements for reflexivization, and yet there is no unclefted form which could provide a source that would fulfill those requirements:

(54) a. *He doesn't like having to conduct himself at all times like an officer and a gentleman about the R.O.T.C.

b. *He doesn't like about the R.O.T.C. having to conduct himself at all times like an officer and a gentleman.

If the arguments for a transformational derivation of any
pseudo-cleft sentences are sound, then sentences of the present type must also be derived transformationally. One is forced to conclude that there must be some simple sentence which underlies (53) and (54).

It is relatively easy to devise a solution of sorts for examples like (53). Let me propose a new transformation called Topic extrusion. This removes a possessive noun phrase from the noun it modifies leaving a pronominal copy of some kind, deletes the genitive ending, and inserts the noun phrase into a prepositional phrase in about, with, or whatever happens to be required in the particular environment. (Essentially this proposal has now been made by Grosu (1973, 309), if I understand him correctly.) Thus, the simple sentence underlying (51) would be (55):

(55) I like John's sense of humor.

In certain environments, where John is somehow the topic of concern, the noun phrase John can be removed from the noun phrase John's sense of humor and inserted into an about-phrase.

There are no obvious formal difficulties associated with such a transformation, and indeed it might be used to account for a curious gap in the interrogative system of English: what is the question corresponding to the deep structure (56)?

(56) [You don't like [NP John's Wh-something]NP]

No acceptable surface structure is derived from this if merely the standard rules are applied:

(57) a. *What don't you like John's?
(57) b. *John's what don't you like?

However, the sentences of (58) perhaps express what one would expect (56) to mean:

(58) a. What don't you like about John?
       b. What don't you like of John's?

(There is an additional complication in (58b), of course, and I have quietly suppressed some other problems.)

Unfortunately, Topic extrusion fails just at the point where most help is needed. What could possibly be the simple sentence underlying (53)? Where could the noun phrase the R.O.T.C. have been extruded from? Perhaps one could generalize the topic extrusion rule to allow the formation of topics from a wider range of noun phrase types, and claim that (53) is underlain by something like (59):

(59) He doesn't like having to conduct himself at all times like an officer and a gentleman in the R.O.T.C.

Example (60), if it is acceptable, shows that even this kind of approach (which, in any case, could only satisfy those for whom the grossest similarities of meaning constitute "evidence") will not work:

(60) What amuses us most of all about John is those little messages that the girl who's chasing him writes on our doorstep every morning.

Where could John have been extruded from in such an example? (Notice that him in the predicate complement is buried in two relative clauses and is part of a subject.) In fact, the
predicate complement in such sentences need not mention the topic directly at all. The construction bears a presupposition that in some way the topic is connected with something mentioned in the predicate complement, but this connection does not have to be explicit or overt in any way. If one knows, for instance, that John has some effect on Mary's letter-writing ability, then (61) is acceptable:

(61) What amuses us most of all about John is the letters that Mary writes to us.

By the same token, a hearer who did not know John or Mary or anything about them would draw some such conclusion if he heard (61). There can be no transformation Topic extrusion, or any transformation like it if these observations are correct.³

The two obvious ways of avoiding the conclusion which can be drawn from Green's sentences have failed: these sentences cannot be base-derived (unless pseudo-cleft sentences that show syntactic connectedness can also be base-derived); and there is no way of using a transformed simple sentence as a source to which the pseudo-cleft formation rule can be applied. This suffices to render the transformational analysis of pseudo-cleft sentences extremely suspect.

3.3. Semantics of the deep structure source. The semantic import of the deep structure is puzzling in both analyses. This is not a serious objection to the extraction analysis, because it fits into a theoretical framework which operates freely with
empty deep structure nodes and has a systematic way of dealing with them; a great deal of Akmajian's effort (1970b, passim, esp. Chapter 3) goes into coping with this problem. One may feel uneasy about this approach, but at least it does not lead to any serious semantic problems. On the other hand, what is one to make of the semantics of the deep structure required by the deletion analysis? (See also Grosu (1973, 300) on this point.) What is the meaning of the copula? What is the semantic relationship between the subject noun phrase and the predicate complement noun phrase? Is there any sense in which this deep structure makes the semantics of pseudo-cleft sentences more perspicuous?

In the paper from which I have cited the deletion transformation, Ross proposes a "principle of semantic relevance" as follows (1972a, 106: (75)):

Where syntactic evidence supports the postulation of elements in underlying structure which are not phonetically manifested, such elements tend to be relevant semantically.

But, on the contrary, in the present instance it would appear that the elements in underlying structure which are not phonetically manifested are there merely to make the syntax come out right. They have no conceivable semantic relevance and, as Akmajian pointed out, one cannot in the underlying structure even establish what is surely the major semantic fact about the construction--that is, which item is the focal item--without
duplication of the deletion rule.

It is worth while noting that the indirect question analysis which Ross has proposed does not avoid the charge of semantic irrelevance but rather makes matters worse. With respect to example (62) (his (26a)):

(62) What Ultraman replaced in the light socket was the banana.

(63) Ultraman replaced the banana in the light socket.

Ross says (1972b, 69: fn. 12; see also Akmajian 1970b, 100: fn. 21):

In fact, I suspect that the underlying structure of a sentence like (26a) is really more like the structure which underlies (1) than that underlying (25a) [=my (63) F.R.H.].

(1) The answer to the question as to what Ultraman replaced in the light socket is that he replaced the banana in it.

Even if one accepts this sentence as grammatical, it cannot possibly be the structure to which the deletion analysis applies. First of all, a small point, the predicate complement clause is introduced by that, which is never the case in examples to which deletion has failed to apply, such as (50) above (in itself a suspicious point, for where else in English do embedded tensed sentences with overt subjects occur which disallow an initial that?). Secondly, Ross has failed to take into account two things about his (1). First of all, answer is a nominalization
and by his own generative semanticist principles must therefore have a sentential source. Secondly, (i) is itself a pseudo-cleft structure and therefore must be derived by the deletion rule. (This point will become clearer in chapter four. At present it is sufficient to state that unless Ross accepts a sentential source as correct for such nominalizations, then all the connectedness arguments which motivate a deletion analysis will collapse within his framework.) This means, by the first point, that Ross's (i) is underlain by the structure that underlies a sentence such as (64):

(64) What answers the question as to what Ultraman replaced in the light socket is that he replaced the banana in it.

(Of course, this is hardly a grammatical sentence, but it is a representation of what one might obtain if one failed to apply the nominalization transformation.) The second point, the fact that this is itself a pseudo-cleft sentence, means that by Ross's analysis it is underlain by a structure such as (65) to which the pseudo-cleft deletion rule has applied:

(65) [What answers the question as to what Ultraman replaced in the light socket] is [[that he replaced the banana in it] answers the question as to what Ultraman replaced in the light socket]

But this is, after all, a pseudo-cleft structure and, if one follows Ross's analysis, it must be underlain by something like (66):
(66) [The answer to the question as to what answers the question as to what Ultraman replaced in the light socket] is [that [[that he replaced the banana in it] answers the question as to what Ultraman replaced in the light socket]]

(66), of course, contains a nominalization which must be replaced by its sentential source, and the predicate complement of (66), of course, has already undergone deletion...

This proposal of Ross's would thus appear to lead to an infinite regress; the analysans is an example of the analysandum. I know of no other way of making the deep structures postulated in the deletion analysis semantically plausible.

3.4. Pseudo-cleft sentences with noun antecedents. In the literature it barely seems to have been noticed that the notion of pseudo-cleft sentence must be generalized to include copular sentences with subjects consisting of a full lexical noun modified by a relative clause. The only clear recognition of this fact that I recall is in Chomsky 1971, where the sentences:

(67) a. The only people they really like are Bill and Mary.
   b. The only people they really like are each other.

are discussed (1971, 44: (198a, b) resp.), and it is suggested that "these derive from a source with a subject containing 'they really like Bill and Mary,' 'they really like each other,' respectively..." (Faraci 1971, 81-82) also notes the pseudo-cleft nature of such sentences and suggests a relationship with
concealed questions. See also Grosu 1973, 299-300.)

Such sentences show the typical ambiguities of pseudo-cleft sentences and they exhibit syntactic connectedness. Thus, (68a) is ambiguous in the same way as (68b), and (69a) exhibits connectedness identical to that of (69b):

(68) a. The animal I am pointing at is a kangaroo.
   b. What I am pointing at is a kangaroo.

(69) a. The approach you should try instead is shaving yourself in the evenings.
   b. What you should try instead is shaving yourself in the evenings.

(Such examples will be discussed in greater detail in chapters four and five and therefore I will not go beyond this bland assertion at this point. Akmajian in fact denies that such sentences are pseudo-cleft sentences (1970b, 91: fn. 14), but he is clearly wrong except in a trivial terminological sense.) Therefore, they must presumably be analyzed in the same way as pseudo-cleft sentences proper, in what and other Wh-words. Furthermore, if the subject clauses of pseudo-cleft sentences in what truly are free relative clauses, then it would require extra constraints to prevent sentences such as (68a) and (69a) from being generated in the same way: all other things being equal, one should expect there to be such sentences with such properties.

The structural description of the deletion analysis, in fact, permits the derivation of such sentences without further ado.

The extraction analysis faces a difficulty at this point,
however. The difficulty is in fact present in pseudo-cleft sentences in what but becomes more glaringly evident now. Consider the derivation of (68a) on the extraction analysis. The simple sentence to which it is related is presumably (70):

(70) I am pointing at a kangaroo.

If one follows the now traditional transformational analysis of relatival structures, the underlying structure of (68a) must be as in (71):

(71)

```
S0
  ┌─ NP1 ┐
  │     │
  │     │
  NP2   S1                             VP
  │                     ┌─ V ┐
  │                     │ is │
  │                     │  Δ │
  │                     │ NP4 │
  a kangaroo

the animal
```

The relative clause rule, which in the structure-preserving framework is cyclic, will apply during the NP1 cycle, fail to find a noun phrase in S1 which matches the antecedent, NP2, and mark the structure as deviant. But even if some principled reason can be given for blocking the application of the filtering effect of the relative clause rule until after the extraction rule has applied (which it cannot do earlier than the S0 cycle), there is still a problem.10 If, when NP3 is extracted, no more than a Wh-pro-form is left in its place, it is still not necessarily the case that the relative clause rule can apply correctly. For instance, if the relative clause rule requires a full
noun phrase of some kind within the clause, then the extraction rule, or some other rule, would have to leave Wh-some-animal in place of NP$_3$. This requires additional mechanisms. The same difficulty arises in a different form with respect to any other analysis of relative clause formation, such as the raising analysis suggested by Brame (1968), and taken up by Chomsky (1971, and class lectures 1972) and Schachter (1973), as long as the rule is noun-phrase cyclic.

It is possible, as Chomsky has suggested to me, that one might be able to use some mark on noun phrases to avoid this difficulty, and an obvious choice for such a mark is the "trace" that was mentioned earlier. Consider the structure (71) again. If NP$_3$ could be generated both with a kangaroo and with a trace of a form that would allow NP$_2$, the animal, as its antecedent at the point where the relative formation rule takes place on the NP$_1$ cycle, then the extraction rule could be made sensitive to the presence of that trace at the point when it applied on the S$_0$ cycle. This is still a vague suggestion which I shall not develop here. Clearly it would require modifications in the statement of all the relevant rules and the mechanism would have to be heavily constrained in some way. Essentially, it is a coding that uses a marker that is not arbitrary, if the trace proposal is in general correct (and therefore avoids the charge of arbitrariness that Lakoff (1972) levelled against Baker and Brame's discussion (1972) of Lakoff (1970)). However, it looks suspiciously similar to the kind of device that was rejected
earlier, which allows one to determine the focus at the deep structure level, and raises the same kinds of problems. It is hard to wax enthusiastic about such a device, and this ordering problem makes the extraction analysis unattractive, at least within the theoretical framework that produced it.

The deletion analysis also fails in connection with such sentences, again for reasons related to the broader theoretical framework that produced it. Examples such as (68a) can be generated correctly, but consider an underlying structure such as (72):

(72) [the food [he gave his dog food] was [he gave his dog an inferiority complex]]

This would apparently give the sentence (73):

(73) The food he gave his dog was an inferiority complex.

This is anomalous, but the anomaly cannot be detected in the underlying structure except by the use of a rule identical in form to the deletion rule to block out the unwanted parts of the structure, and the subsequent application of a rule of interpretation to the copular sentence that remains. In this way it could be noted that the sentence is claiming that an inferiority complex is a kind of food. Note that it is not sufficient merely to cause the deletion rule to block, and prevent the generation of (73) (perhaps by means of the identity conditions on the rule and the claim that gave was not the same verb in the two clauses).

Firstly, it is perfectly clear what is anomalous about (73). By merely blocking the transformation in this way one could
explain why (73) is perceived as anomalous, but not how one can perceive what the anomaly consists in. Secondly, there are sentences where it would not be reasonable to claim that two different verbs are involved, as in (74) and (75):

(74) [the tree [he likes the tree best] is [he likes the vole best]]

(75) #The tree he likes best is the vole.

(This argument is similar to Akmajian's in 1970b, 60-61. Ignore the non-specificational reading of (75).) Here there is surely no difference that the deletion rule could detect. One can only use the rule to block the sentence here by putting a condition on it to the effect that the noun phrase that remains to the right of the copula must bear the right semantic relationship to the antecedent of the relative clause. But this semantic relationship is precisely that which obtains between the subject and the predicate complement in a specificational copular sentence, and hence the condition on the rule would be repeating something which is properly an aspect of the interpretation of copular sentences. Thirdly, it does one no good for the colloquial dialects which Ross mentions to block the application of the transformation. This would predict that, in those dialects, sentences such as (76a, b) might perhaps (depending on the details) be recognized as anomalous, but that speakers would not be able to detect what the anomaly consisted in:

(76) a. The food he gave his dog was he gave his dog an inferiority complex.
(76) b. The tree he likes best is he likes the vole best. This is clearly preposterous. Given the deletion analysis, I see no way of avoiding the conclusion that underlying structures such as (72) and (74) must be interpreted as anomalous at the underlying level, and a generative semanticist will have to claim this too, if he wishes to remain faithful to his theoretical framework. Therefore, he has no way of avoiding the necessity for a rule identical to the deletion rule which applies to the underlying structure, and a rule of interpretation which applies to the remaining structure and interprets it as a specificational copular sentence. In other words, it is not merely the case that the underlying structure required by the deletion analysis in some vague way makes no semantic sense (as was claimed above, section 3.3); it in fact prevents one from establishing the true semantic relations in the underlying structure unless one is willing to permit the duplication of a rule. The alternatives of semantic incoherence and rule duplication that the deletion analysis forces on one suggest that this analysis is unworkable. 11

3.5. Extraposition. Consider a sentence such as (77):

(77) What is clear is that he is lying.

The simple sentence corresponding to this appears in two forms:

(78) a. That he is lying is clear.

b. It is clear that he is lying.

In (78b) the optional rule of extraposition has applied, moving
the subject clause to the end of the sentence and leaving it as a dummy subject. On the deletion analysis, the underlying structure of (77) is, roughly:

(79) [[the thing [something is clear] is [[that he is lying] is clear]]

What happens, now, if extraposition takes place in the post-copular sentence? The deletion rule cannot apply, since its structural description is not met. One derives:

(80) *What is clear is it is clear that he is lying.

This is ungrammatical in my English, but the derivation does not predict that it is. The only way of blocking (80) is by means of the deletion rule. But then one has to maintain that the rule should have applied and could not (because its structural description was not met). However, how can one make the notion "should have applied" coherent, when the sole criterion for the applicability of a rule is the match between the structure of the phrase marker and the structural description, and it is precisely that match which fails to obtain in the present case? Lakoff's notion of positive absolute exception (1965, V-1 - V-6) cannot be applied in this case, for here it is not a matter of the irregular behavior of a single lexical item. Professor Chomsky has suggested to me that this problem can be circumvented by means of the filtering function of transformations. If the deletion rule fails to apply to (79) then the sentence boundaries demarcating the sentence to which the rule applies will remain at the surface structure level, marking the
structure as ungrammatical (c.f. Chomsky 1965, 137-139). This would work for dialects in which the deletion rule was obligatory, but not in dialects in which it was optional. (Indeed, in such dialects it is not clear what could remove the sentence boundaries.) One would expect (80) to be grammatical in such dialects, and, indeed, Professor Ross, who speaks such a dialect, informs me that (74) is less than completely unacceptable for him. However, some extra constraint will be required to explain why it is not completely acceptable.

This particular difficulty does not arise in the extraction analysis. However, consider the deep structure (81):

(81) [it [[that he is lying] is clear] is [Δ]

Apply extraposition in the subject clause:

(82) [it [it is clear [that he is lying]] is [Δ]]

It should now be possible to extract the adjective phrase clear to give (83):

(83) #What it is that he is lying is clear.

How can this be prevented? If one extracts clear without prior extraposition one obtains:

(84) #What that he is lying is is clear.

This can probably be blocked by means of the output condition suggested by Ross (1967, 57: (3.27)) which forbids sentence internal noun phrases which exhaustively dominate a sentence, but (83) cannot be blocked in this way. Notice, however, that if the subject clause of the pseudo-cleft sentence is merely a free relative clause, then the underlying structure of the
subject clause is not as in (81) but as in (79), where there is nothing to extrapose, and that (84) would be underlain by a subject clause which contained the sentence:

(85) #That he is lying is something.,
which is a very odd sentence, to say the least.

In short, both analyses lead to wrong predictions when the simple sentence corresponding to the pseudo-cleft sentence allows the extraposition of a sentential subject.

4. Summary

In this chapter I have outlined the reasons for setting up a transformational analysis of pseudo-cleft sentences, presented the two main analyses and discussed various difficulties that they encounter. The deletion analysis fails to account for certain aspects of the meaning of pseudo-cleft sentences in particularly serious ways and requires derivational constraints and other extra constraints at the level of semantic representation. The extraction analysis faces great mechanical difficulties in connection with the ordering of rules that the structure-preserving framework requires. Both analyses fail to account for the derivation of pseudo-cleft sentences to which no simple sentence corresponds. In these circumstances it is eminently reasonable to look for an alternative analysis which will avoid all these problems, as long as no greater complication is involved.
FOOTNOTES
CHAPTER 2

1. A couple of further assumptions should be made explicit here. First of all it is assumed that any item in focus position is a constituent. There is, as it happens, no very obvious way of testing this, and I take it as an article of faith throughout this essay. Intuitively, it seems to be a sound assumption, and the semantics of copular sentences makes it hard to imagine what would be meant by a copular sentence with two or more constituents in the focus position unless they were exhaustively dominated by a single node at some level. Instances where one can be sure that one is dealing with items that do not fulfill this condition are always ungrammatical (c.f. Halliday 1967, 225), such as:

(i) a. *What Mary gave was John a book.
   b. *What Mary gave who was John a book.
   c. *The one to whom Mary gave what was John a book.

The direct and indirect object do not form a constituent. However, there are other ways of accounting for the ungrammaticality of these examples, and this may be true of all possible test cases.

The second implicit assumption is that easy to please is a constituent in (3). This is an important point, which is
frequently overlooked (as, for instance, by Harada and Saito (1971, 549: (4))). It does not seem to have been pointed out before that easy to please is identical in its "external" syntactic behavior to phrases like eager to please (which are the nuclear instances of adjective phrases containing sentential complements), and that, therefore, the rule of tough-movement, in addition to moving the object of the verb into subject position, must also move the complement infinitive phrase into the adjective phrase so as to form a constituent with it. I will document this claim more fully, since it places an important constraint on any discussion of the behavior of the tough and eager classes of adjectives. I proceed by comparing the behavior of the strings AP+VP in the examples of (ii) in various constructions:

(ii) a. John is easy to please.
   b. John is eager to please.
   c. John is foolish to try to please.
   d. It is easy to please John.

(The (c) example here is apparently ambiguous for some speakers, presumably because for them foolish allows tough-movement. This is not the case in my English, in which John can only be the understood subject of please in (ii-c). This fact is crucial for the discussion of a foolish man to have invited below.)

Only the first two AP+VP strings can appear in the focus position of pseudo-cleft sentences:
(iii) a. What John is is easy to please.
   b. What John is is eager to leave.
   c. *What John is is foolish to try to please.
   d. *What it is is easy to please John.

More importantly, both easy to please and eager to please behave as a constituent with respect to fronting rules:

(iv) a. How easy to please John is!
   b. How eager to please John is!
   c. *How foolish to try to please John is!
   d. *How easy to please John it is!

Note that (ivd) cannot be bad for phonetic reasons, because (va) is good where it refers, for instance, to a dog, and (vb) is good where it refers to some food and is understood as the object of eat but not where it is the subject and eat has a deleted object:

(v) a. How easy to please it is!
   b. How easy to eat it is!

All the examples of (iv) are acceptable when the infinitive phrase appears to the right of the copula. (The simplest assumption for (via) and (vib) is that an extrapolposition rule operates after the fronting rule, though that may not be correct and needs further investigation.)

(vi) a. How easy John is to please!
   b. How eager John is to please!
   c. How foolish John is to try to please!
   d. How easy it is to please John!
The same distribution is found in interrogative sentences and in the predicate-fronting construction with though:

(vii) a. How easy to please is John?
   b. How eager to please is John?
   c. *How foolish to try to please is John?
   d. *How easy to please John is it?

(viii) a. How easy is John to please?
   b. How eager is John to please?
   c. How foolish is John to try to please?
   d. How easy is it to please John?

(ix) a. Easy to please though John is...
    b. Eager to please though John is...
    c. *Foolish to try to please though John is...
    d. *Easy to please John though it is...

(x) a. Easy though John is to please...
    b. Eager though John is to please...
    c. Foolish though John is to try to please...
    d. Easy though it is to please John...

There seems to be no escaping the conclusion that after the rule of tough-movement has applied, the string easy to please is as much a constituent as eager to please is.

A further slight indication that easy to please is a constituent is the use in advertising language of expressions such as easy-to-wash shirt, easy-to-drive car, where the meaning conveyed is quite different from that of easy shirt to wash, easy car to drive, by virtue of some kind of generic versus
specific contrast rather like Bolinger's (1967, 3-4) characteristic and occasion readings. (One still has to account for the absence of expressions such as eager-to-learn student, of course.)

These observations, if correct, place certain constraints on the discussion of the tough class of adjectives:

1. As already noted, the tough-movement rule must amalgamate the complement phrase and the adjective phrase into a constituent, presumably by incorporating the complement phrase in the adjective phrase (in the complement position, if one follows a structure-preserving analysis—which ensures identity of structure with eager to please).

2. The distinction between easy man to please and *eager man to please (or *proud man of his son, for that matter) cannot be a result of any very simple distinction between the structures of easy to please and eager to please, if it is assumed that easy man to please is underlain by a structure that has undergone tough-movement (or tough-deletion, in fact). It is, however, fairly clear in any case that the existence of easy man to please has nothing to do with the tough-movement rule, for the class of adjectives that can appear here is much larger than the tough-class. For instance:

\[
\text{(xi) John is a } \left\{ \begin{array}{l}
\text{foolish} \\
\text{horrible} \\
\text{strange} \\
\text{wily}
\end{array} \right\} \text{ man to have invited.}
\]

None of these adjectives allows tough-movement:
(xii) *John is \{ foolish
horrible
strange
wily \} to have invited.

A preliminary investigation suggests that an adjective can appear attributively in this construction only if it can also appear as predicate to an infinitival sentential subject. This condition is, I believe, necessary but not sufficient (as one can immediately see by trying the adjectives necessary and sufficient in this frame, both of which allow infinitival sentential subjects). This distribution is at least partly accounted for in terms of a derivation by relative clause reduction from structures of the following form:

(xiii) a. \[ NP[ NP \text{ a man } ]_{NP} \ [ S[ NP \text{ be foolish} ]_{NP} \]

b. \[ NP[ NP \text{ a man } ]_{NP} \ [ S[ NP \text{ to please Wh-some-man } ]_{NP} \text{ be easy } ]_{NP} \]

Such a derivation may require a lifting of the sentential subject constraint (Ross 1967, 243: (4.254)), but it has already been suggested elsewhere that this may be necessary, in rather similar circumstances (Ross 1969b, 276-277, esp. (75); Chomsky 1972, 72-73). Furthermore, notice that the relative clause reduction rule can only be retained in a substantially unmodified form if the infinitive phrase is in the subject position when relative clause reduction takes place, rather than in the extraposed position. If Emonds's proposal with regard to extraposition
(Emonds 1970, 91-133) were correct, the structures in (xiii) would not be available. (It was in fact while investigating the feasibility of the present analysis that I came to write Higgins forthcoming.) Contrariwise, if independent evidence for the analysis implied by (xiii) should be available, this would constitute another argument against Emonds's position. If, finally, there is no relative clause reduction rule (as argued, for instance, by Williams (1971, 1-6)), then Emonds's analysis is irrelevant to the issue and, as Robert Faraci has suggested to me, it may be necessary to generate the infinitive phrases freely following the head noun and to establish the necessary syntactic and semantic correlations by some form of interpretive device. I will not pursue this matter here, since it obviously requires much study.

2. I will occasionally use a sharp sign (instead of an asterisk) to indicate that a sentence is unacceptable for reasons having to do with such matters as violation of selection restrictions or the way the world happens to be. They are all sentences which I am not convinced should be adjudged ungrammatical.

3. Lest it should be objected that I am being less than fair to Akmajian at this point, some amplification of this claim is called for. Akmajian makes the following comment on (i) and (ii) (1970b, 56: (55) and (57) resp.):

   (i) What I saw was Mary.
   (ii) What concerned John was Mary.
"I do not find sentences such as (55) as acceptable as sentences such as (57)." (1970b, 98: fn. 18 to p. 56). But he does not prefix an asterisk to (i). Later he gives (iii) and (iv), both of which are asterisked (1970b, 60: (68a, b) resp.):

(iii) *What he kicked was Mary.
(iv) *What he found in the garden was Mary.

Does this mean that he regards (iii) and (iv) as more unacceptable than (i)? Or is he now giving his true judgment about such sentences, believing them all to be equally deviant, rejecting by implication the assessment of (i), which was cited from Peters and Bach 1968 (5: (101))? The latter is the more likely hypothesis, for Akmajian was surely not intending to imply a theory of selection that could distinguish see and kick or find in the relevant respects. If the feature [+concrete] that I suggest in the text is correct, then clearly all three verbs should behave identically.

The unacceptability (for Akmajian) of sentences such as (i) is surely a matter of presupposition, in some sense of this term. If one has no hint that what John saw was human then (i) is perfectly acceptable; if one already knows that John saw some person, then (i) violates a rule of contextual implication (of the kind first discussed by Nowell-Smith (1954, passim, esp. 80-87) which Grice states as: "One should not make a weaker statement rather than a stronger one unless there is a good reason for so doing." (Grice 1961, 132; see also Fodor 1967, passim, esp. 18-24 under "rule of strength"). If one considers
that the presupposition in the relevant sense is given by the sentence corresponding to the structure underlying the free relative clause, then in (i) the presupposition is **John saw something**. It may be somewhat **unexpected** to find that that something turned out to be a human being; but unexpectedness is **not unacceptability**, though it may feel like it on occasion.

Akmajian completes his footnote eighteen by suggesting why **what** behaves differently in (i) and (ii) (1970b, 98-99):

The reason has to do with the fact that the pro-form **what** most naturally functions to refer to human nouns with verbs which take as subjects (or objects) both abstract nouns and human nouns. For example:

(i) a. The lack of justice concerned John.
   b. Mary's situation concerned John.
   c. Mary concerned John.

In a certain sense the NP **Mary** in (i-c) is abstract in that particular context. Thus, the pro-form **what** is appropriate.

There are two points to be made here. Firstly, this is essentially just an amplified statement of what Peters and Bach were trying to say with the notion of "replaceable by **something**". Secondly, I am extending this suggestion to say the same thing about concrete nouns, viz.: "the pro-form **what** functions naturally to refer to human nouns with verbs which take as subjects (or objects) both concrete nouns and human nouns." That is, **what**
can be used in the unmarked situation, where the verb is not marked so as to require a human subject (or object). I will ignore the question of abstract nouns in the text.

4. It is not worth while expanding on this point here, but notice that Akmajian would probably have to adopt some such mechanism anyway even to be able to generate sentences such as (20) (assuming they are grammatical) or what concerned John was Mary in the base, for that derivation still depends indirectly on the notion "replaceable by something", as I suggested in footnote 3.

5. It is in fact easier to see this in terms of the list-like meaning of such sentences, which will not be discussed in full until chapter four. Note that to examples such as (27a) one can construct an equivalent list:

   (i) I put it in the following place: under the bed.

   (Here does not work very well as the introducer of a list, unlike this, and therefore I have had to use in the following place as a substitute.) Notice that the "variable" phrase in the heading is a locative phrase, as is the sole item on the list. In contrast to this, (26) leads to the following list:

   (ii) *I gave the following (one) the book: to John.

Here the variable in the heading of the list is a noun phrase, not a prepositional phrase, and therefore the item in the list is not of the same type as the variable, and a defective list results. The following is a permissible list:
(iii) I gave the following (one) the book: John.
It is not clear what the status of the following example is:
(iv) I gave the book to the following (one): to John.
The to in the phrase to John seems to be pleonastic. (The un-
clear status of (iv) as against the clear deviancy of (ii)
matches well with Professor Ross's feeling [personal communica-
tion] that (25b) and (29b) are better than the other sentences
in the paradigm.) I will not enlarge on why this might be so
here, but what should be noted is that there is no Wh-pro-form
in English corresponding to to the following (one) where
following (one) is [+human]. That is, of course, Akmajian's
point in a slightly different form, but it is not in fact
directly relevant to the explanation of the ungrammaticality of
(26) in the way that Akmajian's analysis would predict. This
whole area--pro-forms, Wh-pro-forms, traces, and their relation-
ship to processes such as relativization and clefting--needs a
much more detailed treatment than I can give it here. I hope
to produce a study of some of these phenomena in the future,
building on Kuroda's 1968 study.

6. Various people have proposed marking the focus element in the
deep structure. Thus, Fischer (1968) uses a feature [+Positive]
which identifies the focus element and triggers the clefting
rule. Moreau (1970, 387), who espouses an extraction-cum-in-
direct question analysis of pseudo-cleft structures, also uses
an arbitrary mark to identify the focus element in the deep
structure. Notice that if it were true (which I shall argue that it is not) that derived constituents could function as focus elements then this analysis would be in principle unworkable. Akmajian quite rightly comments: "We reject, of course, notational tricks to achieve a marking of focus in deep structure." (1970b, 55). No more than the surface structure form is required for the full determination of focus, a situation which is similar to that involving intonational focus discussed in Chomsky 1970b.

The question of derived phrases which are not present in deep structure also complicates matters for the deletion analysis, but any problems that arise are the same as those that arise in the intonational examples and can be ignored here for simplicity's sake.

7. That is, I claim that (51) has only the specificational reading. The fact that the subject clause cannot have a referential reading comes out strikingly if one constructs a syllogism in which the conclusion predicates a property of the subject:

(i) a. What I don't like about John is his tie.
   b. John's tie is red.
   c. *Therefore, what I don't like about John is red.

The conclusion is ungrammatical, evidently because the subject noun phrase does not refer to an object in the same way as his tie does. Compare this with an example where the subject clause
does allow a referential reading:

(ii) a. What John loves most of all is his tie.
     b. John's tie is red.
     c. Therefore, what John loves most of all is red.

The reason why (ia) is not ambiguous will be touched on in chapter five. Notice that I have here assumed what I try to show in chapter three: that Akmajian is incorrect in claiming that both kinds of reading, the predicational and the specificational, are associated with both kinds of deep structure; and that, rather, one must associate the predicational reading with the base-derived structure.

8. Similar conclusions can be drawn, I believe, about constructions in do to, such as:

   (i) What John did to Bill was hurt him.

At first sight it appears that the noun phrase governed by to must appear as an affected object in the predicate complement. But one can construct a series of examples which allow a progressively remoter syntactic connection between the object of to and the predicate complement:

(ii) a. The worst thing you could do to him is snub him.
     b. The worst thing you could do to him is steal his dog.
     c. The worst thing you could do to him is laugh at the picture that is going to be presented to him.
d. The worst thing you could do to him is run your car across the flower bed that the girl he's engaged to dug and planted.

e. The worst thing you could do to him is persuade Mary to tell Betty about Jill.

Again, all that is apparently required is some "intrinsic" connection between the object of the preposition to and something in the predicate complement. Perhaps there are constraints of some kind on what that connection can be, but it is clearly not a connection of a kind that a transformation will cope with in any revealing way.

9. I have not elsewhere in this essay discussed the "indirect question" analysis of pseudo-cleft sentences, partly for reasons of space, but chiefly because the author of the only serious arguments in favor of it has changed his mind and in a footnote remarks: "...I have concluded that the Embedded Question Analysis is probably incorrect." (Faraci 1971, 84: fn. 1). The majority of Faraci's points can be answered, and some have been answered (if not with complete success) by Akmajian 1970b, 71-81, but I will not answer the remaining points here. (See also Grosu 1973, 300-301: fn. 6.) The issue is, in fact, somewhat tangential to my concerns, but at all events there is virtually no evidence that I am aware of which would suggest that the subject of the kind of pseudo-cleft sentence with which I have been dealing up to this point is anything but a free relative clause.
Notice that the parallels between pseudo-cleft sentences and question-answer pairs, which seem to have formed the basis for the desire to postulate an underlying question in pseudo-cleft sentences (see, for instance, Faraci 1971, 49-50 and 72-77 for a presentation of such evidence), have no cogency at all if these parallels are associated, as seems likely, with the presuppositional structure of questions; for free relative clauses share with questions the kind of presupposition that is likely to be of relevance here. For instance, the question What did John eat? presupposes, in some sense, that John ate something; but so does what John ate, either as a free relative clause or as an indirect question. Akmajian's proposal (1970b, 101: fn. 23), which is to account for parallels between pseudo-cleft sentences and question-answer pairs in terms of the representations of focus and presupposition that he develops in his third chapter, is perfectly adequate and it fits in perfectly well with the different view of the meaning of specificational pseudo-cleft sentences that is developed in this essay. By this means one removes all justification for any move of the kind proposed in Harries 1972, where it is suggested that all questions have an underlying pseudo-cleft structure. This analysis of questions incorporates several ad-hoc rules, provides no insight into either the meaning or form of either questions or pseudo-cleft sentences, and leaves the constraints which I will present in chapter six utterly mysterious.
10. The situation may be even worse than this suggests. Note that the subject clause of a pseudo-cleft sentence, whether a free relative clause or a relative clause with a lexical noun antecedent, can take a modifying restrictive relative clause, as in:

(1) \{The animal \} I am pointing at that John covets is a kangaroo.

This stacking of relative structures is presumably recursive (though the results are unacceptable with more than about three relative clauses):

(ii) What John wants to do that his father does that we warned him against is shave himself with a copper strip.

In the present case this means that the application of the relative clause rule to all of these relative clauses must be blocked until after the extraction rule has applied. Take (i), for instance. The underlying structure, with the animal as antecedent, must be (given this analysis of relatival structures):
(iii)

S₀

NP₁

NP₂  S₂

NP₄  I am pointing at NP₅

the animal  a kangaroo

S₁

John covets NP₃

NP₆  S₃

the animal  I am pointing at NP₇

the animal

VP

V  NP

is  Δ
Note that $NP_3$ is not identical to $NP_2$, its antecedent, because $S_3$ in $NP_3$ contains $NP_7$, the animal, where $S_2$ in $NP_2$ contains $NP_5$, a kangaroo; therefore, relative clause formation cannot occur in $NP_1$ until $NP_2$ has been rendered identical to $NP_3$ by the application of the extraction rule on the $S_0$ cycle. It will not do to make $S_3$ identical to $S_2$, both containing $NP_5$, a kangaroo, because then the extraction rule would have to extract a kangaroo from two positions (and hence, because of the possibility of infinite recursion, from infinitely many positions) at once. Moreover, the relative clause $S_1$ can be of a form that is not compatible with what is extracted, as in:

(iv) What John does that we disapprove of is shave himself with a copper strip.

There is no sentence (v):

(v) *We disapprove of (to) shave himself with a copper strip.

The antecedent of the second relative clause in (iv) seems to be what John does, as in:

(vi) We disapprove of what John does.

The structural description of the pseudo-cleft rule on either analysis must be modified to take account of the stacked structure, whatever its form may be.

11. It will be objected at this point that I have nevertheless provided no account of pseudo-cleft sentences of the form:

(i) What John bought was John bought a kangaroo.
Unfortunately, all such sentences are ungrammatical for me and therefore it is not easy for me to work with them with any confidence. From what has already been said it is clear that they have to be analyzed in terms of a filter having the form of the deletion rule in Ross's analysis and a rule which interprets the remaining copular sentence as a specificational sentence. This can all take place either at the deep structure or at the surface structure level, as far as I know. The structure of these sentences is a puzzle, and raises some interesting questions about the relationship between deep structure and semantic interpretation. For me they are irremediably anacoluthic; for those who find them grammatical some restructuring may have occurred which somehow amalgamates the structure into a sentence, but I cannot guess what this may be. The following remarks may provide a start towards an analysis of the construction.

I suspect that these sentences have arisen, historically, by analogy to question-answer pairs. Thus, if beside the dialogue of (ii) one has the pseudo-cleft sentence (iii):

(iii) What John saw was a vole.

it is quite conceivable that on this model the dialogue (iv) could lead to (v):

(iv) a. What did John see?
    b. John saw a vole.

(v) What John saw was John saw a vole.
This might have been reinforced by the practice of some speakers of repeating the question, and following it in the same breath-group with the answer, as in:

(vi) a. What did John see?
    b. What did John see? He saw a vole.

(This might have been expected to lead from a dialogue such as (vii) to pseudo-cleft structures such as (viii), were it not for the fact that there are no relative clauses of the required structure in English:

(vii) a. Which vole did John catch?
    b. (Which vole did John catch?) He caught that one.

(viii) *Which vole John caught was that one."

Note that an interpretive rule of the form of the deletion rule is required in any case to establish that in (ivb) it is a vole that provides the "real" part of the answer, and therefore it is not surprising to find it extended to (v). This parallelism would also explain why (v) has no predicational reading, since in (ivb) a vole clearly has no predicational reading.

If this suggestion is correct one might expect to find sentences of the form of (v) which correspond to question-answer pairs which share no overt common topic. This may well be the case. For instance, I recently caught the following sentence, said of a heavy shopping bag:

(ix) What is heavy is I bought a four-pound chicken.
This corresponds to the reasonably felicitous dialogue:

(x) a. What's heavy (in here)?
   b. I bought a four-pound chicken.,
where no more than an inherent connection is required for co-
herence. Speakers of the relevant dialects will be able to
check this possibility. In any case, if (ix) is not grammatical,
then some means will have to be found for blocking it--this can-
not be done by means of the deletion rule because its struc-
tural description is not even met in this instance.

A further suggestive piece of evidence is the following.
Quirk et al. (1972, 954-955) note that, when the relevant verb
in the pseudo-clefted clause is in the perfect, then beside
(xi) (their [40]), one may also find (x'i) (their [40a]):

   (x'i) What he's done is (to) spoil the whole thing.
   (xii) What he's done is spoilt the whole thing.

With the progressive, as is well-known, the predicate complement
must have an -ing form, as in (xiii) (their [42a]):

   (xiii) What I'm doing is teaching him a lesson.

Again, this accords perfectly well with a peculiarity of
the progressive and perfect in question-answer pairs: they allow
deletion of the subject and auxiliary verb(s), as in:

   (xiv) a. What are you doing?
       b. I'm teaching him a lesson.
       c. Teaching him a lesson.
   (xv) a. What has he done?
       b. He's spoilt the whole thing.
c. Spoilt the whole thing.

In (xiii) one has the form that is required in any case by constraints on the pseudo-cleft structure, and this form happens to merge with that obtained by amalgamating the question-answer pair (xiva) and (xivc). Therefore, although (xi) is the expected form, the one that is required by the constraints on the pseudo-cleft structure, one also finds (xii), which is produced by analogy to the question-answer pair (xva) and (xvc) using the relationship of (xiii), (xiva) and (xivc) as a model. This proposal allows certain predictions. For instance, one does not find truncated answers in the simple past tense.

(xvi) a. What did he do?
   b. He spoilt the whole thing.
   c. *Spoilt the whole thing.

(xvic) is not an acceptable answer to (xvia); only (xvib) is. Correspondingly, one does not find pseudo-cleft sentences of the form (xviiib) beside (xviiia):

(xvii) a. What he did was spoil the whole thing.
   b. *What he did was spoilt the whole thing.

Again, the subject-auxiliary deletion rule is rather specific to English, and one would not expect to find similar patterns in pseudo-cleft sentences in languages that lack this rule. This would be an interesting topic for further research.

A final area that might prove enlightening is the following. I shall show later that sentences of the following form behave
like specificational pseudo-cleft sentences in certain respects:

(xviii) If there's one thing John does well, it's talk.
To my ear, the deletion structure sounds absolutely impossible here:

(xix) "If there's one thing John does well, it's he talks well.

If this is correct, it would tend to confirm the connection with question-answer pairs that I have postulated, for it is hard to see how (xviii) could correspond naturally to any kind of question-answer pair. Moreover, the lack of (xix) is inexplicable in terms of the deletion theory (in such "non-deleting" dialects) without the addition of extra constraints.

To sum up. Although the underlying structure of sentences like (i) is unclear, it probably has nothing at all to do with that of pseudo-cleft sentences. The connection with pseudo-cleft sentences is indirect, through question-answer pairs. This does not, of course, commit me to an analysis of pseudo-cleft sentences based on questions, direct or indirect. Notice finally that the account that I have given also explains the (obligatory) lack of an initial that in the predicate complement clause of sentences like (i).

12. I am assuming that the arguments against Emonds's "intraposition" analysis presented in Higgins forthcoming are sound. The argument there based on pseudo-cleft constructions vanishes if the null hypothesis is correct with respect to specificational
pseudo-cleft sentences, and the argument based on sentential relatives is rather weak. However, three arguments still remain in favor of the extraposition analysis.
CHAPTER 3

AMBIGUITY, CONNECTEDNESS AND THE EXTRACTION ANALYSIS

The discussion of chapter two has suggested that only the extraction analysis remains as a conceivably possible transformational analysis of pseudo-cleft sentences. In chapter four I will show that within the lexicalist framework the deletion analysis is in principle excluded, and I will try to show further that the extraction analysis fails, given certain other restrictions which have been proposed within the lexicalist framework. It may be thought that my demonstration of this latter point is insufficiently convincing and therefore I wish to show in the present chapter that even if it should be necessary to preserve the extraction analysis, the treatment which Akmajian gives cannot be maintained. In particular, I wish to show that his treatment of the ambiguity of pseudo-cleft sentences is incorrect, and that there is an inconsistency in his treatment of syntactic connectedness which points the way to the proposals of chapter four. Thus, the present chapter falls into two halves. In the first half I show that distinct readings must be associated with the two possible deep structures for pseudo-cleft sentences. In the second half I show that when certain inconsistencies are removed from Akmajian's analysis the idea that there is only one deep structure source and no transformational analysis of pseudo-cleft sentences follows as a matter of course.

-98-
In mitigation of the rather ad hominem character of this chapter I would offer the excuse that the discussion does show how near Akmajian was to seeing the inadequacy of the extraction analysis and the correctness of the null hypothesis. Indeed, he seems to have proposed this himself at some earlier date, as witness a remark on the pseudo-cleft construction in Emonds's thesis (1970, 171: fn.):

Another possibility, suggested by Akmajian (personal communication) is that no transformations are involved at all; rather, some principle yet to be made precise would allow predicate attributes to identify not only the subject NP but also, under certain conditions, larger deep structure constituents such as \texttt{do something to someone}.

One more apology. Since I am trying to expose various inconsistencies in Akmajian's position, the character of the material is such that an orderly argument is hardly possible, and there is a certain amount of unavoidable back and forth movement.

1. Akmajian's treatment of ambiguity

I will first present a sketch of Akmajian's treatment of ambiguity in terms of what appear to me to be the crucial features of his argument. Then I will push some of his arguments further, extending them to new material and show that contradictions arise. I will throughout assume that Akmajian is working within the structure-preserving framework described by Emonds
(1970). This is not essential to my arguments, but it does make them shorter and, although Akmajian does not quite state openly that he is working within this framework, it would be easy to give textual evidence to show that he accepts it implicitly.

1.1. A sketch of Akmajian's treatment of ambiguity. As mentioned in chapter one, Akmajian deals with the ambiguity of pseudo-cleft sentences in terms of a contrast between a specificational and a predicational sense of the copula (1970b, 162-165; c.f. Halliday's "extensive" and "intensive" be clauses respectively (1967, 66-67)). He gives the following examples (1970b, 162: (1a,b) resp.):

(1) a. The first candidate for the trip to Mars is Spiro Agnew.

b. The first candidate for the trip to Mars is short and fat.,

and notes that "the first sentence identifies, or specifies some entity, while in the second sentence given qualities are predicated of some individual." (1970b, 162-163). He then makes the important claim that clefted sentences are always specificational, and points out an important distinguishing mark of specificational copular sentences, the fact that the subject and predicate complement can change places (1970b, 163-164; c.f. Halliday 1967, 67 and 226), as in (2a), as opposed to predicational sentences, as in (2b) (1970b, 164: (3a, b) resp.):
(2) a. Spiro Agnew was the one who we chose to go to Mars. 
   b. *Short and fat was the one who we chose to go to Mars.

(Of course, given a certain level of diction, (2b) is not ungrammatical, but the contrast is clear enough.)

Akmajian now distinguishes referential and non-referential noun phrases (1970b, 166-168), following Kuno 1970. With reference to sentences (3) and (4) (1970b, 165-166: (8a) and (6b) resp.):

(3) John is a fool.

(4) He is the man who robbed the bank yesterday.,

he notes that "the difference between a predicational sentence such as (8a) [my (3) F.R.H.] and a specificational statement such as (6b) [my (4) F.R.H.] rests with the fact that the postcopular NP of (6b) is referential, while the post-copular NP of (8a) is non-referential..." (1970b, 166), and lists some of the syntactic differences between the two types of noun phrase that Kuno had discussed. He characterizes the referential reading by exemplification: "...the noun phrase the man who robbed the bank yesterday in (6b) is in fact understood as denoting a specific individual, i.e. an individual can be picked out by the use of the phrase." (1970b, 166-167).

Before I present Akmajian's analysis of the ambiguity in pseudo-cleft sentences with adjective phrases and with noun phrases in the focus position, I will outline the important argument that lies behind his major claim about the ambiguity of
the focal noun phrase type: the NP-be-NP argument.

After he has argued that a transformational analysis of pseudo-cleft sentences is necessary, Akmajian continues as follows (1970b, 32-38):

(i) Deep structures of the form [NP-be-NP] have to be generated by the grammar in any case.

(ii) A free relative clause can appear in any environment in which any other kind of noun phrase can appear.

(iii) Therefore, pseudo-cleft sentences—which have a free relative clause as subject—can be generated by the base rules.

(iv) Moreover, there is no non-ad-hoc way of preventing this from happening.

In other words, pseudo-cleft sentences with a noun phrase focal item in general have two sources, the transformational derivation and the base derivation. Akmajian follows up the consequences of this fact with admirable clarity, noting that, since pseudo-cleft sentences with noun phrases in the focal position can quite generally be base-derived, then "It should be the case, in general, that pseudo-cleft sentences of the form NP-be-NP do not display grammatical dependencies across the copula of the sort which motivate a transformational analysis." (Akmajian 1970b, 52). Footnote fifteen emphasizes the point (1970b, 92):

In other words, it turns out that pseudo-cleft sentences which display a syntactic form other than the form NP-be-NP are those sentences which provide
motivation for a transformational analysis. For example, these would include pseudo-cleft sentences with VPs and Adjective Phrases in focus position (c.f. "What she did was wash herself vigorously", "What John is is easy to please").

Akmajian ascribes the ambiguity of pseudo-cleft sentences with adjective phrases in focus position (where it exists) to the two possible derivations, the predicational reading being associated with the base-derived structure, the specificational reading with the transformationally derived structure (1970b, 170-174). Thus, the sentence (5) (1970b, 170: (16)):

(5) What he wants his next wife to be is fascinating.

derives from the following two deep structures (1970b, 171-172: (20) and (21) resp.):

(6)
```
      S¹
     /   \\
   Np   Vp
  /     |
 it    be
     /   |
   S²   Adj
        /   |
      What he wants his next wife to be fascinating
```

(7)
```
      S¹
     /   \\
   Np   Vp
  /     |
 it    be
     /   |
   S²   Fred
        /   |
      He wants his next wife to be fascinating
```

Δ
Structure (6) corresponds to the predicational sense, (7) to the specificational. The predicational reading of (6) is established at the deep structure level, but the specificational reading of (7) is established at the surface structure level by means of the more general surface structure interpretation rules which deal with focus-presupposition relations (Akmajian 1970b, 172-173).

Akmajian now argues that the ambiguity of pseudo-cleft sentences with focal noun phrases cannot be ascribed to the existence of two deep structures, but rather that each source produces pseudo-cleft sentences with both readings (1970b, 176-182). "Sentence (8) (1970b, 175: (23)) is ambiguous between a predicational and specificational reading, just like the adjective phrase examples:

(8) What he threw away was a valuable piece of equipment.
However, (9) (1970b, 176: (28)) is unambiguously specificational:

(9) What John threw away was the valuable piece of equipment.

Akmajian remarks that "This sentence is understood unambiguously as specificational, i.e. the underlined NP in (28) is unambiguously referential." (1970b, 176-177), and notes that (9) could be derived from either kind of source, for the phrase structure rules allow noun phrases to be generated in the predicate complement position as well as in the direct object position. (This is essentially the NP-to-NP argument again.)

Moreover, such noun phrases can be generated as either definite
or indefinite, and hence (9) could arise from either source and so could (8). His conclusion is that

The ambiguity in (23) [my (8) F.R.H.] is not specifically associated with the derivation of pseudo-cleft sentences, as such, but is a function of the semantic nature of the noun phrase a valuable piece of equipment. The distinction between the predicational and specificational senses is a function of the referentiality of this particular NP, rather than any property of the derivation of clefted sentences.

(1970b, 177)

He claims further, following Halliday (1967, 230-231), that the same ambiguity appears in the corresponding simple sentences, as in (10) (Akmajian 1970b, 177: (29)):

(10) He threw away a valuable piece of equipment.

and that

The ambiguity of (29) [my (10) F.R.H.], like that of (23) [my (8) F.R.H.], is a function of the referentiality of the NP a valuable piece of equipment: when the NP is taken as being referential, the sentence is understood to have a specificational sense, and when the NP is taken to be non-referential, the sentence is understood as having a predicational sense. (1970b, 177-178)

As a final point, Akmajian notes that it would be mistaken
"on syntactic grounds" if one were to posit a dual source to account for the ambiguity of (8), for, given this dual source account of the ambiguity:

...there would be no reason to expect that referential and non-referential NPs should have the same, or even similar, formal syntactic distributions. It would be a total accident that both sorts of NPs appear in the same syntactic environment. This would be an absurd consequence. The general formal distribution of NPs is not in any way governed by the referentiality of NPs, which is why we find both referential and non-referential NPs in the same syntactic environments.

(1970b, 179)

1.2. Difficulties with Akmajian's analysis. The predictions of the NP-be-NP argument are not fulfilled; there are minimal pairs with focal noun phrases of the following kind:

(11) a. What John was looking at was a picture of him.  
    b. What John was looking at was a picture of himself.
(12) a. What John wrote was an excellent description of him.  
    b. What John wrote was an excellent description of himself.

(These should be read with the nuclear tone on picture and description to avoid irrelevant complications, and this prosodic pattern should be adhered to in all similar examples that follow.)
Moreover, the (a) sentence of each pair, which lacks syntactic connectedness, has the predicational reading and can appear in a form which is not permitted with the specificational reading:

(13) a. What John was looking at has turned out to be a picture of him.

b. *What John was looking at has turned out to be a picture of himself.

(14) a. I consider what John wrote to be an excellent description of him.

b. *I consider what John wrote to be an excellent description of himself.

(The ungrammaticality of the (b) sentences will be discussed in chapter six below.) Furthermore, if it were true that both sources were available for pseudo-cleft sentences with focal noun phrases, then one might expect to find the possibility of free variation in sentences of the following kind:

(15) a. *What John has finally developed is an impressive ability to defend him against their taunts.

b. What John has finally developed is an impressive ability to defend himself against their taunts.

It should be possible to derive (15a) by base-generation and (15b) by extraction, but only the latter is grammatical.

In all these examples, the simple sentence corresponding to the pseudo-cleft sentence must have the reflexive pronoun:

(16) a. *John was looking at a picture of him.

b. John was looking at a picture of himself.
(17) a. *John wrote an impressive description of him.
   b. John wrote an impressive description of himself.

(18) a. *John has finally developed an impressive ability to defend him against their taunts.
   b. John has finally developed an impressive ability to defend himself against their taunts.

That is, (11b), (12b) and (15b), which have the specificational reading, also exhibit syntactic connectedness; (11a) and (12a), which have the predicational reading, cannot exhibit connectedness. (15a) appears to show that this particular structure can have no predicational reading.

The predictions of the NP-be-NP argument have been controverted in the strongest possible way. What has gone wrong? Apparently, Akmajian has been led to treat noun phrases differently from adjective phrases and verb phrases, possibly because the selectional facts are clearer for the latter than for the former. He does not notice that the NP-be-NP argument applies to any constituent which can appear in the focus position, given the structure-preserving framework. Thus, one can construct an NP-be-AP argument, an NP-be-VP argument and an NP-be-S argument along the same lines, merely by changing the name of the category in the first premise of the argument (as given above, p. 102). If a constituent X is to be extracted and placed in the predicate complement position, then, in the structure-preserving framework, it must be the case that one can generate a node of that category there.6 If the NP-be-NP argument is
correct as it stands then all these other arguments are also correct.

Let me discuss the adjective phrase type, since it is the clearest. The NP-be-AP argument in conjunction with Akmajian's other proposals predicts that examples of the following kind should be synonymous:

(19) a. What John is is important to him.
    b. ?What John is is important to himself.

But obviously they are not synonymous. (19a) says of something that John is or does that it is important to him; (19b) says that John is important to himself (which is slightly odd—hence the question mark against (19b)). The reading of (19a) is predicational, that of (19b) is specificational; as usual, the example with a specificational reading exhibits syntactic connectedness and the example with a predicational reading does not. Now in this case Akmajian is willing to allow the particular reading to be associated with the particular deep structure: (19a) would be base-derived, (19b) would be transformationally derived. Some adjectives do not permit the two possibilities, as in (20):

(20) a. #What John is is too fond of him.
    b. What John is is too fond of himself.

This is obviously a selectional matter (fond does not permit non-human subjects, for instance), as Akmajian notes in his footnote four to page 172 of chapter three (1970b, 256).

But what distinguishes noun phrases from adjective phrases
in their behavior here? Certainly not the NP-be-NP argument, because there is the (equally unsound) NP-bc-AP argument beside it. Not the selectional facts, surely, for noun phrases are also subject to selection restrictions. In fact, search as one may, there is absolutely nothing at all which distinguishes the two categories. And there is absolutely nothing to justify treating the one differently from the other.

In the light of these comments, what force has the argument which Akmajian gave, based on the sentences (8) and (9) above, to show that in pseudo-cleft sentences with focal noun phrases the ambiguity was not a function of the two possible sources? Very little, for Akmajian has shown less than he claims to have done. Example (9), with the valuable piece of equipment as focal noun phrase, would show at most that each source can generate pseudo-cleft sentences with a specificational reading. It does not show that each source can generate pseudo-cleft sentences with a predicational reading. And once one takes into account the possibility that selection restrictions should be used, it may well be that they would block the base-derived structure, for this noun phrase cannot be used predicationally (as Akmajian himself notes) and therefore, other things being equal, should presumably not be allowed to occur as a semantic predicate. If one associates the predicational reading with the base-derived source, one must block sentences in which the post-copular constituent does not permit a predicational reading. (It could of course be the case that more subtle selection
restrictions are needed for noun phrases than for adjective phrases, but that is no reason for rejecting their use.) Akmajian's argument takes no account of this possibility. Notice that his argument, if it were sound, could with quite as much reason be taken as indicating that in the noun phrase examples there was no transformational derivation at all. That would constitute quite as adequate an explanation of the distribution of referential and non-referential noun phrases as that which Akmajian gives, and I will now turn to other material which Akmajian provides that points in the same direction.

2. Towards the null hypothesis
   In this section I shall discuss two aspects of Akmajian's analysis which contain inconsistencies and show that the removal of the inconsistencies leads one to the conclusion that there is no transformational derivation of pseudo-cleft sentences.

   2.1. Syntactic connectedness in noun phrase examples.
   Akmajian's position on pseudo-cleft sentences with noun phrase focal items would suggest at first sight that such sentences could not exhibit syntactic connectedness of the kind that would justify a transformational analysis, for he claims to have shown that they all have a double source. One would not expect the base-derived form of a pseudo-cleft sentence to exhibit syntactic connectedness and, in particular, pseudo-cleft sentences of a form that can only be base-derived should not exhibit syntactic
connectedness. Furthermore, transformationally derived pseudo-cleft sentences with noun phrase focal items should also not exhibit syntactic connectedness (given that free variation of the kind noted earlier does not occur). Akmajian discusses counter-examples to these conclusions and tries to show that they are only apparent counterexamples. Consider example (21) (Akmajian 1970b, 47: (45)):

(21) What there was next to Bill₁ was \{ that \} photograph of himself₁ which was taken last summer.⁷

According to Akmajian, (21) can only be base-derived (because of the combination of there-insertion in the subject clause and a definite noun phrase as the focal item), and yet it exhibits syntactic connectedness, between Bill and himself. Similarly, he discusses the pair of sentences (22) (1970b, 48: (46a, b resp.)):

(22) a. What Bill₁ read was a book about himself₁.

b. "What Bill₁ read was a book about him₁."⁸

Since (22a) can, for Akmajian, derive from either source, it should not, at first sight, exhibit connectedness, and yet it does. Akmajian answers these counterexamples by claiming that (21) and (22a) do not, in contradistinction to examples with focal verb phrases, "form exceptions to otherwise general principles for assigning coreferentiality" and he notes that "the very same facts hold in copula sentences which are simple equational statements (i.e. which would not involve a clefting transformation)..." (1970b, 49). He gives as examples (23) and (24) (1970b, 49: (48a, b) and (49) resp.):
(23) a. John₁'s favorite possession is a book about himself₁.
    b. *John₁'s favorite possession is a book about him₁.

(24) John₁'s biggest worry is \{that\} photograph of himself₁ which was taken last summer.

(23a) can for him only be base-generated, and yet it shows the same kind of connectedness as (22a). Akmajian notes further that the antecedent and the anaphoric expression may even not be clause mates, as in (25) (1970b, 50: (50a)):

(25) The greatest source of embarrassment that John₁ has to endure is that photograph of himself₁ which was taken last summer.

In footnote fourteen to page 50 of chapter one (1970b, 91) he emphasizes that such sentences are not pseudo-cleft sentences and could not have been derived by means of a clefting transformation, for there is no position in the subject noun phrase from which the focal noun phrase could have been extracted.⁹ Akmajian summarizes the discussion of these apparent counterexamples as follows (1970b, 51):

...pseudo-cleft sentences of the form NP-be-NP behave like other copula sentences of that general form, and require no special principles to account for coreferentiality relations which hold across the copula.

Akmajian now asks why examples such as (26) (1970b, 22: (8a, b) resp.) are different from the examples just discussed:
(26) a. What John did was wash \begin{cases} \text{himself} \\ \text{*him} \\ \text{*herself} \end{cases}.

b. What John wants Mary to do is wash \begin{cases} \text{*herself} \\ \text{him} \\ \text{herself} \end{cases}.

He answers (1970b, 51):

The crucial distinction between examples such as (8) [my (26) F.R.H.] and those such as (45) and (46) [my (21) and (22) resp. F.R.H.] is that the focal phrases in (8) are verb phrases while those in (45) and (46) are noun phrases.

This is inherently a rather strange answer. Why on earth should the distinction between verb phrases and noun phrases have such consequences? What could there be about a verb phrase that does not permit reflexivization across the copula, by comparison with a noun phrase, which does permit it? More importantly, is it likely that, when one has set up mechanisms to deal with reflexivization in the noun phrase case, they would not, in their most general formulation, deal with the verb phrase case as well? That is, is it not likely that one would have to complicate the mechanisms in order to restrict them to the noun phrase case? The only distinction that Akmajan is able to make between the noun phrase and the verb phrase examples is the false distinction that was discussed above in connection with adjective phrases—the claim that there are no base-derived structures of the form NP-be-VP.

Of course, if there really is such a contrast between the
behavior of copular sentences with noun phrases and verb phrases as predicate complements then one is obliged to come to terms with it, suspicious as it may seem at first. However, there is a much stronger reason for dismissing Akmajian's distinction: examples such as (25) exist with verb phrases in the predicate complement position, and show exactly the same kind of syntactic connectedness:

(27) a. John's biggest worry is having to photograph himself without a tie on.

b. The greatest source of embarrassment that John has to endure is having to photograph himself without a tie on.

(Chibà 1971 notes that there is no known way of applying the Equi-NP deletion rule in similar examples.) There are only two choices open to Akmajian here: either the verb phrase examples are, like the noun phrase examples, base-derived, and already existing mechanisms account for the syntactic connectedness in both types; or, neither type is base-derived, and a transformational analysis is required for both types. Akmajian tried to reject this second alternative for the noun phrase type in his footnote fourteen to chapter one, as noted above. In the next chapter I shall try to give stronger reasons for rejecting it. One is left with the base derivation. If the principles that one sets up to account for reflexivization will handle examples such as (27), then obviously they will also handle examples such as (26), for (27b) is, in fact, merely a pseudo-cleft sentence with a lexical antecedent to the relative clause
instead of a free relative clause in the subject position, of the kind discussed in chapter two. Thus, Akmajian's discussion leads one direct to the null hypothesis.

2.2. Focal verb phrases and the source of do. Consider example (28) (Akmajian 1970b, 27: (16b)):

(28) What John did was read a book about himself.

Akmajian gives the deep structure of this sentence as (29) (1970b, 27: (17)):

(29)

\[
\begin{array}{c}
S^1 \\
| \\
NP \\
| \\
\quad it \\
| \\
S^2 \\
| \\
\quad that \\
| \\
NP \\
\quad John \\
| \\
Aux \\
\quad Past \\
| \\
VP^2 \\
\quad V \\
\quad be \\
\quad \Delta \\
| \\
\quad NP^2 \\
\quad read \\
\quad a \\
\quad book \\
\quad PP \\
\quad about \\
\quad John \\
VP \\
\end{array}
\]

In fact, for him the same deep structure underlies (30) (1970b, 27: (16a)):

(30) What John read was a book about himself.

There is an unfortunate lacuna in Akmajian's discussion (1970b, 28) of the derivation of (28), and one never learns
where the form did in the subject clause comes from. However, it is easy to see what the possibilities are. Akmajian evidently did not wish, unlike Ross (1972a, passim) and Emonds (1970, 188-189; n.d., 9-10), to regard the verb do as present in the deep structure of (28), since (29) is explicitly intended as the deep structure for both (28) and (30). Therefore, do and its object, which carries the Wh-pro-form, must be inserted by that part of the extraction rule which leaves behind a pro-form. Presumably, given the structure-preserving framework (and, in any case, given the lack of "structure-building" transformational rules), Akmajian would be compelled to follow Chomsky's suggestion (1970, 209-210) and introduce do it as a set of features.

Unfortunately, this proposal, the only one which seems to match Akmajian's intentions where he is dealing with sentences (28) and (30), is at variance with the analysis of anaphoric expressions which Akmajian develops in his fourth chapter. There, Akmajian applies the semantic mechanisms that he has set up in his third chapter to the interpretation of certain anaphoric expressions. These anaphoric expressions include anaphoric items such as it, this, that, thing, and so on, which appear in anaphoric expressions such as it happens, do it, do this, do that, do the same (thing), etc. (1970b, 268)

He gives such examples as (31) (1970b, 269: (1a, b) resp.):

(31) a. The US invaded Cambodia once, but it couldn't happen again.
b. The US may have destroyed Vietnam, but could they get away with doing it to Laos?,

and continues (ibid.):

The position we adopt here with regard to such anaphoric expressions is that such expressions are generated in the base. In other words, the second clauses in (1) [my (31) F.R.H.] are generated in essentially their surface form.

It is relatively obvious that the do of do it and such expressions is the same in meaning and function as the do which appears as a pro-form in pseudo-cleft sentences, and, more generally, in questions and free relative clauses, and therefore I will not labor this point. As Ross points out (1972a, 71): "...any grammar of English will have to contain a lexical item do which will require an animate NP as subject, and an abstract NP as object..." Indeed, there would appear to be no other source for sentences such as those of (32):

(32) a. What are you doing?

b. What John is doing is difficult.

This do shares the property with the do of do it and do so that it can only stand for actions, and cannot refer to states such as knowing, being and weighing. If on Akmajian's analysis of anaphora do it and do so are base-generated, then the do+Wh-something in (32), and in pseudo-cleft sentences (which contain a variety of free relative clause for Akmajian), must also be
base-generated. In other words, do cannot be inserted by the extraction rule.

Moreover, an analysis like Ross's (1972a, 70), in which the do is present in underlying structure in the next sentence above the verb phrase, is also inconsistent with Akmajian's approach to anaphora (though it would allow him to salvage the extraction analysis without the use of a do-insertion rule).

Therefore, if Akmajian wishes to maintain his treatment of anaphora, he must abandon the notion that pseudo-cleft sentences with focal verb phrases are produced by extraction. Both the do and its pronominal object must be base-generated, on his view of anaphora. Therefore, the focal verb phrase must be generated in the focus position, and some new way found of accounting for the connectedness phenomena.

3. Summary

In this chapter I have examined certain proposals made by Akmajian for the treatment of ambiguity in pseudo-cleft sentences and shown that his conclusion, that both deep structures must be associated with both readings where the focal item is a noun phrase, is incorrect. Given the two sources that he proposes, the predicational reading must be associated with the base-derived structure and the specificational reading with the transformationally derived reading. The distinction that he claimed to find between noun phrases and other possible focal items has proved to be illusory, with respect to ambiguity, selection and
syntactic connectedness. Finally, his treatment of pseudo-cleft sentences with focal verb phrases has been shown to be inconsistent with his treatment of anaphora. These latter points suggest quite strongly that all pseudo-cleft sentences are base-derived, and that there is no transformational analysis. The next two chapters will be devoted to reinforcing this claim and to suggesting how the problems of syntactic connectedness and ambiguity are to be dealt with, within the framework of the extended standard theory and the lexicalist hypothesis.
1. Akmajian tries to show (1970b, 38-44) that there are certain pseudo-cleft sentences involving the rule of there-insertion in their derivation which cannot be derived by means of the extraction transformation and hence can only be generated in the base. The sentences in question have a definite noun phrase in the focal position, and no simple sentence that has the same meaning corresponds to them, as in (1) and (11) (Akmajian 1970b, 39: (34) and (35) resp.):

(1) What there was in the car was \{the jack you gave me\}.

(11) *There was \{the jack you gave me\} in the car.

However, it is quite easy to circumvent Akmajian's argument using the extraction analysis in the form in which he presented it. Akmajian gives the underlying tree as (iii) (1970b, 40:(36)):

(iii)
Now:

1. Akmajian's extraction rule would insert [+WH, +PRO] into S\(^2\) on the S\(^1\) cycle. Therefore, Wh-fronting cannot apply in S\(^2\) on the S\(^2\) cycle; it cannot apply earlier than the S\(^1\) cycle. That is, one has to apply a cyclic rule to a cycle that has already been passed. (Wh-fronting is, of course, a cyclic rule in the structure-preserving framework.)

2. By parity of argument, There-insertion, a cyclic rule, may also apply on a cycle which has already been passed.

3. It is clear that Wh-fronting follows There-insertion.

4. Therefore, on the S\(^1\) cycle one applies the transformations to (iii) as follows:
   
   (a) Extraction removes my hat to the predicate complement position, replacing it by [+WH, +PRO].

   (b) As allowed by (2) above, There-insertion applies in S\(^2\), since [+WH, +PRO] meets the indefiniteness condition.

   (c) Wh-fronting applies in S\(^2\), to give (i).

Of course, this objection fails if the proposal utilizing a trace suggested in chapter two is adopted.

2. There is at least one other possibility that Akmajian overlooked, namely that one might find free variation between the simple anaphoric form and the reflexive form in the noun phrase type. The transformationally derived structure would show
connectedness, the base-derived structure would not and yet, since the two structures would receive the same semantic interpretation by Akmajian's rules, they would be synonymous. This possibility can be ignored for the moment. Examples that will be presented later show that there is no such free variation.

3. Akmajian's proposals contain various rather puzzling flaws, most of which I shall ignore. Here there is an obvious one. Since he assumes that the surface structure of the construction is the same irrespective of whether it is base-derived or transformationally derived, it would appear that the sentences that are interpreted as predicational at the deep structure level can (or will) also be interpreted as specificational by the focus-presupposition rules at the surface structure level. Is this a contradiction? If it is, how does one prevent it from arising? If it is not, can one use this double interpretation itself to account for the ambiguity, and, if so, why does one need the transformational derivation at all? Does one ever need to block application of the surface structure rule because the sentence has no specificational reading and if so, how is this achieved (for the relevance of this question, see especially Akmajian 1970b, 256: fn. 4; 262-264: fn. 18)?

I shall not follow up these problems here, though Akmajian's proposal can be shown to lead to quite serious difficulties when further material is considered (Higgins 1972a). I will assume that all the mechanisms that Akmajian proposes work correctly.
The important point here is that in the adjective phrase case the two readings are for Akmajian associated with distinct deep structures.

4. It is not easy to judge the correctness of this claim on the basis of the examples (8) and (10), partly because the putative ambiguity of (10) is so intangible. (I assume it is the specificity distinction in a non-opaque context that has also been noted by Partee (1972, 417-421).) It is, however, easy to see that the ambiguity of (8) cannot be ascribed to this ambiguity, by means of an example similar to (20) of chapter one. Consider the following:

(i) What he threw away was a chisel and a rubber grommet. On the specificational reading this is equivalent to a list:

(ii) He threw away the following things: a chisel and a rubber grommet.

On the predicational reading it represents him as having thrown away an object which has the astonishing property of being simultaneously a steel tool for cutting wood and a short rubber sleeve for protecting covered wire from abrasion. Clearly, (iii) lacks this latter meaning completely:

(iii) He threw away a chisel and a rubber grommet.

No reading of (iii) can underlie the predicational reading of (i).

The question remains whether, therefore, the specificational reading of (i) in fact splits into two, corresponding to the
specific and non-specific (?) readings of the noun phrases in (iii). My intuitions are not capable of discerning this distinction and I must leave the issue unresolved for the present.

5. Akmajian lists a sentence of the same form as (11a) and marks it ungrammatical:

(1) #What Bill₁ read was a book about him₁.

(1970b, 48: (46b)), but this is clearly an incorrect judgment.

6. Akmajian explicitly denies the possibility of a base expansion NP-be-VP in his discussion of pseudo-cleft sentences with a verb phrase focal item (1970b, 52). He also notes that if one allows this base structure then "otherwise general principles governing coreferentiality would have to be extended for just these cases." (ibid.). This is not true, for he has not considered the use of sub-categorization in blocking unwanted deep structures. Inconsistently, he does make use of selectional restrictions in connection with adjective phrases and thus makes an arbitrary distinction between adjective phrases and other categories (see below).

7. I am not convinced of the cogency of this example. The "picture-noun" photograph brings with it added complications. It seems to me to be equally acceptable if himself is replaced by him, and if there is then any change of meaning it is a rather subtle matter of focus of attention rather than any specificational/predicational contrast. The same is true in the
similar non-clefted sentence (i):

(1) Next to Bill₁ was \{that\} photograph of \{him₁ himself₁\}

which was taken last summer.

The example can stand as an example of what Akmajian means, for a more satisfactory example of a similar kind could no doubt be constructed. Others of his examples are not open to this objection, in any case.

8. The claim made in footnote 5 above can be ignored at this point, and (22b) accepted as ungrammatical for the purposes of Akmajian's argument.

9. This claim requires justification, and the problem will be discussed in the next chapter. I shall also point out there that a determined advocate of the deletion analysis would be able to circumvent this argument quite easily, given the mechanisms that he has at his disposal, as, indeed, he would have to.
CHAPTER 4

NOMINALIZATIONS, THE TRANSFORMATIONAL ANALYSIS, AND
SYNTACTIC CONNECTEDNESS

This chapter falls into two parts. In the first part I will examine more carefully the kind of material which was touched on at the end of the previous chapter, and fill in certain gaps in the argument that was outlined there. The conclusion will be drawn that, with regard to pseudo-cleft sentences of all kinds, the null hypothesis is correct: that is, the deep structure of pseudo-cleft sentences is essentially identical to the surface structure in that the focal item is generated in the predicate complement position by the base rules. In the second part I will outline an approach to the problems raised by the material discussed in the first part and the problem of syntactic connectedness in pseudo-cleft sentences, using examples with reflexive pronouns as an illustration.

Although my treatment up to this point has been relatively free of commitment to any particular school of transformational-generative grammar, I will now adopt certain positions which seem to me well-supported, and use them as a basis for constructing further arguments. Roughly, I will espouse the approaches which are subsumed under the terms "the extended standard theory" (as delineated in Chomsky 1972) and "the lexicalist hypothesis".
In particular, the following positions are crucial to my discussion: (i) the lexicalist approach to nominalization (Chomsky 1970), in which certain nominalizations are not derived transformationally, but are inserted into base structures from the lexicon at the deep structure level; (ii) the interpretive approach to pronominalization, in which pronouns are in general generated by the base rules and are not introduced transformationally by means of a pronominalization rule (Dougherty 1969, Jackendoff 1969, 1972, Akmajian 1970b, Wasow 1972); (iii) the interpretive approach to the identification of the understood subject of non-finite verbs, in which there is no deletion rule but rather an interpretive rule which relates an empty deep structure node to the controller noun phrase (Jackendoff 1969, 1972, Chomsky 1971); (iv) the "base-structure" approach to apparent syntactic irregularities, in which the use of rule features is eschewed in favor of other devices such as, in particular, the use of subcategorization constraints (Kayne 1969, Emonds 1970, esp. 40-41, Bresnan 1972, esp. chapter 4). Not all of these positions will be equally important in my argument, as will be obvious, but they indicate the general way in which I shall be viewing the problem. It will be an interesting and significant consequence of the material discussed in this chapter that this set of proposals remains consistent when taken together with the null hypothesis analysis of pseudo-cleft sentences, and that certain further proposals made on independent grounds within this framework (by Jackendoff) are in fact
required by this null hypothesis analysis.

1. Nominalizations and the transformational analysis

Copular sentences with a subject consisting of a nominalization (with or without a modifying relative clause) may show the characteristic features of pseudo-cleft sentences. That is, they may have the typical predicational-specificational ambiguity of pseudo-cleft sentences and they may exhibit syntactic connectedness.¹

Examples of the following kind show the ambiguity quite clearly:

(1) a. The winner is my BROTHER.
   b. His teacher is a TRAMP.
   c. The Christmas present that she is getting from me is a kangaROO.
   d. His hat is a bundle of STRAW.

(As noted in chapter one, I use capitalization to indicate the item which bears the nuclear tone.) These have a predicational and a specificational sense in just the same way as the following:

(2) a. The one who has won is my BROTHER.
   b. The one who teaches him is a TRAMP.
   c. What she is getting from me for Christmas is a kangaROO.
   d. What he wears on his head is a bundle of STRAW.

The specificational reading may be harder to perceive in some of
the examples of (1). It may be brought out by inversion:

(3) a. My BROTHER is the winner.
   b. A TRAMP is his teacher.
   c. A kangaroo is the Christmas present that she is getting from me.
   d. A bundle of STRAW is his hat.,

or, to some extent, by paraphrase:

(4) He has a bundle of straw for a hat.

Examples of syntactic connectedness have already been given in the previous chapter. Further typical examples are:

(5) a. The aim they have set themselves is to exert

       \{ *\text{them} \\
       *\text{themselves} \} as little as possible.

   b. The question we should be asking them is how to

       \{ *\text{us} \\
       \text{ourselves} \} \text{ of the rats.}

   c. Your biggest mistake was failing to cover

       \{ *\text{you} \\
       \text{yourselves} \\
       *\text{us} \\
       *\text{ourselves} \} adequately beforehand.

One can find similar pairs of examples, one of which has a specificational reading and exhibits connectedness, the other of which has a predicational reading and does not exhibit connectedness:

(6) a. His favorite hobby is preventing himself from sleeping.
b. His favorite hobby is preventing him from sleeping., just as in:

(7) a. What he likes doing most is preventing himself from sleeping.
b. What he likes doing most is preventing him from sleeping.  

Finally, there are nouns which behave like free relative clauses with topic phrases in about, in that they only permit a specificational reading. The following syllogism is comparable to that given earlier (fn. 7 to chapter two):

(8) a. This car's main defect is its steering.
b. This car's steering is loose.
c. #Therefore, this car's main defect is loose.

Other similar nouns are attraction, beauty, trouble (with). One can find examples which exhibit connectedness, as in:

(9) The attraction for him of his present post is being able to please himself about his hours of work.

Thus, sentences of this form exhibit all the salient features of the nuclear instances of pseudo-cleft sentences (with the reservation expressed in footnote 1 above) and must clearly be treated in the same way. That is, the account that is provided for ambiguity and syntactic connectedness must be sufficiently general to cover not merely pseudo-cleft sentences with free relative clauses as subjects but also those with other kinds of subject noun phrases.

What analyses are available? The decision to accept the
lexicalist hypothesis excludes the deletion analysis without further ado. The deletion analysis requires a full sentence in the subject noun phrase, to provide the correct environment for deletion; since nominalizations are not derived by the reduction of sentences within the lexicalist hypothesis, the structural description of the deletion transformation cannot be met. A combination of the lexicalist hypothesis and the deletion analysis would predict either that no examples of the kind that are at present being considered could exist, or that they should only exist with an unreduced sentence in the predicate complement position (since the deletion rule could never apply, its structural description not being met), the choice between these alternatives depending on what extra decisions were made with respect to various other matters. Neither of these predictions is fulfilled. The fact that the deletion analysis and the lexicalist hypothesis are incompatible, given the form of the data, conforms very well with the fact that there are independent reasons for rejecting the deletion analysis. That incompatibility ensures the rejection of the deletion analysis; that is, the adoption of the lexicalist hypothesis automatically ensures a state of affairs that has been found to be desirable on other grounds. This is a valuable pointer towards the correctness of the lexicalist hypothesis.

My earlier question must now be rephrased: what analyses are available within the lexicalist hypothesis? There appear to be two alternatives: either a transformational analysis analogous
to the analyses used for full sentences and presumably collapsible with them, or a base-derivation analysis, that is, an analysis in which the deep structure is essentially identical to the surface structure. The only proposal for a transformational analysis of which I am aware, and the only kind of transformational analysis which would allow all kinds of pseudo-cleft-like structures to be treated similarly, is that made by Chomsky (1970, 197-198). He discusses the following two sets of examples (1970, 197: (23) and (24) resp.):

(10) a. The question is whether John should leave.  
    b. The prospects are for peace.  
    c. The plan is for John to leave.  
    d. The excuse was that John had left.  

(11) a. the question whether John should leave  
    b. the prospects for peace  
    c. the plan for John to leave  
    d. the excuse that John had left  

and suggests two analyses. One is an extraction analysis, in which the complement of the subject noun phrase replaces the unspecified predicate in the structure (12) (Chomsky 1970, 198: (26)):

(12) [NP Det N Comp]NP be [Pred A]Pred.  

The other is a deletion analysis (1970, 219: fn. 22 to p. 198), in which the underlying form is as in (13):

(13) [NP Det N]NP be [NP Det N Comp]NP
and a deletion transformation deletes the second occurrence of the repeated noun. Either of these analyses would account for the ambiguity and the connectedness. Two deep structures would be permitted in ambiguous cases, the base-derived structure having the predicational reading, and the structure of the form of (12) or (13) having the specificational reading. The connectedness would be a result of the operation of rules that must operate within the noun phrase in any case, to allow the derivation of noun phrases such as:

(14) a. his promise to reform himself
    b. their plan to enrich themselves at our expense
    c. my threat to have myself arrested

The application of the transformational rule would then lead quite correctly to:

(15) a. His promise was to reform himself.
    b. Their plan is to enrich themselves at our expense.
    c. My threat was to have myself arrested.

With a slight extension, this rule might be used to account for examples with noun phrases rather than infinitive phrases or sentences in the predicate complement position, so that (16a, b) would derive on their specificational readings from (17a, b) respectively:

(16) a. Her Christmas present is a kangaroo.
    b. My supper is food for the dog.

(17) a. \[ NP \text{her Christmas present} \ Comp (of) a \]

\[ \text{kangaroo} \ Comp \] \[ \text{NP be [A]} \]
b. \([\text{NP} \text{ my supper} [\text{Comp} \text{ (of) food for the dog}][\text{Comp} \text{]NP} \text{ be [A]}^{4}\]

I will now try to show that a transformational analysis cannot be maintained, given only the view of rule features and syntactic irregularity which I have adopted (see above). If my argument is sound, examples such as those in (15) cannot be generated by transformation and must be base-derived. Therefore, the connectedness phenomena must be accounted for in some other way in such examples. Furthermore, if they must be accounted for in some other way here, they must also be accounted for non-transformationally in all varieties of pseudo-cleft sentences. The only alternatives would be to deny the similarity of the constructions with free relative subjects to those being discussed in the present chapter, or to claim that the similarity is not due to similarity of derivation. Neither of these alternatives is palatable (though the discussion of chapter six will uncover some differences between the two types), and, moreover, the treatment of syntactic connectedness that I shall sketch in the second half of the chapter covers both types without further ado. For simplicity's sake I shall only discuss the extraction analysis, for which the structural description is as in (12), but the argument carries over to the deletion analysis of (13).

The analysis which Chomsky has given would suggest that the complement of any noun which can take a complement would be able to undergo the transformational rule; as long as the structural
description, (12), was met it would be possible to form a copular sentence with the nominalization as its subject and the complement constituent as its predicate complement. However, this is not true of a number of nouns such as **anger**, **eagerness**, **inability** and **insistence** (see list one of the appendix). These can appear with complements in noun phrases but not in copular sentences:

(18) a. John's anger that he was not chosen
      b. their eagerness to prove themselves
      c. our inability to contain ourselves
      d. Mary's insistence that we should leave

(19) a. *John's anger was that he was not chosen.
      b. *Their eagerness was to prove themselves.
      c. *Our inability was to contain ourselves.
      d. *Mary's insistence is that we should leave.

One could deal with this situation either by means of rule features or by strict subcategorization restrictions. The use of rule features has been rejected as inconsistent with the general framework adopted here. (It will in any case become abundantly clear that rule features would not constitute a suitable device for dealing with this material.) Therefore one must apparently use strict-subcategorization restrictions, and say that such nouns cannot appear as the subject of a copular sentence with an empty predicate complement position. That is, they cannot appear in the environment:

(20) \([S[\text{NP Det } X]\text{NP be } [\Delta]]\)_S
This permits sentences of the following kind:

(21) a. John's anger that he was not chosen was childish.
    b. Their eagerness to prove themselves was incredible.
    c. Our inability to contain ourselves was infectious.
    d. Mary's insistence that we should leave was understandable.

while blocking those of (19).

There are also exceptions in the opposite direction; that is, nouns which occur as the subject of a copular sentence that has a sentence as its predicate complement but do not allow that sentence as a noun phrase complement. Examples of such nouns are affectation, beauty, dream, upshot (see list two of the appendix), as in:

(22) a. *his affectation to pretend that he is not affected
    b. *the beauty of the proposal that it won't offend them
    c. *John's dream to better himself
    d. *the upshot that we were not admitted

(23) a. His affectation is to pretend that he is not affected.
    b. The beauty of the proposal is that it doesn't offend them.
    c. John's dream is to better himself.
    d. The upshot was that we were not admitted.

Evidently, the extraction transformation must be made obligatory here. This is rather less easy to arrange by means of strict
subcategorization restrictions. As a first approximation the following distribution is required at the deep structure level:

(24) a. \[ S_{NP \text{ Det } N} \text{ be } \text{ AP } \]_S

b. \[ *S_{NP \text{ Det } N} \text{ S } \text{ be } \text{ AP } \]_S

c. \[ S_{NP \text{ Det } N} \text{ S } \text{ be } [\text{A}] \]_S

(24a) is required so as to allow sentences such as:

(25) a. His affectation is laughable.

b. John's dream is a delusion.

(24b) blocks the occurrence of the noun phrases of (22), and similar ones with noun phrases as complements, as the subject of a copular sentence. (24c), in conjunction with a constraint required by Emonds's structure-preserving hypothesis—that empty nodes must be filled at some point in the derivation—ensures that the extraction rule is obligatory and allows the derivation of the examples of (23), and similar ones with a noun phrase in the predicate complement position. (I assume that the structural relationship of a relative clause to its antecedent noun is different from that of a complement sentence to its head noun in some way to which the extraction rule can be made sensitive, and (24b, c) should be read as allowing for this distinction, whatever it may be.)

Before giving further data, I would like to point out what a very peculiar solution this is. It extends the notion of strict subcategorization far beyond anything that has been proposed elsewhere in the literature. According to the
characterization of strict subcategorization given by Chomsky (1965, 99), one would not expect the noun head of a noun phrase to be dependent for its subcategorization on any material outside that noun phrase. Here, however, reference is required to the whole sentence of which the noun phrase is a subject, which represents an unprecedented extension of the device. Furthermore, strict subcategorization is defined as being expressed in terms of the categorial context (Chomsky 1965, 95), but these putative strict subcategorization frames make, and require, mention of the verb be. Therefore, either one must reinterpret be as a category of some kind (such as COPULA), or one must allow a further extension of the form of strict subcategorization frames, with no obvious way of imposing reasonable limits on them. This latter solution does not explain, for instance, why have does not appear here, and behave just like be, as it often does in transformational rules. Once one has permitted the overall extension of strict subcategorization frames which this solution requires, it is not easy to see whether it has any great advantage over the use of rule features, at least as far as the inherent restrictiveness of the device is concerned, for that has been lost. The non-arbitrariness and restrictiveness of the original subcategorization mechanism has to be jettisoned in order to attain descriptive adequacy at this point. This is in itself sufficient grounds for rejecting this proposal.

But how adequate is the proposal in any case? There are various problems:
(1) A small number of nouns allow two complement sentences, as in:

(26) a. The best proof that John was not lying is that he was here last night.

b. The reason why I left was that she wasn't feeling well.

c. The first indication that anything might be wrong was that the barrel hadn't been refilled.

d. The main effect of not rotating crops is to exhaust the soil.

The complement sentences cannot be reversed without change of meaning or ungrammaticality:

(27) a. The best proof that John was here last night is that he was not lying.

b. The reason that she wasn't feeling well was why I left.

c. The first indication that the barrel hadn't been refilled was that anything might be wrong.

d. The main effect to exhaust the soil is not rotating crops.

It is not obvious what the underlying structures of such sentences could be if they are to be derived by extraction, nor can one ensure that only the correct clause is extracted without some extension of the rule. Thus, with **proof** and **indication** the clause corresponding to the subject clause of the related verb is the one that appears in the predicate complement.
position. This is true even when the noun has no complement sentence in surface structure itself, as in:

(28) a. The proof (of this) is that John was here last night.

b. The first indication (of this) was that the barrel hadn't been refilled.

With effect, on the other hand, the clause in the predicate complement position corresponds rather to an object clause (though the related verb in fact does not permit an infinitival object complement). With reason, the predicate complement must be that which actually constitutes the reason, and the complement to the noun that for which a reason is given. Of course, the why introducing the noun complement clause is not essential and cannot usefully form an environment to which reference can be made in the extraction rule:

(29) The reason that I left was that she wasn't feeling well.

(ii) Certain relatively empty nouns such as fact and thing will function as subjects in such copular sentences. If the noun is unmodified, the only possible complement sentences are in that or, for thing, to plus infinitive phrase, as in:

(30) a. The thing is that I don't want to retire yet.

b. The thing is to get it sent off now.

c. The fact is that he doesn't need it.

(The appearance here of thing is in itself rather surprising, since it certainly cannot take a complement sentence in any
other environment—it belongs in list two of the appendix.)

However, if the noun is modified by an adjective, then the type
of the complement sentence is governed by the adjective. For
instance, with an adjective that can function as a predicate to
a subject consisting of an indirect question or exclamation,
that indirect question or exclamation can appear here in the
predicate complement position:

(31) a. The incomprehensible thing about the whole affair
is why he said it just then.

b. The puzzling thing to me is how to justify myself
now.

c. The remarkable thing is what a lot of money he
still has.

The extraction rule would have to be obligatory here too, for
there are no noun phrases of the required form (even if one
omits the prepositional phrase complements):

(32) a. *the incomprehensible thing (of) why he said it
just then

b. *the puzzling thing (of) how to justify it

c. *the remarkable thing (of) what a lot of money
he still has

The correlation is rather, as already stated, with the following:

(33) a. Why he said it just then is incomprehensible.

b. How to justify myself now is puzzling to me.

c. It is remarkable what a lot of money he still has.

Similarly, adjectives which take a that-clause subject and
permit an "emotive" should in it behave similarly in this environment:

(34) The odd thing is that he should have managed to overcome his fear.

This is probably ambiguous, with either a deontic or an emotive reading of should, but (35), which lacks the attributive adjective odd, has only the deontic reading and therefore could hardly be the source for the emotive reading of (34):

(35) The thing is that he should have managed to overcome his fear.

The emotive should in (34) corresponds to that found in (36):

(36) It is odd that he should have managed to overcome his fear.

How could one use strict subcategorization rules in conjunction with the extraction analysis to take account of such facts?

Again, consider a set of sentences such as the following:

(37) a. The good thing is that he knows nothing about it.
    b. ??The good thing is for him to know nothing about it.
    c. The good thing would be that he \{ ??knows ?knew would know \} nothing about it.
    d. ??The good thing would be for him to know nothing about it.

(38) a. The best thing is that he knows nothing about it.
    b. The best thing is for him to know nothing about it.
    c. The best thing would be that he \{ ??knows ?knew would know \} nothing about it.
d. The best thing would be for him to know nothing about it.

(Similar paradigms were given by Bresnan (1972, 17-19) in a somewhat different connection.) The acceptability here varies, depending on the type of the complement sentence, the modality of the copula, and the degree of the adjective (whether positive or superlative). There is clearly a complex interaction here between various factors, and subcategorization does not appear to be the right device for handling it, for it is not merely a matter of categorial context. At the very least the subcategorization rules must be supplemented by rules that are sensitive to the effects of modals and choice of complementizer. The subcategorization rules could therefore have the simpler form required for merely making extraction obligatory (as in (24) above), and the acceptability of examples such as (37) and (38) would be a function of the extra rules. Thus, examples such as (37) and (38) do not provide an argument against extraction as such, but they do show that even if there is an extraction analysis extra rules of a certain type are needed. These extra rules would therefore be available in a framework which did not use extraction, at no extra cost. One might even want to claim that the earlier examples with indirect questions and exclamations and emotive should are to be treated by such extra rules, and this would weaken their cogency to some extent.

However, the crucial matter is that in order to explain the correlations between sentences of the form A N re S and
S be A of the kind that I have noted, within the extraction analysis, one is forced to invoke a rule of relative clause reduction, for the only natural source is of the form [N [S be A]] be [A]. (This is essentially a variant of the connectedness argument.) The existence of this rule is a matter of some doubt (as noted in footnote 1 to chapter two), and, moreover, it could not be a strict-cyclic rule, for it could not apply until after the sentential subject had been extracted on a higher cycle. If one refuses to recognize the existence of a relative clause reduction rule then it is hard to see what other sources might be available apart from either [[A N]S] be [A] or [A N] be S. On either of these analyses the extra rules I have posited for (37) and (38) would also have to deal with the correlations with sentences of the form S be A, and therefore neither analysis has any obvious advantage over the other in this respect. One of these structures is, of course, that posited in the null hypothesis.

(iii) In examples with a verb form in -ing in the predicate complement position it is not uncommon to find that of introducing that verb, as in:

(39) a. One charge that he would not admit was that of having perjured himself in the earlier trial.

b. The real problem we have to face is that of providing ourselves with a sufficiently plausible justification for it.
c. Her best idea so far has been that of having herself elected to the beetle-drive committee.

While I do not myself know what governs the distribution of this type, in particular, why it sometimes appears to be obligatory, and hence also do not know how it should be analyzed, it seems to be basically similar to the other sentences being discussed here—the reading seems to be specificational and the examples of (39) exhibit connectedness. Whether or not the that is considered to be present in deep structure, an extraction analysis is exceedingly implausible on semantic grounds. Perhaps Chomsky’s deletion analysis in modified form would be more attractive, but even then one has to explain the connectedness. No such deletion analysis would be compatible with an interpretive theory of pronominalization, whereby that has to be present in deep structure as the head of the noun phrase. Moreover, the sentences allow repetition of the full head noun, which shows that pronominalization is not relevant to the issue:

(40) a. One charge that he would not admit was the charge of having perjured himself in the earlier trial.

b. The real problem we have to face is the problem of providing ourselves with a sufficiently plausible justification for it.

c. Her best idea so far has been the idea of having herself elected to the beetle-drive committee.

It might be suggested that (40a) and (40b) are derived by the full sentential extraction analysis, and that the predicate
complement noun phrase had been extracted from within the relative clause rather than from the noun phrase complement position, but that could hardly be used to account for (40c), unless one derives possessives from reduced relative clauses in *have* and extracts the noun phrase prior to the application of the relative clause reduction rule. Again, the rule that carries out this reduction cannot be strict-cyclic, although by its form it should be.

Thus, no kind of extraction analysis seems plausible here, and yet the examples are semantically akin to the earlier ones, and, in any case, show the relevant kind of syntactic connectedness.

(iv) Consider the following examples:

(41) a. If John still has an aim, it is to keep himself prepared for that particular emergency.
    b. If there's one vice she will admit to, it is that of dosing herself too liberally with laudanum.

(42) a. I don't quite remember what John's plan was, but I think it was to leave himself at least two hours to get there.
    b. He made two suspicious claims. One was that he hadn't told them and the other (was) that he had hidden it.

In examples (41) and (42), the copular sentence in question has a pronoun as its subject, *it* in (41) and (42a), and *one* and *the other* in (42b). In the framework which has been adopted here,
these pronouns are all inserted in the deep structure as pronouns. This renders an extraction analysis even more implausible, for pronouns as a class do not take complement sentences anywhere else in English. It might be supposed that the it which appears in such examples is not a genuine anaphoric pronoun but is merely the dummy subject of a truncated cleft sentence, and that the structure underlying the second clause of, say, (41b) is that underlying (43):

(43) ?It is the vice of dosing herself too liberally with laudanum that is one vice that she will admit to.

This proposal has some plausibility and may even be correct for certain sentences of the form it is NP, but it leads to difficulties where the item to the right of the copula is a constituent which cannot be clefted, as in (44b) beside (44a):

(44) a. If there's one thing I want to do, it's leave before she arrives.

b. *It's leave before she arrives that I want to do.

In any case, the cleft truncation proposal can not be invoked to explain examples of the following kind:

(45) a. There are two things I don't like doing; they are shaving myself and driving myself to work.

b. If I remember his aims correctly, they were to proclaim himself emperor and to march on Moscow.

The pronoun they behaves analogously to it, but they can never be the subject of a cleft sentence. The same is of course true of one and the other in (42b).
I shall return to this important kind of sentence presently. For the moment it is sufficient to note how hard it is to reconcile the base-insertion interpretive theory of pronominalization with an extraction analysis of these sentences.

The strict subcategorization solution is, in short, untenable. In order to account for even the simplest examples one has to extend the scope of subcategorization frames in a way which would allow subcategorization rules to be used for purposes that, intuitively speaking, have nothing to do with categorial context. The subcategorization approach allows no easy way of stating which complement sentence is to be extracted where a noun permits more than one. It does not account for the behavior of nouns such as thing, which allow complement sentences in the predicate complement position whose type is governed by the attributive adjective qualifying that noun, and not by the noun itself. The extraction approach as a whole is put in question by examples with a noun which is repeated, as the head of the subject noun phrase and of the predicate complement noun phrase, and by examples with a pronoun as subject. The fact that in certain of the examples ((37) and (38), for instance) there appeared to be an interaction between factors such as modality and complement type suggests that similar factors, that is, factors that relate to semantic interpretation may be involved in other examples. This is the approach that I shall try to defend here. Indeed, there seems to be no other alternative, since the subcategorization approach, which seems
to be the only way of saving the extraction analysis, fails and must be rejected.  

The conclusions that I noted earlier now follow: there is no transformational analysis of pseudo-cleft-like sentences with a nominalization as subject, and therefore the syntactic connectedness that they display must be accounted for in some other way. If one can account for connectedness in these examples, the connectedness exhibited by pseudo-cleft sentences with free relative clauses as subjects can surely be accounted for similarly, and therefore no justification based on connectedness exists for a transformational derivation of pseudo-cleft sentences. From this point on I will therefore assume the correctness of the null hypothesis, that is, that pseudo-cleft sentences of all types are generated by the base rules in a form essentially identical to their surface structure form. In particular, the phrase which appears to the right of the copula is generated in that position by the base rules.

Notice that this analysis immediately solves all the difficulties that were raised in the third part of chapter two. The focus can be determined at the deep structure level, if that should be necessary. There is no difficulty with non-existent deep structure sources, since all that is needed is a free relative clause of the requisite form as subject; no "simple" sentence underlies the structure. The semantics of the deep structure source may not yet be clear—I will discuss it to some extent in the second part of this chapter—but at least
it is not puzzling or nonsensical. The sentences with full noun antecedents in the subject clause are no different from those with free relative clause subjects. There is no problem with extraposition, since the structural description of the extraposition transformation is not met either to the left or to the right of the copula. These problems can now be seen as pseudo-problems, artifacts of an incorrect analysis.

2. Base derivation and specification

This section, in which I sketch a solution to the problem of the distribution of nominalizations as the subjects of pseudo-cleft sentences and to the problem of connectedness, is probably disappointingly brief, essentially because the answer itself is, in informal terms, very simple and briefly stated, and because there seems to be no point in devising any formalism at present. The bulk of this section will be devoted to persuading the unwilling reader that the solution is not as empty and implausible as it at first may seem to be.

One can arrive at an intuitively satisfying solution by taking the notion "specification" seriously. Rather surprisingly, Akmajian (1970b) devotes a great deal of effort to deriving specificational readings in various environments, but once he has the reading he never does anything with it. This cryptic remark should become comprehensible in the sequel.

2.1. Specification and nominalizations. When one examines examples such as (46) under the assumption that there may be
some generalization that explains the distribution of grammatical and ungrammatical sentences, it becomes rather obvious what the relevant generalization is:

(46) a. John's dream is to better himself.
b. My reason is that I haven't time.
c. *John's inability is to swim.
d. *My anger was that Bill had lied.

The complement sentence may occupy the predicate complement position of the copular sentence when it in some way gives the content or constitution of what is referred to by the subject noun phrase. Thus, in (46a), bettering himself constitutes or makes up John's dream; in (46b) my not having time constitutes my reason for some action. However, in (46c), swimming does not constitute John's inability--John may have an inability with respect to swimming, but swimming in no sense makes up his inability. In (46d), the fact that Bill had lied does not constitute my anger, but is rather the stimulus or target of my anger. 

Inability and anger refer to characteristics that simply are not constituted by some other thing. Now the constructional meaning of the copular sentence is either predicational or specificational. In (46) none of the predicate complements can act as semantic predicates and therefore there are no predicational readings. Hence they can only be specificational; that is, the predicate complement says what constitutes or makes up the object referred to by the subject noun phrase. The nouns dream and reason permit this interpretation; the nouns inability and
anger do not. The interaction of the specificational meaning of
the copular sentence and the meaning of the subject noun phrase
suffices to account for all the material in the three lists of
nouns in the appendix. Various generalizations might be pos-
sible with respect to this material. (For instance, virtually
no nouns in -ness and none in -ability occur in this construc-
tion--this is related to the semantic function of these suffixes,
which gives their derivatives a meaning which is incompatible
with occurrence as the subject of a specificational sentence.)
One might also suspect that wherever a complement clause which
is within the noun phrase can bear a meaning relation like spe-
cification to the head noun then that complement clause can also
appear as a predicate complement in the copular construction,
simply because the noun must then be of a type for which it
makes sense to specify its constitution. 11 This work remains
to be done.

It is also not possible at present for me to suggest how
one would indicate in the lexicon whether or not a noun has a
meaning that allows it to be used as the subject of a specifi-
cational sentence, for the answer depends on too many unanswered
questions about the nature of semantic representation. Clearly
strict subcategorization is not the answer, for the frame would
have to mention be: but the reason why be has to appear is
simply that it is be that has the specificational reading.
Putting it into the subcategorization frame makes an arbitrary
syntactic quirk out of a semantically motivated general fact.
Similarly I shirk the enormous task of accounting for the complement type of the predicate complement constituent. Thus, note the contrast here:

(47) a. The aim that they have set themselves is to tie themselves to the palace railings.

   b. #The aim that they have set themselves is that of tying themselves to the palace railings.

(48) a. The aim that they have achieved is to tie themselves to the palace railings.

   b. The aim that they have achieved is that of tying themselves to the palace railings.

Here the use of the infinitive is clearly connected with its irrealsis meaning, and the use of the gerund with the factual meaning. These correlations are well-known from other environments. The choice of complement type in these examples is probably governed by the interaction of the meaning of aim, the meaning of the relative clause, and the specificational meaning of the copular sentence, and also by the complement type which the noun takes in non-clefted constructions. It will take a great deal of further study to disentangle these matters, and, above all, the final analysis will have to incorporate a thorough analysis of the semantics of the various complement types of the kind found in many traditional studies and initiated in the generative framework in Kiparsky and Kiparsky 1970 and Bresnan 1970, chapter two.
2.2. Specification and connectedness. The discussion in this section is, again, informal. I see no point in attempting any formalization of the proposal that I make at the present time, mainly because no advantage is gained from it in the absence of any settled analysis of, in particular, such matters as reflexivization, the assignment of understood subjects to non-finite verb forms, and the deep structure of infinitive phrases. Indeed, the material provided here may eventually provide the basis for a reassessment of these problems or at any rate show what solutions will not work.

The presence of syntactic connectedness in pseudo-cleft sentences becomes intuitively quite comprehensible if one again takes the notion of specification seriously. Recall Akmajian's characterization of the specificalional reading of pseudo-cleft sentences (1970b, 19):

...the initial clause of the pseudo-cleft contains what is essentially a semantic variable, a semantic 'gap' which must be 'filled' or specified by the focus item... The focus item must specify a value for the variable of the clause, and it thus follows that the focus item must belong to the appropriate semantic class, i.e. the class represented by the variable.

Although this use of "variable" and "value" may well make no sense in mathematical terms, it gives an intuitively satisfying account of the specificalional function of pseudo-cleft
sentences. This function is, in effect, closely akin to listing, and sentences containing terms such as the following, followed by a list, have essentially the same function, with the difference that a pseudo-cleft sentence usually lists only one item. Thus, the following pairs of sentences are very similar in meaning:

(49) a. What I bought was a punnet of strawberries and a pint of clotted cream.
   b. I bought the following things: a punnet of strawberries and a pint of clotted cream.

(50) a. The two things I forgot to do last night were to shave myself and to put the cat out.
   b. I forgot to do the following two things last night: to shave myself and to put the cat out.

(In (50b) it might be possible to use the full sentence in listing one's actions, and this would be virtually obligatory for me if the first clause read I did the following two things last night. This is one syntactic difference in my English between pseudo-cleft sentences and genuine lists, but owing to the semantic similarity of the two types it is also another clear point of contact which could have led to the formation of the full sentence forms of pseudo-cleft sentences as discussed earlier, in chapter two.)

This comparison with lists brings out the contrast between specification and predication very clearly. To put it quite naively, following the last sentence of the passage quoted from
Akmajian above, a well-formed list contains items that conform to the heading at the top of that list, and therefore a well-formed list will only consist of semantic predicates if the heading states that such are being listed. It would, for instance, be an odd child that gave its parents a list headed *What I want for Christmas* followed by a set of predicates such as red, expensive, tough and likely to arouse the envy of my friends. That is not a list; it's a riddle. (And how many presents has the canny child asked for?) The child's intentions become clearer if it gives its father shortly before Christmas a list with the heading *What Daddy is* followed by predicates such as rich, generous, forgiving and anxious not to let his child feel inferior to the Jones children and so on. In short, the heading of a list provides a "variable", thereby delimiting a certain domain, to which the items on the list conform as "values" of that variable. The same is true of the specificational reading of pseudo-cleft sentences.

Clearly, there are well-formedness conditions on items that are related as variable and value in this sense, both in lists and in specificational copular sentences. I would assume that these conditions are essentially universal and constitutive, in the sense that in any language anything which is termed a list or a specificational sentence must conform to them. Akmajian has stated the most important condition in the passage quoted above: "...the focus item must belong to the appropriate semantic class, i.e. the class represented by the variable."
Let us now apply this condition to a pseudo-cleft sentence in which the variable is an action, as in:

(51) a. what Bill did
    b. Bill did the following things: ...

What properties has the appropriate semantic class here? The variable represents an action but, more than that, it represents an action of Bill's—it is not merely some vague action in vacuo whose agent is not mentioned. This means, firstly, that the "value" of the variable, that is, the focal item, must be such that it can refer to an action, and, secondly, that it must be such that it can refer to an action of Bill's. Anything else would contravene the condition that Akmajian formulated. It would contravene this condition to mention first that Bill had done something and then to specify what he had done as being an action of someone else's, or to specify it as something that could not be done, such as knowing, weighing or receiving a present. Think again of a list with a heading such as What I did today. It would contravene the well-formedness condition on lists to make entries such as Mary snubbed me or I knew the answer in such a list.14

Let me make things quite clear. Two different matters must be distinguished here: (i) the characterization of "specification"; and (ii) how this characterization is used in the grammar to establish the well-formedness of sentences. In this essay I am essentially concerned only with pointing out the importance of the first of these. Presumably the second is a
matter for the semantic component of the grammar, and involves such matters as how one assigns understood subjects to non-finite verbs, and what verbs can be interpreted as actions. However all this is managed, the crucial point to note here is that the meaning of specification is such that certain correlations will hold between phrases that form the terms of a specificational relationship. If they do not hold, then the sentence is anomalous.

These correlations are, however, precisely those that are involved in the syntactic connectedness argument. Thus, if one knows that the subject of a verb phrase which specifies an action must be the same as the subject of the specified action, then the presence of a reflexive object in that verb phrase comes as no surprise:

(52) a. What Bill did was wash himself.

b. What Bill did was wash him.

In (52a) the subject clause mentions an action of Bill's and the predicate specifies that action as "self washing". The meaning of specification ensures that the understood subject of the predicate complement is Bill. In (52b) there is a conflict: the subject of wash is understood as Bill again but then him cannot be understood as referring to Bill, since a reflexive pronoun is required in this environment.

In more general terms, one can say that at least two factors are involved in the treatment of reflexivization across the copula in pseudo-cleft sentences: (i) the establishment of some
designated noun phrase in the subject clause which can act as controller (in Postal's sense (1970, 443)); (ii) the application of the properties of specification to the semantic reading so that that controller is specified as the understood subject of the predicate complement phrase. When the subject clause of the pseudo-cleft sentence is concerned with an action then the agent noun phrase is that designated noun phrase. The same is true in nominalizations of the following type:

(53) The first change we told Bill to make was to

\[
\begin{align*}
\text{build} & \left\{ \begin{array}{c}
\text{herself} \\
\text{us} \\
\text{*ourselves}
\end{array} \right\} \text{ a bigger garage.}
\end{align*}
\]

The grammar will have to establish that here the controller is Bill, the one who makes the change in question; therefore, by the meaning of specification, a specification of the action that constitutes that change has Bill as its understood subject. Such rules are needed in any case to allow the derivation of, say:

(54) We told Bill to make the somewhat drastic change

\[
\begin{align*}
\text{of building} & \left\{ \begin{array}{c}
\text{herself} \\
\text{us} \\
\text{*ourselves}
\end{array} \right\} \text{ a bigger garage.}
\end{align*}
\]

(55) a. We made plans to hide \{ \text{*ourselves} \} afterwards.

b. We heard about plans to hide \{ \text{ourselves} \text{us} \} afterwards.

Whatever means are used to establish the controller in these cases can be applied in specificational sentences also. 15

Consider a final example:
(56) The only problem they were worrying about that we
    have heard about was how to earn \{ \text{themselves} \}
    enough to stay at college.

Here the designated noun phrase is not clearly an agent phrase,
unlike in the other examples. However, it is clear that they
is the controller noun phrase even in non-copular examples:

(57) They are worrying about the problem of how to earn
    \{ \text{themselves} \}
    \text{enough money to go to college.}

Here one has to be able to establish that "they" are the locus
of the problem, and this information will be available in the
clefted version also. That is, the major difficulties here lie
in devising mechanisms for establishing understood subjects in
the complements to nominalizations, and not in accounting for
connectedness in specificational structures.

This attempt to account for syntactic connectedness purely
in terms of the meaning of specification and of unspecified
mechanisms that are needed anyway may at first sight seem rather
empty, but it does have some explanatory power and does allow
at least one prediction.

The connectedness is in this analysis intimately related
to the meaning of specification, since it is this meaning which
provides the connectedness. The transformational theories, on
the other hand, do not link specification and connectedness in
any direct way, and their concurrence is made to appear
accidental. It is not obvious why one could not have a copular sentence with a predicational reading that showed syntactic connectedness. Indeed, Akmajian's analysis presents the appearance of having said the same thing twice, having provided for connectedness directly by syntactic means, and having provided the means for deriving it indirectly through the meaning of the copula. A similar kind of duplication inheres in the deletion analysis, for, as already noted (footnote 14 above), a deep structure constraint is needed which of itself guarantees syntactic connectedness: in an example such as what John did was wash himself the deletion rule cannot even apply unless the deleted subject of the full sentence in the predicate complement position is coreferential with John, and this coreferentiality must presumably be guaranteed by a deep structure constraint. What is, in this situation, the evidential force of the connectedness found in examples with reflexive pronouns? The deep structure constraint ensures that things could not be otherwise, and so why is a transformation needed as well? This appearance of duplication is avoided in the present analysis by the necessary connection between the specificational reading and syntactic connectedness. In this sense this analysis possesses an explanatory power lacking in the transformational theories.

The link between connectedness and specification also leads to the prediction that if there should happen to be other verbs that permit a meaning relation similar to specification then one should find syntactic connectedness between the terms of that
relation. This prediction is fulfilled. Consider the following examples:

(58) The vital step she always forgets to take lies in convincing herself that no one else will be offended

(59) His genius consists in a supreme ability to adapt himself to their moods.

(60) A desire to prove himself a clown constitutes John's most endearing feature.

(Note that consist in and constitute are related roughly as con-
verses, and hence in (60) the reflexive is in the subject noun phrase.) The main verbs here, lie in, consist in, and consti-
tute, can be construed as having a meaning close to that of specification. It is not the case that one always finds reflexi-
vization across the verb in such structures, as can be seen from the following contrast:

(61) a. The plan they have made consists in giving

\{ \underline{themselves} \} enough time to repay the money.

\*they

b. The plan they have made \{ helps \} to give

\{ \underline{themselves} \} enough time to repay the money.

\*them

Thus, whether my claim about specification and its role
in explaining connectedness is correct or not, some way of ex-
plaining this contrast must be found, and, above all, some way of ensuring connectedness in examples like (61a) must be devised. If the transformationalist solution is justified in the pseudo-
cleft cases, it is justified here, and therefore one must derive
(58)-(61a) by extraction or deletion. But now the transformation itself must list the verbs which can appear in this construction (or some equivalent "triggering" device must be used). What appeared plausible when the only verb that had to be mentioned in the structural description was be now becomes much less plausible, and, indeed, the arbitrariness of even that mention of be now becomes clear, if my hypothesis is correct. Be in fact appears there because it is a verb that can have a specificational meaning, but that fact is not and cannot be apparent from the form of any transformation.

This phenomenon of reflexivization "across" a verb is in fact quite common and it is doubtful whether the notion of specification can be stretched to cover all such cases, but that is neither a surprising nor a damning result. (Examples of which I am aware do in fact show a semantic kinship with specificational sentences, but I have not yet covered a sufficient range of material to be willing to stoop to generalizations.) Other verbs which allow such connectedness are amount to, entail, involve, have to do with, justify. Indeed, with some of these verbs one may find examples which are otherwise identical or nearly so, with and without connectedness:

(62) a. The solution they have adopted entails giving themselves a pat on the back for negligence.

b. The solution they have adopted entails giving them a pat on the back for negligence.
(63) a. The main complaint she made had to do with the unavailability of hot water to wash herself
       \[ \{ \text{her} \} \]
       \[ *\text{himself} \]
       \[ \text{him} \]

       in.

       b. The main complaint she asked him to make had to do with the unavailability of hot water to wash

       \[ \{ \text{her} \} \]
       \[ *\text{himself} \]
       \[ \text{him} \]

       in.

       (Again, I have some suspicions about the conditions under which such sentences can arise, but will not voice them here.) It is clear that no purely mechanical rule of reflexivization "across" certain verbs can account for such examples, and that a more subtle approach is required. 16

       To summarize. The hypothesis that connectedness is a result of the specificational reading of the copula predicts that if there are other constructions which allow a specificational reading then those constructions should exhibit connectedness also. This prediction is fulfilled. A corollary of this hypothesis is, of course, that in copular sentences that are not specificational one should not find connectedness. This is correct, and is the basis for contrasts that have already been noted, such as:

(64) a. What John is is proud of himself.

       b. *What John is is proud of him.

(65) a. ?What John is is important to himself.

       b. What John is is important to him.
The (a) examples are specificational, the (b) examples predicational.

It may be objected that the solution proposed here seems to extend the function of the interpretive component even further than, say, Jackendoff, has extended it. In particular, it would appear that the mechanism which interprets understood subjects now must refer to the meaning of the main verb in pseudo-cleft sentences and sentences such as (58)-(61a). That is, the interpretation of certain items depends on the interpretation of others. This is true, but it is easy to show that it is independently necessary if one adopts an interpretive theory of pronominalization, that is, one in which pronouns are inserted at the deep structure level and are interpreted by semantic rules. Recall sentences of the following type:

(66) a. If John still has an aim, it is to keep himself prepared for that particular emergency.

b. There are two things I don't like doing; they are shaving myself and driving myself to work.

In these sentences the subjects of keep, shave and drive are not physically present in the subjects of the copular sentences, and, on an interpretive analysis of pronominalization, they never were physically present at any stage of the derivation. The subject can only be established by reference to the interpretation of the pronoun. Hence, even if I had not adopted an interpretive theory to explain connectedness in pseudo-cleft sentences with full subjects, I would have been forced to do so
here merely by my adoption of the interpretive analysis of pronominalization. The same sentences also show that the implementation of selection and strict subcategorization requires reference to interpretive rules, as Jackendoff proposed on independent grounds (1972, 17-21). In other words, the null hypothesis fits into an interpretive framework perfectly, and since there are independent reasons for believing that the null hypothesis is correct, this fit tends to confirm the correctness of the interpretive framework.

Nothing that I have said here has much bearing on the details of the reflexivization rule, though it would appear that the theory of reflexivization proposed by Heike (1970) must now be regarded as involving an interpretive rule rather than a transformational copying rule.

A final point to be noticed is that, if the null hypothesis is correct, then there can be no tough-movement rule involved in the derivation of (67):

(67) John is easy to please.

If there were any really strong evidence that this rule existed, then, as assumed in chapter two, section 1, this would constitute strong evidence for the existence of a pseudo-cleft transformation. Since, however, the arguments in favor of a tough-movement rule are much less strong than they have been thought to be (see the critical study by Lasnik and Fiengo (1973)), and since the arguments against a pseudo-cleft transformation are, within the framework adopted here at least, overwhelmingly
strong, it would appear that there can be no tough-movement rule, because of the existence of sentences such as:

(68) What John is is easy to please.

This result, of course, nullifies the critique of Jackendoff 1969 contained in Harada and Saito 1971, which depends on the existence of the tough-movement rule (see also Jackendoff 1972, 177: fn. 10).

3. Summary

The examination of sentences of pseudo-cleft type with a nominalization as subject shows that neither transformational analysis can be made consistent with the theoretical position that has been adopted in this chapter. The deletion theory is inconsistent with the lexicalist approach to nominalizations. The extraction theory requires an extensive apparatus either of rule features or of strict subcategorization frames, neither of which allows one to state in any intuitively satisfying way the obvious semantic regularity that such sentences exhibit, which is that the predicate complement specifies or gives the content of the subject. The null hypothesis must be adopted for the examples with nominalizations and, therefore, also for pseudo-cleft sentences of all kinds. The problems that were enumerated in chapter two then vanish. The most important remaining difficulty concerns syntactic connectedness, and it is shown in informal terms that connectedness is an automatic consequence of the specificational meaning of pseudo-cleft sentences.
THE PSEUDO-CLEFT CONSTRUCTION IN ENGLISH

by

FRANCIS ROGER HIGGINS

B.A., Cambridge University
1963

SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE
DEGREE OF DOCTOR OF
PHILOSOPHY
at the
MASSACHUSETTS INSTITUTE OF
TECHNOLOGY

September, 1973

PART II

Signature of Author .......................... F.R. Higgins
Department of Foreign Literatures and Linguistics,
June 22, 1973

Certified by ................................. Thesis Supervisor

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

Hum.

M A S S  I N S T.  T E C H.
JUL 25 1973
L I B R I E S
1. I know of no examples with a nominalization as subject and a putatively derived phrase such as easy to please as predicate complement. This may possibly be an accident of sorts, for it is not altogether clear whether there are any specificational sentences of the required form with an adjective phrase in the predicate complement position at all. I suspect, however, that one might consider (1) as specificational in some vague sense:

   (1) John's manner is \{proud
   \{haughty \}.\

since one is certainly not predicating pride or haughtiness of John's manner in any direct way—apparently, whatever can be predicated directly of a person that relates to some aspect of his behavior can, with various restrictions, also be "predicated" of the "entities" referred to by subjects with head nouns such as aspect, behavior, look or manner. Now, it seems to be the case that one cannot use adjective phrases with complements in such sentences:

   (ii) a. *John's manner is proud of his son.
   b. *Their behavior was over-eager to leave.

Presumably, this restriction, whatever its explanation, is sufficient to account for the lack of (iii):

   (iii) *John's manner was easy to please.

I will not pursue this interesting problem here, but will just
note a couple of connections that may be relevant. Firstly, this seems to be akin to the topic of "reference modification" discussed by Bolinger (1967, 14-20 and 27-34), and the problem of copular sentences with a predicate adjective which has an "adverbial" meaning, such as good in:

(iv) Their doctor is good.

Secondly, the lack of adjective phrases with complements in such sentences is directly comparable with another gap which has puzzled me for some time (see also Emonds 1970, 142): why adverbs in -ly cannot occur with complements when these are permitted with their underlying adjectives, as in:

(v) a. *John walked proudly of his son.

b. *They entered the room eagerly to leave.

c. *John always behaves easily to please.

d. *Mary sang easily to pick out.

The only exceptions that I am aware of concern comparative adverbs with complement sentences in than and as, and quasi-comparatives such as similarly to and differently from. I had always assumed that this difference of behavior had to do with the fact that the complement sentence in these comparative structures seemed to originate in the specifier of the adjective or adverb phrase (in the manner suggested in Chomsky 1965, Bowers 1970, Higgins 1970, Selkirk 1970 and Bresnan 1972) and that, although the adverb formation rule was somehow blocked when a complement was present in the post-head position in the adjective phrase, a complement sentence in the specifier position had no such
blocking effect. These copular sentences in (11), where no ad-
verb formation rule is involved (though there is an indirect
connection with adverbs, through the semantic kinship with proud
behavior and behave proudly), suggest that no such mechanical
solution will suffice and that a more semantically oriented ap-
proach may be necessary.

2. Of course, (6b) and (7b) no doubt have a different structure
in the verb phrase from (6a) and (7a), for in the former the verb
is preventing is the present continuous form of prevent, whereas
in the latter the copula is followed by a gerund phrase. How-
ever, there is nothing in this particular contrast that leads
one to expect the association of syntactic connectedness with
the one and the lack of it with the other.

3. For those who do not accept the lexicalist approach to nom-
inalizations and still wish to adhere to the deletion analysis,
a couple of consequences of the extension of the deletion analy-
sis to the material considered in this chapter can be pointed
out. Firstly, the deletion analysis can only be preserved un-
changed for nominalizations that are "de-relatival" (in the
obvious sense—for a discussion of this type, see Katz and
Postal 1964, 120-156). As far as I know, this may well be cor-
rect, but if it is not, the structural description of the dele-
tion rule will have to be extended in respect of the structure
of the subject noun phrase. Notice that one will also be com-
mitted to deriving nouns like hat from such a source, if one
wants to use the duality of source as an explanation for the ambiguity of sentences such as **his hat is a bundle of straw** or **my supper is food for the dog** (this latter from Akmajian 1970b, 258), and probably nouns like **act** (which in some abstract form are supposed to underlie action nominalizations), for they can appear in sentences like **his first act on assuming the presidency was to confirm the American dream by pinching first himself and then some cash.** Secondly, the ordering of the nominalization transformation is rather clear, since it can not precede the pseudo-cleft deletion rule without destroying the environment which that rule requires. Therefore it certainly cannot be a **pre-cyclic** rule (pace Newmeyer 1970b, 1971) and must follow **strict-cyclic** rules such as passivization, dative-movement and **there**-insertion (as in McCawley 1968, Fraser 1970, Newmeyer 1970a). Probably one could argue that it is not a cyclic rule at all since it cannot be a **strict-cyclic** rule. Other interesting ordering problems arise if an attempt is made to deal with the facts that are to be discussed in chapter six by means of the deletion analysis and the transformational analysis of nominalizations.

Much of the material presented later in this chapter also merits discussion within a transformationalist approach to nominalizations, for various features of this analysis are thereby brought out very clearly; I do not wish to devote any further time to it here, because it constitutes too much of a digression, given the framework which I have adopted.
4. Akmajian overlooked this possibility in his discussion of (16b) (1970b, 258: (iv)). Of it he says: "Since such sentences are generated in the base and do not undergo the extraction transformation one cannot appeal to duality of source to account for the ambiguity of (iv)." (1970b, 258: fn. 8 to p. 131). I will not explicitly deal with this type here, but arguments identical to those that I shall be giving could be given against their derivation by transformation, so that Akmajian was right in his claim, but failed to show that he was.

5. There is justification for extending the subcategorization frame of verbs to include the subject, perhaps, but the further extension suggested by Kajita (1968, 103) and accepted by Bresnan (1972, 49-50: fn. 5 to p. 14) does not seem to be warranted by the data. Kajita claims that verbs such as serve, help and suffice must be subcategorized in such a way that the verb of the complement sentence has an object, and gives the paradigm:

   (i) a. The ice melted.
   b. *The ice served to melt.
   c. The ice chilled the beer.
   d. The ice served to chill the beer.

However, I believe that one merely needs to strictly subcategorize the verb serve for an infinitival complement sentence. One has to say, in addition, that the subject of the complement verb must be interpretable as an instrument. (This is only a rough
characterization and needs further precision.) Since any verb in English whose subject can be understood as an instrument of necessity has an object, the verb in the complement sentence must have an object. Clearly, the semantic nature of the subject of the complement sentence is not a matter to be regulated by strict subcategorization restrictions, and Chomsky's conjecture, as reported by Bresnan (1972, 50), that selection restrictions might be a more appropriate mechanism in this case, is confirmed. The well-known problems associated with use could probably be investigated fruitfully from this point of view also.

6. By "emotive" I mean Jespersen's "emotional" should (1931, 336-339, esp. 20.5(3)) and Behre's "meditative-polemic" should (1955, passim), as it occurs in factive complement sentences. See also Kiparsky and Kiparsky 1970, Section 7, Leech 1970, 109, and Quirk et al. 1972, 784-785. Aijmer (1972, 64-85: chapter 3) has a somewhat broader definition of "emotive" should than is intended here.

7. Obviously it may be possible to patch up the queried examples and make them more acceptable by various additions and changes in the details of the construction. But that would merely add more force to my remarks since the strict subcategorization rules would then have to be made even more complex, unless one adopted the solution suggested in the text. One can also make changes that lessen acceptability, as in:
(1) a. The good thing about your proposal would be that he would know nothing about the transaction.
   b. *The good thing about your proposal would be for him to know nothing about the transaction.

8. Certain analyses of complement sentences posit a structure \[ [NP \underline{it} \underline{S}]_{NP} \], the \( \underline{it} \) remaining if the sentence happens to be extraposed and otherwise being deleted. If there is any way of demonstrating the correctness of that analysis, which I doubt, then my generalization is overhasty. However, there is still a difference, in that \( \underline{it} \) in such environments is usually merely acting as a filler for a subject or object slot, whereas in (41) and (42) the pronouns have a genuine anaphoric function. Moreover, the generalization still holds true of one, the other, they and so on.

9. Robert Faraci once pointed out to me a further objection to the extraction analysis in nominalizations which seemed rather strong at the time. He noted that there were various modifications that could be made to the subject noun phrase that prevented it from having a noun phrase complement even though the copular sentence was still permitted. For instance, one cannot in general modify the head noun by an adjective when the complement sentence is within the noun phrase even though this may be possible in the copular sentence, as in:

   (1) a. *John's silliest claim that Bill had lied
   b. John's silliest claim was that Bill had lied.
(ii) a. *John's primary wish to inure himself to hardship
b. John's primary wish is to inure himself to hardship.

(iii) a. *her favorite reply that she is busy on Saturday
b. Her favorite reply is that she is busy on Saturday.

Prima facie, there is no source for the (b) sentences. (McCawley (n.d., 31-32) makes a similar point with somewhat different examples.) However, the strength of this material as a direct counterexample to Chomsky's extraction analysis depends on the way in which the (a) phrases are to be excluded. This is a matter of some interest and of importance to the discussion in the second part of this chapter. However, I have not so far been able to investigate it in sufficient detail to come to any firm conclusions that are based on a wide range of material.

It should be noted, however, that it is not correct to put a blanket restriction on the structure \( [_{NP \ Det \ AP \ N \ S}]_{NP} \), for there are grammatical examples of such a structure:

(iv) a. John's \( \{ \text{odd} \}
\begin{align*}
\text{recent} \\
\text{wild} \\
\text{silly}
\end{align*}
\) claim that Bill had lied

b. John's \( \{ \text{fervent} \}
\begin{align*}
\text{obvious} \\
\text{understandable}
\end{align*}
\) wish to inure himself to hardship.

If one compares the adjectives in (i)-(iii) with those in (iv), it is noticeable that the former have, and can only have, a restrictive reading, which is here associated with uniqueness.
(primary and favorite being equivalent to superlatives here—attributive superlative adjectives in standard English are always restrictive in sense, I believe: compare the philosophical Greeks with the most philosophical Greeks), whereas the latter have a non-restrictive reading. I believe that a deeper understanding of these facts requires a deeper understanding of the grammatical relations that hold between a sentential complement and the noun head in a noun phrase and various other matters such as definiteness, but I will have to develop this idea in some other place. At any rate, even the material given here indicates that semantic factors are involved in the description of copular sentences of this type, and this confirms the conclusions of my main argument.

10. This, of course, means that the first argument given against Emonds's analysis of extraposition in Higgins forthcoming, which was based on a transformational analysis of pseudo-cleft sentences, is invalid.

11. The converse is not true, as shown by (46a) versus (i):

   (i) *John's dream to better himself.

Here there is a grammatical version with a different complement type:

   (ii) John's dream of bettering himself.

Observation suggests to me that this may well not be true of this and similar examples for American English, which tends to use or allow infinitival forms in such environments. My
intuitions more or less follow those of the Fowlers (1930, 139-141). (It is noteworthy that several of their examples of "unidiomatic" use of the infinitive rather than the gerund are from Emerson.) This is a genuine dialect difference, and should be kept in mind as a control in any theory of the semantics of complement types and their interactions with other factors. At any rate, my investigations are not yet at the stage where I can even begin to account for such phenomena.

12. It is presumably adopted from Halliday's use of the terms "variable" and "value" (Halliday 1967, 227-236, esp. 228). Halliday's discussion is complicated by the introduction of a second contrast, that of "identified" and "identifier", and it never becomes quite clear what the difference between the two oppositions is supposed to be. However, if one examines Halliday's actual use of "variable" and "value" in examples it is evident that the "variable" is correlated with the underlying subject of a copular sentence and the "value" with the underlying predicate complement. (See, especially, the table at Halliday 1967, 227.) This is confirmed by his equation of variable and value with actor and goal respectively in active transitive sentences (1967, 228-229). I shall return to this matter in chapter five.

13. The comparison with lists was in part suggested to me in a roundabout way by a remark of Leach's. He is attempting to demolish a certain theory of predicational sentences such as
Socrates is a man which views them as identity statements of some kind (Geach mentions Hobbes and Ockham, but see also the celebrated passage at Russell 1919, 172) and in an aside says (1968, 35): "If I am listing the things in my room, I do not need to enter both a cat and Jemima." Neither would one head a list Jemima and enter a cat in that list, unless Jemima is to be understood as in some way elliptical for "what Jemima is". Indeed, a proper name can only head a list if it is used in some such elliptical sense.

14. Notice that, if the deletion analysis of pseudo-cleft sentences were correct, something equivalent to this condition would still be required to block the formation of pseudo-cleft sentences such as (1):

(1) *What Bill did was \{ Mary snubbed him for Mary to snub him \}.

The deletion rule would not block this because its structural description would not be met. This damaging conclusion could be avoided in dialects in which the deletion rule is obligatory by using the device which Chomsky proposed (1965, 137-139) to deal with a similar problem in relative clause structures. However, as noted above (chapter two, section 3.5), this device cannot be used for dialects in which the deletion rule is optional. Nevertheless, (1) is ungrammatical in those dialects.

15. This footnote is a short excursus on the problem of "understood" noun phrases and nominalizations. It has already been noted by several people that a rule like the complement subject
interpretation rule must apply in nominalizations, most notably by Postal (1970, passim) and Jackendoff (1972, section 4.12 and pp. 217-218), but it does not seem to have been realized how extensive its application must be. Above all it is crucial to the syntax and semantics of many verb plus noun constructions in English of the type make an attack.

Consider the following example, for instance:

(1) a. an attack on the Sabines by the Romans

b. We witnessed an attack on the Sabines by the Romans.

c. We made an attack on the Sabines by the Romans.

In order to adjudge (1c) ungrammatical, it must be stated somehow that in the expression make an attack the understood subject of attack is identical to that of make, whereas this is not the case in (1b). This should clearly be done using the same mechanisms as are used for complement subject interpretation. (The same distribution holds for the Romans' attack and the Roman attack. Of course, and presumably the same mechanisms should handle these cases also.) What is less clear at present is how to state the environment in which the mechanisms apply. This will require careful study of such verb plus noun constructions. As a preliminary to such a study I would like here to point to certain factors that are of importance in their construction.

The verb is usually relatively "empty", such as come, give, go, have and make. (This has often been noted and was, of course, one of the bases on which Ogden and Richards' "basic
English" was founded; and foundered.) The thematic relation which obtains between the noun and the verb is important, as is the thematic relation which holds between the verb and its subject and the noun and its understood subject. In make an attack, attack is in some sense an object of result, and the subject of make and the understood subject of attack are Agents. (I use capitalization here to indicate thematic relations, following Jackendoff 1972.) However, in a passive surrogate such as suffer a defeat, the thematic relations are different. It is hard to say what relation defeat bears to suffer (Theme?), but note that the subject of suffer is in some sense always a Goal, dative-like, and the subject of defeat, which must be Agent, is no longer understood as identical to the subject of suffer. Rather, the understood object of defeat, which has a goal-like meaning, is understood as identical to the goal-like subject of suffer. Thus, one must also take into account the understood object of defeat to understand the semantics of suffer a defeat. This is also necessary if one wishes to explain the following example:

(ii) a. John's defeat
    b. I suffered a defeat.
    c. *I suffered John's defeat.

In (iia), the genitive is objective, and John is Goal. (Why this should be obligatory is also an interesting problem; c.f. John's defeat of the Sabines.) In (iic), I is understood as Goal, by virtue of its thematic relation to suffer, but John
is understood as Goal by virtue of its thematic relation to 
defeat. This is a contradiction.

This kind of matching of thematic relations between noun 
and verb extends further. Consider Jackendoff's examples 
(1972, 218: (5.152) and (5.153) resp.):

(iii) Mary gave Alex permission to go.

(iv) Mary received permission to go from Alex.

As Jackendoff points out, in (iii) Mary is Source and Alex is 
Goal in the main sentence and in (iv) Mary is Goal and Alex is 
Source. He comments (ibid.):

In each sentence, it turns out that the Goal of the 
main clause is interpreted as complement subject. If 
some semantic rule could establish an understood iden-
tity between the Source-Goal patterns in the sentence 
and the NP, it could be inferred that in (5.152) Alex 
is the Goal of permission and in (5.153), Mary.

To be more explicit about the matching of thematic rela-
tions, I believe that the material discussed so far suggests 
the following rather natural principle, which will apply when-
ever the thematic relation which the noun phrase containing the 
nominalization bears to the verb is of a certain kind (as, for 
instance, when the noun phrase is the "object of result" of the 
verb):

(v) To each of the understood noun phrases of the noun 
phrase whose head is the nominalization there must
correspond a noun phrase in the sentence which bears the same thematic relation to the verb as that noun phrase bears to the nominalization.

Thus, if the understood subject of the nominalization is a Goal, then the verb must have a Goal participant, and this will be understood as coreferential with the understood subject of the nominalization. In other words, noun phrases of the same thematic type pair up, one in the sentence with one in the noun phrase that contains the nominalization. This matching principle supplies what Jackendoff needs.

Note now that permission has two understood noun phrases in addition to the complement clause: a subject, which is Source (and Agent?), and an object, which is Goal. The goal-like (understood) noun phrase is understood as the subject of the complement clause, as in all verbs similar to permit and order. In the main clause of (iii), as Jackendoff noted, Mary is Source, and hence, by the matching principle, must also be Source with respect to the noun permission; Alex is Goal in the main clause, and hence must be Goal with respect to the noun permission (which means that it will also be understood as the subject of the complement sentence). In (iv) Mary is Goal in the main clause, hence, by the matching principle, is Goal in the noun phrase, hence is understood as subject of the complement sentence; Alex is Source in the main clause, and hence is understood as Source in the noun phrase. Jackendoff’s examples with promise (1972, 218) can be treated in the same way.
Notice that the requirement of a matching of thematic relations further requires that, with a noun like *permission*, a verb such as *give* must be used in such an idiom-like structure, for *give* is a verb which has the requisite thematic structure. A verb like *do...to* does have a Goal participant but the subject is not a Source-like participant, and hence one does not find:

(vi) #Mary did Alex permission to go.

The same principles can be extended to Chomsky's examples (1971, 29-32), and will probably allow a more general solution to some of the problems he raised. In particular, compare (vii) and (viii) (Chomsky 1971, 29: (129); and 30: (140a) resp.):

(vii) We received instructions to kill Bill.

(viii) We received plans to kill Bill.

Example (vii) behaves like *Mary received permission to go from Alex*, since *instruction*, like *instruct*, has the same thematic structure as *permission*. Therefore, *we* is the understood subject of *kill*. On the other hand, the noun *plan*, like the verb *plan*, takes no "indirect object" in addition to the complement sentence, and its subject is understood as Agent (and as Source?). The subject of *receive* is understood as Goal, and hence cannot match up with the understood subject of *plan*, which is, of course, identical to the understood subject of *kill*. Therefore *we* is not understood as the subject of *kill*. Since there is no noun phrase in (viii) which can be thus interpreted, the subject is understood as indefinite.

It would therefore appear that the phenomenon of "understood
noun phrase" is quite widespread in nominalizations and that
important results can be obtained by taking account of this,
especially within the framework of thematic relations that
Jackendoff has adopted. My conclusions here are utterly tenta-
tive and the material needs a thorough examination, but the pre-
dictions of the matching principle are relatively clear (no
less clear, that is, than the rather opaque notion of thematic
relation) and it will be easy to test whether they are fulfilled.
There are useful collections of material in O.E.D., Olsson 1961,
Daniels 1963, and many other places (mainly because this type
of construction has been seized upon eagerly by those who wish
to find Weltanschauung in language, and see the alleged replace-
ment of vigorous Faustian "verbal" expression by the flabby and
effeminate "nominal" expression as a sign of decadence, usually
of the Indo-Aryans, or the Celts, or the English vis-à-vis the
Germans).

Finally, it should be pointed out that one must be able to
account for the understood complement subject in the non-finite
complement phrase in noun phrases such as:

(ix) the ability that she \{\text{has developed}\} to get
herself disliked.

The first problem here is one of constituent structure: is the
complement phrase inside the relative clause or not? If it is
inside it there is no further problem with respect to the under-
stood subject of \text{get}, for the same mechanisms suffice as for \text{she}
has developed an ability to get herself disliked (which will be discussed in a moment); if it is not inside it, as I suspect, one must account for the fact that she is the understood subject of get in some other way. It is not easy to find cogent evidence for the constituent structure, but let me, for the sake of argument, assume the more difficult situation: that the infinitive phrase is a complement to ability and is outside and above the relative clause. Then, given the mechanisms that I have just outlined and others that are needed anyway the problem can still be solved.

First of all, one must account for the following:

\[(x) \begin{cases} \text{has} \\ \text{displays} \end{cases} \text{an ability to get herself disliked.} \]

This will be done by the mechanisms which I have just postulated for nominalizations in verb-noun structures. In particular, the subject of the verb and the understood subject of ability must be identical, and this is a function merely of the verb and the nominalization and (probably) of the thematic relation that subsists between them, independent of whether or not the nominalization itself has a complement structure. Therefore the same mechanism will apply in the relative clause structure:

\[(x_{1}) \begin{bmatrix} \text{NP} \\ \text{she has an ability} \end{bmatrix}_{NP} \]

Irrespective of the form of the relative clause transformation, the identity condition on relativization will ensure that the noun ability in the antecedent position will also have its
understood subject marked as she. But now the same mechanisms as establish the understood subject of the verb in the complement to the noun phrase in (x) will establish the subject of the verb in the complement to the noun phrase in (xii), since in either case they have to relate the understood subject of ability, which is she, to the subject of get in similar structures:

\[(\text{xii}) \quad [\text{NP the ability [S she has]}\text{S [COMP to get herself disliked]}\text{COMP }]\text{NP}\]

That is, mechanisms that are needed anyway interact with the identity condition on relativization to ensure this result. Thus, irrespective of the true structure of (ix) the subject of get can be established without any new mechanisms beyond those needed for (x).

16. I am here assuming that if the form giving in (62a, b) has an underlying subject, that subject is an empty node which must be interpreted in some such fashion as Jackendoff 1972 suggests. Different conclusions would no doubt follow if one adopted a deletion approach to such matters. The interpretive approach in conjunction with conditions on transformational rules such as those suggested in Chomsky 1971 could account for the contrast between (62a) and (62b) by transferring the onus of explanation to the rule which interprets the subject of giving. One still has no immediate explanation of why, for instance, serve to give in this frame only shows a non-reflexive object.
17. I will not pursue the consequences of such examples for the deletion analysis of pseudo-cleft sentences. Notice that they apparently force one to a transformational rule for the derivation of pronouns, for the deletion rule must apply after rules such as Equi-\(\exists\)P deletion and Reflexivization, and therefore the pronoun cannot be base-inserted (unless it bears with it a "ghost image" of its antecedent in some way, which no doubt amounts to a transderivational constraint).

18. As far as I understand them, Jackendoff's arguments only bear on selection restrictions, and he has no arguments that bear on strict subcategorization. However he does imply that strict subcategorization is also an interpretive matter (1972, 21), if I understand him correctly.
CHAPTER 5

COPULAR SENTENCES AND AMBIGUITY

This chapter represents an attempt at developing a framework within which some of the syntactic and semantic characteristics of copular sentences can be discussed. My aim is thus rather modest, but, given the complexity of the material, it seems more useful at present merely to set up a fairly superficial taxonomy which can readily be extended to cover further data and can be used as a basis for talking about the ambiguities that occur in pseudo-cleft sentences and other copular sentences. The ultimate aim, of course, should be to "embed" the analysis of the pseudo-cleft type of sentence in an analysis of copular sentences in general. One would expect certain properties of pseudo-cleft sentences (including, perhaps, all or most of those to which attention will be drawn in chapter six) to follow from more general facts about the structure (either syntactic or semantic) of copular sentences. At present one must be content with less.

The approach that I have taken here was forced on me by certain conceptual difficulties that I have not yet been able to see my way through. In short, in certain areas of difficulty I am not quite clear about what the real problem is, and hence am unable to devise a means of tackling it. The most direct
symptom of this will be when I talk of "functions" of copular sentences, rather than of "meanings" or "readings". This is most easily explained by means of an example. For instance, consider a situation in which I am looking at a distant group of people. I may ask my companion the following question:

(1) Which one is Jack Jones?

The way that I intend the question to be understood requires which one to be understood as the subject of the copular sentence (the importance of this comment should become clearer later), and I expect an answer of the following type:

(2) \[ \begin{align*}
\text{The one at the back on the LEFT} \\
\text{The fellow wearing a blue balaCLAva} \\
\text{That one over THERE}
\end{align*} \]

If nothing has gone wrong with the reference in (2) I have had Jack Jones pointed out to me. This seems reasonably clear, and yet I might have had at least one of two intentions in asking the question. On the one hand, I might know very well who Jack Jones is— he could even be my brother or my father—and yet owing to various circumstances, such as my shortsightedness, it might not be possible for me to identify (that is, to pick out) Jack Jones in that group of people. On the other hand, I might not have any idea who Jack Jones is, but having been given his name and told to ask him a question I need some way of finding out which person is called Jack Jones. In this case, the referential noun phrase provided in the answer is the only indication that I have of which person I am to address myself to.

The question then arises: is (1) ambiguous? If it is not
ambiguous, how does one account for these different uses of (1)? Or are these not even different uses? Is the whole matter linguistically irrelevant? Whatever the answers to these questions may ultimately be, I have not yet found any strong reasons for answering them in any particular way and therefore will make certain "functional" distinctions of this kind so that potentially important meaning distinctions will not be overlooked. If I have taken in too much in this way it is easy to jettison it again.

Clearly this kind of difficulty is related to a great many issues that are at present being debated hotly in the philosophy of language, such as the notion of speech act and in particular the status of the illocutionary act, and the interrelationships of syntax, semantics and pragmatics. Another example may clarify the kind of difficulty that is involved in the analysis of copular sentences. In American English a sentence such as:

(3) Why don't you shut the window?

is frequently used as a mild imperative, and its illocutionary force is thus relatively clear. However, it is, syntactically speaking, a question, and could even be understood as such and answered with, say:

(4) Because it gets too cold in here if I do.

Sentence (3) therefore has two "functions", one imperative and one interrogative. It is, however, clearly interrogative in form, and, moreover, there are other examples in English, and in other languages, of the use of sentences of interrogative form
with an imperative meaning. Therefore it seems reasonable to regard (3) as having two meanings in some sense, for the two "functions" of questioning and ordering have well established syntactic and semantic correlates. In copular sentences, by contrast, there are no such syntactic and semantic parallels that can be drawn, and it is not at all clear whether the distinction between the two functions of (1) that I have suggested is parallel to that between questioning and ordering. The factor which seems to be important in copular sentences is more often a distinction between what is known and is familiar and what is not known or is unfamiliar. Because of this, the copular sentence plays an essential role in the communication of new information about known things, but whether this kind of function is to be included in the same paradigm as such functions as questioning and ordering I do not know at the moment.

At any rate, I will set up a taxonomy of copular sentences in terms of some of the various functions which they appear to have. Two of these functions have already been referred to and used in this essay--the predicational and the specificational functions. If the distinction between them has not yet become clear I hope that this chapter will help to clarify the issue.

The chapter falls into two parts. In the first part I will examine certain features of the syntax of copular sentences and, in doing so, develop and explicate roughly a set of terms which will be used in the second part in a classification of some of the meanings/functions of copular sentences. Essentially, the
development of the classification is continuous throughout the first part, and therefore the second part is more a summarizing than a completely new section. I have learnt a great deal about the problem from Halliday 1967, Akmajian 1970b, Podor 1970, and Kuno 1970, and, among philosophers, whose concern with it somewhat antedates that of linguists, from Geach 1968 and Kripke 1972. In particular I have been influenced by the view of proper names that Geach and Kripke have argued for, which moves away from regarding proper names as disguised descriptions but rather regards them as referring in a much more direct way. This analysis of proper names is not used explicitly anywhere in this chapter, but has no doubt influenced my view of certain matters.

1. Towards an analysis of copular sentences

   This section falls into three parts. In the first I will present and discuss the terminology that will be used in the rest of this chapter. In the process, I shall discuss again the contrast between predicational and specificational sentences. Even though much of the terminology that I adopt is standard, I shall write all the terms introduced here with an initial capital letter, to emphasize their function as technical terms, and in certain cases to avoid having them confused with other people's uses of the same terms. In the second part I will develop various ways of establishing the underlying word order in copular sentences one of whose terms is a Wh-word and establish some of the functions of Wh-words and noun phrases as predicate
complements in copular sentences. In the third part I shall use these techniques, among others, to examine the functions of Wh-words, both relative and interrogative, in copular sentences more systematically. The second and third parts use to a large extent material that was discussed in Halliday 1967, Fodor 1970, and Kuno 1970, and implies a revision of many of their conclusions. There is not space here to spell this revision out more explicitly.¹ The discussion as a whole is intended as a useful framework for any further investigation of copular sentences.

1.1. Terminological framework. Most of the terms that I shall discuss here are well-known in the linguistic or philosophical literature, and I merely wish to make as clear as I can how I am using them. The attempt to preserve the meanings of well-known terms has led to a certain clumsiness in the new terminology that is introduced, in particular in its lack of mnemonic simplicity and system. This cannot be helped.

Certain purely grammatical terms will be useful. I shall use "Subject" and "Predicate" in the traditional way, taking the Subject to be the (surface) subject of a sentence and the Predicate to be the rest of the sentence (including, of course, the verb and its auxiliaries). This will allow me to talk of Subjects and Predicates in copular sentences without having to mention the copula and predicate complement as separate items. (Recall that I shall not be talking about inverted specification sentences in general, and therefore the surface subject
will suffice for my purposes.) The term "Demonstrative" will be used as a grammatical term, to refer to the items this, that, these, and those, and "Demonstrative (noun) phrase" to refer to phrases such as this man, those excuses. Similarly, I will use "Definite (noun) phrase" and "Indefinite (noun) phrase" as grammatical terms to refer to noun phrases introduced by the definite article the or its equivalent, such as possessives, and the indefinite article a respectively.

The other terms that I shall now discuss are related to the meaning/function of expressions.

The term "Referential" is important, and I will use it more or less in conformity with the principle Geach presented under the name "Buridan's Law". His clearest formulation is in the following passage (Geach 1968, xi):

A principle that I have repeatedly used to eliminate false theories of reference is the principle that the reference of an expression \( E \) must be specifiable in some way that does not involve first determining whether the proposition in which \( E \) occurs is true. The first explicit statement of this principle that I have found is in Buridan's Sophisma (c. vi, sophisma v); the principle might suitably be called Buridan's Law.

The point of this principle can be seen from the following passage (Geach 1968, 35):
...it is clearly nonsense to ask which cat "cat" stands for in "Jemima is a cat", or which dog "dog" stands for in "Jemima isn't a dog". I suppose somebody might try saying that in "Jemima is a cat" "cat" stands for Jemima, because the proposition is true. But what the names in a proposition stand for cannot be determined by whether the proposition is true or false: on the contrary, we can determine whether the proposition is true only when we know what it is about, and thus what the names contained in it stand for.

Geach offers no direct argument in favor of Buridan's Law, but it certainly has common sense on its side and allows clear decisions in various difficult examples, such as those just cited, where the noun phrase a cat is not Referential but is functioning as a semantic predicate, or, as I shall now say, as a "Predicational" noun phrase.

This property of Referential noun phrases, that they obey Buridan's Law, allows one to contrast the two readings of pseudo-cleft sentences and other similar copular sentences much more clearly, and I shall repeat the essence of my earlier exposition, bringing out this aspect of the problem. Consider the sentence:

(5) What I am pointing at is a CAT.

On one reading of this sentence, the Predicational reading, the Subject is Referential and the Predicate is Predicational. A particular object is picked out by the Referential noun phrase--
roughly speaking, the nearest object intersected by the line formed by producing the longitudinal axis of my forefinger—and the sentence says of that object that it is a cat. The important point is that there is an object which is identified independently by the use of the Referential noun phrase (assuming that the reference is successful, and that there really is a unique object in the position defined by the pointing gesture—there is no need here to take account of all the ways, such as those discussed in Donnellan 1966, 1968, in which reference can fail), and something is said of that object, namely "cathood" is predicated of it. One can say something similar about the same object by pointing at it and saying:

(6) What I am pointing at is feline.

On this reading of (5), one can conjoin the Predicate with another Predicational Predicate:

(7) What I am pointing at is a cat and is called Jemima.

Thus, a noun phrase like what I am pointing at behaves to all intents and purposes like a name such as Jemima when it is understood Referentially. Sentences such as (7) conform with Buridan's Law, for the truth of (7), and of (5) on the relevant reading, clearly depends on whether what one is referring to by using the Referential noun phrase what I am pointing at actually is a cat and, in the case of (7), is called Jemima. The referent is given, so to speak, "in advance of" the assertion about it.

This is not true of the other reading of (5), the Specifi-
cational reading. On this reading, it would appear that the
Subject is not Referential at all. Buridan's Law scarcely seems to be applicable to the sentence on this reading, for the very function of a pseudo-cleft sentence on the Specificational reading would appear to be that of saying what fulfills a certain condition, not that of introducing a topic and then saying something about it. The Specificational reading in a sense merely says what one is talking about: the Subject in some way delimits a domain and the Specificational Predicate identifies a particular member of that domain, as suggested by the terminology of "variable" and "value" discussed in chapter four. Again the list analogy is helpful. The heading of a list does not refer to any item at all, nor does the set of items in the list itself say anything about the heading of the list, or indeed about anything. The whole notion of being "about" something is alien to a list. Moreover it is not obvious that the notion of having a truth value required for the application of Buridan's Law is pertinent to lists, for one tends to classify lists as correct or incorrect, complete or incomplete, useful or useless, but hardly as true or false. Just as a list is neither "about" the heading of the list nor "about" the items on the list, so, I would maintain, a Specificational sentence is neither about the Subject nor about the Predicate, and therefore neither Subject nor predicate complement is Referential. Just to emphasize this point, consider a sentence that has only a Specificational reading:

(8) What I don't like about John is his tie.

The Subject, what I don't like about John, is not Referential
and the predicate complement his tie is also not Referential, for, although the phrase does denote or mention an object, it is not used in this sentence in such a way that anything is said about that object. What I don't like about John can, moreover, never be used as the subject of a Predicational sentence to talk about an object such as John's tie (as noted in chapter two). It simply cannot be used as an alternative description which can be used to refer to John's tie in the same way as the lurid thing John's wearing round his neck can be. This is, of course, valuable evidence that the Specificational reading of a copular sentence is not the expression of some kind of identity.

This latter point bears emphasizing, if only because it is crucial to certain areas that have been widely debated by philosophers and logicians. Many philosophers have tended to treat sentences of the Specificational variety as if they were identity sentences, and have then proceeded to build theories which naturally rest on shaky foundations. The most impressive example of such a misconstrual, one which has spawned an enormous literature, is the following sentence:

(9) The number of planets is nine.

or, as it is often written:

(10) The number of planets = nine.

(The literature begins with Quine 1943, which contains the argument which I now give. For a recent anthology and bibliography, see Linsky 1971.) It is claimed that, by the use of "identity" sentences such as (9), it can be shown that certain modal
contexts are referentially opaque, in that substitution of identifiers leads to invalid arguments. If one carries out the substitution that (9) appears to warrant in the true sentence (11):

(11) Nine is necessarily greater than seven.,

one obtains the false sentence (12):

(12) The number of planets is necessarily greater than seven.

Therefore, one must restrict substitution in such contexts.

I will not go into all the ramifications of this topic here—indeed, I am not competent to do so. All that I wish to claim is that, with regard to the sentence (9), Quine and all those who follow him have been systematically misled about its logical form, and it is not an example of what they claim it is. There may in fact, as far as I know, exist examples of what they claim to be discussing, and, of course, I would not wish to prevent them setting up any kinds of constraints on rules of substitution and deduction in their formal languages that they wish to set up. I merely wish to say that with respect to the English sentence (9) and the "ordinary language" argument (9), (11), (12) they are wrong.

The logicians have construed (9) as being of the form

Referential NP be Referential NP, but it clearly is no more of this form than the sentences my name is Roger Higgins or this novel is Billy Budd. Worse than this, although one clearly can use my name and this novel Referentially in various contexts, it is doubtful whether the number of planets has any comparable
Referential use at all—it seems rather to be akin to nouns such as defect and to have at most the somewhat obscure kind of referentiality associated with indirect questions. Consider some examples in which nine might be said to have a Referential use:

(13) a. I counted up to nine.
   b. Nine is her lucky number.
   c. Nine is the square root of eighty-one.
   d. Nine is odd.

In none of these can one substitute the number of planets for nine. There is no question here of truth or falsity, merely of grammaticality:

(14) a. *I counted up to the number of planets.
   b. *The number of planets is her lucky number.
   c. *The number of planets is the square root of eighty-one.
   d. *The number of planets is odd.

Note that even where both noun phrases can appear in the same environment, the meaning of the sentence is different:

(15) a. I counted nine.
   b. I counted the number of planets.

(15a) says either that I enunciated the number series up to nine or that I established that there were nine somethings by counting them; (15b) is of the concealed question type (on this, see Baker 1968, 81-101), equivalent to:

(16) I established how many planets there were by counting them.
I have found no environment in which the number of planets has a Referential use comparable to that of nine, and therefore the substitution that is apparently involved in going from (11) to (12) involves a fallacy of equivocation.

In fact, one can see by a simple test that (11) and (12) are fundamentally different. Compare:

(17) a. Nine is necessarily greater than seven is.
   b. The number of planets is necessarily greater than seven is.

Why should one be able to substitute the number of planets for nine in (11) salva congruitate and not in (17a) if the two noun phrases are of the same type? (The presence of necessarily is, of course, irrelevant to the grammatical point that I am making.) This question I cannot as yet answer, but it does serve to show that (11) and (12) are syntactically or semantically different in some way that is not explained if one "derives" one from the other by a substitution of the proposed kind.

I would maintain that (9) is in fact a Specificational sentence, and that the same is true of other sentences with measure words such as depth, height, length, temperature, weight as their subjects, as in:

(18) His height is two metres.

Incidentally, it is not true that number can never be the head of a noun phrase that is identical in its referentiality to nine, as is shown by:

(19). The number that follows nine is even.
This is clearly fertile ground for study of the semantics of Specification, and of the conditions under which noun phrases can be Referential.\(^3\)

To return to the discussion of (8), repeated here as (20):

(20) What I don't like about John is his tie.,

I shall say that the Predicate in (20) and in all sentences with a Specificational reading is Specificational, and can accommodate, in part, any possible objections to my claim that his tie is not Referential here in the further claim that all noun phrases that can be Referential can also be used Specifically (see section 2 below).

To complete the terminology that will be useful for talking about Specificational sentences, let me say that the Subject noun phrase in such sentences has a "Superscriptional" reading. This is the reading that corresponds to the heading of a list. Thus, what I don't like about John in (20) has only a Superscriptional reading and what I am pointing at in (5) has either a Referential or a Superscriptional reading.

To make the terminology quite clear I now give a table to show the two kinds of copular sentence discussed so far, and the relationship of their readings to their Subject-Predicate composition:

<table>
<thead>
<tr>
<th>(21) Subject</th>
<th>Predicate</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Referential</td>
<td>Predicational</td>
<td>Predicational</td>
</tr>
<tr>
<td>Superscriptional</td>
<td>Specificational</td>
<td>Specificational</td>
</tr>
</tbody>
</table>

The Predicational Predicate may consist of the copula with an
adjective phrase or Predicational noun phrase as predicate complement, or of most kinds of verb phrase. The Specificational Predicate may consist of the copula with various kinds of items which I will refer to as Specificational phrases, such as noun phrases, adjective phrases and verb phrases, or with a sentence, as predicate complement. In the previous chapter I gave examples of Specificational Predicates containing verbs other than the copula, but I shall not investigate that type further here. The aim of this chapter is to extend the taxonomy of (21) and to discuss in a preliminary way some of the items that can function as Subject or Predicate.

The way in which the term "Referential" will be used here should be fairly clear now. The items that clearly can be used Referentially are Demonstrative phrases, personal pronouns, proper names and Definite noun phrases. Demonstrative noun phrases used Referentially will be called "Deictic (noun) phrases". Here the notion of "Acquaintance" will be useful: the use of a Deictic phrase implies that the user has the object referred to before him in some very direct sense. I will say that if one is in a position to say this X or that X, then one is Acquainted with the X, or that one has Acquaintance with it. This is a somewhat aberrant use of the notion of acquaintance, since it does not presuppose any knowledge about the object but merely a hic et nunc confrontation, but it is related to Russell's use of the term (1912, chapter 5 [1959, 46-59]; 1917 [1957, 202-224]), without its epistemological trappings. I shall
say that a proper name is used with Acquaintance if one knows who or what bears the name to an extent that would allow one to use the name as an alternative to a Deictic phrase accompanied by a pointing gesture if the bearer of the name was present and one was in a position to recognize him, her, or it. To revert to an earlier example, if I ask:

(22) Which one is Jack JONES?
then I may know very well who Jack Jones is— I am Acquainted with him—and merely be unable to pick him out, or, alternatively, I may not know who he is— I am not Acquainted with him— and wish to become Acquainted with him, that is, to learn which person to associate with the name Jack Jones.

The nature of this exposition so far prompts me to comment again on the confused nature of portions of this chapter. The major underlying problem, as I see it, is that exemplified by the question: is it language users or expressions that refer? Both positions are represented in recent philosophical literature. There are explicit statements to the effect that only language users can be said to refer in the intended sense in, for instance, Strawson 1950, Linsky 1967, and Searle 1969, and this position is implied in Stalnaker 1972. Following the logical tradition of Frege and Russell, Geach 1968 and Kripke 1972 deny the relevance of "personal" reference (Geach's term (1968, 8)) to their fields of investigation, and talk of expressions as referring. I suspect that the linguist should be more interested in this latter position, because he is thereby more likely to
be forced to look for syntactic evidence for any distinctions that he sets up. This matter becomes of importance in dealing with putative properties of noun phrases such as specificity, and Donnellan's referential/attributive distinction (1966, 1968; see also MacKay 1968, to which Donnellan 1968 is a response). Donnellan suggests (1966, 297) that the referential/attributive distinction may well be a matter of pragmatic ambiguity, "a function of the speaker's intentions", for there appears to be no syntactic or lexical ambiguity in sentences that exhibit this ambiguity. It has even been suggested (Kaplan 1968-69, 197-203; see also Partee 1972, 439: fn. 3 to p. 418) that the referential and attributive uses of Definite noun phrases stand at two ends of a continuum of "vividness". This could probably be related to the notion of Acquaintance that I have discussed (and thus at a second remove with Russell's distinction of knowledge by acquaintance and knowledge by description). At any rate, it seems quite reasonable to extend the attributive/referential distinction, if it is understood in this kind of way, to proper names, and this is in fact done by Stalnaker, who discusses an example like (22) as follows (1972, 393-394):

Proper names, for example, are normally used to refer, but can be used in a way resembling the attributive use of definite descriptions. When you ask, "Which one is Daniels?" you are not referring to Daniels, since you do not presuppose of any one person that he is Daniels. When I answer "Daniels is the bald
one" I am using "the bald one" referentially, and
the name Daniels attributively. I am telling you
not that Daniels is bald, but that he is Daniels.
Here the bald one is behaving as a quasi-Deictic, allowing one
to pick out a particular individual and attach the name Daniels
to him. The other use of such sentences that I mentioned above,
where one is Acquainted with Daniels, could, on this view of
proper names, be covered by saying that Daniels is then used
referentially. (I am not sure whether Donnellan himself would
sanction this application of the terms referential and attribu-
tive, for in Donnellan 1972 (376: fn. 8 to p. 360) he suggests
that his view of proper names makes them close relatives of de-
finite descriptions used referentially.) The referential/attribu-
tive distinction may clearly be of relevance to the construc-
tion that I am dealing with, and I shall discuss it again in
section two of this chapter.

There is one more related matter that remains unclear. Can
Indefinite noun phrases be Referential? Geach denies that they
can be (1968, passim, esp. 6-9; see also Partee 1972, 439: fn.
4 to p. 418), following his theory that it is expressions and
not users that refer. This is of importance to the analysis of
specificity, but fortunately no decision need be made here, for
I am mainly concerned with trying to distinguish Specificational
readings of copular sentences from other possible readings, and
it appears to be the case that, except under rather special cir-
cumstances, Indefinite noun phrases cannot be used.
Superscriptionally. There are no Specificational sentences of the form:

(23) a. #A man I met yesterday was Jack Jones.
   b. #A thing they bought was a new car.
   c. #An order that he gave us was to dress ourselves.

I shall therefore leave the question whether Indefinite noun phrases can be Referential unanswered.

As a final comment on the topic of Referentiality let me stress that I shall always assume that the reference succeeds, that there is a referent and that the referent is unambiguously denoted by the Referential noun phrase. I do not see that the examples of failure of reference so beloved of philosophers can be of any interest to linguists. (One could probably argue for the introduction of a competence/performance distinction in this area.)

Demonstrative noun phrases have at least one other kind of use, apart from their Referential use: they can be "endophoric" or "text referring". It is useful to distinguish backward text reference, to items that have already been mentioned in a discourse, from forward text reference, to items that have not yet been mentioned in a discourse. Following Halliday (1967, 231), the former type of text reference will be called Anaphoric, the latter type Cataphoric. A typical example of Anaphora in this sense is the use of this claim to refer to a claim that has just been made; a typical example of Cataphora in this sense is the use of the following objections to introduce a list of objections
that have not yet been made. Demonstrative noun phrases can be used both Anaphorically and Cataphorically, but whereas phrases in this can typically be either Anaphoric or Cataphoric, phrases in that are typically only Anaphoric (as noted by Halliday (1967, 232)).

1.2. Tests for underlying word order and function in copular sentences. In view of the fact that many copular sentences are of the form NP be NP, the fact that it is frequently possible to invert the noun phrases without obvious change in sense, and the fact that where one of the noun phrases is a Wh-word, the surface structure form is the same regardless of the underlying position of that Wh-word, it seems useful to provide here an inventory of tests that allow one in some cases to decide on the probable underlying word order on some basis other than mere intuition. Unfortunately, some indeterminacy still seems to remain in rather crucial areas, but the tests will permit a more precise reworking of the kind of material that is found in Halliday 1967 and Fodor 1970. It is impossible here to do more than initiate such a reworking. In the interests of exposition I will focus on the predominant reading of each example given and at first ignore other readings, gradually widening the scope of the investigation so that it embraces most of the kinds of ambiguity that I have become aware of. Copular sentences often have several readings anyway, and it is usually easy to force more on them by interpreting the subject and
predicate complement noun phrases in certain ways. I ask the reader to hold his imagination in rein until he is convinced that I have missed something central. For convenience I have included in this section a rather weak test that may help one decide whether or not a noun phrase can be Predicational, and then discuss the Predicational role of Indefinite and Definite noun phrases.

1.2.1. Indirect questions and answers. In indirect questions, subject-auxiliary inversion does not take place, and it is usually possible to determine the underlying form of a Wh-question by embedding it as an indirect question (c.f. Jespersen 1924, 153: fn. 1). Even if there is still no unequivocal result, the readings associated with the two word orders are usually clarified in this way. Thus:

(24) a. Which man is the captain?
   b. I told him which man was the captain.
   c. ?I told him which man the captain was.

(Here I have interpreted (24a) in the obvious way. There may be one more reading of (24a), corresponding to (24c), in which the captain is Superscriptional and which man is Specificational.)

(25) a. Who is that woman over there?
   b. I told him who that woman over there was.
   c. ?I told him who was that woman over there.

(26) a. What is D.D.T.?
   b. I learnt yesterday what D.D.T. was.
   c. ?I learnt yesterday what was D.D.T.
(Here I have interpreted (26a) in the obvious way. There is at least one further reading of (26a), corresponding to (26c), which I shall discuss in the next section.) Obviously, in (24) which man is the underlying subject, and in (25) who is the underlying predicate complement, as is what in (26). In certain styles of English there is a tendency for the subject to be placed after the verb in such indirect questions, especially if it is long, but it is usually easy to tell when that has happened.

One can obtain similar results with the answers to direct questions, as long as one retains the copula in them:

(27) a. Which man is the captain?
    b. That man over THERE is (the captain).
    c. ?The captain is that man over THERE.

((27c) is not particularly unacceptable, but it seems rather indirect as an answer to (27a).)

(28) a. Who is that woman over there?
    b. That woman over there is the MAYOR.
    c. *The MAYOR is (that woman over there).

(29) a. What is D.D.T.?
    b. D.D.T. is an inSECTicide.

1.2.2. Modal verbs and verbs of propositional attitude.
When subject-auxiliary inversion takes place in a sentence the subject is positioned between a modal verb and the main verb.
In copular sentences the main verb is be, and hence one can distinguish an underlying subject from an underlying predicate complement by whether it occurs before or after be in the surface structure. Using the earlier examples, one obtains paradigms of the following kind (where again (30c) and (32c) perhaps have good readings whose explanation will become clear later):

(30) a. Which man is the captain?
    b. Which man can be the captain?
    c. ?Which man can the captain be?

(31) a. Who is that woman over there?
    b. Who might that woman over there be?
    c. ?Who might be that woman over there?

(32) a. What is D.D.T.?
    b. What would D.D.T. be?
    c. ?What would be D.D.T.?

The same results can be obtained by embedding the copular sentence below a verb of propositional attitude, so that the inversion takes place in the higher sentence only (again, (33b) and (35b) have moderately good readings):

(33) a. Which man do you think is the captain?
    b. ?Which man do you think the captain is?

(34) a. Who did they say that woman over there was?
    b. ?Who did they say was that woman over there?

(35) a. What do you believe D.D.T. is?
    b. ?What do you believe is D.D.T.?
1.2.3. Pronouns and verb agreement. Halliday (1967, 69-70; 228) has pointed out the usefulness of non-third person pronouns and verb agreement in distinguishing the various types of copular sentence. The underlying word order in sentences such as the following is immediately obvious:

(36) a. Who am I?
   b. Who are you?

(37) a. Which is he?
   b. Which is him?
   c. Which am I?
   d. Which is me?

The preceding tests confirm the underlying word order, as for example:

(38) a. Which do they think is you?
   b. #Which do they think are you?
   c. Which do they think you are?
   d. #Which do they think you is?

Only (38a) and (38c) are grammatical; both word order and agreement confirm that you is predicate complement in the former and subject in the latter. Similarly with:

(39) a. Does he know which is you?
   b. #Does he know which are you?
   c. Does he know which you are?
   d. #Does he know which you is?

(Incidentally, these examples make it very clear that which can originate in either the underlying subject or predicate complement
position. This is also true of who and what in suitable environments, and in a preliminary way, accounts for the extraneous readings in the earlier examples. I will discuss this in more detail below.)

A further test relating to pronouns and verb agreement rests on the observation that in English who, as a subject, cannot comfortably take plural subject agreement:

(40) a. *Who are waiting to see me?
   b. *Who were making all that noise?

Therefore, in all the following examples who must almost certainly be an underlying predicate complement:

(41) a. Who are the people over on the left?
   b. Who are the leaders of the party?
   c. Who are Laurel and Hardy?

This is confirmed by using the other tests on these examples:

(42) a. Who does he think the people over on the left are?
   b. *Who does he think are the people over on the left?

((42b) must of course not be read with parenthetical does he think. This is the case in all the examples that I give.)

(43) a. I don't think he even knows who the leaders of the party are.
   b. ??I don't think he even knows who are the leaders of the party.

(44) a. Laurel and Hardy? Who are they?
   b. *Laurel and Hardy? Who are them?

This test must in fact be used with some care, as one can see by
noting that although (43b) is very odd, indicating that in
(41b) who is an underlying predicate complement and cannot be
subject, yet it is clear that one can have names in the subject
position in copular sentences that correspond to (41b),
as in:

(45) a. Laurel and Hardy might as well be the leaders of
the party.

   b. I don't think he knows that Laurel and Hardy are
the leaders of the party.

It does not seem to me that one can necessarily argue that (45a)
and (45b) contain inverted copular sentences, and it is one of
the functions of who to request a name as an answer. One would
expect question and answer to have the same word order. Simi-
larly, if one uses the answer test, the following dialogue
seems perfectly coherent:

(46) a. Who are the leaders of the party?

   b. Laurel and Hardy are.

This indicates that who has been construed as the subject of
(46a) (by the answer test of 1.2.1).

I cannot in this chapter produce all the evidence relating
to who, but I will emphasize that who is a rather puzzling item
and that the difficulty noted here is one of several. Who sim-
ply does not always behave in the way that one might expect it
to, and, at the moment, I have no explanation for the anomalies,
though I suspect that some of them may be related to the lack
of a plural form. At any rate, the examples given here show
that who can function as a predicate complement.

Two further items warrant discussion at this point: this and that. (I have not investigated these and those at all to see whether they behave similarly in all respects, and will ignore them here.) I will discuss this and that at some length (but, nevertheless, sketchily, restricting myself to the points that seem to be of more relevance here, and without much attempt at argument), because they have a wide range of uses, an investigation of which will enable the reader to gain a better feel for the various ambiguities that are discussed in this chapter, prepare the ground for the discussion of Wh-words, and give a glimpse of the role of pseudo-cleft sentences, cleft sentences, and other forms of copular sentence in the formation of discourse. Much of what I say is a development of Halliday's treatment (1967, 231–233).

One must first distinguish endophoric, "text referring" uses of this and that from "exophoric", Deictic uses. (The distinction may be less easy to draw than I have made it appear, but is clear enough for the level of precision aimed at here.) I shall discuss the endophoric uses first. Some examples also have readings where the Demonstratives are exophoric, and these should be ignored.

As already noted, this can be either Anaphoric, backward looking, or Cataphoric, forward looking, whereas that can only be Anaphoric. They can appear in sentences that resemble Predicational and Specificational sentences, in the former only
as subject, in the latter as either (surface structure) subject or (surface structure) predicate complement. The following sentences are presumably Predicational:

(47) a. \{That
   This\} was very brave of him.

b. That was a silly thing to say.

In such sentences, the Demonstrative can only appear as Subject, and that is certainly preferred in general. The following sentences are presumably (inverted) Specificational sentences:

(48) a. That is what I have been telling them would happen all along.

b. This is what I think we should do.

A point of considerable interest can be made on the basis of such Specificational sentences. Notice the effect of inverting the examples of (48):

(49) a. *What I have been telling them would happen all along is that.

b. What I think we should do is this.

One would expect both of these to have a Specificational reading, like any sentence of the pseudo-cleft type. However, (49a) is ungrammatical. Moreover, although this in (48b) can be understood as either Anaphoric or Cataphoric, in (49b) it can only be Cataphoric, referring to a plan which has not yet been described. (Also, of course, the Demonstrative must bear the nuclear tone in (49), whereas it need not in (48), depending on the reading.) This conforms very well with what we have learnt
so far of the internal anaphoric relations in (non-inverted) Specificational sentences of the pseudo-cleft type, for the subject clause of such a sentence itself behaves as if it contained a Cataphoric item, a "variable" which has yet to be assigned a "value". The whole purpose of the construction is to fill in that semantic gap. Now, if one uses that as the value, a contradiction ensues, for that can only be used Anaphorically, to refer back to something that has already been stated and is sufficiently recent and vivid to require no further clarification. The matter can be expressed in slightly different terms: the focal item in a Specificational pseudo-cleft sentence must be a focus (in the technical semantic sense defined by Chomsky (1970b, 72), in which it is opposed to the presupposition), or, in Halliday's terms (1967, passim, esp. 206-211), a new item. This requirement also manifests itself in the prosody of such sentences, for, as far as I can judge, the focal item in a (non-inverted) Specificational pseudo-cleft sentence must always bear the nuclear tone of the sentence (though there may naturally be subsidiary nuclei elsewhere in the sentence—see Dretske 1972 for a very interesting discussion of such examples, ignoring his manifestly erroneous claim that the intonation of the sentences has no bearing on the issue). Thus, the following type of sentence is very odd:

(50) #What JOHN wanted to do was wash himself.

This requirement that the focus should be "new" places certain constraints on what items can appear there. In particular,
items that can only be Anaphoric cannot appear there. This is confirmed by one other set of Anaphoric items: the third person personal pronouns cannot appear as focal items in Anaphoric function:

(51) a. *The one I wanted to talk to was him.

b. *You mentioned Laurel and Hardy. You're quite right. The film stars she likes best are them.

Here the correlation with prosody is very marked, for these pronouns can in general only be Anaphoric if they do not bear the nuclear tone. The examples of (51) are grammatical if the pronouns bear the nuclear tone; but then they can only be understood as Deictic (accompanied by a pointing gesture) or as contrastive in some sense (him as opposed to her, for instance).

To sum up: it would appear that the subject clause of a pseudo-cleft sentence (on the Specificalational reading) is inherently Cataphoric, forward referring, and that the item that serves to fill the semantic gap cannot be an Anaphoric, backward referring, item, for that in some way contradicts the semantic requirement that the focal item shall be a new item. The third person personal pronouns and that can only serve in the relevant way as new items when they are interpreted as Deictic, or, in the case of the former, as contrastive.

It is instructive to give a sideways glance at the cleft construction at this point. Cleft sentences do not have a restriction to Cataphoric function:

(52) a. It was that that annoyed us so much.
b. It is this that we must avoid next time.
c. It is this that I would like to warn you about.
d. It is the following that I would like to warn you about.

Where the Demonstratives are interpreted as endophoric, (52a) is understood as Anaphoric, (52b) and (52c) can be understood as either Anaphoric or Cataphoric, and (52d) is understood as Cataphoric. Therefore the discourse function of cleft sentences is likely to be somewhat different from that of pseudo-cleft sentences.6

I will now turn to certain Deictic uses of this and that. It appears to be useful to draw a distinction between what I shall call, not very aptly, "common gender" and "inanimate" uses. Consider a sentence like:

(53) That is Joe Smith.

This kind of sentence is typically used for teaching the names of people or of things, and I shall call this a common gender use of that, for a reason that will become apparent in a moment. Let me call the kind of copular sentence exemplified by (53) an "Identificational" sentence. (I will discuss this type of copular sentence in more detail in section two, and try to show that it must be distinguished from the Specificalional type.) Now consider a sentence like:

(54) That is heavy.

This sentence is Predicalional. (Remember that the subject must be read as a Deictic. There is at least one other reading if it
is read as endophoric.) The subject of (54), unlike that of (53), cannot be used in talking of a person. If one wants to predicate heaviness of Joe Smith one must say:

(55) That man is heavy.

Let me call the use of that exemplified in (54) "inanimate", because it seems to behave as if it meant that thing.

This and that as Deictics in common gender use can, of course, also apply to things (animate or inanimate) as the subjects of Identificational sentences, as in:

(56) a. That is Boston.
   b. This is the house I mentioned.
   c. That is alumina.
   d. That is a tiger.

It is as if in Identificational sentences the subject noun phrase always can provide itself semantically with a suitable head noun to match the Predicate, as in:

(57) a. That man is Joe Smith.
   b. That place is Boston.
   c. This house is the house I mentioned.
   d. That stuff is alumina.
   e. That animal is a tiger.

However, in Predicational sentences the only possible understood head noun is thing as in:

(58) That thing is heavy.

Therefore one does not find Predicational sentences with this and that as Deictic subjects in which the predicate complement
cannot select an inanimate subject:

(59) a. *That is buxom.
    b. *That thing is buxom.

(60) a. *This is eager to exert himself.
    b. *This thing is eager to exert himself.

This association of common gender use with Identificational sentences and inanimate use with Predicational sentences allows one to see the ambiguity in the following sentence rather more easily:

(61) That woman is the Mayor of Cambridge.

Certain types of Definite noun phrase can be Predicational (see below, section 1.2.4) and (61) has both a Predicational and an Identificational reading. If the Definite article is deleted, the predicate complement in (61) can only be Predicational, as in:

(62) That woman is Mayor of Cambridge.

Now, if that is substituted for that woman in (62), our earlier observations predict that the result should be ungrammatical, for Mayor of Cambridge requires a human subject. This prediction is fulfilled:

(63) *That is Mayor of Cambridge.

This also means that (61) will lose its Predicational reading if the same substitution is made, and the reading that remains must be Identificational:

(64) That is the Mayor of Cambridge.

In other words, a copular sentence with Deictic this or that as
Subject and a [+human] predicate complement must be Identificational. Therefore, questions of the following kind are Identificational:

(65) Do you know who that is?
This in turn shows that who can function as an Identificational predicate complement.

The final point which it is worth noting about Identificational sentences like (53) and (56), which have plain this and that as subjects, is that they cannot be inverted:

(66) a. #Joe Smith is that.
    b. #Boston is that.
    c. #The house I mentioned is that.
    d. #Alumina is that.
    e. #A tiger is that.

Hence any question of the following form must have this or that as its underlying subject:

(67) a. Who is that?
    b. What is that?
    c. Which is this?

This is confirmed by earlier tests:

(68) a. Can you tell me who that is?
    b. #Can you tell me who is that?

(69) a. What can that be?
    b. #What can be that?

(70) a. Which does he think this is?
    b. #Which does he think is this?
1.2.4. Predicational noun phrases. The paradigm examples of Predicational copular sentences are those of the kind John is tall, where the subject refers to a well-defined, non-abstract object and the predicate complement is an adjective. However, as soon as one starts to explore more complex examples, especially those in which the predicate complement is a noun phrase, one rapidly finds oneself unable to tell whether any given sentence is Predicational or not. I still have discovered no satisfactory way of tackling this problem, and this may be a reflex of some deeper conceptual tangle, but in the present section I will present a test that sometimes helps, and discuss a certain amount of pertinent material, including the use of Definite noun phrases as Predicational predicate complements. This section overlaps to a certain extent with Fodor 1970, 202-215.

The complement of the verb become (the only one of the inchoative verbs listed by Hornby (1954, 119-125) that takes noun phrase predicate complements freely) is construed Predicationally in general (Halliday 1967, passim; Geach 1968, 35; Fodor 1970, 209). Thus, as Geach comments (1968, 35):

Now if Socrates did become a philosopher, he certainly did not become Socrates, nor did he become any other philosopher, say Plato; so "philosopher" does not stand for a philosopher - it does not serve to name a philosopher.

That is, become behaves rather like an inchoative to the verb be in its Predicational meaning. Furthermore, items that cannot
be Predicational, such as Deictic phrases, pronouns, and proper names, cannot be the predicate complement to become:

(71) a. #John's friend became that girl.
   b. #The pumpkin became you.
   c. #Dick wants to become unimpeachable Eliot.

Perhaps some would insist that these could occur in fairy-tale contexts. However, I am not marking these as ungrammatical because they are unlikely, impossible or untrue; in one speech the grammatical way of expressing transmogrifications is by means of turn into, not become. Indeed, if the complement of become could be Referential one might expect syllogisms of the following kind to be possible:

(72) a. Bill has become her husband.
   b. Her husband is tall.
   c. Therefore, Bill has become tall.

One can say, therefore, that known Predicational items can appear as the predicate complement of become and known Referential items cannot. Hence, if a noun phrase can appear as the predicate complement of become it most probably can be used Predicationally.

Something similar seems to be true of used to be, though more weakly. Although one can say:

(73) a. John used to be tall.
   b. John used to be a philosopher.

it is distinctly odd to say:

(74) John's girl-friend used to be MARy.

Although this possibly does have a reading that might be
paraphrased as:

(75) It used to be the case that John's girl-friend was MARy.

the preferred way of saying this is:

(76) MARy used to be John's girl-friend.

As it stands it is hard to avoid construing the Subject of (74) as Referential and asking:

(77) Who has she turned into now, then?

Unfortunately, neither become nor used to be allows one to make a decision in many of the more troublesome examples, because their aspectual implications are incompatible with the noun phrase being tested. At best one can say that if a noun phrase can appear as their predicate complement then it is Predicational. For instance, by this test copular sentences with an Indefinite noun phrase qualified by a comparative adjective are Predicational:

(78) a. Bill is a better student than John.
    b. Bill has become a better student than John.

But sentence (79), although it is also intuitively a Predicational sentence, does not pass the test:

(79) Bill is a good fellow to go camping with.

(80) *Bill has become a good fellow to go camping with.

Aspectual problems probably play a part in making (80) ungrammatical.

Let me now push the discussion of the ambiguity of copular sentences forward a little by discussing the ambiguity of
sentences of the following kind:

(81) John is a teacher.

The primary reading here is clearly Predicational, as in:

(82) John teaches.

However, there is another reading of (81), which is, as far as I can tell, the same as that found in the Identificational sentences discussed earlier (such as that is the Mayor of Cambridge). For instance, if one hears the name John, and not being Acquainted with John, one wants more information, one can ask:

(83) Who is John?

or:

(84) John? Who's that?

Then (81) can serve as a somewhat reticent answer (of a kind dear to small children), in which John is identified as a teacher. Notice that (82), which provides essentially the same information, could not constitute even a reticent answer to (83) or (84), but would be mildly anacolutic.

Of course, if one is trying to be helpful, and if one assumes that the questioner has not previously met or obtained any knowledge of John (which would make it more felicitous for one to use a Definite noun phrase in the answer), then one will presumably use an Indefinite noun phrase qualified by a relative clause, rather than a simple Indefinite noun phrase as in (81). Thus, (85) is a more helpful kind of answer:

(85) John is a teacher who's been helping me with my polynomials.
Since I have suggested that sentences like (81) and (85) are Identificational sentences, essentially the same as:

(86) That's a teacher who's helping me with my polynomials.

(where that is Deictic, not Anaphoric—note that (86) cannot be used as an answer to (84), in which that is Anaphoric on the intended reading, and that must be changed to he in this case), let me call this use of the Indefinite noun phrase an "Identificational" use. Thus, it would appear that Indefinite noun phrases can be used either Predicationally or Identificationally. Notice furthermore that the fact that (86) is grammatical shows that the noun phrase a teacher who's helping me with my polynomials certainly cannot have only Predicational uses, for sentences with Deictic that as Subject and a Predicational predicate complement that requires a human subject are not grammatical. In addition, the kind of situation that could elicit (86) as an utterance could also elicit (87) (where that is Deictic):

(87) That's a teacher.

Here the emptiness of the remark renders it strange, though it could be an evasive answer to a question such as:

(88) Who's that?

(where that is Deictic).

A final piece of evidence which suggests that Indefinite noun phrases in the predicate complement also have functions other than Predicational functions is the fact that they can be used to answer questions in who, such as (83), (84), and (88). In all these questions who is the underlying predicate
complement, as can be shown by various tests:

(89) a. Who do you think John is?
    b. ?Who do you think is John?

(90) a. Who can John be?
    b. *Who can be John?

((90b) is acceptable if John is some kind of role, as for instance, King John in a play. Then the proper name is behaving to all intents and purposes like a Predicational Definite noun phrase.)

(91) a. John? Who is he?
    b. *John? Who is him?

In (88) we know immediately that who is the predicate complement since Deictic that can only be a subject. However, who cannot appear as the predicate complement to become or used to be, as in:

(92) a. *Who did Socrates become?
    b. *Who used Robin Hood to be?

This suggests that who itself cannot be used Predicationally, just as the fact that it can appear in questions like (88) suggests that it can be used Identificationally. If one assumes, as seems reasonable, that the function of a Wh-word and that of a noun phrase which answers it must match in an acceptable question-answer pair, then, since who can probably not be a Predicational predicate complement but can be Identificational, and can be answered by Indefinite noun phrases, one can deduce that those noun phrases probably can be Identificational. This is also
consistent with the analysis of (78a) and (79) (repeated here as (94a, b)) as Predicational, for neither of them is a very plausible form of answer to (93):

(93) Who is Bill?

(94) a. #Bill is a better student than John.

   b. #Bill is a good fellow to go camping with.

In each case, the dialogue seems to have side-slipped a little. Note, incidentally, that the following, where the noun phrase bears a relative clause, are rather better as answers:

(95) a. Bill is a student who is better at languages than John.

   b. Bill is a fellow who it would be good for you to go camping with.

In general, noun phrases qualified by a relative clause are exceedingly reluctant to show Predicational readings, and I have not noted any certain examples except the well-known type:

(96) John is not the man that his father was.

(I will touch on this matter again below.)

To sum up: Indefinite noun phrases unqualified by relative clauses can in general be either Predicational or Identificational; qualified by relative clauses they can in general only be Identificational. Who as a predicate complement is Identificational. Furthermore, it should not be forgotten that Indefinite noun phrases can function as the focal item in Specificational pseudo-cleft sentences such as:

(97) What I am pointing at is a kangaroo.
I shall now briefly discuss the Predicational use of Definite noun phrases. This use has been pointed out by several linguists (such as Halliday (1967, 68-71), Kuno (1970, 349-350; 358-359), and Fodor (1970, 202-215)), and several philosophers (such as Geach (1950, 85), Strawson (1950, 320), Wiggins (1965, 42-43; 1970, 308), and Donnellan (1966, 284)) have pointed out that in sentences such as:

(98) George VI is not the King of France.

there is no presupposition or assertion that there is a King of France and that the King of France is a "logical predicate" here. It seems worth while emphasizing this Predicational use of Definite noun phrases here, for it is somewhat surprising at first.

Fodor (1970, 202-215) discusses the clearest examples of Predicational Definite noun phrases, which are those with a head noun that denotes a role or an office, and notes the following three properties:

(1) The article is omissible:

(99) a. Charles de Gaulle is King of France.

b. Tom is captain of the cricket team.\(^10\)

The importance of the role meaning is made clear by the minimal pair that Fodor gives (1970, 208):

(100) a. Bill is the ugliest man on campus.

b. Bill is ugliest man on campus.

She correctly points out that (100b) is "only appropriate if there was a competition resulting in the selection of Bill as the ugliest man on campus, that is, if the noun phrase describes
a position or status." Presumably (100a) can have this reading too, though it is not clear to me whether or not it also has another Predicational reading that lacks this peculiar flavor. (100a) certainly has an Identificational reading, for it is a felicitous answer to the question:

(101) Who is Bill?

and Bill can be replaced by Deictic that, as in:

(102) That is the ugliest man on campus.

This is not possible in (100b):

(103) *That is ugliest man on campus.

and (100b) does not constitute a felicitous answer to (101).

Thus (100a) has at least two readings, one Predicational and one Identificational.

(ii) Definite noun phrases can appear in pseudo-cleft sentences of the following kind:

(104) a. What de Gaulle is is the King of France.
    b. What de Gaulle is is King of France.

Fodor contrasts these with (1970, 208):

(105) *What Bill is is the man who murdered Smith.

The cogency of these examples depends on the fact that what both as a relative pronoun and as an interrogative pronoun can have Predicational uses when it serves as a predicate complement. Consider, for instance, the following question:

(106) What is that?

Here, that can never refer to a human being, as opposed to:

(107) Who is that?
(107) is Identificational, as has already been established. The fact that that in (106) cannot refer to a human being suggests most strongly that (106) is either Predicational, for this inanimate reading of that is a characteristic of such sentences, or Identificational with a non-human Identificational predicate complement. That is, the underlying structure of (106) is either like (108a) or (108b) (where I use ad-hoc features [-human] and [+pred] to indicate the relevant variables in the head noun):

\[(108)\ a. \ [\text{that is Wh-some-} \left[{N}\ [+\text{pred}] \right]]\]

b. \[\text{that is Wh-some-} \left[{N}\ [-\text{human}] \right]]\]

In (108a) that must have an inanimate use, because the sentence is Predicational; in (108b) it must have a non-human use, because the sentence is Identificational and the predicate complement is [-human]. This is of course confirmed by the fact that there are two sorts of answers to (106). The Identificational reading is more prominent, and gives rise to answers such as:

\[(109)\ a. \ \text{That is an astrolabe.} \]

b. \text{That is the Stone of Scone.}\]

The Predicational reading might be used if, for instance, one has been discussing the properties of various materials as they are pointed out, saying \text{this is friable, this is thixotropic.} One can then ask of a further material: \text{And what is that?}, asking for some characteristic property, and receive the answer:

\[(110) \ \text{That is flaccid.} \]

The Predicational use is possible with human nouns also, of course, as in:
(111) What is John?
(112) He's lazy.
(Questions of this kind are in fact rather rare and tend to sound odd. If one really is asking for predicates it is more common to use what...like? I have not investigated why this should be so.) It seems clear that what as a predicate complement can be Predicational or (inanimate) Identificational. This explains the rather different feel of the following two questions (as long, that is, as one already has some prior notion of what kinds of objects the acronyms apply to):

(113) a. What is L.B.J.?
   b. What is D.D.T.?

The former can only be Predicational (as long as one knows that the Subject refers to a person), and the latter can be either Predicational or Identificational (as long as one knows that the Subject does not refer to a person), and would normally be the latter.

As a (free) relative pronoun what behaves similarly, though the Identificational use is less easy to be sure of. Here I will merely give evidence for its Predicational use. Consider the following sentence:

(114) John wants to become what his father was.

From earlier discussions it is known that the noun phrase what his father was most probably is Predicational, for it is serving as the predicate complement of become. Moreover, the same test suggests that the position following the copula within the
relative clause is also a Predicational position, as shown by sentences such as:

(115) a. John is what his father wanted to become.

    b. John has become what his father used to be.

(Note that (115a) is not an inverted pseudo-cleft sentence of the type an actor is what his father wanted to become.) It is worth while indicating (without much attempt at proof) at this point an important principle that governs the form of such a relative clause: the antecedent and the deleted clause-internal noun phrase must both be Predicational, that is, it is evidently part of the identity condition on the relative clause formation rule that the two "coreferential" elements must agree in this respect.

There is virtually no recognition of this fact in the literature. Kuno however makes nearly the same claim (1970, 353):

Non-referential property noun phrases [my Predicational type F.R.H.] can be relativized and form restrictive relative clauses. The antecedent is always non-referential and preceded by a definite article. It clearly shows the property of a non-referential property noun phrase: that is, it indicates a property, and not an individual object in the universe of discourse.

As examples Kuno gives sentences such as (116) (1970, 353-354):

(116) a. I am not the man that I used to be.

    b. I am not what I used to be.

    c. The boy that he is spoke to me in Korean.
This formulation is not quite correct. It is not sufficient for the antecedent to be "non-referential". It must be, and therefore the noun phrase as a whole must be, Predicational. This predicts correctly that certain examples which Kuno gives earlier in his paper are ungrammatical, in spite of his acceptance of them. For example (Kuno 1970, 349: (2-1b)):

(117) A career girl, which my fiancée doesn't happen to be, attracts me most.

This, like several similar examples, is ungrammatical for me, and must be reformulated perhaps as:

(118) A career girl, which is something my fiancée doesn't happen to be, attracts me most.

The noun phrase a career girl is now the subject of the copular sentence within the relative clause in which, and the predicate complement of that copular sentence is the relative clause structure something my fiancée doesn't happen to be, in which something and the deleted clause-internal noun phrase following be both permit a Predicational reading. (The same principle explains the ungrammaticality of the similar examples given by Emonds (1970, 167: (48)) in support of a different claim.)

This principle also suggests why noun phrases bearing relative clauses can in most instances have no Predicational use, as noted earlier. If the clause-internal, deleted, noun phrase is not Predicational in function then the structure as a whole cannot be Predicational. If the internal noun phrase can only have Referential functions, then the antecedent, and hence the noun
phrase as a whole, can only have Referential functions. This seems to be a very natural principle.

A final point is interesting. Note that one cannot use who as a relative pronoun in examples like (116a) while retaining the Predicational reading. (119) could at best mean that I have changed my identity:

(119) I am not the man who I used to be.

(116) is of the same kind as:

(120) I used to be a fine figure of a man.

whereas (119) is of the same kind as:

(121) I used to be Roger Higgins.

We have already noted that who as an interrogative pronoun is Identificational when used as a predicate complement. Here is evidence that the same is true of who used as a relative pronoun. Evidently there is no Wh-form of relative pronoun that has a Predicational use in relative structures with a full lexical antecedent, and therefore that or its zero alternant appears. What, however, evidently is a suitable Wh-form to introduce free relative clauses in which the deleted clause-internal noun phrase has Predicational use. Returning to (104) and (105), we now see that in (104) the subject clause is of a suitable form to allow a Predicational use of what. The focal item, as "value", must match the antecedent of what, the "variable", in semantic type, in the way that it always must in Specificational pseudo-cleft sentences, and this indicates that the noun phrase (the) King of France can itself be interpreted Predicational: y. The effect is
the same as in:

(122) De Gaulle is the following: (the) King of France, ...

However, in (105) the focal item, the man who murdered Smith, cannot be interpreted Predicationally: even if the antecedent, the man, could be interpreted in this way, its function within the relative clause, as the subject of murdered, removes that possibility. Therefore the subject clause, what Bill is, can also not be interpreted as having a Predicational variable. The focal item, the man who murdered Smith, could, on the other hand, very well be Identificational, but in the subject clause what does not permit an Identificational use with human subjects. Therefore (105) is ungrammatical.

(iii) Definite noun phrases can appear in the predicate complement to become (Fodor 1970, 209), as in:

(123) De Gaulle became the King of France.

The article can be omitted and pseudo-cleft sentences can be formed, as in the following:

(124) a. De Gaulle became King of France.

b. What de Gaulle became was King of France.

The three tests discussed here provide very strong evidence in favor of the claim that certain Definite noun phrases can be Predicational. It is obvious that they can also be Identificational, and many earlier examples have shown them in Specificational use.
1.3. Wh-words in copular sentences. It is impossible to cover all the material here, and I shall merely pick out those uses of Wh-words which allow me to fill in certain gaps in the analysis given so far and cover those uses that appear to bear on the more general problem.

It is not clear whether relative who can be used Identificationally and I shall ignore the issue here. Relative what can perhaps be so used, depending on whether the following are grammatical:

(125) a. What that is is the oast-house I bought last year.
    b. What those animals are is the zoo's new gazelles.

There may be other reasons why these are poor than the ability of what to function Identificationally. The point is of little importance and can be left vague.

The following table can now be set up on the basis of the discussion so far:

(126) Wh-words as predicate complement

<table>
<thead>
<tr>
<th></th>
<th>Interrogative</th>
<th>Relative</th>
<th>Interrogative</th>
<th>Relative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Who</td>
<td>+</td>
<td>?+</td>
<td>+</td>
<td>?</td>
</tr>
<tr>
<td>Identificational</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Predicational</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>+</td>
</tr>
</tbody>
</table>

It is not clear whether who can be Specificational—this is one of the puzzles about who. Consider a sentence such as:

(127) I asked him who the Speaker of the House was.

Normally this would be used in such a way that the Subject of the copular sentence was not Referential. However, the question
somehow seems to be asking for a definition such as:

\[(128) \text{The Speaker of the House is the man who keeps the Democrats and Republicans from each other's throats.}\]

rather than for a name. On the other hand, the inverted version, in which the predicate complement may well be Predicational --note the possibility of omitting the article--seems a little strange too:

\[(129) \text{I asked him who was (the) Speaker of the House.}\]

Thus neither (127) nor (129) seems quite right when one wants to know the name of the Speaker of the House. I do not know why this should be so, though the peculiarity of (127) on a Specificational reading may be related to the material discussed in chapter six. I will assume that who in (127) can indeed be Specificational, and will ignore the type of sentence found in (128), for I am not sure how it fits into the framework that I am setting up. (One possibility might be to regard it on the definitional reading as an Identificational sentence with a generic Subject.)

What clearly can be Specificational as an interrogative pronoun, and possibly can be as a relative pronoun:

\[(130) \text{a. I asked him what his main aim was.}\]

\[\text{b. What do you think this car's worst defect is?}\]

\[(131) \text{a. ?What his main aim is is to enrich himself at your expense.}\]

\[\text{b. ?What this car's worst defect is is its steering.}\]
(131) may be relatively bad because one is making a Specifical-
tional sentence (the pseudo-cleft sentence) out of a sentence
that is already Specificalional (see chapter six).

Kuno (1970), following Jespersen, has discussed Predication-
al uses of relatival which, but omitted to note that the inter-
rogative pronoun which can also be used thus, given a suitable
context. For instance:

(132) Some tell me John is generous, some that he is
stingy. Which is he then?

Which is clearly a predicate complement here, as in:

(133) Will nobody tell me which he is, then?

Notice that which in these examples shows its typical property
(as opposed to what) of implying selection from a given set, just
as it does elsewhere in interrogative use. This use of which
hardly seems to be possible when which is an interrogative ad-
jective.

Which as an adjective possibly can function Specificalion-
ally, as in:

(134) ?Please tell me which man the Speaker of the House is.

This is similar to (127), and similarly strange on its Specifi-
cational reading, contrasting with it merely in that who requests
a name as answer and which requests a Deictic phrase or some
equivalent. It would be more normal to say instead of (134):

(135) Please tell me which man is (the) Speaker of the
House.

It is not clear whether which can be Identificational. The
following example suggests that it cannot be:

(136) *Some tell me that Jack Jones is the man who gave
the speech on Monday, others that he is the man
I was nearly introduced to yesterday; please tell
me which (one) Jack Jones is.

However, the following example appears to contain an Identificational use of which (since that does not permit a Predicational predicate complement that requires a [+human] subject):

(137) a. Do you know which member that is?

b. Yes. That's the member for the Chiltern Hundreds.

This type does not seem at all good when, as in (136), the subject is non-Deictic:

(138)??Do you know which member Jocelyn Carruthers is?

This suggests that finer distinctions must be made at this point (which is also the point where Halliday's analysis is most puzzling). It is not easy to find nouns that behave like member in (137) and therefore the problem is not easy to investigate. It does not require an answer here, and I shall ignore it.

Thus which as an interrogative pronoun can function Predicationally, Specificationally, and perhaps, under certain circumstances, Identificationally, and as a relative pronoun can at least function Predicationally.

As subjects who, what, and which are less interesting. It is, however, worth noting that what and which as relative pronouns behave as Cataphoric and Anaphoric pronouns respectively, similar to this and that. (This, of course, accords well with
the fact that which as an interrogative pronoun implies choice from a given set.) Note that to every sentence of the form that is ..., where that is endophoric, a relative clause in which can be formed:

(139) a. John Smith? That is who I meant.
   b. ... John Smith, which is who I meant, ...

(140) a. Mevagissey. That is where she lives.
   b. ... Mevagissey, which is where she lives, ...

(141) a. He's leaving. That is worse.
   b. He's leaving, which is worse.

Corresponding to (141), when what forms a sentential relative clause it must precede its "antecedent", just like Cataphoric this:

(142) a. This is worse. He's leaving.
   b. What is worse, he's leaving.
   c. He's leaving, what is worse.

This is worse can, of course, follow the main clause because this is also Anaphoric. What does not have this freedom, though (142c) can be grammatical given the right prosody (the details of which I shall not go into here). As I have already empha-
sized, it is this Cataphoric function that what exercises in pseudo-cleft sentences.

Which as an interrogative pronoun in subject position can also request a Deictic that as answer, as in:

(143) a. Which is John?
   b. Can you tell me which is John?
A question like (143a) can now be seen to be ambiguous: it can be Predicational with which as underlying predicate complement, or Identificational with which as underlying subject. What can also be used of non-human objects in this way, as in:

(144) a. What is D.D.T.?
   b. That pile over there is.

(145) I don't know what is chromium and what is manganese in all this mess.

2. Ambiguities in copular sentences

In this section I will, after briefly discussing a further type of copular sentence, present the taxonomy in the form which it has reached on the basis of the discussion up to this point. Then I will try to show that a couple of obvious ways of collapsing the taxonomy into a neater form will not work. Finally I will briefly relate some of the results of the present chapter to the main subject of interest, the pseudo-cleft construction.

Philosophers have been very much interested in a type of copular sentence which has not yet been dealt with. The following is a fairly typical definition (Wiggins 1965, 42):

For a sentence to express an identity 'is' or '=' must stand between two noun-phrases which, if they are distinct, are serving independently of one another to make genuine references. By this criterion 'The evening star is the morning star' and 'Hesperus is Phosphorus' do express genuine identities.
I will call this type an Identity sentence, making no attempt to delve into the complexities which the philosophical tradition has found in such sentences. The sanest and most enlightening treatment that I have come across is Kripke 1972. Clearly, Identity sentences are close to Identificational sentences, and perhaps if one abstracts from "conditions of use" may be analyzed as identical with them. Thus, a sentence like:

(146) That man over there is Joe Bloggs.

is normally used to teach someone a name, and it does not seem to me that the name is used Referentially in such sentences—nothing is said about Joe Bloggs. However, if one insists that referentiality is a property of expressions, not of the use of expressions, then one might want also to insist that (146) is an Identity sentence. I do not yet understand the problem well enough to be able to comment on such a proposal. Taking Wiggins's characterization, we see that the subject and predicate complement of an Identity sentence must be Referential, that is, Deictics, proper names, pronouns, or certain kinds of Definite noun phrase.

I will now give two tables which show the taxonomy of copular sentences that has been set up in this chapter. The first table shows the Subject-Predicate structure of the various types, and the second table indicates what kinds of constituents can function as the various types of Subject and Predicate.
(147) Subject-Predicate structure of copular sentences

<table>
<thead>
<tr>
<th>Type</th>
<th>Subject</th>
<th>Predicate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identificational</td>
<td>Referential</td>
<td>Identificational</td>
</tr>
<tr>
<td>Identity</td>
<td>Referential</td>
<td>Referential</td>
</tr>
<tr>
<td>Predicational</td>
<td>Referential</td>
<td>Predicational</td>
</tr>
<tr>
<td>Specificational</td>
<td>Superscriptional</td>
<td>Specificational</td>
</tr>
</tbody>
</table>

(148) Composition of Subject and Predicate in copular sentences

<table>
<thead>
<tr>
<th>Constituent Type</th>
<th>Referential</th>
<th>Superscriptional</th>
<th>Predicational</th>
<th>Specificational</th>
<th>Identificational</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deictic</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Proper name</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Definite NP</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Indefinite NP</td>
<td>?-</td>
<td>?-</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>AP</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>VP, S</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

The interpretation of this taxonomy is fairly obvious. Table (147) gives the permissible combinations of Subject and Predicate types, and table (148) shows what kinds of constituents those types may be composed of. If, for instance, one takes a constituent that can be Referential as Subject and one that can be Identificational as predicate complement, then the sentence has an Identificational reading. Such constituents are, for instance, a Deictic (as Subject) and a proper name (as predicate complement). Outside copular sentences, verb phrases can of course be Predicational, and also, as I tried to show in chapter four, Specificational.
Now, whatever the value of this taxonomy may be, it has one very obvious property: it is very untidy. One's first instinct is to see whether it can be reduced in any way.

Consider the Identificational and the Specificational types. All types of noun phrase can behave both Identificationally and Specificationally. (This generalization stands whatever the outcome of the present argument.) The Subject of the Identificational sentence must be Referential, that of the Specificational sentence Superscriptional. There is only one point where the Referential and the Superscriptional types overlap: Definite noun phrases may have either function. Is this then really true, or is it only an apparent overlap? Table (148) as it stands predicts that there may well be ambiguous sentences: there may well be sentences with Definite noun phrase Subjects that have both an Identificational and a Specificational reading. If there are, it would appear that Identificational and Specificational sentences are in some sense distinct types.

But there clearly are sentences that are ambiguous in the requisite way, as in:

(149) The girl who helps us on Fridays is Mary GRAY.
This can be Identificational, as an answer to a question such as:

(150) Who is the girl who helps you on Fridays?
where the girl who helps you on Fridays is Referential, the questioner being Acquainted with the girl by sight, perhaps, but not knowing her name. Or it can be Specificational, equivalent to the quasi-list:
(151) The following girl helps us on Fridays: Mary Gray.

The two readings can be brought out by slight modifications:

(152) The girl who helped us on Friday is Mary Gray.

(153) The only girl who helps us on Fridays is Mary Gray.

(152) lacks tense harmony between the verb of the subject clause and the copula, and therefore loses the Specificational reading (see chapter six). It can only be Identificational. Adding only in (153) seems to prevent the Subject from being Referential—one can see this clearly in a sentence with a Predicational predicate complement such as:

(154) #The only girl who helps us on Fridays is very tall. Therefore (153) loses the Identificational reading and the reading that remains is Specificational.

There is a further possible ambiguity. Recall that Definite noun phrases can also be Predicational. This leads one to expect that three-way ambiguities may arise with suitable Definite noun phrases as predicate complement. Consider, first of all, the following:

(155) That is my sister.

This is Identificational, and my sister is Identificational. Note that in this use the implication is that I have only one sister. The phrase my sister has a similar implication when it is used Referentially or Specificationally, as can easily be checked. However, the phrase can also be used Predicationally, as in the dialogue:

(156) a. How is Mary related to you?
b. She's my sister.

Here, in Predicational use (I hope that the reader will accept this judgment--none of the earlier tests are applicable), there is no suggestion that I have only one sister. (I owe this point about number to Jespersen (1924, 153).) This helps one to see that (157) has two readings:

(157) That girl is my sister.

One is Identificational, as in (155), the other is Predicational, as in (156b). Putting together (155) and (149), one can see that the result has three readings:

(158) The girl who helps us on Fridays is my SISTER.

On two of the readings, the Identificational and the Specificalional, the implication is that the speaker has only one sister; on the third reading, the Predicational, there is no such implication. Notice that the same point can be made about the example that was used earlier:

(159) What I am pointing at is a kangaroo.

Indefinite noun phrases allow the same range of readings, and this sentence possibly has three readings rather than the two claimed for it earlier.13

Thus, although it is tempting to propose that the ambiguities in the following two sentences are examples of the same ambiguities:

(160) a. Robin Hood was an outlaw.

b. The girl who helped us on Friday was Mary Gray.

the reduction does not seem to be possible. (160a) has an
Identificational and a Predicational reading: (160b) has an Identificational and a Specificational reading.

There is a second possibility for reducing the taxonomy: that the ambiguity implied by the terms Referential and Superscriptional is the same as that discussed by Donnellan (1966, 1968) under the terms "referential" and "attributive" respectively. (In the following argument the terms "referential" and "attributive" with lower-case initial letters are to be understood in this sense.) This is the analysis that Fodor suggests for a certain class of copular sentences (1970, 184-215). Even though the use of the terms attributive and referential is not very well-defined, it would clearly be a welcome result if one could reduce the primitive terms of the taxonomy in this way, since this particular distinction may be needed elsewhere in the grammar. Clearly, the Superscriptional and the attributive noun phrase differ in semantic function. The attributive reading of a noun phrase is often used precisely when one is unable to state in any more exact way who or what it is that one is talking about. The Superscriptional reading is used precisely in sentences which say who or what fits a certain description. One is, as it were, a symptom of ignorance, the other of knowledge. One might now claim that the two functions are therefore in semantic complementary distribution in some way and that this is a good argument in favor of collapsing the two. Fodor notices this difference of function (1970, 203), but remarks that although a noun phrase "is, characteristically, used attributively
if the speaker does not know to whom or to what in particular the description applies", yet a remark of Donnellan's licenses the notion that attributive noun phrases can be used even where the speaker does know who or what is referred to (Donnellan 1966, 290; 299-300), and there is therefore no contradiction in claiming that the subject of a Specificational sentence exemplifies the attributive use. However, I remain sceptical about the possibility of identifying the Superscriptional and attributive readings of a noun phrase, for the following reasons:

(1) It was shown earlier that sentences of the following kind are Specificational:

(161) What I don't like about John is his tie.

However, the Subject cannot be used in the following kind of Predicational sentence:

(162) What I don't like about John is lurid.¹⁴ But notice that this has no good reading. It makes no difference if one says:

(163) What he may not like about John is lurid.

There simply is no reading, irrespective of whether one tries to use the subject noun phrase attributively or referentially. In other words, here is a type of noun phrase which can be used Superscriptionally but not attributively.

Similarly, sentences of the following kind are only Specificational:

(164) What he wants to marry is an actress.

The subject of this example cannot be used as the subject of a
Predicational sentence:

(165) a. #What he wants to marry is over there.

b. #What he wants to marry \{may
must\} be able to act.

c. #What he wants to marry is blonde and wealthy.

Free relative clauses in what cannot be used of human beings with the kind of Referentiality that is possessed by proper names and descriptions such as the girl he wants to marry. But this also surely means that these clauses can have no attributive meaning.

Similar arguments can be given with respect to other kinds of noun phrases that can figure as the subject in Specificational sentences:

(166) a. All that I bought was apples.

b. One person who might help you is Mary.

Even where the subjects of these examples can be used as the subjects of Predicational sentences, it is not obvious that they allow any referential/attributive distinction.

(i1) Collapsing the attributive and the Superscriptional readings does not allow one to capture the full gamut of readings in certain sentences. Consider the following example (from Kripke 1972, 265):

(167) The winner of the election might have been the LOser.

The modal verb here is ambiguous. Ignore that reading which means may have been (as far as I know), and concentrate on the reading that means roughly it could have come about if things
had been different. The sentence still has, I would maintain, at least eight readings, if one takes into account referential/attributive ambiguities. (I am not sure whether there are any Identificational readings at all with the posited reading of the modal, and have ignored this possibility.) To fix ideas, imagine that the election referred to in (167) is the 1972 U.S. presidential election. Then, in referential use, the winner of the election refers to Nixon, and the loser to McGovern. On the attributive use they refer to the winner and the loser, whoever they were, their names and identities being unknown to the speaker, who merely assumes that someone or other must have won that election and somebody different must have lost it.

First of all, there is a set of four readings where (167) is interpreted as an Identity statement. It is easiest to see the force of this reading by considering the sentence:

(168) Nixon might have been McGovern.

This is the reading of (167) as an Identity statement with referential subject and referential predicate complement. Clearly one can say also that whoever won the election might have been McGovern, using an attributive subject and a referential predicate complement, and similarly for the other combinations of referential plus attributive and attributive plus attributive noun phrases. This gives the four readings of (167) as an Identity statement. Then there are two Specificational readings of (167), one with an attributive Specificational predicate complement, one with a referential Specificational predicate.
complement, which can be paraphrased roughly as:

(169) a. The one who might have won the election was whoever was the loser.

b. The one who might have won the election was McGovern.

or, using the list analogy, as:

(170) a. The following person might have won the election: whoever lost it.

b. The following person might have won the election: McGovern.

Finally, there are two Predicational readings of (167), one with attributive Referential Subject, the other with referential Referential Subject. These can be paraphrased roughly as:

(171) a. Whoever won the election might have lost it.

b. Nixon might have lost the election.

If one takes the other reading of the modal there is a similar set of readings, but some of these seem to be rather improbable, and therefore I will not summarize them here.

The point of the example is clear: if one collapses the Superscriptional and the attributive readings, one cannot account for all the possibilities here, the crucial contrast being that between the Identity readings with attributive subjects and the Specificational readings. Someone will no doubt raise the possibility that the interaction of modality and the scope of something or other could account for some of the ambiguities. This I very much doubt, for the presence of the modal is not
essential—it merely makes the interpretations more plausible and, hence, easier to distinguish.

The arguments that I have presented seem to me to forbid any attempt at identifying the Superscriptional reading with the attributive reading. However, it seems quite plausible to suggest that whatever property it is that allows a noun phrase to have an attributive reading will also allow it to have a Superscriptional reading. Thus, the set of noun phrases which can be used attributively is probably a subset of the set that can be used Superscriptionally. I have no other suggestions for reducing the taxonomy to a neater form at present.

Very little has been said here about the composition of the various classes of noun phrase types beyond the gross taxonomy given in (148), and at present I have little to say about it. One can note certain implications in the table, such as the fact that Referential noun phrases can be Specificational or Identificational, but I cannot extend this observation beyond pointless proposals for revision of terminology at present.

Of more interest is the composition of the Superscriptional class. Note that the list implies that if an item cannot be Predicational then it cannot be Superscriptional. This is somewhat misleading, for most types of Definite noun phrase cannot be Predicational and can be Superscriptional, and none of the types of Definite noun phrase that can be Predicational (such as the man that his father was) can be Superscriptional. However, Deictics and proper names certainly cannot have either
function. Neither of them can head lists either, except in an elliptical sense. There is another connection between the Superscriptional and the Predicational uses: there are pairs of sentences that are related in just this way, as:

(172) a. What he is doing is a mystery.
    b. The mystery is what he is doing.

(173) a. That he hasn't come is a problem.
    b. The problem is that he hasn't come.

The (a) sentences are Predicational,¹⁶ and the (b) sentences are Specificational.¹⁷ I assume that the sentences of (172) and (173) are not directly related, but the existence of the parallelism clearly means something. A correct characterization of Superscriptional noun phrases should account for this. The only characterization that I can give at the moment is that all Definite noun phrases which are not intrinsically referential (or Predicational) can be used Superscriptionally. Deictics and proper names are, in the sense that I intend, intrinsically referential, for they are merely labels and nothing more. They do not provide any "non-essential" aspects of an object by means of which one can classify it in the way that the heading of a list implies a classification of objects. The citing of non-essential aspects of an object is tantamount to a predication of some property, and therefore one can say of something that it is a mystery, is mysterious, before one says what it actually, "essentially", is. Hence there is a close relationship between:

(174) a. What is a mystery is what he is doing.
b. What is mysterious is what he is doing.

c. The mystery is what he is doing.

Thus more or less any "non-essential" aspect of an object can be seized on and used to form a Definite noun phrase that can be used Superscriptionally. In this way one obtains Specificational readings of sentences like:

(175) His hat is a bundle of straw.

One is seeing an object as a hat, as serving as a hat, and then saying what it "really" is. The only noun phrases which are, by their nature, excluded from this kind of behavior are Deictics and proper names.

Finally an account should be provided of the level at which the taxonomy operates, if it is regarded (somewhat prematurely) as an interpretive device, for the matter is of some importance with respect to the material discussed in chapter four. At the moment I have no sure evidence that would allow me to argue for either a deep structure or a surface structure interpretation. Probably material of the kind discussed in chapter six will provide the answer, when an explanation can be found for it.

3. Summary

A taxonomy of a somewhat restricted class of copular sentences has been developed, within which the main ambiguities found in such sentences can be classified and discussed. The ambiguities are attributed to an interaction between types of subject and predicate complement noun phrases. During the
development of the taxonomy the functions of certain types of noun phrase and of Wh-words have been examined in some detail.
1. In particular I have been unable, in spite of much trying, to make clear to myself the distinctions which Halliday draws (1967, 69-70; 227-231) between the two oppositions "value" and "variable", and "identifier" and "identified", or to find all the ambiguities which his analysis predicts, and therefore I have abandoned his approach. (Note, however, that in the examples that he gives, the "variable" is always the underlying subject and the "value" the underlying predicate complement.) I suspect that Halliday may have misconstrued slightly the function of which, reading it (to use the terms that I shall be introducing) as Identificational where it can possibly only be Predicational (see section 1.3 below). Furthermore, he does not make any distinction corresponding to that which I make between Identificational and Specificational sentences. It is possible that the identifier/identified opposition only applies in the former type, and the value/variable opposition in the latter type. The analysis which is presented here covers more or less all the data in Halliday's article that I understand, though there remains a residue which I have not come to grips with yet, especially in the area of "inverted" copular sentences.

2. Notice that the definition of Referential noun phrase that is implied by Buridan's Law has a functional admixture, as
becomes evident in Geach's discussion of Jemima is a cat, for it involves the notion of what a proposition is about. This point is developed at greater length in the second chapter of Geach 1968. The same view of referring expressions is evident in Strawson 1950, which otherwise treats the topic rather differently (Strawson, 1950, 320):

We very commonly use expressions of certain kinds to mention or refer to some individual person or single object or particular event or place or process, in the course of doing what we should normally describe as making a statement about that person, object, place, event, or process. I shall call this way of using expressions the 'uniquely referring use'.

Both Geach and Strawson are careful to emphasize that there may be more than one such expression in a given sentence. Thus Strawson (1950, 321):

For example, it would be natural to say that, in seriously using the sentence, 'The whale struck the ship', I was saying something about both a certain whale and a certain ship, that I was using each of the expressions 'the whale' and 'the ship' to mention a particular object; or, in other words, that I was using each of these expressions in the uniquely referring way.

(See also Geach 1968, 28-29.)
It is not clear to me whether this notion of "aboutness" can be explicated further without presupposing the notion of reference, which would make the whole affair circular, but at any rate it is not the same notion as those current in linguistics under such names as focus, theme, and topic.

3. Rundle (1965) has made essentially the same observations as I have made here, without the terminological trappings. He has also noted (1965, 31-32) that if the number of planets could be used as a referring expression then the argument (9), (11), (12) would be valid. This is quite correct, as far as I can tell. For instance, take the subject of (19), the number that follows nine, and repeat the argument:

(i) The number that follows nine is ten.
(ii) Ten is necessarily even.
(iii) The number that follows ten is necessarily even.

This would, I presume, be regarded as valid.

Cohen (1966, 355-357) and Thornton (1968-69) have both attempted to refute Rundle's arguments. Cohen does not seem to be sufficiently sensitive to the facts of the case, and thinks that by translating the argument (9), (11), (12) into a semi-formal logicspeak he can attain insight into its structure that his knowledge of English alone cannot give him. Thornton seems to be confused by Rundle's two-pronged argument (that is, if the number of planets is not referential, Quine is wrong, and, if it is referential, Quine is still wrong) but finally admits that Rundle may be right about this example. He then claims
that constraints on substitution are still needed to prevent invalid inferences depending on the identity:

(iv) The Morning Star is the Evening Star.

and in sentences like:

(v) It is necessary that Caesar's assassin killed Caesar. Examples like (iv) have been dealt with in Kripke 1972, and example (v) is not a part of the English language, and it is therefore difficult to feel very concerned about it.

Again, I would emphasize that I would not wish to forbid logicians from imposing constraints on substitution operations in their formal languages; these remarks have been concerned with the validity of arguments conducted in English.

4. The only kind of counterexample to this generalization that I have noted is:

(1) An approach that you might try with him is admitting yourself to be in the wrong.

This is obviously closely related to the fact that noun phrases introduced by one can regularly be used specificationally—all the examples of (23) are grammatical if a is replaced by one. I shall ignore this type also. An understanding of it would undoubtedly be very helpful in characterizing the superscriptional reading of a noun phrase.

5. Let me give a further illustration of the kind of difficulty to which the lack of a plural subject form of who gives rise. In a cleft sentence the verb in the clefted clause agrees with
the focal item if this is the underlying subject of that verb (c.f. Higgins 1972b), as in:

(i) a. It's my notebooks that are missing.
    b. *It's my notebook that is missing.

Moreover, in a Predicational copular sentence a nominal predicate complement agrees in number with the subject:

(ii) a. Those men are doctors.
    b. *Those man are (a) doctor.

Now consider the following questions:

(iii) a. Who is the leader?
    b. Who are the leaders?

The first of these can be clefted, and, moreover, can be clefted in such a way that who is the deep subject of the copular sentence (contrary to what we have just seen in other examples—this is the kind of problem with who that I mentioned):

(iv) a. Who is it that is the leader?

However, if one tries to cleft (iii b) in the same way, no good result can be obtained:

(v) a. *Who is it that is the leaders?
    b. *Who is it that are the leaders?

(va) is bad because the subject of the clefted clause has been taken as singular, as required by the use of who as subject, which contradicts the number of the predicate complement. In (vb) the subject of the clefted clause has been taken as plural, and, although this is correct with respect to the number of the predicate complement, it contradicts the requirements of who, which,
as the focal item, demands that the verb of the clefted clause should be singular. I think, as mentioned in the text, that some of the difficulties with who may arise from this kind of tension, which forces one to construe certain instances of who in copular sentences as predicate complements where they should semantically speaking be subjects, and may have infected even the use of who in the singular. In (iv) and (v) one, of course, has no way of construing who as a predicate complement since cleft sentences of the required form are ungrammatical anyway:

(vi) *It is John who the leader is.

6. Notice that this does not constitute an argument against the derivation of cleft sentences from pseudo-cleft sentences suggested by, among others, Jespersen (1928, 88-92: 4.61-7), Lees (1963), Clifton (1969), Ambajian (1970a, 1970b), and Motsch (1970). There is no reason to believe that this property of cleft and pseudo-cleft sentences necessarily depends on deep structural differences between them. Indeed, since they are related to anaphoric processes, properties of the focus, and so on, there is every reason to believe that the differences depend on relatively superficial differences. For more cogent arguments against the derivation, see Higgins 1972b.

7. The exact characterization of the applicability of that in such examples is not quite clear, for I have not examined the data thoroughly. It is more important for present purposes to see the contrast between the uses of that in Predicational and
Identificational sentences than to have an exact characterization of what those uses are. "Inanimate" is sufficiently precise here.

8. I am equating the non-Predicational reading of sentences like (i):

(i) That woman is the Mayor of Cambridge.

with the Identificational sense of sentences like (ii):

(ii) That is the Mayor of Cambridge.

purely on intuitive grounds, and because no compelling reason has turned up to regard them as different in function. There must however be some difference between the two types, as revealed by their tag question forms:

(iii) a. That woman is the Mayor of Cambridge, isn't she?
    b. *That woman is the Mayor of Cambridge, isn't it?

(iv) a. *That is the Mayor of Cambridge, isn't she?
    b. That is the Mayor of Cambridge, isn't it?

(Notice that one can never have that itself in the tag--it behaves as the "stress-reduced" anaphoric form of that (c.f. Kuroda 1968, 250-251).) The appearance of it in (ivb) suggests that the subject, that, does not really refer to the person who is being talked about. This illustrates one of the most puzzling things about this and that: what is their referential role? Geach has tried to explicate their behavior in Identificational sentences in the following terms (1968, 27):

An assertoric sentence whose grammatical subject is a demonstrative pronoun often has the logical role not
of an asserted proposition but of a simple act of naming. The grammatical subject does not here name something concerning which an assertion is made; it simply points at an object, directs attention to it; it works like a pointer, not like a label.

(The rest of this passage should also be consulted: G.each 1968, 26-28.) However, I find his attempt opaque, and the correct treatment of these sentences eludes me.

9. I believe that this, together with the solely Predicational nature of sentences like (i):

(i) Bill is a better student than John.

provides at least a partial explanation of a fact that has puzzled me for some time: why are sentences like (ii) ungrammatical?

(ii) #Bill is a better student that I know than John.

Or, in general, why can one not add a relative clause to a noun phrase that is qualified by a comparative adjective? If adding a relative clause to the Indefinite noun phrase makes it Identificational, and if sentences like (i) can, for whatever reason, only be Predicational, then adding a relative clause to the noun phrase produces a semantic clash; the noun phrase is Identificational, but the comparative structure demands a Predicational noun phrase. Notice that a Predicational sentence like (iii) does allow the adjective to be compared, as in (iv):

(iii) Bill is a good fellow to go camping with.

(iv) Bill is a better fellow to go camping with than John.

and therefore one cannot merely put a blanket restriction on all
noun phrase complements in compared noun phrases. I have not been able to find any suitable Predicational relative-clause-bearing noun phrase that would allow a test of this hypothesis. Examples like (96) are not suitable.

10. There is one context in English where such deletion of the Definite article is obligatory: when the noun phrase appears as object complement to a transitive verb such as appoint, crown, elect (Hornby 1954, 34-35: Verb Pattern 8). At least one of these verbs, make, allows Indefinite noun phrases as predicate complement, so that one finds minimal pairs such as:

   (i) a. They made him a vice-president.
   b. They made him vice-president.

   It has recently been claimed that such object complements may possibly not be noun phrases (Hankamer 1973, 33-34), since they do not show various typical kinds of noun phrase behavior. I will not discuss the argument here, but most of the evidence that Hankamer adduces is merely compatible with their having Predicational function.

11. There is a moral to be drawn here. It is relatively clear that, in the situation in which the Prince Regent is reputed to have questioned Walter Scott (directly or indirectly) about his rumored authorship of the Waverley novels, the Definite noun phrase was being used Predicationally. That is, in the sentence:

   (1) George IV wanted to know whether Scott was the author of "Waverley".
the author of "Waverley" is not Referential at all, and the sentence could indeed be put in the form:

(ii) George IV wanted to know whether Scott wrote "Waverley".
(Note that the Prince Regent was Acquainted with Scott; there is no question of this being an Identificational sentence.) Therefore, to substitute Scott for the author of "Waverley" in (i) is to commit a fallacy of equivocation, and the argument from (i) to (iii):

(iii) George IV wanted to know whether Scott was Scott.

is about as sound as the following arguments:

(iv) a. Red is a color.
   b. My car is red.
   c. Therefore, my car is a color.

(v) a. The name of this book is Lorna Doone.
   b. Lorna Doone is a Devonshire heroine.
   c. Therefore, the name of this book is a Devonshire heroine.

Thus, insofar as Russell's theory of descriptions depends on the first of his logical puzzles (1956, 47-48), it is unnecessary. It is curious that the paraphrases that the theory of descriptions utilizes (as, for instance, Russell 1956, 51) rely on the fact that Predicational sentences such as (vi) form the basis of the analysis:

(vi) Scott wrote "Waverley".

and therefore Russell can be construed as claiming, in a sense, that the author of "Waverley" is Predicational in this context.
However, then, as I have pointed out, the argument to (iii) does not go through. Russell may not have recognized this because he did not recognize a distinct Predicational function of noun phrases, but regarded sentences like *Socrates is a philosopher* as identity sentences (as, for instance, at Russell 1919, 172).

12. There is a notable omission in table (148): there is no mention of prepositional phrases, and therefore sentences of the following types are not covered by the taxonomy:

(1)  
   a. Where I put it was under the bed.  
   b. When I last saw him was in August.

(ii)  
   a. This present is for John.  
   b. That book is by Mary.

(iii)  
   a. They are in the kitchen.  
   b. The concert is at six o'clock.

The sentences of (1) clearly have Specificational readings. The sentences of (ii) presumably are Predicational. The locatival sentences of (iii) are perhaps of a separate type, or a sub-class of the Predicational type. I have not dealt with such examples here because a useful treatment of the Specificational type presupposes a better understanding of the syntax of Wh-pro-forms, as mentioned in chapter two.

13. In fact, I must now confess that I am not entirely convinced that with a noun such as *kangaroo* one can distinguish an Identificational and a Predicational use in sentences such as:

(1)  
   a. That is a kangaroo.
b. That animal is a kangaroo.

If there is a contrast it is much less clear than with role and office nouns such as teacher used of human beings. This may have to do with some notion of "natural kind". One can see that something is a kangaroo merely by looking at it, as long as one understands the word and knows what kind of things it is used of; one cannot in general tell that someone is a teacher merely by looking, irrespective of how well one understands the meaning of the word. This distinction between natural or essential properties, such as being a kangaroo, and non-natural, cultural, properties, such as being a teacher, seems to remove the possibility of a clear distinction between Identification and Predication in a former case. Should one then say that the relevant sentences are still ambiguous but that the two readings merge "in use"? Or what alternative theory about Predication and Identification as "meanings" or "readings" might one be driven to by such examples?

Even the examples with noun phrases like a teacher are not as clear as I have pretended. I have suggested that that is a teacher is Identificational in the sense that the predicate complement is equivalent to, for instance, a teacher that I know and could tell you more about if I wanted to. This is not how (ia) would normally be understood, for in (ia) a kangaroo is more akin to a generic noun phrase— one is being taught what the word for a species is, and not the identity of a specific member of that species. However, a teacher could conceivably be used
in this way (treating the term as if it referred to a natural kind of object), and a kangaroo could conceivably be used in the other way, making both sentences ambiguous. Perhaps one could consider both of these varieties of reading to be Identificational, with both "specific" and generic Indefinite noun phrases being permissible varieties of Identificational noun phrase. (They are both permissible varieties of Specificational noun phrase, and, outside copular sentences, of Referential noun phrase, if one broadens the use of that term somewhat.) This is a similar problem to that raised with respect to the defini- tional use of copular sentences.

14. The following remarks give a partial explanation of this fact. Note that no item which has the same kind of Referentiality as his tie can precede the about-phrase in the sentence underlying the relative clause (as noted in Green 1971):

    (i) I don't like his tie about John.

If one examines what items can occur there one finds that there are basically two types (see also Morgan n.d.): (a) quantified noun phrases with a relatively empty head noun, such as anything and everything; (b) endophoric items such as this, the following. Neither of these items has the kind of Referentiality which is associated with his tie. In my own English, not even anaphoric that is permitted here:

    (ii) I don't like that about John either.

Some speakers apparently do accept (ii); as long as they do not accept it in a reading in which that refers back to, say, John's
tie, rather than to an abstract object such as, say, the fact that John wears lurid ties, the explanation which I am about to give holds. Notice that in a dialect in which (ii) is ungrammatical but this and the following are permitted, the Cataphoric nature of Superscriptional noun phrases is confirmed.

Now, given the principle that the antecedent of a relative clause must agree in Referentiality with the deleted clause internal noun phrase, it is clear why noun phrases like what I don't like about John cannot have the same kind of Referentiality as his tie: one has relativized out of a position which does not permit this kind of Referentiality.

Notice again the contrasting behavior of the cleft sentence:

(iii) *It's his tie that I don't like about John.

Here the "gap" in the cleft sentence, the trace, is coreferential with a prior item, his tie, which does not possess the kind of Referentiality which is required. The trace can only be permitted to refer back to the right kind of item, like that. Note that where the "antecedent" of the trace is not Referential the sentence is grammatical:

(iv) What is it that you don't like about John?

(Therefore it is not all Anaphoric items that are forbidden in this environment in my English, but perhaps only those that are [+specific] or [+definite].)

What explains this property of these constructions in about I do not know.

It should not be forgotten that certain nouns behave
similarly, such as attraction, defect, and trouble. I do not know of any way of accounting for this fact either, and assume at the moment that they must be lexically marked for this property.

15. I am grateful to Professor Chomsky for helping me to understand the referential/attributive distinction correctly, and for guiding me to a reassessment of the evidence at this point. The status of proper names, however, remains unclear to me:

16. Here I am of course intent on deception. The (a) sentences do not fulfill the definition of Predicational sentence which is given in the taxonomy, for one could surely not by any stretch of terminology regard an indirect question such as that in the subject of (172a) as Referential without further argument and clarification. Clearly the class of Predicational sentences is in any case broader than my definition implies, for it does not allow for sentences of the form:

(1) a. Everyone is a liar at some time or other.

   b. Some of them were seasick.

   c. A dibber can be very useful.

which obviously must be classified as Predicational. It should be extended to cover these at least. Whether it should be extended to cover (172a) and (173a) is a moot point which I will leave vague here, though if they must be included somewhere in the taxonomy as it stands now it must be as Predicational sentences.
17. Extraposition can take place in the (a) examples, to give:
   (i) a. It's a mystery what he is doing.
       b. It's a problem that he hasn't come.

This appears to be the type of construction that Akmajian mentions (1970a, 167; 1970b, 145-146) in his discussion of cleft sentences, although his examples have Definite noun phrases as predicate complements. I assume that the examples of (i) are derived from the Predicational sentences by the application of the normal rule of sentential extraposition, rather than by the application of the "cleft extraposition" rule, as Akmajian supposes, for the existence of this rule is very doubtful (see Higgins 1972b).
CHAPTER 6

SOME SPECIAL PROPERTIES OF SPECIFICATIONAL

PSUEUDO-CLEFT SENTENCES

This chapter is a compendium of rather odd properties of Specificational pseudo-cleft sentences. Here the term "pseudo-cleft sentence" is to be understood in the way which is standard in the literature, as referring to a copular sentence with a free relative clause in what as its subject, for many of the properties which will be listed here are peculiar to Specificational sentences of this particular form. Although a couple of these properties have been mentioned here and there in the literature before (in particular, those relating to tense harmony and pronominalization), it is useful to have as complete a listing as possible in one place. Some of the properties in question are not susceptible of any explanation that is at once comprehensive and enlightening on any basis known to me at present, and, in particular, they are not predicted either by the transformational analysis of pseudo-cleft sentences or by the null hypothesis analysis which has been argued for in this essay. Extra constraints seem to be required just to restrict the behavior of Specificational sentences in particular ways, and these constraints do not resemble very closely any others that are well-known in present-day linguistic theory. Thus, the material in

-275-
this chapter represents a challenge. There is no difficulty in imposing arbitrary constraints which roughly cover what is required—the statements of constraints in this chapter do precisely this, and formalizing them is simple, given the panoply of devices available—but the important question is what form a genuine explanation of these properties would take.

My inability to answer this question completely governs the shape of this chapter. Most of it is devoted to an unvarnished exposition of those properties peculiar to Specificational pseudo-cleft sentences that I am aware of. In a very brief final section I will then discuss some other factors that require explanation and some correlations that might suggest where one should look for a genuine explanation.

The method of exposition in this chapter will in general be to give examples of Specificational pseudo-cleft sentences and show that they behave in a certain way in a certain environment and then to give examples of Predicational pseudo-cleft sentences and show that they behave differently, invariably by being freer and not requiring any specific constraint or other caveat. Thus the contrast between Predicational and Specificational pseudo-cleft sentences will be focused on, and Identificational sentences will be ignored almost entirely (simply because they are more difficult to investigate and therefore I have not wished to make the investigation even more complicated by including them). In making the comparison I shall rely either on the reader's ability to distinguish the two readings in ambiguous
sentences, and to discern the disappearance of one of the readings where necessary, or on the use of examples which exhibit connectedness (and hence can only be Specificational) or in some other way allow only one reading or the other. In marking the grammaticality of ambiguous examples, or examples which lose a reading, I will adopt the following convention. The example itself will not be starred. Instead, the names of the possible readings (in abbreviated form) will be listed below the example and those (abbreviated) names themselves starred if the example has no reading of that type. Thus, if an example has a Predicational reading but no Specificational reading where one might expect one, then the readings are listed as "Pr" and "Sp", and the latter is starred. The following abbreviations will be used:

<table>
<thead>
<tr>
<th>Type</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identificational</td>
<td>Id</td>
</tr>
<tr>
<td>Indirect question</td>
<td>Iq</td>
</tr>
<tr>
<td>Predicational</td>
<td>Pr</td>
</tr>
<tr>
<td>Specificational</td>
<td>Sp</td>
</tr>
</tbody>
</table>

I have added here the Identificational type and the indirect question type because some examples also have these readings and it may be helpful to have them pointed out. I shall not point them out consistently however. The indirect question type falls outside the taxonomy of chapter five as it stands (as noted there in footnote 16), but, even if it should be correct to subsume it under the Predicational type eventually, it is useful here to point it out as a distinct reading in some examples.

The chapter will be arranged in five parts. In the first four the various kinds of constraints on Specificational pseudo-
cleft sentences will be presented and exemplified, with one section being devoted to constraints relating to each of the following areas: movement and deletion; tense; "semantic" properties; pronominalization. The arrangement of material is to some extent arbitrary, and more a function of convenience of exposition than of anything else, such as presumed theoretical significance. Some examples may belong in more than one group or in a different group, depending on how the constructions involved are analyzed. In the fifth section some speculations on the nature of the constraints will be presented.

1. Movement and deletion constraints

The question lying behind this section is: what operations of movement or deletion can be performed on the three main parts of the Specificational pseudo-cleft sentence, the subject, the copula, and the predicate complement? In five subsections I will test the focal item as a whole for deletion and movement, the subject for movement, the copula for deletion, and finally the focal item for its tolerance of extraction from within the focal item, and show that the Specificational pseudo-cleft sentence is essentially inert, inviolable, in the sense that none of these operations is permitted. None of the examples may contravene more than one of the constraints simultaneously, but there is sufficient unambiguous material to prove the case reasonably well with respect to each of these five points. It should be noted that the constraints against movement must be
understood in such a way that they do not preclude the generation of "inverted" Specificalational pseudo-cleft sentences by means of an inversion transformation if that should be the correct analysis of such sentences. The movement constraint should be read as barring one from disturbing the basic X be Y structure by moving X or Y out of that structure. Interchange of X and Y within the structure is permitted.

1.1. The focal item cannot be moved. Consider the following examples:

(2) a. What John is is tall.
   b. *How tall is what John is?
   c. *How tall what John is is!¹

(3) a. What I don't like about John is his tie.
   b. *{What Which tie} is what you don't like about John?

((3a) has only a Specificalational reading, as noted earlier.)

(4) a. What you are looking at is a kangaroo.
   1. Id
   11. Pr
   111. Sp
   b. What is what you are looking at?
   1. ?Id
   11. Pr
   111. *Sp

(5) a. What I am looking at is that kangaroo.
   1. *Id
   11. *Pr
   111. Sp
b. Which kangaroo is what you are looking at?

1. *Id
2. *Pr
3. *Sp

(6) a. What John is is important.

1. Iq
2. Pr
3. Sp

b. How important is what John is?

1. ?Iq
2. Pr
3. *Sp

c. How important what John is is!

1. ?Iq
2. ?Pr
3. *Sp

For some reason that I do not understand the Predicational reading of sentences like (4b), (6b), and (6c) frequently is slightly strange, but it is still much better than the Specificational reading.

Some of these examples have involved both movement of the focal item and subject-auxiliary inversion. That is, the subject of the copular sentence has been moved as well as the predicate complement. However, the relevant examples are just as poor in the form of indirect questions or exclamations, in which subject-auxiliary inversion does not take place. For example:

(7) *Do you know which tie what I don't like about John is?

(8) He won't tell me what what he is looking at is.

1. Id
2. Pr
3. *Sp
(9) I've guessed which kangaroo what you are looking at is.

1.2. The focal item cannot be deleted. I have no absolutely certain examples for this type, but the following can be accepted with some reservations:

(10) a. What John is is tall.
   b. *Bill is taller than what John is is.
   c. *Bill is taller than is what John is.

(These examples may be open to the objection noted in footnote 1.) In (10b) the focal item in the Specificational pseudo-cleft sentence has been removed by the comparative deletion rule. Its ungrammaticality cannot be attributed to cacophony, for the example remains ungrammatical in (10c), in which the optional inversion of copula and subject has taken place. Moreover, Predicational sentences are not ungrammatical in this environment, as for example:

(11) a. John is more important than what Bill is is.
   1.  *Iq
   11. Pr
   111. *Sp
   b. John is more important than is what Bill is.
   1.  *Iq
   11. Pr
   111. *Sp

(If there is any feeling of discomfort about the Predicational reading it is because disparate objects are being compared--John and Bill's position or job.)

The same situation recurs in the following, in which the predicate complement is deleted in accordance with the rule
which usually can apply in parallel copular sentences:

(12) a. Mary is tall and John is too.
    b. *What Mary is is tall and what John is is too.

(13) a. Mary is tall but John isn't.
    b. *What Mary is is tall but what John is isn't.
    c. *What Mary is is tall but what John isn't is.

These examples may again not be quite fair, because the coordination of Specificational pseudo-cleft sentences in this way is a little strange even when no deletion occurs:

(14) a. ??What Mary is is tall and what John is is tall too.
    b. *What Mary is is tall but what John is isn't tall.
    c. *What Mary is is tall but what John isn't is tall.

(14a) is clearly worse than:

(15) Mary is tall and John is tall too.

and (14b) and (14c) are much worse than:

(16) Mary is tall but John isn't tall.

The ungrammaticality of (14b) is related to facts that will be discussed in section 3.

However, these Specificational sentences should be compared with:

(17) What Mary is is important and what John is is too.

1. Iq
11. Pr
111. *Sp

(18) What Mary is is important but what John is isn't.

1. Iq
11. Pr
111. *Sp
1.3. The subject cannot be moved. This constraint applies wherever subject-auxiliary inversion takes place. Compare:

(19) *Is what John is proud?
(20) Is what John is important?
   i.  Iq
   ii. Fq
   iii. *Sp

(21) a. What Mary did was (to) wash herself.
    b. *Was what Mary did (to) wash herself?

(22) a. What he wanted to marry was an actress.
    b. *Was what he wanted to marry an actress?

Examples such as (21) were noted by Clifton (1969, 34: ex. (77)). He tried to explain them in terms of the output condition that Ross proposed (Ross 1967, 57), which forbids sentence internal sentences that are exhaustively dominated by a noun phrase node. That explanation obviously cannot account for the contrast between (19) and (20), given that the surface structures of Predicational and Specificational sentences are identical.

Rather similar examples were also adduced by Faraci (1971, 69) in a different connection. For example, he gives pairs such as (1971, 69: (52a, b), (63a, b) resp.):

(23) a. Is where John is going a nice place?
    b. *Is where John is going San Francisco?

(24) a. Was what John said immediately comprehensible to you?
    b. *Was what John said that we should all go home?

To account for these, one need only assume that the non-questioned
versions of the (a) examples can be read as Predicational sentences and that the non-questioned versions of the (b) examples can only be read as Specificational sentences. This seems to me to be correct:

(25) a. Where John is going is a nice place.
   1. Id
   11. Pr
   111. ?Sp

b. Where John is going is San Francisco.
   1. ?Id
   11. *Pr
   111. Sp

(I do not think that (25a) can have a Specificational reading unless the subject clause reads where John is going to.)

(26) a. What John said was immediately comprehensible to you.
   1. Pr
   11. *Sp

b. What John said was that we should all go home.
   1. *Pr
   11. Sp

With (26a) compare the following:

(27) a. What John said was "immediately comprehensible to you".
   1. *Pr
   11. Sp

b. Was what John said "immediately comprehensible to you"?
   1. *Pr
   11. *Sp
There is at least one other situation in which the possibility of movement of the subject arises. The standard analysis of subject raising postulates a movement of the subject noun phrase in at least some of the following examples:

(28) a. *What John is tends to be conceited.

b. *What John was was \{certain \ unlikely\} to be tall.

c. *What Mary did began to be (to) wash herself.

d. *What I don't doubt seems to be that anyone came.

Notice that (28a) and (28b) are grammatical if the subject-raising verb is within the subject:

(29) a. What John tends to be is conceited.

b. What John was unlikely to be was tall.

Moreover, Predicational sentences of similar form are grammatical:

(30) What John is tends to be boring.

i. Pr

ii. *Sp

(31) What John was was \{certain \ unlikely\} to be respectable.

i. Pr

ii. *Sp

1.4. The copula cannot be deleted. Consider examples in which gapping has taken place:

(32) a. What John is is stupid and what Bill is is proud.

b. *What John is is stupid and what Bill is is proud.

(33) a. What Mary is doing is washing herself and what John is doing is shaving himself.
b. What Mary is doing is washing herself and what John is doing shaving himself.

Compare these with:

(34) a. What John is is interesting and what Bill is is important.

   1. Iq
   11. Pr
   111. Sp

b. What John is is interesting and what Bill is important.

   1. Iq
   11. Pr
   111. *Sp

These examples are perhaps not very convincing, partly because the conjoining of pseudo-cleft sentences is already a little strange, as noted above.

   It is interesting to see that gapped examples with an -ing form can only have the Identificational "exemplification" reading mentioned in footnote 2:

   (35) What my horse is doing is cantering and what John's is doing trotting.

   The four constraints discussed up to this point can apparently be summarized in some such form as: "A Specificational pseudo-cleft sentence is 'inviolable', in the sense that none of its main constituents can be deleted or moved."

   It is worth while pointing out, since the fact has been noted in part by, for instance, Moreau (1970, 336) and Akmajian (1970b, 165) (though the latter's example is not
probative), that this constraint predicts correctly that a
Specificational pseudo-cleft sentence cannot itself be clefted
or pseudo-clefted. Thus, neither the subject nor the predi-
cate complement of (36) can appear as a focus item in a cleft or
pseudo-cleft construction:

(36) What John is is tall.

(37) a. *What is tall is what John is.
  b. *What what John is is is tall.

(38) *It is what John is that is tall.

Compare these with an example which essentially has only a Pre-
dicational reading (since any Specificational reading would be
based on the doubtful acceptability of the sentence John is
worthwhile):

(39) What John is is worthwhile.

(40) a. What is worthwhile is what John is.
  b. What what John is is is worthwhile.

(41) It's what John is that is worthwhile.

Although (40b) can scarcely be termed euphonious, it is much
more acceptable than (37b). 4

1.5. Nothing can be moved out of the focal item of a Spe-
cificational pseudo-cleft sentence. (Obviously one would not
expect it to be possible to move anything out of the subject of
such a sentence since that is prevented by independently needed
constraints—in Ross's terms, the complex noun phrase constraint
and the sentential subject constraint.)

Consider the following examples:
(42) a. What John is is proud of that book.
   b. What she swore to us was that she'd return the money.
   c. They said that what Mary was going to do was give the dog to John.

(43) a. *This is the book that what John is is proud of.
   b. *Where is the money that what she swore to us was that she'd return?
   c. *Who did they say that what Mary was going to do was give the dog to?

These may be compared with examples where only an underlying Predicational or indirect question reading is available:

(44) a. What John is seems to be important to that woman.
   b. They said that what she was looking at appeared to be a picture of a kangaroo.

(45) a. That's the woman who what John is seems to be important to.
   b. What did they say what she was looking at appeared to be a picture of?

These are not beautiful sentences, but they are much more acceptable than those of (43).

It is quite possible that this fact about Specificational pseudo-cleft sentences is merely the reflex of a more general constraint, to the effect that items which arise in a certain way or have a certain function are automatically islands (in Ross's sense). A similar constraint operates in cleft sentences.
For instance, if a prepositional phrase constitutes the focal item, then if the focal item is questioned the preposition must accompany the noun:

(46) a. It was to John that he gave the book.
   b. To whom was it that he gave the book?
   c. *Who was it to that he gave the book?

If the focal item here is produced by some kind of movement or deletion rule, then the constraint would forbid movement of the Wh-word out of it, as in (46c). Similarly with the following, where no redemption by pied-piping is possible:

(47) a. It was by writing novels that he earned his money.
   b. *What was it by writing that he earned his money?
   c. *By writing what was it that he earned his money?

Overall, it would be unwise to claim that this constraint against extraction from the focal item was a special feature of pseudo-cleft sentences. I will suggest in section five a principle which might account for this island-like behavior of the focal item.

The discussion of this whole first section can be summarized as follows: no constituent contained in a Specificational pseudo-cleft sentence can be either moved or deleted.

2. Tense properties

The discussion of the tense properties of Specificational pseudo-cleft sentences falls into two main sections. In the first section restrictions on the cooccurrence of tenses in the
subject clause and the copular clause are listed. In the second
section, which is much shorter, restrictions on the occurrence
of non-finite forms of the copula in the copular clause are
listed. It is likely that the phenomena discussed in the
second section would be covered by a suitable statement of the
restrictions discussed in the first section.

2.1. Tense harmony. Akmajian discusses a phenomenon which
I have here called "tense harmony" in the following terms (1970b,
168):

...it has been noted often that in pseudo-cleft sen-
tences the tense of the copula must agree with the
tense of the verb in the clause.

The facts of tense harmony can to a first approximation be
stated in this form, as long as "tense" is understood in the
more restricted way implied by the usual base expansion rules
for English and not in the way in which it is used in tradi-
tional grammars of English. That is, there are only two tenses,
past versus non-past, and the copula may only appear as is or
was, regardless of what kind of verb form appears in the what-
clause. Examples are (with adjectives suitable to the tense
of the subject clause):

(48) a. What John is is very tall.
    b. What John was was very tall.

(49) a. What John will be is very tall.
    b. *What John will be will be very tall.
    c. *What John is will be very tall.
(50) a. What John has been is very rude.
   b. *What John has been has been very rude.
   c. *What John is has been very rude.

(51) a. *What John used to be is very rude.
   b. What John used to be was very rude.

(52) a. What John is being is very rude.
   b. *What John is being is being very rude.
   c. *What John is is is being very rude.

I will not bother to demonstrate the obvious fact that all such "tense" combinations are possible in Predicational pseudo-cleft sentences.

On the basis of such facts one can indeed give a simple rule of the form Akmajian suggests. However, it is, in this form, still an oversimplification. Firstly, the "past tense" forms of modal verbs may behave as present tenses with respect to this tense harmony rule, as in: (Ignore any non-Specification-al reading here.)

(53) a. What John couldn't afford is a Mercedes.
   b. What John couldn't afford was a Mercedes.

(54) a. What John shouldn't admit is that anyone tried to bribe him.
   b. *What John shouldn't admit was that anyone tried to bribe him.

The examples in (53) are both grammatical on Specificational readings: (53a) if could is construed as would be able (a conditional form); and (53b) if it is construed as was able (a
simple past form). The same kind of effect is found in:

(55) a. What he would have been by now is a millionaire.
   b. What he would have been by now was a millionaire.

(56) a. What he would have been by then is a millionaire.
   b. What he would have been by then was a millionaire.

Secondly, the past tense may have to be read off from the verb following the modal (which has present perfect morphology but may have the meaning of either a present perfect or a simple past tense):

(57) a. ??What John shouldn't have admitted is that anyone tried to bribe him.
   b. What John shouldn't have admitted was that anyone tried to bribe him.

This does not occur with seem, for instance:

(58) a. What John seems to have bought is a Mercedes.
   1. Pr
   11. Sp

   b. What John seems to have bought was a Mercedes.
   1. #Pr
   11. #Sp

(59) a. What John seemed to be buying is a Mercedes.
   1. Pr
   11. #Sp

   b. What John seemed to be buying was a Mercedes.
   1. Pr
   11. Sp

Furthermore, modals used deontically appear to be matched better by the past tense form of the copular sentence, whereas modals
used epistemically appear to be matched better by the present tense version in these circumstances:

(60) a. What John \{should\} have bought is a Mercedes.
   1. Pr
   11. ??Sp

   b. What John \{ought to\} have bought was a Mercedes.
      1. Pr
      11. Sp

(61) a. What John \{must\} have bought is a Mercedes.
      1. ??Pr
      11. Sp

   b. What John \{may\} have bought was a Mercedes.
      1. ??Pr
      11. ??Sp

My intuitions are by now somewhat shaky with respect to these sentences, and further distinctions are required, especially with respect to full and reduced forms of the copula—the full form of was can take on the reading used to be, which adds to the possibilities of interpretation—but I think that the grammaticality assignments are roughly correct, and the situation with respect to epistemic readings is not at all surprising.9 There may even be a difference between may have and must have in these examples, with the former preferring is and the latter was.

Somehow the whole matter of tense harmony is related to the present or past relevance of the subject and the focal item.
Thus, where the focal item refers to a "fleeting" object, such as a that-clause reporting a possible statement in the past, the past tense of the copula seems good even with an epistemic modal in the subject clause:

(62) What she may have said \{was \} that we phoned her.

The importance of "present relevance" is confirmed by the fact that in inverted pseudo-cleft sentences with deictic subjects the present tense of the copula is preferred irrespective of the tense found in the what-clause (c.f. Faraci 1971, 66: fn. 1):

(63) That is what I liked (over there).

If was is used here, the Demonstrative is more likely to be interpreted as endophoric (and over there must be omitted).

The best that one can say at present is that the tense of the copula in a Specificational pseudo-cleft sentence is not an independent variable. The tense harmony mechanism, whatever its form, does not merely read off the relevant tenses by looking at the nodes dominated by Tense. The examples given earlier suggest that the tenses that the copula must harmonize with are closer to "semantic" tenses and that the mechanism must at least be linked with the rules that determine the tense behavior of modal verbs. These rules may well operate at the surface structure level, as argued for quite persuasively by Jenkins (1972), and they must interact with the rule that interprets copular sentences, for Specificational sentences require tense harmonization whereas Predicational sentences in general do not.

Overall, then, the tense harmony problem is likely to resist
solution at present. The material is not easy to work with and a proper understanding of the problem presupposes an understanding of the more general problems of tense. An answer to this problem is clearly of importance in understanding how the rules which derive the various readings of copular sentences work and interact with other rules.

2.2. Non-finite copula. It seems likely that the copula in a Specificational pseudo-cleft sentence must be finite. However, for various reasons no really convincing proof of this can be given. In sentences with gerunds, what-clauses as subjects seem to be unacceptable in general; in sentences with infinitives, it is only in general possible to have what-clauses as subjects where one suspects that some transformation such as Subject Raising has applied anyway (and then these cases fall under the constraints on movement—the same may be true of some kinds of gerund construction).

I give some examples anyway, the (b) example in each case containing a Predicational sentence:

(64) a. #What John \{is \}_w (s) being ill surprised us.

b. ??What John \{is \}_w (s) being important surprised us.

(65) a. #He regretted what he had been (s) having been so avaricious.

b. ??He regretted what he had been (s) having been so unimportant.
(66) a. *What John \(\{\text{is} \atop \text{was}\}\) being sulky, we left him alone.
    
    b. What John \(\{\text{is} \atop \text{was}\}\) being unimportant, we left him alone.

1. Iq
2. Pr
3. *Sp

(67) a. *We consider what John is (to be) tall.
    
    b. We consider what John is (to be) important.

1. Iq
2. Pr
3. *Sp

(67) shows the same distribution if consider is replaced by want. Bresnan (1972, 153-165; 170-177) has argued that the subject of the complement sentence of verbs like want does not undergo subject raising, whether or not this is true of verbs like consider. (On this latter point, see Chomsky 1971, passim.)

3. "Semantic" properties

In this section I will present an assortment of five properties of Specificational pseudo-cleft sentences of a less marked "syntactic" character than some of the previous properties. The first four sections show that various modifications of the copular sentence are not permitted, in that the copula cannot be modified by a modal verb, a sentence adverb, or negation, nor can it form tag questions. The final section presents what is perhaps the most peculiar property of Specificational pseudo-cleft sentences that I have noted so far, in that the structure appears to be "transparent" to the operation of rules that govern the
distribution of modal forms of verbs in subordinate clauses.

3.1. Modal verbs. The copula in a Specificational pseudo-cleft sentence cannot be preceded by a modal verb:

(68) a. *What John is may be rich.
    b. *What he doesn't know must be that anyone tried to bribe them.
    c. *What Mary does in the morning should be (to) wash herself.

Such modals are possible in Predicational sentences:

(69) a. What John is may be important.
    1. Iq
    11. Pr
    111. *Sp
    b. What you saw must have been a kangaroo.
    1. Pr
    11. *Sp

The modals are admissible in the subject clause of Specificational pseudo-cleft sentences:

(70) a. What John may be is rich.
    b. What he mustn't know is that anyone tried to bribe them.
    c. What Mary should do in the morning is wash herself.

This restriction would of course be covered by the earlier constraints if a subject-raising analysis or an equi-noun-phrase deletion analysis of modals was adopted. However, Jenkins (1972) has given strong arguments against such analyses.11
3.2. Adverbs. No (sentential) adverb may appear in the copular sentence of a Specificational pseudo-cleft sentence:

(71) a. *What John is is probably rich.
   b. *What he doesn't know is possibly that anyone tried to bribe them.
   c. *What Mary does in the morning is perhaps (to) wash herself.

This is not true of Predicational sentences:

(72) a. What John is is probably important.
   i. Iq
   ii. Pr
   iii. *Sp
   b. What you saw was perhaps a kangaroo.
   i. Pr
   ii. *Sp

The adverbiaal can appear in the subject clause of the Specificational sentence:

(73) a. What John probably is is rich.
   b. What he possibly doesn't know is that anyone tried to bribe them.
   c. What Mary perhaps does in the morning is wash herself.

Interestingly enough, the adjectival sentences corresponding to (71), which are considered by many to underlie them, seem to be grammatical:

(74) a. It is probable that what John is is rich.
   b. It is possible that what he doesn't know is that anyone tried to bribe them.
Therefore, either probably does not derive from it is probable (and the same for possibly), or the adverb is interpreted at a point following the application of the transformation, presumably at the surface structure level.

This behavior of adverbs probably explains, in part, the curious fact that also can be used to force either a Predicational reading or a Specificational reading in a sentence of the requisite form. If also is in the copular sentence, only the Predicational reading is possible (regardless of the scope of also):

(75) a. What John is is also lucrative.
    b. #What John is is also proud of himself.

(76) a. What Mary did was also stupid.
    b. #What Mary did was also (to) wash herself.

If the also is in the what-clause (and, no doubt, if the deleted clause internal noun phrase is within or constitutes its scope), the Specificational reading is certainly preferred and is probably the only possible one:

(77) a. #What John also is is lucrative.
    b. What John also is is proud of himself.

(78) a. #What Mary also did was stupid.
    b. What Mary also did was wash herself.

Apparently any idea of "addition" has to reside in the antecedent in the Referential reading of the what-clause:

(79) Another thing that Mary did was stupid.

In other words, a free relative clause containing also cannot
in general be Referential:

(80) *What John also bought is over there.

Similar facts hold for clauses containing else, with the additional restriction that they also allow no Specificational reading, but can only be interrogative (see Faraci 1971, 80; 82-83).

This claim about adverbs, in conjunction with the similar claim about modal verbs, would predict that a sentence which in isolation could have either a Predicational or a Specificational reading would become ungrammatical if, for instance, also was added to the what-clause and a modal to the copula. This seems to be correct:

(81) a. *What John also is may be important.

       b. *What you were also looking at must have been a kangaroo.

3.3. Negation. The copula in a Specificational pseudo-cleft sentence cannot have a "straight" negation of the predicate, but at best only some kind of contradiction negation:

(82) a. ?What John is isn't proud of himself...

       b. ?What Mary did wasn't (to) wash herself...

The only kind of reading on which these may be grammatical is one where a continuation with but is expected. The same is not true of Predicational sentences:

(83) a. What John is isn't (at all) important.

       b. What you were thinking of buying isn't a kangaroo, to judge from this picture of one.

The negative can, of course, appear within the what-clause of a
Specificational sentence:

(84) a. What John isn't is proud of himself.

b. What Mary didn't do was wash herself.

(In general such examples require special prosody, with a subsidiary nuclear tone at least on the negated element.)

3.4. Tag questions. Specificational pseudo-cleft sentences cannot form tag questions:

(85) a. *What John is is proud of himself, isn't it?

b. *What Mary did was wash herself, wasn't it?

(This restriction is included in this section for no special reason, merely in case it is not covered by the inviolability constraint.) This is not true of Predicational sentences:

(86) a. What John is is important, isn't it?

1. Iq
2. Pr
3. *Sp

b. What you were thinking of buying is a kangaroo, isn't it?

If one is forced by the exigencies of discourse into forming a tag question to such a Specificational sentence, the following would appear to be a better choice than (85):

(87) a. *What John is is proud of himself, isn't he?

b. *What Mary did was wash herself, didn't she?

These examples are clearly anacoluthic, but do render the intended sense more closely than (85a) and (85b).

To sum up what has been said so far: the copular clause in
a Specificational pseudo-cleft sentence may not bear a modal verb or a sentence adverb, any negation in that clause must be "contradiction" negation, and tag questions cannot be formed. None of these restrictions applies to Predicational pseudo-cleft sentences.

3.5. "Transparency". This, the most peculiar of the properties of Specificational pseudo-cleft sentences, is only moderately well supported by the data, but if the observations which I am about to make are even partially correct, they are of considerable interest and importance.

As already noted (above, chapter four, fn. 6 with refs.), the modal should may appear in the that-clause associated with emotive factive predicates and some similar constructions in English. This modal has, in the usage which I am referring to, a non-deontic force. Consider what happens when a Specificational pseudo-cleft sentence is embedded immediately below the emotive factive:

(88) a. It is a pity that what John is is proud of himself.
   b. *It is a pity that what John is should be proud of himself.
   c. It is a pity that what John should be is proud of himself.

One is surprised to find that although (88b) is ungrammatical, as would be expected from the ban on modals on the copula in Specificational pseudo-cleft sentences, (88c) is apparently
just as acceptable as (88a). The modal should in (88c) can have the non-deontic reading characteristic of emotive should and the embedded clause is not, on that reading, synonymous with:

(89) What John \{should \textit{ought to}\} be is proud of himself.

which has a deontic reading (and possibly some kind of epistemic reading).

In other words, the mechanism, whatever it may be, which governs the appearance of should in the that-clause has somehow skipped a clause and permitted the appearance of should in a sentence embedded in the that-clause. In general, of course, emotive should can only appear on the verb of the uppermost sentence in the that-clause: (The (c) examples are ungrammatical on the reading in question, with emotive should.)

(90) a. It's odd that he didn't want the present we bought him.

b. It's odd that he shouldn't have wanted the present we bought him.

c. *It's odd that he didn't want the present we should have bought him.

(91) a. I'm sorry she told them we disliked them.

b. I'm sorry she should have told them we disliked them.

c. *I'm sorry she told them we should have disliked them.

(92) a. It's deplorable that what they decided is still unknown.
b. It's deplorable that what they decided should still be unknown.

c. *It's deplorable that what they should have decided is still unknown.

The (c) example in each case can only have a deontic reading. The same is true of embedded Predicational pseudo-cleft sentences:

(93) a. It's hardly conceivable that what John is is also important.

b. It's hardly conceivable that what John is should also be important.

c. *It's hardly conceivable that what John should be is also important.

Thus, emotive should cannot appear in a lower clause when that clause is a relative clause, a complement sentence, an indirect question, or a Referential free relative clause. However, it apparently can appear in the subject of a Specificational pseudo-cleft sentence.

In one other context in which a should appears that is governed by the construction itself—in conditional sentences—the pattern seems to be the same, although it is even harder to embed Specificational pseudo-cleft sentences satisfactorily in these contexts:

(94) a. If John should be naughty, don't take him with you.

b. *If what John is should be naughty, don't take him with you.

c. If what John should be is naughty, don't take him with you.
Compare this with an embedded Predicational pseudo-cleft sentence:

(95) a. If what John is should be lucrative, then you'll be well-off.
   b. *If what John should be is lucrative, then you'll be well-off.

((95b) is grammatical if should is read as deontic.) Such sentences often contain happen to or turn out to as well as should; this lessens the possibility of any deontic reading. These also show contrary distributions in Predicational and Specification al sentences:

(96) a. *If what John is should happen to be naughty, don't take him with you.
   b. If what John should happen to be is naughty, don't take him with you.

(97) a. If what John is should happen to be lucrative, then you'll be well-off.
   b. *If what John should happen to be is lucrative, then you'll be well-off.

One can also construct moderately acceptable examples in which the Specificational sentence constitutes the apodosis of a conditional sentence:

(98) a. If John went with them, they would be happy.
   b. If John went with them, what they would be is happy.
   c. *If John went with them, what they {are were} would be would be happy.
(99) a. If John had gone with them, they would have been happy.

b. If John had gone with them, what they would have been \( \{ \text{is/was} \} \) happy.

c. "If John had gone with them, what they \( \{ \text{are/were} \) had been would have been happy."

The conditional forms of the verb that are required by the sequence of tense rules in English conditional sentences are found within the **what**-clauses of the Specificational sentences and not on the copula.

These examples are also interesting in that they appear to be closely related to sentences in which the whole conditional sentence is (apparently) embedded in the **what**-clause. Compare:

(100) What they would be if John went with them is happy.

(101) What they would have been if John had gone with them \( \{ \text{?is/was} \} \) happy.

It almost looks as though one might derive (98b) and (99b) by extracting the **if**-clause from the subject clause of these sentences. This would certainly account for the sequence of tense facts in these examples, but it would not account for the sentences in which the Specificational sentence is embedded in the protasis of the conditional sentence or for the emotive factive examples; and it would be difficult to reconcile any such proposal with the complex noun phrase constraint, the sentential subject constraint, and the inviolability constraint. Of course,
it first has to be shown that the if-clause is within the subject clause in examples like (100) and (101). This is part of a larger problem that I have not yet looked into—the relationship of various kinds of subordinate clause to the Specificational pseudo-cleft sentence; one can find many similar pairs, as, for instance:

(102) a. What he reads when he's annoyed is the bible.
       b. When he's annoyed, what he reads is the bible.

(Note the droll effect if the pseudo-cleft sentence here is read as Predicational or Identificational.) If examples (98b), (99b), and (102b) are grammatical, then one has to find some explanation for how the structure coheres. If they are not grammatical, then that fact too demands explanation.

At present I can do little more than attach a label to the phenomenon that is exhibited here: let me say that the Specificational pseudo-cleft sentence is "transparent" with respect to whatever rules or conventions govern the appearance of emotive should, the sequence of tense in conditional sentences, and the relationship of subordinate adverbial clauses to their main clauses. Notice what this transparency involves: somehow a connection can be established, at some unknown level of the grammar, between the sentence contained in the what-clause and some higher structure. If this relationship is established by means of transformational rules then, prima facie at least, well-motivated constraints such as the complex noun phrase constraint and the sentential subject constraint (or the constraints that replace
them in Chomsky's reformulation (1971)) will have to be violated. This is obviously a matter of some importance, if only because it may help elucidate the nature of the rules governing such phenomena, but it is not clear how one should proceed to investigate it further at present.

4. Pronominalization

It has been noted by several authors (Bach 1969, 5-7; Postal 1971, 23; Faraci 1971, 75-76; see also Wasow 1972, 70-72) that right-to-left pronominalization into the subject of a Specificational sentence is not permitted. Bach gives the following examples (1969, 5-6: (22), (26), and (27) resp.):

(103) *What he smashed was John's car.

(104) What Descartes discovered was a proof of his existence.

i. Pr

ii. Sp

(105) What he discovered was a proof of Descartes' existence.

i. Pr

ii. *Sp

In these examples the corresponding uncliffted sentence would also be ungrammatical since the antecedent would be to the right of and command the pronoun. It is not easy to construct good unexceptionable examples in which this is not the case, though examples such as the following indicate that no objection of this kind has any force:
(106) a. One plan that we suggested to John was to let
them send him to Paris for a holiday.

b. *One plan that we suggested to him was to let them
send John to Paris for a holiday.

(107) a. What the man who lived next door to Descartes
also discovered was a proof that he existed.

   i. ??Pr
   ii. Sp

b. What the man who lived next door to him also
discovered was a proof that Descartes existed.

   i. ??Pr
   ii. #Sp

c. What the man who lived next door to Descartes
discovered was also a proof that he existed.

   i. Pr
   ii. #Sp

d. What the man who lived next door to him dis-
covered was also a proof that Descartes existed.

   i. Pr
   ii. #Sp

However, such sentences are not easy to judge.

The point of such examples is, of course, that one would
expect right-to-left pronominalization to be permitted into the
subject of a pseudo-cleft sentence, for the pronoun then does not
command its antecedent, although it does precede it, and this
is permitted according to the constraints on pronominalization
proposed by Langacker (1969, 168) and Ross (1967, 358: (5.125)).
However, this direction of pronominalization is only permitted
when the pseudo-cleft sentence has a Predicational reading. The Specificational sentence does not allow right-to-left pronominalization into the subject.

It is interesting to note that the same holds true of pronominalization across verbs other than the copula which occur in Specificational sentences. Compare the following examples:

(108) a. What John did failed to insult the man he was talking to.

b. What he did failed to insult the man John was talking to.

(109) a. What John did \{amounted to\} insulting the man he was talking to.

b. What he did \{amounted to\} insulting the man John was talking to.

Example (108) is Predicational and allows pronominalization in either direction; (109) is Specificational and does not allow right-to-left pronominalization. This suggests very strongly that this apparently anomalous pronominalization behavior really is associated with precisely the Specificational reading of pseudo-cleft sentences.

It should also be noted that the situation in inverted pseudo-cleft sentences is the reverse: pronominalization from left to right is not permitted, as in:

(110) a. His CAR was what John smashed.

b. *John's CAR was what he smashed.
One must, as it were, preserve the pronominalizational status quo when one inverts the subject and the predicate complement. The lack of left-to-right pronominalization here is very reminiscent of the well-known situation found in cleft sentences, where one also cannot pronominalize from left to right between the focal item and the clefted sentence, as in:

(111) a. It was his car that John smashed.
   b. #It was John's car that he smashed.

5. Towards an explanation of the special properties of Specificational pseudo-cleft sentences

In the previous four sections various properties have been discussed which are peculiar to Specificational pseudo-cleft sentences: they are inviolable, in that nothing may be moved out of them or deleted; there are narrow constraints on the tense of the copula; the copula does not allow various forms of modification, as by modals, sentence adverbs, and negation, but the structure is transparent to the rule governing emotive should and other modals; right-to-left pronominalization from the predicate complement into the subject is forbidden. These properties have only been exhibited in Specificational sentences with a what-clause subject, but, as I noted earlier, many of them do not hold for Specificational sentences with other kinds of subject. I do not know in detail why there should be a difference of this kind, and this governs the structure of this section. I will first make some suggestions which apparently relate some of
the properties of Specificational pseudo-cleft sentences discussed in this chapter to other properties of such sentences discussed in earlier chapters, and seem inherently quite plausible. I will then indicate in what ways these suggestions fail to explain the behavior of the broader class of Specificational sentences. I cannot unify the two sections, but it is not clear to me whether this is because the approach is basically wrong, or because I am missing various distinctions which would explain the discrepancies.

Two related characteristics of Specificational sentences have emerged in this essay: their resemblance to lists, and their Cataphoric nature. Using these characteristics one can gain some insight into the peculiar properties that have been enumerated in this chapter, above all when one is willing to allow that there may not be a single explanation that covers all the properties, but that they may be a result of a variety of interacting factors.

Consider first the inviolability constraints. Most of the examples involving the movement or deletion of the focal item can be subsumed under the following prohibition: the focal item of a Specificational pseudo-cleft sentence may not be a trace (in the technical sense--see Chomsky 1971, 40-42; Wasow 1972, 140-142). But recall now that it was shown in chapter five that the focal item cannot be an Anaphoric item. Since a trace is an Anaphoric item, this new constraint is subsumed under that of chapter five.
The constraints on movement and deletion of the subject could be explained in exactly the same way if it could be shown that the subject of a Specificational pseudo-cleft sentence cannot be Anaphoric. But this does appear to be the case. For instance, as noted by Clifton (1969, 63) for right dislocation, the subject of a Specificational pseudo-cleft sentence cannot be dislocated:

(112) a. What she wants to do is wash herself.
    b. *[What she wants to do, it's (to) wash herself.
    c. *[It's (to) wash herself, what she wants to do.

(113) a. What John is is tall.
    b. *[What John is, it's tall.
    c. *[It's tall, what John is.13

Recall also that the heading of a list cannot be a pronoun, unless this is being used in some elliptical sense.

The constraint on movement may, however, still be required to prevent the formation of yes/no questions of the form:

(114) *[Is what John is tall?

But there is no real evidence that this is due to a constraint on movement rather than a prohibition on questioning itself. The following does not seem appreciably better than (114):

(115) *[He doesn't know whether what John is is tall.

If this is correct, an explanation for (114) must probably be sought in terms of the presuppositional or discourse function of Specificational sentences. In any case, the notion of questioning in connection with a list is rather puzzling.
The inviolability constraint also prohibits the extraction of items from the focal item. I have already suggested that this must be generalized to the focal item of cleft sentences. I suspect that the overall generalization should perhaps state that the antecedent of a trace is an island, for it also does not seem to be possible to extract items from the antecedent of a relative clause. It is not easy to construct examples that cannot be explained in other ways, but the following seems to be probative:

(116) a. They've destroyed the road to Hell that we were repaving.
   b. *What town have they destroyed the road to that we were repaving?
   c. *The place that they've destroyed the road to that we were repaving was called Hell.

(116b) and (116c), in which the noun phrase the road to Wh-some-N is the antecedent of a relative clause, seem to be considerably worse than:

(117) a. What town did they destroy the road to?
   b. The place that they destroyed the road to was called Hell.

This proposal—that the antecedents of traces are islands—is quite natural and predicts that any moved constituent should be an island, if it is correct that moved constituents always leave a trace. It prevents the antecedent of a trace from being partially composed of traces. It does not predict that antecedents
themselves cannot be moved or deleted as a whole, and this appears to be correct, for one does find rare examples of deleted antecedents to relative clauses, as in:

(118) I found more people who thought he was lying than who believed him.

It is clear how this proposal would explain the lack of extraction from the focal item in a pseudo-cleft sentence, for the focal item is the "antecedent" of the Cataphoric element in the subject clause of the pseudo-cleft sentence, on its Specifical reading (but not, of course, on its Predicational reading—where extraction from the predicate complement is indeed possible).

These proposals relating to anaphora have been fairly concrete, and are testable. For some other properties of Specifical pseudo-cleft sentences I will merely show how the comparable behavior of lists may provide a hint at an explanation.

Lists behave in the same way as Specifical pseudo-cleft sentences with respect to right-to-left pronominalization: one cannot have a pronoun in the heading of a list whose antecedent is mentioned in the list, as in:

(119) a. Descartes discovered the following: a proof of his existence, ...

    b. *He discovered the following: a proof of Descartes' existence, ...

If one has a pronoun in the heading of a list, it can only be understood as referring to some antecedently known object.
Under these circumstances, where one has already referred to that known object using a pronominal form, it is evidently ungrammatical to attempt to refer to the known object again by means of a non-pronominal form. A fuller explanation of the behavior of Specificational sentences with respect to pronominalization will require at least, I believe, a qualified acceptance of the following conjecture of Hankamer's (1971, 423: (41)):

(120) All pronominalization is from left to right.

Hankamer suggests that all apparent cases of right-to-left pronominalization are really situations in which the pronoun is appearing in presupposed discourse and therefore has been pronominalized by a yet earlier occurrence of the antecedent. This idea could be accommodated very naturally in the theory of pronominalization presented in Kuno 1972. Hankamer's conjecture may well be too strong, but Specificational pseudo-cleft sentences probably do fall into the class of cases which can be explained in terms of it. Further work on this point requires a study of the conditions under which pronominalization can be optional (such as that initiated in Morriscoe 1969). I have made some progress in this direction, but not sufficient to report on here.

The prohibition against various kinds of modification of the copula, as by modals, sentence adverbs, or negation, appears quite reasonable in terms of the relationship between the heading of a list and the contents of the list. If, for instance, one modifies the copula with may or possible one is essentially
saying, if one transposes the effect of this modification to the list, that there is some relationship between the items called the heading and the items called the contents, but one is not sure whether this relationship is the list relationship or not. But this is preposterous--either the structure constitutes a list or it does not. There can be no doubt about this aspect of it. When one talks of a possible list, one does not mean an object which possibly is a list, but a list which contains items which are not definitively established as members of the list. Similarly, the effect of having a modal on the copula in a Specificational pseudo-cleft sentence is to express doubts about whether the sentence is Specificational. This is evidently not a permissible kind of doubt.

The transparency phenomena also appear in lists, which can, of course, be embedded in subordinate clauses, as in:

(121) It's odd that John bought the following: a car and a bicycle.

When one adds emotive should it naturally enters the heading of the list:

(122) It's odd that John should have bought the following: a car and a bicycle.

This parallels the situation in Specificational pseudo-cleft sentences:

(123) a. It's odd that what John should have bought was a car and a bicycle.
b. #It's odd that what John bought should have been a car and a bicycle.

In sum, it would appear that a fairly plausible explanation is available for many of the peculiar properties of Specificational pseudo-cleft sentences. In particular, their behavior with respect to anaphora apparently allows an explanation of most of the prohibitions on movement and deletion, and on extraction from the focal item.

Properties of anaphora may also account for an otherwise rather puzzling difference between Specificational sentences with free relative clauses as subjects and those with nominalizations as the head of the subject noun phrase. Consider the following:

(124) John's claim is that you were lying.
(125) a. What is John's claim?
       b. Will you tell me what John's claim is?

(124) is a Specificational sentence, and (125) questions the focal item of such a sentence. In (125) the focal item is, in other words, a trace, contrary to the generalization proposed above to the effect that in Specificational pseudo-cleft sentences the focal item may not be a trace. (125a) contrasts strikingly with (126):

(126) #What was what John claimed?

Recall now that the rationale behind the prohibition against traces as focal items was that traces are Anaphoric and that the Cataphoric "variable" in the subject clause of a
Specificational pseudo-cleft sentence requires an item as its "value" that can function as a new item. An Anaphoric item cannot function as a new item. But this suffices to account for the difference between (125a) and (126), for the nominalization in (125a) contains no Cataphoric item, and hence the basis for the prohibition against traces as focal items does not exist. If one tries to make an explicit list out of (125a) then the Cataphoric item appears as the predicate complement and not as part of the subject, as in:

(127) John's claim is \{this the following\} : that you were lying.

(I am grateful to Professor Chomsky for pointing out to me this consequence of my analysis.)

It is possible that one will be able to account for the difference in pronominalizability of the subject noun phrase in such sentences in similar terms, and this will provide an explanation for contrasts of the following kind:

(128) a. John's claim was that you were lying, wasn't it?
    b. *What John claimed was that you were lying, wasn't it?

I do not see my way to such an explanation at present; however, it is consistent with the explanation that was offered for the fact that the subject of a Specificational sentence cannot be raised. It was suggested that that was a consequence of the fact that the subject of such a sentence cannot be pronominalized. Since the subjects of examples with nominalizations as subjects
can be pronominalized, this predicts, correctly, that these can be raised:

(129) a. John's claim seems to be that you were lying.
   b. John's claim is likely to be that you were lying.

This is also consistent with the fact that, as in (127), it is not merely the subject that appears in the heading of the analogous list, but the verb and predicate complement also:

(130) a. John's claim seems to be {this the following} ;
   that you were lying.
   b. John's claim is likely to be {this the following} ;
   that you were lying.

Nevertheless, there remain certain facts about sentences with nominalizations as subjects that are unexplained.

For instance, the explanation which I gave for why one cannot extract anything from the focal item of a Specificational pseudo-cleft sentence is suspect, for one also cannot extract from the focal item when the subject is a nominalization:

(131) a. John's claim was that she had given you the book.
   b. *Which book was John's claim that she had given you?
   c. *The book that John's claim was that she had given you is over there.

I tried to explain this in terms of the inviolability of an antecedent, for there is a clear antecedent-anaphor relationship in Specificational pseudo-cleft sentences, the antecedent being the focal item and the anaphor the Cataphoric item in the subject.
In the present examples one cannot talk in such terms, since the nominalization contains no Cataphoric element, and perhaps one must therefore, for the time being, remain content with merely blocking extraction from the focal item by means of a special constraint, without any attempt at generality. However, the similarity of behavior of the focal item of cleft sentences is then made a matter for a separate constraint, which can hardly be a reassuring result.

It does not seem to be possible to question Specificational sentences of this type; (131a) forms no yes/no question:

(132) *Was John's claim that she had given you the book?
The indirect question form seems no better:

(133) *Won't you tell me whether John's claim was that she had given you the book?

Since there is nowhere else for modals and sentence adverbs to go in Specificational sentences with nominalizations as subjects it is not surprising to find that they do then appear on the copula (c.f. (129) and (130)):

(134) a. John's claim may have been that she had given you the book.
    b. John's claim probably was that she had given you the book.

Nevertheless, if the nominalization is modified by a relative clause, they must appear in that relative clause rather than on the copula:
(135) a. The claim John may have made was that she had
given you the book.

b. The claim John made may have been that she had
given you the book.

6. Summary

Various peculiar properties of Specificational pseudo-cleft
sentences have been enumerated. In particular, nothing may be
moved out of or deleted from any of the three main parts of the
sentence, the subject, the copula, and the predicate complement;
the tense of the copula must agree in certain respects with that
of the verb in the subject clause; the copular sentence cannot
be modified by modal verbs, sentence adverbs, or negation but
is transparent to the rules governing the distribution of cer-
tain modal verbs; and pronominalization cannot take place from
the focal item into the subject. Many of these properties can
be related quite plausibly to the behavior of Specificational
pseudo-cleft sentences with respect to various anaphoric pro-
cesses. However, doubt is cast on certain aspects of this ex-
planation by the divergent behavior of Specificational sentences
which have a nominalization as subject. A more detailed ex-
amination of this latter type is required.
1. These examples may not be probative. Note that similar specificational pseudo-cleft sentences in which the focal item has not been moved but bears a degree modifier are not very good either:

   (1) a. ??What John is is six feet tall.

   b. ??What John is is \{so very \}

        \{that \}

   tall.

Therefore there may be independent reasons for rejecting (2b) and (2c). The same is true of (6b) and (6c), and some later examples. I let the examples stand because they are of the very simplest type, and the examples in the text do seem to be worse than those of (1).

2. There is a type of free relative construction with a verb phrase to the right of the copula that is used in some kind of metalinguistic way to give the meaning of a verb by ostensive exemplification. Thus, if a foreigner hears the verb "mangle" and asks "What is 'mangle'?", or "What is 'mangling the laundry'?", one can show him the meaning of this phrase by saying, for instance:

   (1) What Mary is doing (over there) is

       \{mangling

       \{mangling the laundry \} .

   \[323\]
and pointing to Mary mangling. If the questioner wants to check up on whether he has understood the word correctly, he can later ask:

(ii) Is what Mary is doing now mangle the laundry?

In these sentences the what-clause is clearly being used reference-entally in some sense and subject-auxiliary inversion can take place. I believe that this construction can only be used with an -ing form of the verb in the focal position. For instance, I do not think that one could answer the question with:

(iii) What Mary does here on Monday mornings is mangle.

Can one answer him with:

(iv) What Mary does here on Monday mornings is mangling?

In terms of the taxonomy developed in the previous chapter such sentences must be classified as Identificational, and therefore one must presumably extend the taxonomy to allow an Identificational use of verb phrases.

3. Within the context of an extraction analysis of pseudo-cleft-ing certain examples of this kind look as if they require a constraint on the rule equivalent to that which I have stated, to prevent the extraction of the subject of a Specificational pseudo-cleft sentence to give examples such as:

(1) a. #What is easy to please is what John is.

b. #What was (to) wash herself was what Mary did.

c. #What is that anyone came is what I don't doubt.

On either the deletion analysis or the null hypothesis analysis
these require no further constraint: one merely has to note that the subject clause is not a permissible free relative clause.

4. A further consequence of the inviolability of Specificational pseudo-cleft sentences is that Clifton's demonstration of the cyclicity of the pseudo-cleft formation rule (for him, a deletion rule) could not be upheld even if the transformational analysis had proved to be correct. In outline he tries to show (1969, 48-56):

(i) The pseudo-cleft deletion rule must precede Subject Raising and Passive, both cyclic rules, and hence is either pre-cyclic or cyclic.

(ii) There is a derivation in which the pseudo-cleft deletion rule must apply both before and after an application of Subject Raising and Passive, and hence it is cyclic.

Clifton's argument to show the first point is as follows (1969, 49):

Notice that a pseudo-cleft sentence can be embedded like other declarative sentences.

(124) Betsy believes what I ate was a mushroom.

As would be expected, the subject NP of the embedded sentence (what I ate) can be subject-raised and then the matrix sentence can be passivized, placing the deep structural embedded subject NP into a subject position in the derived structure.

(125) What I ate is believed by Betsy to be a mushroom.
This deep structural subject could have been moved from the lowest position in an arbitrarily large structure to a position in any intermediate S along the way...

and hence the structural description of the pseudo-cleft deletion rule would be "vastly more complicated, if not impossible to write" unless it applied before any of these other movements could take place. That is, it would have to be either pre-cyclic or cyclic.

However, as I have pointed out, Subject Raising cannot apply to the subject of a Specificational pseudo-cleft sentence. Clifton's sentence (124) is in fact ambiguous, since the embedded pseudo-cleft sentence can be read as either Predicational or Specificational. His (125) is, however, unambiguous: the subject clause what I ate is only Referential and the reading corresponding to the Specificational reading of (124) has vanished. More direct evidence is provided for this claim about his (125) by the pair:

(1) a. Betsy believes that what Bill is is tall.
   b. *What Bill is is believed by Betsy to be tall.

The embedded sentence in (1a) can only be Specificational and, correspondingly, (1b) is ungrammatical.

In short, the basis of Clifton's argument is unsound, for he fails to prove his first point.
5. Loosely speaking, (43c) is blocked by Chomsky's specified subject constraint (1971, 28: (123); 34: (159), (160)), since the understood subject of give is Mary. However, there may be problems of ordering to be solved before its application to this kind of example can be affirmed, the whole question depending on the particular analysis that is adopted for the interpretation of the subjects of non-finite verbs. Even if this constraint will explain the examples with non-finite verb phrases in the focus position it does not explain (43a) and (43b).

6. It is important to see that the ungrammaticality of (46c) is not predicted by the proposal made by Chomsky (reported by Jackendoff (1969, 51) and Bresnan (1971, 277: fn. 19)) to counter Postal's "dangling preposition" argument (Postal 1971, 74-76; 1972, 213-216), which assigns a Wh-feature to either the noun phrase node or to the prepositional phrase node. The way in which the prepositional phrase $[\text{PP to [NP Wh-some-one]]}$ arrives in the focus position in the cleft sentence is completely independent of whether or not it contains a Wh-item. Therefore, it should be possible, following Chomsky's proposal, to put into the focus position a prepositional phrase which has the Wh-feature just on the noun phrase node. It should then be possible to extract this noun phrase from the prepositional phrase in the focus position by the Wh-fronting rule, to give (46c).

It is possible to show directly, though rather weakly, that the presence of a Wh-item is not relevant to the
explanation of why (46c) is ungrammatical. Unfortunately, prepositional phrases do not in general topicalize and the focal items of cleft sentences are themselves not freely topicalizable, but contexts of the following kind have some probative value:

(1) He said he'd give the book to John, and John it was that he gave the book to.

(ii) He said he'd give the book to John and to John he did give the book.

(iii) He said he'd give the book to John and to John it was that he gave the book.

(iv) He said he'd give the book to John and John it was to that he gave the book.

(1) shows that the focal item can be topicalized in this environment, and (ii) shows that a prepositional phrase can be topicalized in the same environment. In (iii) the prepositional phrase is topicalized as a whole from the focus position of a cleft structure, and in (iv) the preposition is stranded. While none of these sentences is very smooth, (iii) is clearly much more acceptable than (iv).

Notice now that if a constraint of the kind mentioned in the text is needed, then Chomsky's device is no longer required and Postal's argument is robbed of its cogency. Once one has moved the prepositional phrase as a whole then nothing can be moved out of it at a later stage anyway. The preposition cannot be stranded irrespective of where the Wh-feature is. Evidently the Wh-feature can be generated on the noun phrase
node and nothing further need be said to counter Postal's argument.

7. The essential facts given in this section have also been noted by Grosu (1973, 301-302), for he there observes: "Neither elements of the subject nor elements of the predicate can be moved out of pseudo-cleft constructions." (His "pseudo-cleft" is to be understood as "Specificational pseudo-cleft" as I use the terms.) He notes (1973, 302: fn. 8), quite rightly, that any attempt to account for the blocking of movement from the focal item within a transformational extraction analysis of Specificational pseudo-cleft sentences runs into ordering difficulties, and refers the reader to an earlier work (Grosu 1972— which I have not seen) for an explanation.

He also claims (1973, 301: fn. 7) that "there are speakers who can question (but not relativize) the WHOLE focus, even though ELEMENTS of the focus can be neither questioned nor relativized", and gives the following examples (his (a), (b) resp.):

(i) What do you think that what John ate was?

(ii) #The apple which you think that what John ate was had been bought in Canada.

I believe that such speakers have misled themselves over the relatively subtle distinction between Predicational and Specificational readings. The copular sentence in (i) has a Predicational reading (and possibly an Identificational reading?).
But in (11) the copular sentence can have no such Predicational reading, since the antecedent lacks a Predicational function. Since the Specificational reading is also not permitted (by virtue of the very constraint that is under discussion), the copular sentence can have no grammatical reading.

8. Moreau (1970, 338) gives tables showing all possible combinations of tense in pseudo-cleft and "pseudo-pseudo-cleft" sentences in French. However, she does not appear to have been aware of the Predicational/Specificational ambiguity in the former type, and generally uses an indirect question to exemplify the latter type (even though Bach, from whom she has evidently taken the term "pseudo-pseudo-cleft" (Bach 1969, 5) does not use it in this way). The result is that she allows tense combinations in the pseudo-cleft type such as:

(1) Ce qu'il ecrirait, ce serait un roman.

'What he would write would be a novel.'

In English this can probably only be Predicational, with a Referential subject. It is to be expected that her table would look rather different if the required differentiation between Predicational and Specificational sentences were made. It would be interesting to see then whether French allows a three-way tense distinction in the copular sentence, as opposed to the two-way, past versus non-past, distinction found in English.

(I would like to thank J-R. Vergnaud for confirming my suspicion that not all the combinations in Moreau's table allow a
Specificational reading.)

9. Relative clause structures containing an epistemic modal that have the clause internal deleted noun phrase (i.e. the trace) in a certain relationship to the modalized verb of that clause are reluctant to allow any Referential reading. Thus, the following seem distinctly odd:

(i) ??What John \{\begin{align*} &\text{may} \\
&\text{must} \\
&\text{will} \end{align*}\} have bought \{\begin{align*} &\text{is} \\
&\text{was} \end{align*}\} \{\begin{align*} &\text{over there} \\
&\text{still at the shop} \\
&\text{expensive} \end{align*}\}.

(ii) ??What Mary might have been looking at was no longer there when I arrived.

These are perfectly acceptable if should or ought to are substituted for the other modals. The material is, however, frustratingly difficult to judge. The following, for instance, seems better than (i) or (ii):

(iii) What John may be going to buy is \{\begin{align*} &\text{over there} \\
&\text{still at the shop} \\
&\text{expensive} \end{align*}\}.

As a full relative clause with a lexical antecedent it is even better:

(iv) The car that John may be going to buy is

\{\begin{align*} &\text{over there} \\
&\text{still at the shop} \\
&\text{expensive} \end{align*}\}.

But then so are (i) and (ii) with lexical antecedents:

(v) ?The car that John \{\begin{align*} &\text{may} \\
&\text{must} \\
&\text{will} \end{align*}\} have bought \{\begin{align*} &\text{is} \\
&\text{was} \end{align*}\} \{\begin{align*} &\text{over there} \\
&\text{still at the shop} \\
&\text{expensive} \end{align*}\}.
(vi) ?The car that Mary might have been looking at was no longer there when I arrived.

It would be of great interest and importance if the conditions under which such clauses can have a Referential interpretation could be established. Presumably it is related to the possibility of Referential interpretation of noun phrases in the position from which the clause internal noun phrase has been deleted (just as in examples such as what I don't like about John).

The topic is pertinent to the theory of modality, the theory of relativization, and matters such as the interpretation of specificity. (Note that in all the examples considered here the relativized noun phrase is the object of the modalized verb and therefore within the scope of the modal in some sense.)

10. Note that I have not examined here which verb's tense that of the copula must harmonize with, where there is more than one verb in the subject clause. One would suspect that the relevant verb is the one that the antecedent of the relative clause is most closely associated with—roughly, the verb with which the deleted clause internal noun phrase enters into selectional relationships. That is, in the following example, the past tense of the copula is correct:

(1) What they are now claiming we did \{is\} perjure ourselves for the good of the presidency.
11. Ross has pointed out to me the following kind of example:

   (1) What he may have said may have been that Bill wasn't there.

This would, of course, contravene the constraint that I have pos-
posed if it is grammatical. However, the situation here is not per-
fectly simple. If (1) is conceivably passable the examples of (ii) certainly are not:

   (ii) a. *What he should have said should have been that Bill wasn't there.

   b. *What he should say should be that Bill wasn't there.

That is, the phenomenon may be restricted to epistemic modals.

Furthermore, this kind of emphatic doubling-up of modals occurs in a different form, corresponding to a different mean-
ing, in other Specificational pseudo-cleft sentences, as in:

   (iii) What may have happened is that I may have looked up the wrong page.

Here the function of the subject clause is precisely to empha-
size the doubt about whether the action mentioned in the predi-
cate complement that-clause took place (as opposed to (1), where it is probably assumed that something was said, but the doubt concerns the content of what was said), and the doubling-up of the modal occurs in the that-clause. Note that (iii) is not even grammatical with only this second may:

   (iv) *What happened \{is \ was\} that I may have looked up the wrong page.
The same is, of course, true of (i):

(v) "What he said may have been that Bill wasn't there. And the meaning of (i) is changed if the modal is inserted in the that-clause:

(vi) What he may have said was that Bill may not have been there.

In these circumstances it seems most probable that one must invoke an "expressive" repetition of the modal as an explanation, either as a copying rule (which must then be sensitive to the difference between (i) and (iii)) or, more likely, an interpretive rule.

12. I state the relationship between (88a) and (88c) in this somewhat backhanded way because I am not convinced that the embedding found in (88a) is perfectly acceptable itself. This may be a consequence of the discourse function of Specificational sentences.

13. Curiously enough, in French a structure which looks like a dislocated structure is not merely grammatical but appears to be more or less obligatory in Specificational pseudo-cleft structures, whereas it is, of course, optional in Predicational pseudo-cleft structures. For instance, Moreau compares the following two sentences (1970, 334-335: (151) and (161) resp.), and notes that the latter is "beaucoup moins naturelle":

(i) a. Ce que Mao dit, c'est qu'il fait froid.

"What Mao says, it's that it's cold"
b. ??Ce que Mao dit est qu'il fait froid.

'What Mao says is that it's cold'

Only a detailed study of the situation in French will show whether this is incompatible with the suggestion that I have made for English.

14. Faraci (1971, 76) notes the parallelism of the constraint on pronominalization to that found in question-answer pairs, giving the examples (his (100) and (101) resp.):

(i) Q: What bit John$_1$?
    A: His$_1$ dog.

(ii) Q: What hit him$_1$?
    A: "John's$_1$ dog.

This is, of course, essentially the same point as I am making, for the relationship between a question and an answer is similar in various ways to that between the heading of a list and the contents of a list.
CHAPTER 7

EPILOGUE

This discussion of pseudo-cleft sentences and, more generally, of Specificational sentences has extended over several chapters, and various consequences of the analyses that have been proposed have been left implicit. In this final chapter I shall draw together some of the conclusions that have been reached, and sketch the picture of the pseudo-cleft construction which emerges. Some of the claims which I shall make here have not been proved in this essay in any sense of the word, but nevertheless the attempt to produce a consistent view of the construction is worthwhile even if it involves some extrapolation beyond what has been shown.

The Specificational pseudo-cleft sentence, and all other Specificational sentences, are generated by the phrase structure rules which generate other types of copular sentences (except, perhaps, copular sentences with subjects in there). There is no good reason to prevent the generation of any of the major phrase types in the predicate complement position, and therefore one obtains structures with the copula followed by NP, PP, AP, and S, and, if pure verb phrases are available anywhere in the grammar they will presumably be available here too, giving the deep structure configuration be VP. The subject noun phrase of
pseudo-cleft sentences is a free relative clause. The deep structure of a Specificational pseudo-cleft sentence does not incorporate a phrase marker corresponding to the deep structure of the corresponding simple (that is, non-pseudo-clefted) sentence.

The transformational rules which apply in the derivation of Specificational pseudo-cleft sentences are the relative clause formation rule and housekeeping rules such as subject-verb agreement. The connectedness phenomena are not to be attributed to the operation of cyclic transformational rules or to transformational rules of any kind, but, since they are associated with particular readings of the copular sentence, are established by interpretive rules which operate at either the deep structure or the surface structure level. It is possible to make a reasonable guess about which of these two levels is relevant. It has become relatively clear from the material discussed in the fifth and sixth chapters that the overall interpretation of copular sentences depends on other phenomena which on independent grounds are thought to receive their interpretation at the surface structure level, such as the interpretation of modal verbs (Jenkins 1972), the interpretation of the genericness of noun phrases (Jackendoff 1972, 309-310), and the establishment of possible antecedent-anaphor relations (which clearly depends on features of surface structure interpretation such as focus-presupposition relations). The interpretation of copular sentences also depends on the interpretation of the
referentiality of noun phrases, and this must probably take place at the surface structure level as well, if examples such as 
what John wanted to catch was a fish or what John wanted to do was catch a fish show the specificity ambiguity. (The mechanism which Jackendoff (1972, 284 ff.) sets up for this purpose must allow for this fact.) Furthermore, there are no sound arguments that I know of which would suggest that the establishment of the understood subjects of non-finite verbs (the "EQUI" rule) must take place at any level other than the surface structure level. Hence it would appear almost certain that the taxonomy of chapter five is applied as a kind of template to the surface structure of a copular sentence. If the sentence is thereby given a Specificational reading, then the relationship between the subject and the predicate complement will be understood in a way identical to that holding between the heading of a list and the items which make up the list. If the relationship is such that an anomalous list results (as, for instance, if the heading states that the list consists of actions carried out by John, but the list contains an item that does not refer to an action or refers to an action of Mary's), then the sentence is perceived as anomalous or ungrammatical on the Specificational reading. Probably the relationship of the heading of a list to the items on the list is of universal form, and no special statement of the form of this relationship is required in the grammars of individual languages.

The peculiar properties of Specificational pseudo-cleft
sentences discussed in chapter six also point to a surface structure interpretive rule for interpreting copular sentences. A wide range of restrictions is explained quite simply and in a unified fashion in terms of properties of focus and anaphora which are known to be matters of surface structure interpretation. No conditions on transformational movement and deletion rules are required. If copular sentences were interpreted at the deep structure level, this result could not be obtained, without the use of a type of constraint which could refer to the reading of the sentence, for one would require constraints of the form: "If the sentence S has a Specificational reading, then the rule X cannot apply to its predicate complement", where X would include rules such as the Wh-movement rule. Such constraints lack all explanatory power. If transformational movement and deletion rules apply freely, leaving traces, then the restrictions can all be implemented at the surface structure level. In addition to this, the material of chapter six emphasizes the non-equivalence of nominalizations and the sentences which paraphrase them most closely and would presumably be regarded as their sources under a transformationalist analysis of nominalizations.

Some of what I have said here is speculative, and further work on the pseudo-cleft construction will be needed to substantiate the view of grammar that is implicit here. However, there can be no doubt that the pseudo-cleft construction confirms and helps to supplement the interpretive approach to linguistic
structure, and indirectly confirms the correctness of the lexicalist hypothesis concerning certain types of nominalization.

Although I have left rather vague a number of mechanical problems, such as a formal solution of the EQUI problem in Specificational sentences, these matters do not seem to me to be very important and further work on the pseudo-cleft construction should probably concentrate on clarifying the discourse function of the construction, especially its interactions with anaphora, and its relationship to the cleft construction, and on testing the fruitfulness of the notion that Specificational pseudo-cleft sentences are essentially lists.
APPENDIX

The following three lists contain nouns which have the following distributional properties:

List 1. The nouns can take a sentential complement within the noun phrase, but cannot appear as subjects in copular sentences with a sentence as predicate complement.

List 2. The nouns cannot take a sentential complement within the noun phrase, but can appear as subjects in copular sentences with a sentence as predicate complement.

List 3. The nouns can take a sentential complement within the noun phrase, or can appear as subjects in copular sentences with a sentence as predicate complement.

I do not know how exhaustive the lists are. They were prepared at first by random selection from a thesaurus (Roget 1962) of items similar in meaning to items which were known to behave in a particular way. Later, a rapid search was made through the whole of this thesaurus, and I hope therefore that most nouns have been caught that take sentential complements.

The material does not lend itself perfectly to a "yes/no" technique, and there are many doubtful items, which are marked
with a question mark. The usual reasons for this were either
that I felt that the item should perhaps belong in another list,
or that I was not convinced that it could take a sentential
complement at all. In spite of these difficulties, I think that
there is sufficient firm evidence to warrant the setting up of
these three classes, which in turn is sufficient to prove the
point that I wish to prove. Once a better understanding of noun
complements has been attained, the material can be reworked.

Each list contains two sections, one for infinitive comple-
ment phrases, one for that-clause complement sentences. I have
ignored complements in -ing and prepositional complement
phrases. In list three I have noted a few items that allow in-
direct question complement sentences (marked as "WH") and
clauses in lest.

Even in its present relatively crude state the material
allows one to discern various semantic classes fairly clearly.
The following remarks may be pertinent to a more thorough in-
vestigation of the material:

List 1. (i) None of the nouns appear to permit indirect
questions as complements.

(ii) A prepositional phrase is often preferred in
the structure [N S], and this prepositional
phrase may be acceptable as a predicate comple-
ment (as, for example, at the fact that S).

(iii) Note the prevalence of nouns in -ness, -tion,
and -ty.
List 2. (i) There is often an acceptable complement structure of the form of *V-ing* in the structure [N S], beside the unacceptable infinitive phrase.

(ii) The *that*-clause type often can appear in the environment *have the N that S*, or *with the N that S*. The structure here is not clear, and I have assumed that the complement sentence is not within the noun phrase in such examples. If this is incorrect, then many of these nouns belong in list three. In any case, such nouns still cannot occur in the frame [[Det N S] be AP], which is the important point for my present purposes.
Complement is infinitive phrase.

ability
action
anxiety
aptness
attempt
authorization
?call
capacity
challenge
?chance
compulsion
?conspiracy
curiosity
digression
drive
eagerness
effort(s)
eligibility
impatience
inability
incentive
keenness
?liability
?move
movement
?occasion
?opportunity
?penschant
power
powerlessness
quickness
readiness
refusal
reluctance
search
slowness
stimulus
?time
wait
willingness
yell
zeal

Complement is that-clause.

alarm
anger
astonishment
bafflement
bewilderment
boredom
?confession
delight
?depression
denial
determination
dismay
exasperation
?fascination
?hatred
?ignorance
insistence
irritation
?loathing
mortification
pain
pride
probability
protest
resentment
satisfaction
?scepticism
shame
surprise
Complement is infinitive phrase.

aberration  remedy
?activity  reply
  advance  response
  affection  role
  answer  routine
  arrangement  service
?assignment  solution
  bias  strategy
  business  style
?conception  system
  convention  task
  course  trait
  crime  trick
  custom  turn (good etc.)
?delight  vocation
?design  
  difficulty  
  dream  
  effect  
  errand  
  error  
  fate  
  favor  
  function  
  goal  
  genius  
  habit  
  homework  
  hope  
  idea  
  job  
  joy  
  method  
  misfortune  
  mission  
  mistake  
  object  
  objective  
  point  
  policy  
  practise  
  procedure  
  program  
  progress  
  purpose  
  reaction  

Complement is that-clause.

?aberration  advance
  advantage  
  analogy  
  appeal  
  attraction  
  beauty  
  beginning  
  bias  
  blessing  
  cause  
  charm  
  clue  
  compensation  
  conception  
  connection  
  contradiction  
  defect  
  deficiency  
  difference  
  digression  
  disadvantage  
  disparity  
  disproof  
  distinction  
  drift  
  effect  
  embarrassment  
  end  
  ending  
  enigma  
  error  
  excellence  
  experience  
  factor  
  failing  
  fault  
  folly  
  gain  
  genius  
  gist  
  greatness  
  guilt  
  habit  
  handicap  
  idiosyncrasy  

[N S]  [N be S]

LIST 2.  345
Complement is that-clause.

| import          | reputation          |
|                | resemblance         |
| ?importance     | restriction         |
| propriety       | result              |
| inadequacy      | riddle              |
| incompatibility | scheme              |
| ?inconsistency  | shortcoming         |
| ?indictment     | significance        |
| inequality      | similarity          |
| ?intent         | situation           |
| ?intention      | start               |
| interest        | substance           |
| justification   | tenor               |
| ?likeness       | trick               |
| ?limitation     | trouble             |
| link            | upshot              |
| mark            | value               |
| marvel          | vice                |
| meaning         | vindication         |
| memory          | virtue              |
| merit           | weakness            |
| ?miracle        | wonder              |
| misfortune      |                      |
| mistake         |                      |
| modification    |                      |
| motivation      |                      |
| motive          |                      |
| mystery         |                      |
| novelty         |                      |
| offshoot        |                      |
| outcome         |                      |
| part            |                      |
| pertinence      |                      |
| plight          |                      |
| plot            |                      |
| ?position       |                      |
| predicament     |                      |
| program         |                      |
| progress        |                      |
| property        |                      |
| pull            |                      |
| puzzle          |                      |
| ?quality        |                      |
| reason          |                      |
| refutation      |                      |
| ?regularity     |                      |
| relevance       |                      |
LIST 3. [N S] [N be S]

Complement is infinitive phrase.

?advance
advice
agreement
?aim
ambition
appeal
claim
concern
decision
desire
determination
duty
impulse
inclination
intention
invitation
need
obligation
order
plan
plot
pressure
promise
proposal
responsibility
temptation	
tendency
threat
undertaking
way
wish

Complement is that-clause.

accusation
?admission
advice
affectation
?alibi
allegation
announcement
answer
apprehension (lest)
arrangement
assertion
?assessment
assumption
attitude
basis
belief
characteristic
charge
claim
comment
complaint
complication
concern (lest)
conclusion
condition
confirmation
consequence
consideration
conviction
corollary
delusion
?difficulty
?dilemma
disclosure
discovery
doctrine
dogma
doubt (WH)
dream
evidence
expectation
excuse
?explanation
fact
faith
fancy
fear (lest)
Complement is that-clause.

- feeling
- foreboding
- forecast
- guess
- hope
- hunch
- hypothesis
- idea
- illusion
- implication
- impression
- imputation
- indication
- inference
- information
- insinuation
- interpretation
- issue
- judgment
- knowledge
- likelihood
- maxim
- news
- notion
- objection
- obsession
- opinion
- peculiarity
- plan
- point
- point of view
- possibility
- postulate
- prediction
- premise
- presumption
- pretence
- pretension
- pretext
- principle
- problem
- promise
- proof
- prophecy
- proposal
- prospect(s)
- proviso
- qualification
- question (WH)
- reaction
- reasoning
- recollection
- rejoinder
- report
- reservation
- rule
- sense
- sign
- solution
- speculation
- statement
- stipulation
- substantiation
- superstition
- support
- supposition
- suspicion
- teaching
- theory
- thesis
- thought
- threat
- tradition
- truth
- understanding
- view
- warning
- worry
REFERENCES


Fraser, B. 1970. Some remarks on the action nominalization in
   English. Readings in English transformational grammar,

Geach, P.T. 1950. Russell's theory of descriptions. Analysis
   10.84-88.

   Ithaca: Cornell U.P.

   Studies in the linguistic sciences 1.1-7.

   of the Aristotelian Society 35, Supplementary vol., 121-152.

   Ohio State University working papers in linguistics, 13.

Grosu, A. 1973. On the status of the so-called Right Roof
   Constraint. Language 49.294-311.

Halliday, M.A.K. 1967. Notes on transitivity and theme in

Hankamer, J. 1971. Constraints on deletion in syntax. Un-
   published doctoral dissertation, Yale University.

   4.17-68.

   Linguistic Inquiry 2.546-557.


Kuroda, S.-Y. 1968. English relativization and certain related problems. Language 44.244-266.


BIOGRAPHICAL NOTE

The author was born in Southport, Lancashire on March 3rd., 1940. He read Natural Sciences at Cambridge University from 1960-1962, and in his final year studied linguistics and German literature. After three years in Germany, he studied linguistics at Yale University from 1966 to 1969, when he entered the linguistics program at the Massachusetts Institute of Technology.