

DEFINITENESS IN THE ENGLISH NOUN PHRASE

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ABSTRACT

This thesis consists of a partial description of English noun phrase structure such as to show syntactic and semantic properties of certain determiners, a, the, this, that, and possessive forms. The central claim of the description is that non-definite noun phrases are inherently vague and are interpreted with respect to their sentential context, while definite noun phrases are in certain important respects semantically independent of the sentences in which they occur. In this description, determiners in definite noun phrases are transformationally derived by rules which build up a determiner segment by the introduction of features, and which are motivated (except in one instance) by properties of the deep structure. Phrases determined by the or a, or having no determiner, are examined in Ch. II; contrasts in definiteness occurring in structures containing relative clauses are attributed to a difference in the identity condition on relativization. In non-definite relativization the relative pronoun originates as a definite anaphor: the embedded sentence is semantically dependent on the matrix phrase. In definite relativization the relative pronoun originates as a non-definite antecedent: the embedded sentence is semantically independent of the matrix phrase and is presupposed by any sentence containing the matrix phrase. When the occurs in surface structure before an unmodified noun X it is attributed to a deep structure containing a sub-structure corresponding to 'There is an X'. Nevertheless it is argued that the word the does not in itself signal a presupposition of existence.

In Ch. III and IV the description is extended to a wider range of determiners: the interaction between definiteness and reference is examined; the form that is shown to realize (at least) three distinct feature complexes. In Ch. V the notion of noun-dependent case is introduced and a second rule motivating the-insertion is formulated. It is shown that not all phrases determined by the are definite. Possessive determiners are built up by rules analogous to those presented in III and IV. In Ch. VI conclusions regarding the are presented: the realizes two distinct feature complexes differing as to whether or not a demonstrative feature is present.

The question of whether a definiteness distinction is needed in the formulation of transformational rules is considered in Ch. VIII. In VIII the deep structure of 'existential' sentences and of predicative nominals is examined; the latter leads to a formalization of the proposals of Ch. II - VI in terms of a deep structure in which the noun originates as a predicate.

The conclusions presented in Ch. IX relate not only to the structural properties of definite noun phrases but to the implications of the analysis for problems of language use: reference, presupposition, and the existential claims associated with the word the. Definiteness is characterized as marking a certain use. When it is used to mention something, a definite noun phrase must be used for identifying rather than introductory mention. This characterization of definiteness is in principle such as may be applicable in all languages.

CHAPTER I

INTRODUCTION§ 1 Review of the Literature

This selective review is concerned with definiteness, rather than with related topics such as reference, genericness, specificity. It is divided into three parts. The first (§ 1.1.) is devoted to the work of linguists and goes back only as far as Christophersen's important work, which may be regarded as representing the 'traditional' approach to linguistic studies. For a review mentioning earlier work in that tradition see Yotsukura (1970). In part two (§ 1.2.) brief mention is made of those aspects of the philosophical debate on this topic that are of particular importance to linguistics. And in § 1.3. attention is given to the studies of linguists whose work is particularly relevant for the subsequent development of this thesis. They are all working within some version of transformational theory and (explicitly or not) have addressed themselves to problems raised by the philosophical debate.

1.1. Linguistic accounts of definiteness (A)

It is impossible in the space available to give a full review of the literature. The following references are relevant:

Christophersen (1939), Ahlgren (1946), Bodelsen (1949), Sørensen (1959), Lees (1961), Smith (1964), Hill (1966), Baker (1966), Dean (1967), Postal (1966), Vendler (1967b), Karttunen (1968a,b), Robbins (1968), Annear (1968), Kuroda (1968), Yotsukura (1970),

Perlmutter (1970), Keenan (1970), Chafe (1970), Hawkins (1971), Thorne (1972a), Kato (1972), Hewson (1972), Lyons (1973), Stockwell et. al. (1973).

The term 'definite' first appears in descriptions of modern English as a characterization of the contrast between the (the definite article) and a (the indefinite article). Christophersen shows that the and a are not contrasted with each other as the positive and negative elements in a binary opposition. The dominant meaning of the according to Christophersen is related to FAMILIARITY, that of a to INDIVIDUALITY. Contrasted with both forms is the 'zero article' - the absence of any article before the noun. Christophersen's thesis traces the diachronic development of the from an Old English demonstrative, and of a from a numeral. The modern forms the and that may be traced to a single item in OE, and similarly a and one have their historical origins in a single item. There was no obligatory article before singular nouns in Old English. A use of the definite article which developed early was what Christophersen calls the 'resumptive' use: the indication of coreference with an expression occurring earlier in the text. Christophersen suggests that this, and the 'preparatory' use introducing a relative clause, would seem to be a natural development from the demonstrative; but he also mentions early examples of non-demonstrative uses of the item later to become the (pp. 84-87). Early non-demonstrative occurrences are also cited by Ahlgren, who isolates for special study the article with 'nouns of possession'. In his survey of modern English, Christophersen distinguishes many different uses of the articles. This variety has led some, for example Sørensen, to distinguish different types of the (the definite

article; generic the; and others) and of a (an indefinite determiner, a generic determiner).

Bodelsen speaks of QUANTITATIVE PRESENCE in relation to the meaning of the. His mention of 'quantitative' is prompted by the prevalence of the in 'of-constructions' (the N of NP) and he suggests that the notion of familiarity is not sufficient to account for the in these constructions. (The comment is of particular interest in view of Chapter V below.) Sørensen develops a more precise notion of 'familiarity': "'the' indicates not that the listener is acquainted with what is denoted by 'the x', but that he is acquainted with the fact that there is an x of which such and such is true" (p.409). In addition, the audience's attention is focussed by his understanding of the. The function of the definite article is to IDENTIFY. The paper raises many issues which recur in the subsequent literature but there are internal inconsistencies which show up the complexity of the problem: with what precisely is the object denoted by the definite noun phrase to be identified? With an object introduced in preceding discourse (p.412), with an object introduced in a relative clause (p.416), or with an object whose existence is implied by use of the (p.418 fn.)?

In the early years of Transformational Grammar attention was directed towards the syntactic properties of noun phrase determiners. There were two lines of attack. One was to examine the relationship between determiners (the, a, and others) and relative clauses. Thus Chomsky (1965:217) remarked 'restrictive relatives belong to the Determiner system'. Lees singles out the definite article, as a sub-type of the, and proposes Constituent Structure rules that generate it with an obligatory co-constituent, a clause which is

later realized as a post-nominal modifier or which may be deleted in appropriate contexts. Smith surveys a wider range of determiners and the restrictions on their co-occurrence with different types of relative clause; she proposes that determiners must be subclassified not only as between definite and indefinite, but also as between 'specified' (including both definite and indefinite) and 'unspecified': a occurs both in the indefinite sub-class, and in the unspecified class. This approach has interesting repercussions for semantics and the later literature will be reviewed in more detail in § 1.3.

The second line of attack was to posit a syntactic feature of definiteness and to use this feature both in rules generating articles and in rules of pronominalization (Postal 1966). This description founders on 'Pronominalization' - the possibility, now fairly widely accepted, that no adequate transformational rule of pronominalization can be formalized for all occurrences of pronouns (cf. Bach 1970). It is in any case, I suggest, a mistake to confuse the indication of coreferentiality attributable to the with the syntactic properties of pronouns. Third-person pronouns are devices for expressing textual anaphora but the occurrence of the is only sometimes motivated by the preceding discourse. But Postal's paper is of interest for other reasons. Definiteness is not used as a means of classifying determiners, but is for the first time treated as a +/- binary contrast on nouns, and hence by implication on the NP of which the noun is head. Articles are the surface realization of noun features that have been 'segmentalized'. Secondly, a transformational rule is proposed that in certain

circumstances changes the feature specification generated by the base.

Kuroda uses contrasts in definiteness in a revealing study of relative constructions having a pronoun as 'pivot' (i.e. what lay on the table/that which lay on the table etc.). It was in pursuing Kuroda's basic hypothesis that the form underlying WH relatives is sometimes definite and sometimes indefinite that I formulated my own theory, to be presented in Ch.II.

Stockwell et al. provide a most useful review of the literature on determiners. They favour the view found in Postal and Kuroda that definiteness interacts with pronominalization and is sometimes transformationally determined, but they do not formalize this proposal; rather they analyze determiners in terms of features introduced under the (indirect) domination of a node D. 'Generic' and 'specific' are treated as features on a par with 'definite': all three originate in the lexicon. I shall argue however that definiteness is a category quite distinct in kind from genericness and specificity.

With increased interest in semantics, and in language-use, new approaches are now being opened up. Keenan proposes a logical basis for a transformational grammar of English in which he provides an analysis of definiteness and of problems of reference. But the connection between the logical base and the transformational component is not examined. Hawkins examines the semantic determinants of article usage, showing that no purely syntactic account can adequately describe this area of the language and arguing in favour of a generative semantic model. A recent study (Kato 1972) expands

on McCawley's theory of referential indices in seeking to provide a language-neutral¹ phrase-marker-type 'semantic representation' of the definite article. In this account articles are introduced by transformation but are determined by the semantic base; and a distinction is made in the base between referential and non-referential uses of definite phrases. Chafe also presents a description which is semantically-based: nouns are subject to semantic contrasts among which are those called 'inflectional semantic units', these include the inflections 'definite', 'generic' and 'random' (i.e. non-specific). A noun is inflected as definite on the basis of speaker's assumptions: "the speaker assumes that the hearer already knows which member of the class he is talking about, or which particular instance" (p.187).

Other transformational studies will be reviewed in § 1.3., but mention may be made here of some works outside the TG tradition. Yotsukura has examined a corpus and shown that the choice of article is to a limited extent correlated with the kind of modification structure in which the noun occurs in surface structure. Kramsky (1972) sees a crucial categorial difference between articles and demonstratives, and seeks to establish a language-neutral account of 'determinedness' (that which is expressed in English by the contrast between the and a) and to set up a typology of languages according to the different means by which it is expressed.

Guillaume (1919) presents a highly complex theory based on the notion that the articles indicate a transition from the 'nom en puissance' to the 'nom en effet'. Very roughly the 'nom en puissance'

1. The languages examined are Portuguese, English and Japanese.

is an element in the language-system ('a l'état de non-emploi' p.314) and has a wide range of meaning; but the 'nom en effet' is the noun with restricted meaning occurring in the speech-situation ('le discours'. p.305). The theory is worked out in relation to French. It is discussed by Christophersen. Hewson has recently presented an account of English articles based on Guillaume's theory.

1.2. Philosophical accounts of definiteness

Russell's Theory of Descriptions distinguishes definite and indefinite descriptions.¹ 'An indefinite description is a phrase of the form "a so-and-so", and a definite description is a phrase of the form "the so-and-so" (in the singular)' (p.167). A name directly designates an individual "which is its meaning" (p.174)²; but descriptions - definite or indefinite - have no meaning in isolation. The proposition³ must be properly analyzed before the meaning of any description contained in a sentence can be shown.

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1. The fullest and technically most sophisticated presentation of the theory is in Whitehead and Russell (1910) but there are variations in later presentations. This account is based chiefly on Russell (1919), to which page numbers refer unless otherwise indicated.
 2. In the later presentations of the theory (1918, 1919), there was only "a very small residue of logically proper names, of which Russell's favourite example was the word 'this', used to refer to an immediate object of perception and not the topic of some previous discourse" (Quinton (1973:34) on Russell, 1918).
 3. "For Russell it is part of the definition of a proposition, conceived as the meaning expressed by a sentence, that it should be either true or false" (Quinton 1973:35).

The proposition "I met a man" involves a propositional function, and becomes, when made explicit: "The function 'I met x and x is human' is sometimes true" (p.168). This is the same as saying that there exists something that satisfies the propositional function. Any assertion of existence is the assertion that a certain propositional function is sometimes true.¹

Propositions containing definite descriptions must also be analyzed. The analysis of such a proposition includes:

- the proposition that something exists which satisfies the description (strictly, the descriptive function),
- the proposition that only one thing exists that satisfies the description (strictly, the descriptive function).

Thus a proposition containing a definite description is false if there exists nothing that satisfies the description, or if there exists more than one thing satisfying the description.

Earlier (1905:488) Russell had used the term 'denoting': 'if "C" is a denoting phrase (as definite descriptions are by definition) it may happen that there is one entity x (there cannot be more than one) for which the proposition " x is identical with C" is true We may say that the entity x is the denotation of the phrase "C".'

Let us note the following:

1. There is a regress from definite to indefinite, for the analysis of a proposition involving a definite description makes crucial use of variables: only thus can existence be expressed.

1. "When you take any propositional function and assert of it that it is possible, that is sometimes true, that gives you the fundamental meaning of 'existence' ... "Take ' x is a man', there is at least one value of x for which this is true. That is what one means by saying 'There are men' or 'Men exist'. Existence is essentially a property of a propositional function." Russell (1918:89)

2. With logically proper names there is no such regress, but the list of genuine proper names is severely restricted.

3. Definite descriptions carry implications of existence and uniqueness - whatever grammatical function the descriptions have in the sentence.

4. Russell exemplifies indefinite descriptions in sentences which express particular rather than generic¹ propositions. I take this to mean that Russell would withhold the term 'indefinite description' from a phrase "a so-and-so" when occurring in a proposition that could not be analyzed in terms of 'sometimes true'.

Strawson (1950,1964) puts forward a counter-theory which differs from Russell's in many important respects, not all of which are considered here. Linguistic expressions are classified according to whether or not they are such as may be used by a speaker to refer. Definiteness is subordinated to the notion definite reference, or - to use Strawson's terminology - 'identifying reference'. Expressions which may be used to make an identifying reference to a particular² include proper nouns, demonstrative pronouns, noun phrases determined by demonstratives or by the. There is no distinction between names and descriptions with respect to existence and uniqueness, nor is

1. I use 'generic' here in accordance with my own usage, to be introduced in § 3.2.

2. "For instance, in mine, as in most philosophical uses, historical occurrences, material objects, people and their shadows are all particulars" (1959:15). For 'identifying reference' cf. (1959:16). The term 'referring expression' is used for an expression "as and when used in a statement with the role of identifying reference" (1964:110).

there an assertion of existence or uniqueness - but rather a presupposition. "Thus, that there exists a particular item to which the name or description is applicable and which, if not unique in this respect, satisfies some uniqueness-condition known to the hearer (and satisfies some uniqueness-condition known to the speaker) is no part of what the speaker asserts in an utterance in which the name or description is used to perform the function of identifying reference, it is, rather, a presupposition of his asserting what he asserts." (1964:102 - S's italics)¹

Further, (1959), Strawson's examination of the subject-predicate distinction in propositions leads to the recognition of a fundamental dichotomy in types of linguistic expression, the distinction between particular-introducing expressions and universal-introducing expressions. Expressions of the first type introduce into propositions terms (particulars) that cannot be predicated but whose place in the proposition must be that of an object of reference, hence the expression must be a subject.² Terms introduced by the second type of expression can be predicated. But such an expression can, in some cases, appear as subject of a proposition; hence a universal may be an object of reference. Terms that are introduced into propositions, when successfully introduced, are identified by

1. Earlier (1952:175) presupposition is defined as a logical relationship between statements, (cf. also Kempson 1973: 128-132).

2. 'Subject' is here used in the sense in which a proposition may have more than one subject (1959:189), (i.e. 'argument' in the terminology to be adopted in this thesis).

the hearer: thus Russell's definite descriptions are particular-introducing expressions but phrases of the form "a so-and-so" cannot be used to introduce particulars.

Let us note the following:

1. 'Existence' and contextually limited 'uniqueness' are conditions of referring.
2. These conditions are not related to a certain type of nominal expression but to the use made of it - if the use varies (e.g. because the expression occurs in a different position in sentence structure), the presuppositions may vary.
3. Presupposition, no less than Russell's implication, involves a dependence of definite expressions (i.e. expressions that may be used to make an identifying reference) on indefinite expressions. For only indefinite expressions may be used to express the fact presupposed by referring use of the definite expression, viz. the existence of what is referred to.
4. This dependence is not confined (as in Russell's theory) to descriptions, but extends to what Russell would call names.

Mates (1973) suggests that Russell's theory is better able than Strawson's to account for descriptions having the form 'the x of y ' where ' y ' is (so far as the description itself is concerned) a free variable. Thus the natural language sentence Scott is the author of something corresponds to the logical formula:

$$(\exists y) s = (\lambda x) \underline{Axy}$$

-
1. cf. 1959:158,181- In 1950 (Caton 1963:190), and implicitly in 1959:16, Strawson allows for indefinite reference; but this does not constitute the introduction of a particular because an indefinite expression cannot be used to make an identifying reference.

Here there occurs in the description a variable which is bound by an outside quantifier. Russell's theory provides a description-free equivalent for this formula. According to Mates, Strawson cannot account for such an expression (e.g. the author of something, the king of a country). Expressions of this type will prove to be crucial for our account of definiteness (cf. § 12.).

Donnellan (1966)¹ reconsiders the use of definite descriptions and finds that referring is only one of the uses to which they may be put. There is a second: the attributive use. Elements from both Russell's theory and Strawson's are preserved, but the notion of reference is redefined in a fundamental way. The notion of denotation, as defined by Russell, is preserved in essentials but denoting applies to both uses of the description: whether the speaker uses the description referentially or attributively, 'a definite description denotes an entity if that entity fits the description uniquely' (p.107). Donnellan's distinction is as follows:

A speaker uses a definite description to refer if,

1. the audience's understanding of the speaker's utterance depends on his identifying some person or thing as the object intended by the speaker, as what he is talking about (pp.102-3).
2. the speaker might have made the same statement, asked the same question or issued the same command, using a different noun phrase in an otherwise identical sentence: the success of the communication is evaluated with respect to the intended object. (p.104).

1. The paper is reprinted in Steinberg & Jakobovitz (1971) and the page references given here are to that printing.

3. a speaker may make a true statement even in circumstances where nothing fits the description, providing that the statement is true of the intended object; '... in the referential use as opposed to the attributive, there is a right thing to be picked out by the audience and its being the right thing is not simply a function of the description' (p.114, D's underlining).

A speaker uses a definite description attributively

1. where successful assertion/questioning/commanding depends on there being something that fits the description (otherwise 'the linguistic purpose of the speech act will be thwarted' p.106).

2. where a true statement is true of whoever or whatever fits the description (p.102).¹

Thus 'reference' is used in a narrower sense than in Strawson's usage, and referents are apparently restricted to persons and things having spatio-temporal extension. The proposals contribute to the debate as to whether one who makes a statement by uttering a sentence containing a definite description asserts, or whether he presupposes, the existence of something that uniquely fits the description. Donnellan suggests that the conditions are different for the two uses; Russell's account of descriptions is closest to the attributive use, but in neither use is there a clear case of logical entailment.²

The implication-or-presupposition of uniqueness is subordinated to the use of descriptions to identify - in this the account follows Strawson. This seems straightforward in the referring use, but the

1. "It is possible for a definite description to be used attributively even though the speaker (and his audience) believes that a certain person or thing fits the description" (p.105).

2. Donnellan presents Russell's position in terms of entailment; in Russell's theory "there is a logical entailment: 'The ϕ is ψ ' entails 'There exists one and only one ϕ '" (p.107).

position is more complicated in the attributive use. Donnellan does not discuss the situation where a description, used attributively, is true of more than one thing; for example, suppose (p.106) the words "Bring me Smith's murderer" were uttered (with attributive use of the description) in circumstances where two people had murdered Smith.

The distinction between referential and attributive uses is attributed (p.110) to the speaker's intention, and not to a semantic ambiguity or a syntactic ambiguity in the sentence used. In what follows I shall attempt to follow Donnellan's usage, and we shall have cause to scrutinize this conclusion.

§ 1.3. Linguistic accounts of definiteness (B)

The philosophical debate has influenced the work of linguists. It is frequently suggested that the word the must have presuppositions associated with it (cf. Fillmore 1969a:121; Partee 1970a:362) and the problem is posed as to how such presuppositions should be formalized in the description of the language. This unwarranted restriction of attention to the word the is perhaps due to the following remark in Strawson (1950)¹: "When we begin a sentence with 'the such-and-such' the use of 'the' shows, but does not state, that we are, or intend to be, referring to one particular individual of the species 'such-and-such'" ... given sincerity etc. ... "To use the word 'the' in this way is then to imply (in the relevant sense of 'imply') that the existential conditions described by Russell are fulfilled".

1. cf. Caton (1963:177) Strawson uses 'imply' throughout this paper. Later the relationship he introduces here is defined more precisely in terms of presupposition.

Linguists have in general followed Strawson in recognizing a presupposition (rather than an assertion) of existence, and in subordinating the notion of uniqueness to that of identification. These two problems are variously treated, either explicitly or implicitly, in accounts that seek to attribute the definiteness of a noun phrase (or the occurrence of the definite article, viewed as one type of the) to a relative clause or to a phrase occurring elsewhere in the discourse. Robbins (1968) introduces the by means of a (Harris-type) transformation on TWO kernel sentences, for which the output is a sentence containing a relative clause. This relative clause is deleted if it repeats information given in a left-conjunct of the matrix sentence. The formalization is complex and the treatment thorough, covering a wide range of the uses of the. The important point is that the identical noun phrases that occur in the kernel sentences are indefinite, the is introduced as 'a constant of the transformation'. One problem with this approach is the number of kernels that must be posited. In the sentence A man saw a child but the child did not see the man, the second conjunct is shown to be derived by way of The child whom a man saw did not see the man who saw the child whom the man who saw a child saw (p.139-40).

(Vendler (1967b) makes explicit the connection between philosophical theory and linguistic accounts such as that of Robbins.¹ He claims that 'the definite article in front of a noun is always and infallibly the sign of a restrictive adjunct, present or

1. Robbins' formal account and Vendler's informal account are presented within the framework of Harris (1957); Vendler refers in general to the work of 'linguists' but makes no specific reference to Robbins.

recoverable, attached to the noun' (p.46).

Baker (1966) also considers the possibility of bringing observations about discourse within the realm of sentence grammar by postulating that the is sometimes derived transformationally from embedded existential sentences which are deleted when identical with a sentence in preceding discourse - but he concludes that the solution is not feasible in that it involves excessively complex embeddings. Annear (1968) considers the possibility of attributing the to a deleted preceding conjunct. Dean (1967) considers, and rejects as impracticable, a relative clause source which is not necessarily text-dependent, but which ensures uniqueness and hence definiteness.¹

Karttunen (1968a,b) rejects a sentence-bound approach and seeks to explicate a discourse-dependent account of definiteness in terms of reference and anaphora. In addition, both Baker and Karttunen - in tracing definiteness back to indefiniteness - distinguish (in rather different terms) between 'specific' and 'non-specific'. This distinction is different in kind from that of definiteness and will be considered in § 3.2.

The attraction of a grammar that attributes the either to a phrase occurring in the preceding text, or to a relative clause, is that it provides a starting-point for an interrelated account of the notions traditionally associated with this item: familiarity, existence, identification. But the problems inherent in the proposals mentioned above are many: they are discussed in

1. cf. Stockwell *et al.* (1973:76). I have not seen Dean (1967), Baker (1966), Annear (1968) - they are discussed in Stockwell, on which account this presentation is based. Baker's proposals and those of Annear are also discussed by Karttunen.

Stockwell et al. (1973:73-82). In general, the problem is that many occurrences of the are due to factors in the situation rather than in the text. To try and bring the situation into the text by means of deletable clauses leads to considerable complexity. To deal with each type of occurrence differently misses a generalization.

Another approach to definiteness is to link the to demonstratives. This proposal is attractive in view of the historical origins of the word. Papers by Thorne and Lyons will be reviewed in

Ch.III.

Perlmutter's important paper will be reviewed in Ch.II.

It will be clear from this review that I take definiteness to be crucially connected with the word the. But of course the term 'definite' can be defined in many different ways; it is widely used but without uniformity. In examining definiteness, the task I set myself is to try and account for certain semantic and syntactic properties of noun phrases of the following types. My initial assumption is that these fall into two sets as set out in A and B below:

A	B
demonstrative pronouns	noun phrases determined by <u>a</u>
proper nouns	noun phrases without determiner
noun phrases determined by demonstratives	
noun phrases determined by <u>the</u>	
noun phrases determined by possessives	
personal pronouns	

If the assumption proved correct, we could characterize the distinction as a binary contrast between definite and non-definite phrases, A and B respectively; and could then label determiners as definite or not according to the list in which they appear. However, we shall find that the listing set out here requires modification and that, furthermore, if we use the term definite for noun phrases (as we shall) we cannot also use it for determiners.

I shall not examine noun phrases containing superlative forms of adjectives or ordinal numerals. Phrases determined by some will be considered, but not in full (§10.2.). Phrases determined by other quantifiers are given only cursory treatment (cf §17).

Pronominal anaphora, and the systematic properties of discourse above sentence-level, are not examined. These are vast areas which are clearly adjacent to the one I have chosen to study. It is hoped that the proposals to be made below may be found subsequently to have some relevance also in these fields.

§2 Theoretical Framework

2.1. General

The structures which provide a starting-point for my analysis are largely based on Stockwell, Schachter & Partee (1973).¹ In

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1. Stockwell, Schachter & Partee (1973) is based on a report entitled Integration of Transformational Theories on English Syntax prepared at the University of California, Los Angeles, by contributors to the English Syntax Project. The report was circulated in 1968. The 1973 publication is a revision of the report - the revision (consisting mostly in abbreviation) was largely complete by mid-1970. The principal authors acknowledge the assistance of numerous others, whose names they give. For the sake of brevity I shall frequently refer to this work (in its 1973 version) simply as 'Stockwell'.

that account of the syntax of English certain proposals first made by Chomsky are integrated with others due to Fillmore. In particular Chomsky's suggestion regarding a parallelism between the internal structures of the noun phrase, verb phrase and adjectival phrase, is adopted and modified in Stockwell (Chomsky 1970:210-211). Chomsky's original proposals were weak in that in certain respects noun phrases were compared with verb phrases, and in other respects with sentences. The Stockwell modification consists chiefly in the introduction of cases on verbs (following Fillmore 1968), and on nouns; adjectival phrases are subsumed under verb phrases. There is a concomitant clarification in the notion of parallel structure: the parallelism is shown to link not noun phrases and verb phrases, but noun phrases and sentences (Stockwell op.cit.:5-7, 21).

As in Stockwell, the grammar to be presented here recognizes:

- (i) deep structure
- (ii) verb-governed and noun-governed case relationships, and a verb-initial configuration for the proposition at deep-structure level
- (iii) a degree of parallelism of structure between the noun phrase and the sentence
- (iv) the semantic nature of selection restrictions (Stockwell op.cit.:24).

The theoretical assumptions underlying my account differ from those of the contributors to the Stockwell grammar in the following respects:

- (i) In my examination of noun phrases I have found it necessary to take as 'given' syntactic structures which I term deep structures,

but my work on definiteness does not lead me to make theoretical claims regarding the form of the rules generating deep structures. However, for purposes of presenting clearly my premises regarding deep structures, I shall in § 2.3 sketch some rules of the base. My claims regarding the subsequent derivations of noun phrases would not be adversely affected if these structures were generated by different rules, providing that there was no change in the semantic status of deep structure - which status is to be discussed below. Thus my theoretical position does not rule out lexical decomposition¹ but does commit me to the view that deep structure is somehow distinguishable as a well-defined level in the derivation.² Deep structure is 'post-lexical': by this stage items from the major lexical categories are present (possibly without phonological information, but certainly as constituents) in the p-markers (phrase - markers). Roughly, information corresponding to Stockwell's 'first lexical lookup' is incorporated into the p-marker by deep-structure level (Stockwell op.cit.:18).

It is also assumed, following Stockwell, that some lexical insertion occurs at the end of the transformational rules. This corresponds to Stockwell's 'second lexical lookup'. "It specifies only phonological information and only involves those items without phonological features in the surface structure, i.e. those items which had no phonological form in the first lexical lookup and those which were inserted transformationally" (op.cit.:18).

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1. cf. Lakoff, G. (1970c), McCawley (1968a), Fillmore (1971) for different treatments of lexical decomposition within different theoretical models.
 2. It has been suggested by F. Newmeyer that transformational rules composing lexical items must precede transformational rules that apply cyclically (lecture, Edinburgh 1973). Thus it might be that deep structure could be defined as 'pre-cyclical', rather than as 'pre-transformational'.

(ii) The inventory of cases on which the Stockwell grammar is based is similar to that of Fillmore (1968). Since then Fillmore's case inventory has been revised and no doubt there will be further changes to the theory (Fillmore (1969a; 1971)). For the purposes of this thesis only the following theoretical notions are necessary - the functional distinction between argument and predicate, and the principle of a hierarchical relationship between cased nodes such that, for a given deep-structure p-marker, one node can be identified as the unmarked subject.

(iii) In Stockwell it is claimed that certain transformational rules ^{should} be formulated so as to apply both to the sentence and to the noun phrase. This view is rejected in §14.2, at least insofar as it applies to rules promoting noun phrases into subject position.

2.2. Interpretive v. generative semantics

R. Lakoff, in reviewing Perlmutter (1970) claims that the facts suggest that "we must go back to a very abstract level of representation to decide on the assignment of articles; and this must be based, again, on assumptions of various sorts made by the speaker", (Lakoff, R. 1973: 695). With this approach we may contrast that of Jackendoff, who writes, "Another example of an inherent presupposition is that induced by the definite article"; and, "The insertion of inherent presuppositions into a semantic interpretation must obviously depend on lexical information it seems likely that inherent presuppositions can be formalized like selectional restrictions" (Jackendoff 1972:277, 278).

The generative position, represented by R. Lakoff, would - if I understand correctly - require the formalization of speakers' assumptions prior to the insertion of articles into the linguistic structure: notice that it is the speaker's assumptions that are supposed to control article-choice, not sentence-meaning in any sense that relates to truth value. This, as we saw in §1.1., is the position adopted by Chafe. It leads him to claim that John's uncle is ambiguous, being definite or non-definite according to whether or not "with reference to the set of objects denoted by the noun, the speaker is talking about a particular subset whose membership he assumes is already known to the hearer" (Chafe 1971:21). But to define 'definite' in this way is to miss essential semantic and syntactic differences between such phrases as John's uncle and an uncle of John's.¹ We must find a grammatical model that enables us to distinguish between those assumptions of the speaker that are relevant to lexical and syntactic choices from those that are not.

Jackendoff's position on this issue is equally unsatisfactory.² If certain presuppositions are regarded as inherent to the and such information is regarded as 'lexical', how are we to account for the fact that the does not always carry the same presuppositions? The most glaring instance is the difference between the as 'definite article', and generic the. Are these to be regarded as lexically distinct? Identity of the form of the determiner in these two uses

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1. There is no reading of John's uncle which is synonymous with an uncle of John's in all contexts: contrast the difference in presuppositions apparent in I have never met John's uncle/ I have never met an uncle of John's.
 2. Jackendoff does not pursue his 'lexicalist' suggestion for the, but his second suggestion - relating to what he calls 'modal structure' - is entirely vague.

is found in many European languages¹: it is unlikely that this identity of form is accidental, as Jackendoff's position would seem to suggest. In Chafe's account too (Chafe 1970:Ch.14) the connection appears to be accidental, but a generative account suggests the possibility of establishing a syntactic connection of some sort between the forms employed in these two uses.

I have attempted to develop an intermediate position between the extremes represented by R. Lakoff and Chafe on the one hand and Jackendoff on the other.

The model adopted by Chafe is not that of the 'orthodox' generative semanticists G. Lakoff and McCawley. The latter two hold that semantic structures are representable by phrase-markers and that transformational rules derive surface structures from semantic representations. McCawley holds that "semantic representation must provide the analysis of content that is relevant for logic" (McCawley 1973:222).² This leads naturally to an interest in philosophical problems of reference such as are studied in Bach (1968), McCawley (1970), but provides no guarantee (so far as I can see) that the semantic representations are, in some genuine definable sense, linguistic structures.

On the interpretive side, let us consider the following statement of a central tenet of 'extended standard theory' (EST): "The basic property of transformations is that they map phrase-markers into phrase-markers. Each transformation applies to a

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1. My attention was drawn to this point by reading Kato (forthcoming). She rightly identifies one of the crucial problems in this area when she asks, "Why can the so-called generic sentences and the so-called non-generic sentences have the same surface form in different languages?"
 2. McCawley attributes this view also to G. Lakoff. But Lakoff, G. (1971a) extends semantic representation to include not only the initial phrase-marker but also presupposition, Topic and focus.

phrase-marker on the basis of the formal configurations expressed in it, and quite independently of the meanings or grammatical relations expressed by these formal configurations" (Chomsky 1972b:197). The rules proposed in this thesis are not presented in support of the claims of EST. This decision has been taken because the notion of underlying case relationships has been accepted and will be shown to be relevant to noun phrase structure. A rule that mentions case in its Structure Index or its Conditions is not formulated in terms that are independent of meaning.

Jackendoff is confronted with the same problem in considering how to incorporate the Thematic Hierarchy Condition into his grammar.

This condition appeals to notions that are semantic in exactly the sense that case is a semantic notion (Jackendoff 1972:Ch.2).

Jackendoff's first suggestion "incorporates the condition as part of the passive transformation, specifying the Thematic Hierarchy within the structural description that must be met before the rule can apply" (p.45). Jackendoff rejects this proposal because, while it "appears the least problematic, it is inconsistent with the theory of grammar we are pursuing here, in that it permits semantic factors to be mentioned in the structural description of a transformation" (p.46). In contradistinction to Jackendoff's position, I accept this type of condition on transformational rules¹ - and with it a consequent complication of the transformational component of the grammar.

How then can we control our investigation of the possible semantic import of phrase-markers and transformational rules? One

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way, the way adopted here, is to make a methodological decision that transformations do not change meaning. If this is combined with the requirement that the setting up of deep structures must be syntactically (as well as semantically) motivated, there will be many rules that will have to be subject to intricate conditions and/or to be blocked where a meaning change would result. The empirical interest of the analysis for the question of the interplay of structure and meaning will be in the type of conditions that are found to be necessary for an adequate statement of the rules. If any such conditions consist of 'triggers' whose sole function is to ensure a specific surface structure, then the substance of the analysis is clearly equivalent in this area to the substance of one based on intermediate or surface structure interpretation. But the chances of isolating the factors involved in such rules and comparing them with factors normally treated by deep-structure semantics will be enhanced, I suggest, if formalization in terms of surface structure interpretation is not allowed. Rather than treating as empirical the question "Do transformations change meaning?" we should stipulate that they do not, and ask instead, "How tightly can the grammar be constrained with respect to the kinds of condition permitted on transformational rules?"

This methodological decision requires clarification of the notion 'meaning'. We may usefully distinguish between the 'semantic meaning' of the sentence, and the meaning of a speaker when he makes use of a sentence. Suppose that it were possible to isolate "all those parts of meaning that have to do with truth-value (in all possible worlds)" (Partee 1971:9); this is what I wish to call semantic meaning, providing it is defined on sentences rather than

on a speaker's use of a sentence. However I accept Strawson's view that truth is a property of statements rather than of sentences.

How then can semantic meaning be defined on sentences? It must be defined on those properties of a sentence which permit a statement to be true or false when made by use of the sentence in a given situation.¹ Speaker's meaning, on the other hand, is the statement (question, command) that a speaker intends to make in uttering a sentence on a specific occasion. These notions are reasonably distinct from each other but there is of course a middle area, what Partee calls "those subtler aspects of 'meaning' which are suggested by terms such as 'topicalization', 'focus/presupposition', or other equally ill-understood notions". There are clearly properties of the sentence, and therefore of sentence meaning, which are not (or not solely) related to truth values but are means by which a speaker may make his intention known to his audience. In principle my methodological decision excludes speaker's meaning, but extends not only to semantic meaning (characterized in terms of truth values) but also to a more inclusive concept 'sentence meaning'. In practice, this extension of the position is, I think, only tenable if information is fed into the deep structure which is not such as is naturally presented in phrase-marker form. The matter is taken up in §16.

Although he does not speak of sentences as true or false, Strawson accepts that there is a valid sense in which entailment, and other logical relationships, may hold between sentences (cf. Strawson 1952:31-2). I shall adopt this view.

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1. cf. Strawson (1952:4): "... the same sentence may be used to make quite different statements, some of them true and some of them false. And this does not arise from any ambiguity in the sentence. The sentence may have a single meaning which is precisely what, as in these cases, allows it to be used to make quite different statements."

In the presentation which follows, therefore, it is assumed that deep structures are meaningful. Since deep-structure phrase-markers are meaningful, they may in principle be 'interpreted' and their meaning be expressed in a separate semantic representation. Again, since the deep structure is meaningful semantic well-formedness constraints may be applied in order to mark as ungrammatical phrase-markers in which the incongruence of lexical matter gives rise to nonsensical structures. But transformational rules will also function as filters such that ungrammaticality may be attributed to the lack of a well-formed deep structure, to a constraint formulated in purely semantic terms, or to an infringement of the transformational or phonological rules. Since transformational rules are sometimes controlled by semantic factors, ungrammaticality which is due to the transformational component may be partially semantic in its effect. 'Grammatical' will be used for what is (in principle) generated by the grammar; 'well-formed/ill-formed' will be used for judgements as to what should be generated by the grammar.

Having constrained transformations in this way, we shall find some interesting instances of 'pragmatic' factors breaking into syntactic studies, but in general the stand taken here is that syntax and semantics together may be expected to result in a situation-free account of the sentence such that the speaker may use it for purposes of communication in ways restricted but not fully determined by the meaning of the sentence. 'Pragmatics' is here defined as the study of those aspects of meaning which are bound to the situation of utterance - either in the language-to-world relationship or in the

Communicative relationship between interlocutors. Pragmatics cuts across the distinction drawn above between sentence meaning and speaker's meaning. In what follows, a recurring point of discussion will be the extent to which pragmatic factors are or are not attributable to syntax and hence to be regarded as part of sentence meaning. Reference, as defined by Donnellan, is a pragmatic notion - but definiteness is semantic.

Thus my position is essentially interpretive in that there is no a priori decision that all ambiguities are to be attributed to underlying structure: my rejection of this generative position stems from the distinction I wish to draw between sentence meaning and speaker's meaning. With respect to sentence meaning, however, the formalization adopted here is generative in that the interaction between syntax and semantics is formalized in terms of semantic factors controlling the application of rules rather than of the semantic effect of rules applied without semantic control.

It has been suggested to me that my position may be a notational variant of that presented in Jackendoff (1972). It is an interesting question whether the grammar to be presented below could be formalized within Jackendoff's theory. I shall propose syntactic processes by which certain determiners are derived, and in doing so - as a consequence of the methodological decisions of this section - I shall be formalizing semantic intuitions. Could not the same information be recast in terms of semantic projection rules? Much of what is discussed below might be so expressed: in particular, my treatment of non-definite noun phrases is similar to Jackendoff's and could be presented within his theory. But the

interrelationship between different kinds of the and that could not be expressed without loss in Jackendoff's theory. The attempt would probably involve the claim that that and the were differently interpreted in different contexts; but no provision is made in Jackendoff's theory for a systematic presentation of what these contexts have in common and how they differ, hence no system would be shown to connect the different uses of these forms.

2.3. Rules of the base

In order to rationalize the distinctions and similarities between verb-governed and noun-governed case, it is necessary to make a systematic distinction between the categories noun and verb on the one hand, and the functions predicate and argument on the other. Accordingly a new formalism is adopted for this ^{or} purpose; it is an adaptation of the bar notation first used by Chomsky to show parallelism of structure between different types of constituent (Chomsky 1970:210; Stockwell op.cit.:21).

In order to characterize initial hypotheses about deep structure, let us posit rules which provide at least the following information:

1. $\bar{\bar{V}} \rightarrow \text{Spec}\bar{\bar{V}} \bar{V}$
2. $\text{Spec}\bar{\bar{V}} \rightarrow$
3. $\bar{V} \rightarrow V \bar{N}_1 \dots \bar{N}_n$
4. $\bar{N} \rightarrow \text{Spec}\bar{N} \left\{ \begin{array}{l} \bar{N} \\ \text{PN} \end{array} \right\}$
5. $\text{Spec}\bar{N} \rightarrow \left[\pm \text{pl} \right] \text{ (D)}$
6. $\bar{N} \rightarrow \left\{ \begin{array}{l} \bar{N} \bar{V} \\ N (\bar{N}) \end{array} \right\}$

These rules are not intended to be complete. Some additions will be made in the course of the presentation. With the exception of the first, the rules are not extrinsically ordered so they may be regarded as node admissibility rules¹: they are numbered here in order to introduce the following comments.

Rule 1. This is a notational variant of the early Fillmore's initial rule, making a distinction between modality and proposition (Fillmore 1968:23-4). \bar{V} corresponds to S (Sentence); the symbol \bar{V} is used here for the proposition. Comments on the bar notation will follow.

Rule 2. The symbol $\text{Spec}\bar{V}$ is an adapted form of the symbol suggested by Chomsky in his discussion of bar notation. Following Stockwell, rather than Chomsky, it is used here to designate the specifier of the sentence (corresponding to Fillmore's modality), rather than of the verb phrase. As used here:

- (i) it is a category node with respect to its place in the p-marker. (Hence the brackets used in the earlier versions of bar notation are omitted.)
- (ii) it is a unitary symbol. (Hence the comma of the original version is omitted.)

Further, two bars are substituted for the one bar of earlier versions. This change has been made because, as we shall see, $\bar{\bar{V}}$ is a uniquely interpretable symbol in our analysis, while \bar{V} is not.

Rule 2 is not formalized here for it is outside the scope of this study. Fillmore (1968) suggests that the modality constituent "will include such modalities on the sentence-as-a-whole

1. cf. McCawley (1968b)

as negation, tense, mood, and aspect". Subsequent research in different models of grammar suggests that at least aspect should be omitted from the list (Anderson 1973; Miller 1972). It is also doubtful whether negation and tense should originate under the same node as mood - Seuren (1969) offers an alternative analysis. In principle, however, and as indicated by Fillmore, the modality constituent (SpecV) represents a bringing together of the secondary grammatical categories that Lyons (1966:224) associates with 'Theme' and with 'Predicate': the advantage is that the proposition may then be considered in isolation from these other factors.

Rule 3 generates the proposition, which is introduced as a string consisting of a verb and a succession of arguments. The symbol V stands for a lexical category verb, which label I shall use for a class that includes what are traditionally known as adjectives.

As it stands, rule 3 is not a phrase structure rule. The corresponding rule in Stockwell (op.cit.:28) is:

PROP → V (ESS) (NEUT) (DAT) (LOC) (INS) (AGT)

Rule 3, by contrast, does not specify cases. It indicates only that the phrase generated by this rule consists of a verb and a finite number of noun phrases. If the maximum number of noun phrases were also shown, the rule would be a phrase structure rule; but it may be that the lexicalization of the node V should precede further specification of the number of noun phrases in the proposition and of the case-relationships into which they enter. In this way lexicalization would be interspersed with phrase structure rules. Or it may be, more conservatively, that information regarding arguments and their cases may be adequately handled in terms of strict subcategorization.

Either way, I accept for the purposes of this thesis the view of case which attributes to the item functioning semantically as predicate the source of information regarding the number of arguments in the proposition and the case relationships holding between them.¹

In rule 3 I totally ignore the problem of prepositions. In Fillmore (1968), and in Stockwell as shown above, the corresponding rule introduces cases as constituents. In Fillmore (1971) this formulation is rejected as the worst of various unsatisfactory methods of introducing cases. I make no attempt to provide an alternative solution, but I restrict the constituents of the proposition generated by these rules to those based on distinctions in lexical category and assume that case-marking prepositions are introduced by other means.

The double-bar \bar{N} , as generated by this rule, stands for the constituent category noun phrase, and the rule indicates that the noun phrase functions as an argument in a proposition.

Rule 4 is analogous to rule 1. The specifier of the noun phrase is indicated by $\text{Spec}\bar{N}$ and the comments on the symbol $\text{Spec}\bar{V}$ are applicable. \bar{N} corresponds to the constituent labelled NCM (nominal) in Stockwell. PN labels the category of proper noun.

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1. Stockwell allows for the first lexical lookup to apply in a block, but it is argued there that lexical insertion is sequential - verbs preceding nouns, and possibly higher verbs preceding lower verbs (Stockwell *op.cit.*:719-723). Seuren (1969) argues that lexicalization should be interspersed with other types of base rule. Newmeyer (see footnote page 20 above) suggests that rules of lexical formation may apply before rules of the cycle. Thus it is clear that there are several intermediate views on lexicalization between the orthodox positions associated with generative semantics (Lakoff 1971a) and 'standard theory' or EST (Chomsky 1971, 1972b).

Rule 5 is a new type of rule. It may be compared - or rather contrasted - with the rules for the noun phrase specifier in Chomsky (1970). I adopt the convention that anything introduced under $\text{Spec}\bar{N}$ has as its scope the entire constituent dominated by the node immediately dominating $\text{Spec}\bar{N}$. This rule introduces an obligatory feature choice representing the grammatical category of number (pl=plural) and an optional constituent D (determiner). The latter allows for non-predicable quantifiers (every, any etc.), but I have not examined the many problems posed by these quantifiers. They are considered briefly in §17. The determiners with which this thesis is mainly concerned are not generated as such in the base.

The bar notation was first discussed in conjunction with the suggestion that features should be allowed to occur on non-terminal nodes. $\text{Spec}\bar{N}$ is here used as a device for this purpose. $\text{Spec}\bar{N}$ itself is not part of a Complex Symbol (in the sense of Chomsky 1965:82); rather it is a node that will later be pruned. For further discussion see Appendix A.

Semantic well-formedness constraints are required to mark as ungrammatical a string consisting of D + PN (every Sam) or of $[\text{+pl}] + \text{PN}$ (Sams) as generated by rules 4 and 5, for there is a contradiction in the notion of determining or pluralizing a proper noun. Other rules generating such phrases by means of recategorization (cf. a Mr. Smith) will be discussed in Ch.VIII.

Rule 6 Line 1, $\bar{N} \rightarrow \bar{N} \bar{V}$, generates the structure for restrictive relative clauses: the rule is recursive. If \bar{N} is selected, the bottom line, $\bar{N} \rightarrow N (\bar{N})$, generates a structure isomorphic with one possible expansion of rule 3. It will be

explicated in Ch.V in terms of noun-dependent case.

There is no provision for an n.p. structure corresponding to 'it S' (as advocated for example in Jacobs & Rosenbaum (1968:173)). Phrases such as the fact that ... are discussed in § 14.1. See Stockwell op.cit. (Ch.8) for an analysis of noun phrase complementation that dispenses with the 'it S' structure.

Bar notation: I have used this to formalize a distinction between functional-category information and lexical-category information. The principle is that bars denote functional categories, and letters denote lexical categories. The semantic function of the verb is that of a predicate¹, and I shall use the term 'predicator' to refer to a functional category which includes verbs. But nouns too, it will be argued later, may function as predicates; and our rules will in due course be revised accordingly (§ 19.6). Hence nouns are predicators. Thus the no-bar symbols N and V denote a functional category predicator; the symbol V denotes a lexical category verb which comprises the central members of the traditional classes 'verb' and 'adjective'. (The substance of these claims is, I believe, in accordance with Lakoff, G. (1970c), and Lyons (1966); the terminological distinction is my own.) The two-bar symbols denote phrase-categories that MAY function as arguments (hence ARE argument-expressions). 'Argument-expression'

1. I use 'predicate' for that which combines with arguments to form a proposition; a predicate may be one-place or many-place, and the term will not be used (unless modified by 'complex') for expressions that themselves contain arguments. Normally verbs occur in deep structure as predicates, that is to say in one-to-one correspondence with any symbol that is chosen for the predicate in an alternative formalization of the meaning of the proposition.

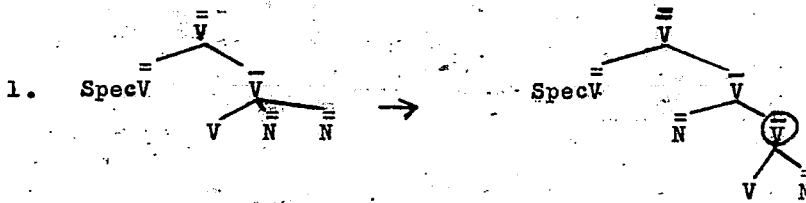
is a term on a par with 'predicator': it denotes a functional category. That \bar{N} is an argument-expression calls for no comment, but I wish to extend my claim to \bar{V} . Whereas the Stockwell grammar has an NP expansion $NP \rightarrow S$, it is proposed here that \bar{V} should function directly as an argument in the proposition. The suggestion has not been formalized in the rules for it is beyond the scope of my study to consider its implications¹, but it is assumed in my use of the term 'noun phrase'. 'Noun phrase' will be used throughout for the constituent \bar{N} , hence for a nominal argument-expression; this use of the term excludes embedded sentences² and excludes nominal expressions labelled \bar{N} . For a different use of the term noun phrase and some problems connected with it, see Jacobs & Rosenbaum (1968) and Watt (1971:section 2, iii, vi, xiv). In J. & R. the distinction between NP and \bar{N} is obscured.

Unlike the one-bar nodes, the two-bar and no-bar symbols have a constant interpretation³: sentence (\bar{S}), noun phrase (\bar{N}), verb (\bar{V}), noun (\bar{N}). In the text I shall use the abbreviations 'embedded s.' for 'embedded sentence(s)', and 'n.p.' for 'noun phrase(s)'.

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1. Emonds (1970:71-85) presents syntactic arguments in favour of the view that infinitives and clauses should not be generated under NP; but he treats 'gerunds' of all types as occurring under the domination of NP.
 2. Except for embedded s. that originate as a constituent of \bar{N} (cf. the fact that ..., where the fact may be deleted).
 3. Unfortunately the claim that ' \bar{N} ' may be consistently interpreted as 'noun phrase' must be modified if the formalism is extended to treat data not considered in this thesis (cf. Appendix A). However, throughout the following chapters, ' \bar{N} ' and 'noun phrase' are interchangeable.

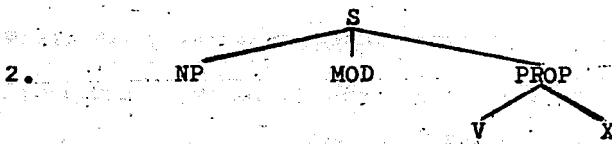
2.4. Subject Placement

The bar notation suggests a way of integrating the verb-dependent view of the proposition formalized in rule 3 with the subject-predicate sentence structure of Chomsky's standard theory. This depends on the formalization of the \bar{V} rule (transformational rule) of Subject Placement. In the formulation I shall adopt, one of the arguments of the proposition is promoted and adjoined to the left of the \bar{V} node by Chomsky-adjunction. The effect of the rule may be shown as follows, for a proposition with two arguments:



The output has a node \bar{V} (circled above) corresponding to the VP of standard theory, its function is that of grammatical predicate. The highest \bar{N} in the output is an argument functioning as subject.

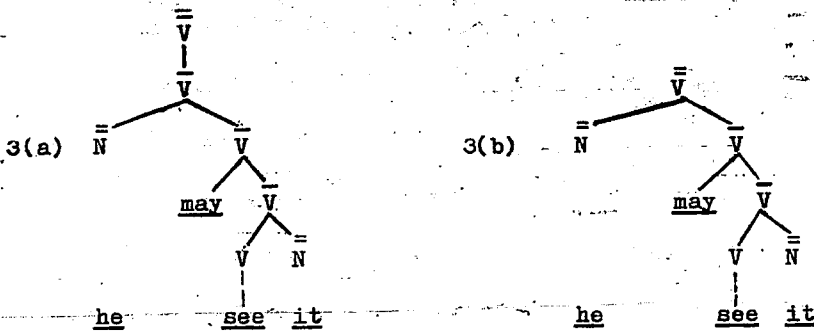
This formulation is different from the rule proposed in Stockwell. The output of the rule as formulated there (op.cit.:61) is given below.



(where 'X' is a variable)

In Stockwell (as in Fillmore 1968), the node M (or MOD) is treated as a constituent immediately dominated by S and may have a surface reflex, for example in a form of be or a modal. (Similarly in Jacobs & Rosenbaum (1968); a node Aux is immediately dominated


by S.) The bar notation suggests a different treatment: elements generated under $\overline{\text{SpecV}}$ (corresponding to MOD) might be mapped into the $\overline{\text{V}}$ constituent of the sentence by Chomsky-adjunction, which would permit an indefinite number of $\overline{\text{V}}$ nodes to be generated in the course of the application of the transformational rules. The $\overline{\text{SpecV}}$ node would finally be empty and could then be deleted. The resulting structure, e.g. for He may see it, would be as in 3(a) below at near-surface level, and this would become 3(b) - surface structure - after pruning of the unwanted $\overline{\text{V}}$ node:



The top-most one-bar $\overline{\text{V}}$ of 3(b) corresponds to the predicate phrase of Chomsky (1965), and to the (surface) VP of Ross (1966; 1967a). This formulation of Subject Placement has the merit of meeting one of Dougherty's criticisms of Fillmore (Dougherty 1970:525-529). Dougherty presents arguments against the derived constituent structure shown in 2. My proposals 1 and 3 also permit a consistent treatment of the specifiers of $\overline{\text{V}}$ and of $\overline{\text{N}}$. Thus any non-specifier node occurring under $\overline{\text{V}}$ or $\overline{\text{N}}$ is, at any pre-surface stage of the transformational derivation, 'in construction with' the relevant Spec node. The syntactic relationship 'in construction with' is introduced below in §3.1.

2.5. Pronouns

It used to be thought that third-person and third-person-reflexive pronouns could be accounted for by a transformational rule of pronominalization changing fully specified noun phrases into pronouns when two (or more) identical noun phrases occurred in the same sentence (cf. Lees & Klima 1963; Postal 1966; Ross 1967b; Langacker 1969). After Bach had shown the problem of infinite recursion inherent in this approach (Bach 1970), attempts were made to account for pronouns by other means and it is now widely accepted that pronouns cannot be adequately described by a transformational rule of pronominalization. Among alternative suggestions are Lakoff, G. (1968) and Jackendoff (1972:Ch.4) - these have in common that pronoun nodes are distinguished as such in the source structures. Lakoff, working in a generative semanticist model, favours some sort of indexing in underlying structure such that antecedent and anaphor are unambiguously marked. He considers the types of constraint required to ensure that surface structures are generated from such underlying structures by meaning-preserving rules. Jackendoff, working in an interpretive model that recognizes deep structure as the output of base rules, allows for pronouns to be generated by the rules of the base. Semantic interpretation rules are applied to indicate coreference between pairs of noun phrases - thus the pronouns are uninterpreted in deep structure. The rule which marks coreference applies cyclically and, if the pronoun is not reflexive, optionally. There is a last-cyclic rule of non-coreference which applies obligatorily to pairs which have not previously been marked coreferential. I have not studied this area



closely, but it seems probable that the choice between these alternative treatments is one that must depend on the theory within which the analyst is working rather than on the data to be described.

Jackendoff's rule of coreference applying to non-reflexive third-person pronouns is optional - thus he claims that sentences in which such pronouns occur are ambiguous whenever there is a possible antecedent within the sentence, for there is also the possibility of an antecedent outside the sentence. I am not sure that this claim is in fact justifiable: the sentences examined in Partee (1970a) would seem in many cases to be counter-instances. Partee's concern is to establish a semantic analysis and her account is neutral with respect to the generative/interpretive controversy. She shows that a uniform treatment of pronouns is not possible: there are instances where the relationship between antecedent and anaphor is not coreference and where the pronoun must be analyzed as a 'pronoun of laziness', in some sense a replacement of the full noun phrase¹; and others where the pronoun must be analyzed in semantic structure as a variable, the antecedent corresponding to the first or binding instance of the variable (p.375,384).

For purposes of this thesis, the following points are of interest:

(i) Where a pronoun is 'ambiguous' in that its antecedent may be inside or outside the sentence, it might seem to be

1. Partee attributes the term 'pronoun of laziness' to P.T. Geach. Such a pronoun is exemplified by it in The man who gave his paycheck to his wife was wiser than the man who gave it to his mistress. The example is due to Karttunen, cf. cf. Karttunen (1969).

consistent with the account of meaning given earlier to claim that disambiguation was a matter of speaker's meaning rather than sentence meaning.

(ii) However, the transformational rules are not independent of the range of anaphoric possibilities of pronouns, as is clear from the fact that 4(a) has two readings, while 4(b) has only one:

4(a). When John arrived, he kicked me.

(b). He kicked me when John arrived.

Therefore we may regard the antecedent/anaphor relation as part of sentence meaning.

(iii) My methodological decisions commit me to a treatment which marks anaphoric relationships in deep structure and controls transformations accordingly; but I have not investigated the many problems posed by this treatment.

(iv) In the case of third-person pronouns which are not pronouns of laziness, a treatment which would be consistent with earlier decisions would be for the rules of the base to generate pronouns as such. These would be interpreted at deep-structure level as non-coreferential, possibly coreferential, or necessarily coreferential, with an antecedent in the sentence. This interpretation would be wholly determined by the phrase-marker. A theoretically distinct semantic rule would then mark the 'possibly coreferential' noun phrases as coreferential or not: the output of this rule would be available for the control of transformational rules. (This is the first instance of a rule adding semantic information to that provided by the deep-structure phrase-marker. We shall find other instances in §16.4)

(v) Reflexive pronouns are normally unambiguous, but not always (cf. John told Bill a story about himself). They may be treated by rules similar, and probably identical in some respects, to those for non-reflexive pronouns.

(vi) Relative pronouns are different - their antecedent is unambiguously identifiable in surface structure. They will be discussed at length in the ensuing chapters.

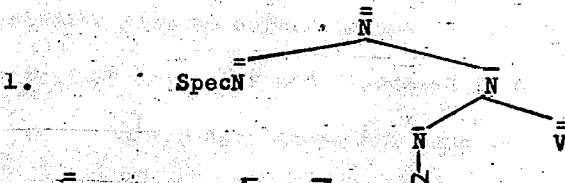
CHAPTER II

'THE', 'A' AND RELATIVE CLAUSES.

This chapter comprises §3, §4 and §5. §3 and §4 establish contrasts in definiteness in terms of the identity condition for relativization. This reflects a semantic difference between, on the one hand, n.p. that correspond to variables bound by sentential context, and - on the other - n.p. which are in important respects semantically independent of the sentence in which they occur. In §5 it is shown that the proposed description may be used to clarify our understanding of the word the.

§ 3 Non-definite Phrases3.1. The phrase-marker

The rules discussed in the last chapter generate (among others) the p-marker shown as 1 below:



Spec \bar{N} dominates [+pl] when the feature choice is plural; I have maintained the convention that only positive features are entered into the p-marker.¹ We may compare 1 with 2, which is the

1. Thus all feature contrasts used in my description are binary, and do not admit a middle term 'unspecified'. Once the generative process has passed the point at which a given feature might be introduced, its absence is equivalent to a minus feature. This formalization is adopted because it is the most economical for the area under discussion. No claim is made that such a procedure would be applicable in a complete grammar of English.

configuration used in discussion of relative clauses in several recent transformational studies (e.g. Ross, 1967a, Jacobs & Rosenbaum 1968).

2.



I find phrase-marker 1 preferable to 2 for the following reasons:

(i) P-marker 1 is more suitable than 2 as a basis for semantic representation. Firstly, ^{the topmost} N here dominates a constituent which functions semantically as a descriptive function (cf. § 2.2.). Secondly, ^{the s} N is IN CONSTRUCTION WITH SpecN and this allows for generalizations about scope relations within n.p. The relationship 'in construction with' was defined in Klima (1964); I give the formulation that appears in Jackendoff (1972:322):

"A node A is in construction with a node B if and only if the node C directly dominating B also dominates A."

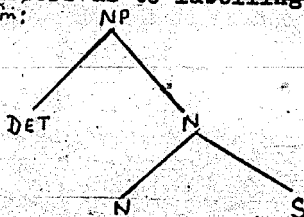
(ii) Dean (1967) argues for ^a the configuration ^{similar to} 1 on the grounds that 3(a) below does not entail 3(b) and that therefore relative clauses appear to modify the matrix noun rather than the matrix NP (reported and discussed in Stockwell et al. 1973:436-437).

3(a). Mary knows few boys who enjoy knitting.

(b). Mary knows few boys.

In my analysis, relative clauses are treated as derived from sentences embedded in the deep structure of n.p. According to a rival theory, the clause and the matrix sentence originate as cojoined sentences, or possibly as sequences of separate sentences.

1. [I use 'configuration' to refer to the shape of a p-marker but not to the labelling. Thus] Dean's p-marker is similar to 1. [as to shape, but differs as to labelling.] As presented in Stockwell it has the basic form:



The claim is well-founded for non-restrictive clauses (cf. Ross, 1967a:6.2.4.1.; Thorne, 1972b) but not for restrictives. The matter will be taken up in § 4.2.

3.2. Phrases determined by 'a'

Traditionally a and the were classified as 'the articles' and were thus implicitly regarded as functioning in contrast with each other. Yet Jespersen (1924:Ch.8) associated the indefinite article with an unstressed numeral, and Christophersen (1939) argues that the contrast is not a symmetrical opposition. Perlmutter (1970) argues that there is a categorial distinction between the two items, a - but not the - being a numeral. He claims that one does not occur unstressed before a noun, and shows that a occurs in environments in which otherwise only numerals occur (pp.234,235). He concludes that a/an are the unstressed forms of one.

But one is incompatible with the generic interpretation of a-phrases (that is, noun phrases determined by a). So Perlmutter is committed to finding an alternative source for a when it occurs in sentences such as A bird can fly. Another way of accounting for Perlmutter's data is to regard a as an item that is introduced by a T rule in the environment of a singular count noun, on condition that no other determiner is present. In this way, all occurrences of a are given uniform treatment and the semantic value of the item is restricted to marking the countability of the noun in certain environments. The co-occurrence restrictions shared with the numeral one are naturally accounted for by the fact that one also may occur before a singular count noun.

The privileges of occurrence of these two items overlap but are not co-extensive: e.g.

4(a). the one difficulty / *the a difficulty

(b). He is a fine fellow / *He is one fine fellow

Bellert (1969) suggests that in sentences such as 4(b) a has no semantic function, but that in 5 it is semantically non-distinct from a numeral:

5. I need a pencil. (cf. I need three pencils.)

It might be that one is indeed reduced to a in such contexts as 5, thus providing an alternative source for a in a synchronic grammar reflecting the diachronic development. But this would be to rule that 5 has a double source, though it is clearly not ambiguous. More plausible is the possibility that, because of the place in the system now occupied by a - one simply is not generated in such contexts except when the sentence is such as may be used in circumstances where stress would be appropriate.

Our base rules introduce a feature choice +pl; the + feature occurs under $\text{Spec}\bar{N}$ and is therefore applicable to the n.p. as a whole (by a convention introduced in § 2.3.). This formulation is sufficient to control verbal concord and the 'singular' and 'plural' form of demonstrative determiners and pronouns, for the contrast between count and non-count does not affect such matters. Nouns may be classified as count or non-count according to whether or not the lexical item in question can govern plural verbal concord. But some have argued that the distinction is syntactic rather than lexical and that the occurrence of a should be attributed to a syntactic choice, at least in some cases. This suggestion is

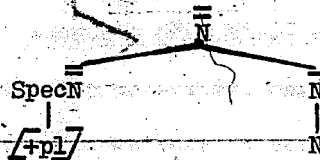
attractive for it is well known that a vast number of nouns are used both as count and as non-count items.¹ But a noun which can be used both as count and non-count is used in a different sense in each of these forms, nor is the distinction in sense entirely predictable from the difference in countability. Consider for instance the different ways in which the following are used: lamb/ language/ grain/ silence. This observation shows up a fundamental semantic problem posed by the syntactic analysis of countability. If the sense of the noun is not distinguished as to countability and this is entirely attributed to a syntactic choice, then what is to be counted? The lexical analysis of countability, which attributes the opposition between count and non-count to the sense of the noun, reflects Strawson's account of sortal universals. Count nouns are correlated with sortal universals, and "a sortal universal supplies a principle for distinguishing and counting individual particulars which it collects" (Strawson 1959:168). A syntactic choice, by contrast, is not sufficient to supply a principle of distinguishing and counting different particulars - that is to say, unless we know the meaning of the noun when used as a count noun we cannot count the non-linguistic correlates of the noun phrase.² Therefore I conclude that the feature contrast +count -count originates in the lexicon, and that in many cases a single lexical item will have more than one reading, each reading

-
1. For discussion and data, cf. also Christophersen (1939:166), Hewson (1972:77-8), Quirk et al. (1972:127-133).
 2. It may be objected that languages and grains (i.e. types of grain) are not particulars in Strawson's sense. But on pp.171-2, he shows that his account of universals collecting particulars must be extended by analogy to universals collecting universals.

containing the specification count or non-count.

The consequence of this formulation is that a semantic well-formedness constraint is required to mark as ill-formed the deep structure shown in 6, if the item introduced under N, in the reading introduced, is not count. In this way *electricities is marked as semantically anomalous.

6.



I know of two counter-arguments which weaken my claim that the transformational introduction of a is motivated by a feature originating in the lexical entry:

(i) Abstract nouns like silence, beauty, though sometimes occurring after a, may reasonably be regarded as basically non-count. First, non-abstract count nouns may occur after the in a generic sense but this reading is not available for abstract nouns:

7(a). The dog is intelligent. (ambiguous)

(b). The silence is embarrassing. (not ambiguous)

Second, one reading of the count occurrence ('an instance of') is predictable. It may be that countability is indeed syntactic with de-adjectival nouns in the sense of 'instance'.¹

(ii) Jespersen (1949:464-8) presents many counter-examples to the claim that singular count nouns must be preceded by a determiner. Among them are:

8(a). Brother and sister were at breakfast

(b). dog succeeded dog, and apartment succeeded apartment

1. I believe, in fact, this is a generalization that can be extended to derived nominals that are de-verbal.

(c). I can't be buyer and seller too.

(d). Chaucer's range from knight to miller, from

aristocratic prioress to bourgeois wife of Bath

Interestingly, if one tries to insert appropriate determiners one is inclined to select some which are usually regarded as definite and some which are not. The fact that appropriate determiners CAN be selected however suggests that these examples result from a near-surface, stylistically motivated, deletion transformation.¹

One who hears a sentence uttered which contains an a-phrase may interpret that phrase as specific, generic, or neither-specific-nor-generic.² The full range of possibilities is available only where the phrase contains no deictic elements, and so we shall concentrate on such phrases in what follows. There are two dimensions of contrast which interact to give three possible readings. In a generic reading of a sentence containing an a-phrase, a statement made by use of the sentence is true in general of entities fitting the description contained in the phrase; that is, true of most or all of them. In a specific reading of a sentence containing an a-phrase, a statement made by use of the sentence is true if true of some entity fitting the description contained in the phrase.

-
1. Phrases like by heart, off hand, etc. constitute a sufficiently clearly defined type to be regarded as a separate phenomenon (though one that my grammar cannot account for).
 2. For the term 'specific' see Baker (1966), Fillmore (1967), Dean (1968), Karttunen (1968a), Heringer (1969), Heny (1970), Partee (1970a), Stockwell et al. (1973). Heny shows that in the preceding literature the term had been used in two distinct ways, one of which is preserved here. In another sense, the contrast between specific and non-specific is defined in terms of speaker's intention (Karttunen 1968a:14-18): in this sense 9(a) has both specific and non-specific readings. My use of 'non-specific' for CONTEXTS which are INDETERMINATE is idiosyncratic. (There is a fourth reading of a-phrases: that of the predicate nominal).

The specific reading is equivalent¹ to a proposition quantified by the existential quantifier of logical formulae: the specific reading entails the existence of some entity meeting the description in the strictly logical sense of existence, that is in the sense of Russell's 'sometimes true' propositions (cf. 5-1.2.). Generic sentences may be compared to use of the universal quantifier. Logical formulae quantified by the universal quantifier are applicable to ALL entities meeting the description; but for natural language it seems more accurate to characterize the meaning of generic sentences in terms of 'true in general ...'². The third reading contrasts with both the specific and the generic readings; on this reading the statement is neither true of most or all entities meeting the description, nor true of some particular individual or set of individuals meeting the description. Sentence 9(a) below has only a specific reading, sentence 9(b) has most obviously a generic reading, while 9(c) has both specific and neither-s-nor-g readings:

9(a). Max caught a fish.

(b). A fish cannot sing.

(c). Max wants to catch a fish.

I have defined these three readings on the hearer's interpretation and it is my view that they are clearly distinguishable in a speaker's intention or a hearer's interpretation but that the sentence used by the speaker to express his intention is not in all cases determinate even in deep structure as to this three-way contrast.

-
1. I shall use 'equivalent' for logical equivalence: A is logically equivalent to B, if A entails B and B-entails A.
 2. This distinction is made, though in different terms, in Stockwell (*op.cit.*:89). For the effect of context on generically interpreted noun phrases, see Lees (1961), Chafe (1970:188-9).

The question at issue is whether the distinctions specific/non-specific and generic/non-generic should be regarded as part of sentence meaning or only as part of speaker's meaning. My claim is that the a-phrase is to be compared with a variable in logical formulae: it cannot be interpreted unless it is 'bound'. To the extent that we can attribute the distinctions in interpretation to the binding effect of the sentential context (i.e. to the lexical and syntactic properties of the sentence), distinctions in specificity and genericness may be regarded as part of sentence meaning. If we look at the surface structure of English sentences we can distinguish three context-types:

(i) existence-establishing: when an a-phrase occurs in such a context, the sentence is equivalent to a formula bound by the existential quantifier. The a-phrase contains a description. A statement made by use of the sentence entails the past or present existence of an entity which meets the description and of which the statement is true. Thus sentence 9(a) is equivalent to:

$$(\exists x) f(x) \cdot g(x)$$

where 'f' stands for the predicate fish, and 'g' for the complex predicate caught by Max.¹

(ii) generic: a sentence containing an a-phrase in a generic context has a reading such that a true statement made by use of such a sentence is true in general of members of the class defined by the description contained in the phrase, e.g. A duck likes water. (A sentence of this type may have an additional less obvious reading.)

(iii) non-specific: an a-phrase occurring in such a context is

1. My use of quotation marks with letter-symbols is informal.

non-generic and not-necessarily-specific. Thus the sentences of 10, when appropriately used, however intended and however interpreted, of themselves fail to guarantee the existence of one particular entity of which the corresponding statement is true or false.

10(a). Every morning, I shot a duck.

(b). Every morning, I saw a duck.

(c). I want to shoot a duck.

(i)-(iii) characterize CONTEXTS, the linguistic environment in which the a-phrase occurs. These sentential contexts bind the a-phrase, that is to say the variable, in different ways. I shall not attempt to investigate the sources of this difference in binding effect for clearly many factors are involved, including deixis, aspect, and the lexical properties of verbs. Let us suppose, however, that the binding effect of the surface structure is not MORE determinate than the corresponding deep-structure context. When I speak of contexts of types (i)-(iii) I shall assume that the surface-structure distinctions drawn above are attributable to distinctions in deep structure. This assumption is required by the methodological decisions introduced in § 2.2.: it leaves open the question of whether distinctions are made in deep structure which are neutralized in surface structure.

Contexts (ii) and (iii) are indeterminate in certain respects, but one distinction is clear-cut. Context (i) is existence-establishing while contexts (ii) and (iii) are not. When an a-phrase occurs in a type (i) context, and only in such cases, the sentence is equivalent to a logical formula in which the existential



quantifier binds the variable corresponding to the a-phrase. I shall speak of e-e contexts and non-e-e contexts for the distinction between type (i) on the one hand, and types (ii) and (iii) on the other.¹

I do not at this stage offer arguments in support of this analysis; it can in my view be supported only by the coherence of the grammatical description which is based on it, and which is to be presented in the following chapters.² It leads however to an initial characterization of non-definiteness for it may safely be assumed as a starting-point that a-phrases are non-definite. Let us postulate then that a characteristic of non-definite phrases is that they are variables bound by the sentential contexts in which they occur.

In general the treatment proposed here has certain advantages over Perlmutter's analysis. In particular, it avoids the need to postulate an underlying string the + one + NOUN going into the + a + NOUN for every count-singular n.p. of the type the dog. Thus it allows for contrastive stress on the form a in contexts that suggest it is contrasted with the:

11. (Question): Have you brought the book?

(Response): I've brought A book, but I don't know if it's the one you want.

-
1. The equivalence relation is used here solely to explicate the notion of existence. To say that the sentence and the formula are equivalent is NOT to say that they are identical in all aspects of 'meaning'.
 2. The position presented in this section is distinct from Jackendoff's theory of modal structure but has obvious resemblances to it. My own position was largely developed before I became aware of Jackendoff's theory as presented in Jackendoff (1972:Ch.VII).

Earlier I suggested that the semantic value of a was limited to marking countability. Example 11 casts doubt on this observation; 12 shows that it is definitely wrong. When followed by a proper noun a is a positive marker of non-definiteness.

12(a). A Mr. Smith telephoned.

(b). I've never met a Mr. Fernandez.

Perlmutter concludes that there is no grammatical opposition between the and a, but that the opposition relevant for definiteness is between the presence and absence of the. In one sense there IS a systematic opposition between the and a: in the sense that the environment in which a occurs is included in that of the, and the two forms never co-occur. Perlmutter's conclusion may be understood however to mean that there is no simple opposition of sense relating the two items. My alternative proposals do not undermine this conclusion, but 11 and 12 show that both the AND a are involved in the definiteness polarity.

3.3. Relativization: the identity condition

The claims that have been made with respect to a-phrases may be extended to n.p. where there is no determiner. In this case, whether the n.p. is plural or not, we find the same range of readings and the same set of context-types as with a-phrases:

13(a). There was water in the bucket.

(b). I need water.

(c). Water is precious.

14(a). Elephants were seen here an hour ago.

(b). They have been looking for elephants.

(c). Elephants can be a nuisance.

The occurrence of the partitive determiner some restricts the range of possible readings to specific and non-specific; but this need not concern us yet.¹ But our characterization of a-phrases, and undetermined phrases, in terms of the indeterminacy of the n.p. when considered in isolation is not so readily applicable to n.p. containing clauses in surface structure. The phrase a man I met cannot be interpreted as generic in any context, and perhaps not even as non-specific. Yet there is still reason to regard such phrases as variables in semantic structure for, if uttered in isolation from a sentence, they range over an unspecified number of extra-linguistic objects.

Noun phrases determined by a and those without determiners are thus recognized as non-definite. Semantically they are variables bound by sentential context. Thus understood, non-definiteness operates in a mutually exclusive binary contrast with definiteness: there can be no unmarked term.

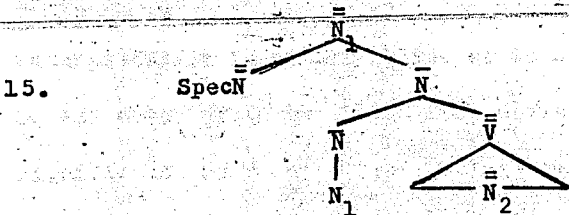
Consider now relativization. The Structure Index for the first of the relativization rules must indicate identity between two elements in the input structure. The various proposals that have been made are reviewed in Stockwell (op.cit.:424ff.). There are three possibilities; formal identity between noun phrases, formal identity between nouns, 'coreference'. Coreference of some sort is clearly signified by the relative pronoun in the surface structure

-
1. It may be support for my theory that the partitive determiner occurs in generic contexts and that when so occurring it is stressed. This accounts for the systematic distinction between stressed and unstressed some; the stress is predictable on the basis of the distinctions drawn between context-types. In some sentences however some seems to turn the hearer's interpretation towards specific and away from non-specific, and I don't understand why: They have been hunting elephants / They have been hunting some elephants.

and, since our syntax is not impervious to semantics, it must be regarded as part of the significance of the deep structure. The questions are (i) what two elements are coreferential? (ii) what is meant by coreference? (iii) is coreference a sufficient condition or is it dependent on or correlated with formal identity?

Of those discussed in Stockwell, the 'NOM-S' analysis comes closest to the one we shall adopt. In Stockwell the identity condition is expressed in terms of formal identity between nouns. It is argued moreover that whatever the determiner on the top noun, the lower noun phrase is non-definite. Thus the rules effecting relativization are dependent on formal identity - but they include a rule which "definitizes" the determiner of the lower noun phrase (because the relative pronouns are regarded as definite, in that they 'involve' coreference) (op.cit.:428). What is interesting here for our purposes is that (i) coreference, (ii) formal identity, (iii) choices as to definiteness in deep structure, are all separated out for independent study.

At this stage we restrict our attention to non-definite n.p. - defined (for the time being) as a-phrases and those without surface determiners. The configuration on which the identity statement will be based is:



(The subscripts in 15 are added for purposes of discussion. The node labelled \bar{N}_2 in 15 will - in future discussions of relativization - be referred to as 'the relative n.p.': it is the node which is realized as the relative pronoun.)

Formal identity between \bar{N}_1 and \bar{N}_2 is not a possible condition on relativization for there is no embedded s. under \bar{N}_2 . Formal identity between \bar{N}_1 and the lexical constituent dominated by \bar{N}_2 is worth considering. It might be argued that coreference is ensured by the relative clause configuration and that therefore formal identity between nouns is an adequate identity condition in a p-marker such as 15 where there are no deep-structure determiners.

However, there is a serious problem with this analysis - for consider the phrase:

16. a tall man

According to our most recent suggestion this would be derived from 15 with \bar{N}_1 dominating man, and the embedded s. would consist of the structure underlying 17:

17: A man is tall.

But sentences of the form

18. $\left[\begin{array}{c} a \\ \text{Determiner} \end{array} \right] + \text{NOUN} + \text{COPULA} + \text{ADJECTIVE}$

provide a generic context for the subject n.p. But a generic interpretation is either false, or is nonsense, in the case of 17. In any case, since by theoretical decision the deep structure is significant and T rules are meaning-preserving, we cannot derive non-generically interpreted phrases from structures where the relative n.p. occurs in a generic context in the embedded sentence. In such

a case there would be a conflict in the binding of the lower n.p.

So a condition for relativization stated in terms of formal identity is not compatible with the analysis of non-definite n.p. as variables.

This argument does not depend on the derivation of adjectives from embedded sentences; even if it were shown that attributive adjectives were not so derived the same problem would arise with embedded sentences like:

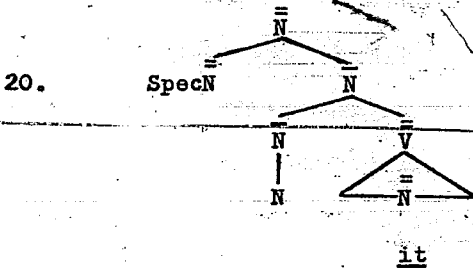
19. A man hates parties.

A weak point in the argument is the fact that sentences providing generic contexts sometimes have alternative non-generic readings. But it is highly doubtful if one could find situational or discourse contexts in which 17 or 19 would be judged well-formed in a non-generic reading.

I conclude from this line of argument that the underlying form of the relative n.p. must be such as does not require generic interpretation in sentences like 17, 18 and 19. The forms which would qualify on this count are precisely those that would signify an anaphoric relationship with an expression in the preceding text, in this case with N_1 : that is to say, the N, this N, that N, or a third-person personal pronoun.

But the indication of coreferential anaphora has long been recognized as one of the central functions of the 'definite article' and of definite n.p. in general (cf. Christophersen on the 'resumptive use of the', and Postal (1966)). In other words the relative n.p. in 15 must be DEFINITE and must be anaphorically related to N_1 . The whole n.p. \bar{N}_1 will thus be translatable as

'an \underline{x} such that $f(\underline{x})$ ' for singular phrases and to comparable translations for plural phrases and those headed by non-count nouns. For the time being, I shall indicate the relative n.p. merely by means of a personal pronoun; the formalization will be reconsidered in § 19.2. Thus the following p-marker is an approximation to a structure meeting the conditions for non-definite relativization:



Looking at p-marker 20, we see that the relationship of the embedded \bar{V} to its sister \bar{N} is endocentric: the relative clause can be omitted without affecting grammaticality. I shall now go on to show that this analysis is not applicable to phrases determined by the and that the $\bar{N} + \bar{V}$ string does not in such phrases realize an endocentric structure.

§ 4 'The' and Relative Clauses

4.1. Special cases

Perlmutter (1970:240-244) presents data from which he argues that the is sometimes non-basic. He refers to Postal's feature analysis of articles (Postal 1966) but claims that in the instances discussed the must be attributed to a different source. Thus underlying

1. In England there was never the problem that there was in America (P's example 39)

he posits a n.p. structure which may be indicated¹ as follows:

2. $\left[\begin{array}{l} \text{a problem} \\ \text{NP} \end{array} \right] \left[\begin{array}{l} \text{there was a problem in America} \\ \text{S} \end{array} \right]$

Perlmutter's arguments are based on the assumption that the relativization condition is one of formal identity, and in 1 and 2 this assumption finds support in the doubtful status² of

3. ?There was the problem in America

for in neither the matrix sentence of 1, nor in the embedded sentence, is it plausible to assume an underlying sentence related to: there was the problem.

Other examples discussed by Perlmutter include:

- 4(a). the book of John's which you borrowed
 (b). *the book of John's
 5(a). the seventh of the rice which was wasted
 (b). *the seventh of the rice
 6(a). the Paris that I know
 (b).. *the Paris

The peculiarity of these examples is that the well-formedness of the phrases is affected by the presence or absence of the relative clause.

1. Here and subsequently, deep and intermediate structures are indicated very informally. Where labelled bracketing is used, all brackets will be omitted except those that are relevant to the point under discussion. Within each bracket a SURFACE form is usually shown: this is the form thought to be derived by the shortest route from the source of the unit so bracketed when considered as a separate unit.
2. I would wish to argue that 3 is well-formed and to be accounted for in the grammar, but that its underlying form is semantically inadmissible in the deep structure of 1.

In all these cases, Perlmutter argues that in the embedded s. of deep structure the relative n.p. is not such as to contain a definite article on the surface - it contains the numeral one or (in the cases of the proper name Paris) has no determiner. The n.p. of the matrix sentence would, in his view, be identical in form to the relative n.p.

Perlmutter's purpose in discussing these examples is to support his claim that the and the item underlying a may co-occur in a single n.p. in the course of a derivation. But this claim is stymied by our proposals for a. Yet, although the examples do not prove the point Perlmutter wished to make, we cannot easily reject his contention that the noun phrases which are relativized in the processes generating 1 - 6 do not contain the, or Postal's feature, in their underlying form.

Perlmutter does not suggest that his proposal for the derivation of the in these special cases should be generalized. In Stockwell *et. al.* (1973:422-423) a partially similar example

7. He's not the scholar that he used to be.

and certain other apparently relative constructions are assumed to be derived by distinct rules and are classified as 'pseudo-relatives'. Brame however argues from comparable data for a reconsideration of the whole process of relativization (cf. Schachter 1973). Brame looks at examples such as:

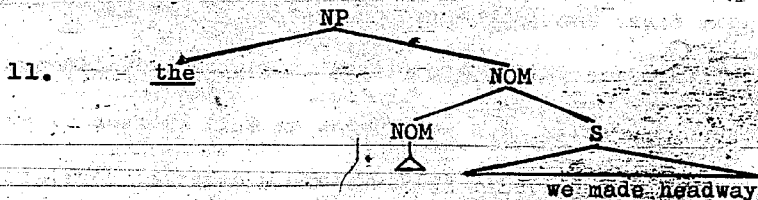
8. The headway that we made was satisfactory.

and points out that neither 9 nor 10 is clearly well-formed:

9. ?The headway was satisfactory.

10. ?Headway was satisfactory.

He postulates an underlying structure:



where there is NO matrix noun (cf. the dummy symbol under the lower NOM). Brame suggests that such a 'headless' structure underlies all n.p. with relative clauses. The implication seems to be¹ that therefore ill-formed sentences like 9 and 10 are not generated. But words like headway will still have to be distinguished somehow from the majority of nouns. There seems no reason to block the insertion of headway under NOM in 11. For if relative clauses originate as sentences embedded in noun phrases, the configuration of the n.p. as a whole will ensure that when an item such as headway occurs as the head of the phrase in 11 it is NOT functioning independently as an argument of the matrix sentence. But this claim depends on our finding a distinction between such phrases and non-definite phrases, for we observed above (§3) that the relative clause was endocentrically related to the head noun of the non-definite phrase, and that its deletion did not result in ungrammaticality.

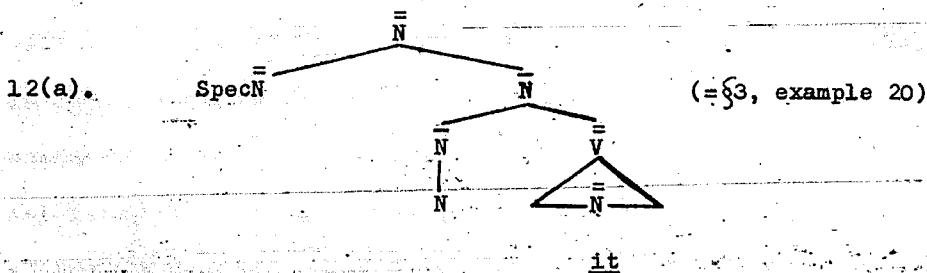
A second set of data presented in support of the headless structure relates to pronominalization. But what is not apparently given due consideration is the difference in kind between the two

1. I have not seen Brame's manuscript, but rely on the account of it given by Schachter.

sets of data: the first set relates only to phrases with the.¹

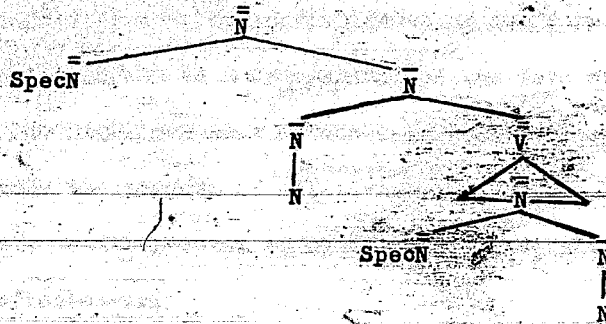
The proposals made by Perlmutter and those made by Brame have something in common. Both suggest that certain n.p. with the are to be derived from an underlying n.p. structure where an embedded sentence contains a NON-DEFINITE relative n.p.

In phrases where relative clauses co-occur with a in surface structure, I have already argued that the relative n.p. is definite in deep structure. Thus, if non-definite relative n.p. underlie phrases surfacing with the, we have a clear distinction between these two structures in the base, one which does not depend on the form of a determiner on the matrix noun. We may therefore postulate that, where there is a relative clause, the-like a is a derived form, and that it is introduced as a necessary accompaniment to the relativization of a non-definite relative n.p. The distinction in underlying structure would look like this, in instances where there is only one degree of embedding:



1. Thus my proposal ignores Brame's pronominalization data for I assume that it relates to a rather different phenomenon. In addition, my account is regrettably incompatible with Schachter's account of focus which in turn depends on the 'headless' structure hypothesis. I assume, perhaps incorrectly, that the generalizations Schachter makes can be formalized rather differently, making use of the relativization process proposed here for the.

12(b).



This neatly disposes of the problem of endocentricity. With a, the relative clause may be deleted without affecting the grammaticality of the truncated phrase - with the this is not always so. In my treatment this is attributed to the fact that the is introduced by a T rule dependent on the embedded sentence and triggered by the non-definite relative n.p., while a is introduced by a T rule which has nothing to do with relative clauses except that the form must be blocked (or deleted) in environments which generate the.

I posit therefore that the identity condition is stated differently for the two types of phrase. If however the 'identity' is in each case recognized as ANAPHORA, we can say that there is an anaphoric relation between the head noun of the matrix and the relative n.p.: in 12(a) the head noun of the matrix is the antecedent but in 12(b) it is the relative n.p. which is the antecedent, notwithstanding its righthand position.

In one respect my proposals may be regarded as an extension to a different area of proposals made by Kuroda (1968)¹: in both

1. But I am not sure that the two accounts are fully compatible, even allowing for differences in notation and theoretical assumption. On the non-definite status of the form underlying the relative pronoun co-occurring with the cf. Robbins (1968), Vendler (1967b:50) and the literature discussed in §1.3.

analyses the definiteness or non-definiteness of the form underlying the WH-relative is held to be a determinant of the form of the surface n.p. One might say that Kuroda uses contrasts in definiteness to illuminate the process of relativization whereas I am attempting to use relativization to gain greater understanding of contrasts in definiteness.

4.2. Exploring the hypothesis

A. Recapitulation

First I shall reformulate and expand the argument supporting my claim that the relative n.p. is NON-DEFINITE in the underlying structure of the-phrases and that this constitutes an essential difference between such phrases and those occurring with no determiner or with a.

Step 1. Data to be accounted for: examples where the presence or absence of a relative clause affects the grammaticality of a phrase determined by the (cf. §4.1., examples 1-10).

Step 2. (a) The data can be accounted for by assuming that the originates in (alternatively, 'is determined by') the clause. If this is the case the underlying structure for such phrases must be distinguished from those triggering the a-insertion rule. It would be ad hoc to mark the distinction by a feature 'definite' indicating the, or by assuming that the form the itself occurs under the embedded sentence node.

Step 3. A natural way to distinguish the underlying structures of a-phrases and the-phrases is to suppose that the relative n.p. is

non-definite in the case of the-phrases: the-phrases are thus distinguishable for it has been shown above that the relative n.p. in a-phrases is definite. This solution is natural because:

(a) for the special cases cited by Perlmutter, or by Brame, it introduces at source sub-structures which underlie well-formed sentences, and which seem to be in some sense a guarantee of the well-formedness of the phrase, thus: the headway we made / we made headway // the problem that there was in America / there was a problem in America.

(b) it accounts for at least one type of 'pseudo-relativization' (Stockwell op.cit.:422), bringing it within the rules for relativization proper. Thus He's not the scholar that he was may be derived from:

$$\left[\begin{array}{c} \text{he} \\ \text{is not a scholar} \\ \text{V} \end{array} \right] \left[\begin{array}{c} \text{he} \\ \text{was a scholar} \\ \text{V} \end{array} \right]$$

(This type of construction will however still need to be distinguished by the absence of which/who on the surface.)

(c) more generally, it suggests a connection between the non-definiteness of the relative n.p. and the 'presuppositions' associated with the definite article.

B. 'The' in phrases without other modifiers

But if the sometimes originates in an embedded s., it is possible that it always does so. If the is generated by phrase structure rules, or by means of deep structure features, for some surface occurrences and not for others we shall gain few of the advantages of the relative-source analysis for this would be confined to n.p. having surface structure modifiers.

Consider the underlined n.p. in 13. If we suppose 13 to be derived from a structure containing 14, we find the same difficulty as that posed by example 17 in §3. The embedded s. of 14 provides a generic context for the subject n.p. and so is semantically inadmissible in the derivation of 13. Therefore I postulate 15 as underlying the subject n.p. in 13.

13. The green book is mine.

14. [book [a book is green]]
 \bar{N} \bar{V}

15. [book [there is [a book [it is green]]]]
 \bar{N} \bar{V} \bar{N} \bar{V}

There is an alternative surface realization of 15, viz. the green book that there is. Consider 15; two embedded s. are present - one which introduces the modifier green, one which introduces the determiner in a structure which is first realized as the that there is. The clause in which green originates modifies the relative n.p. in deep structure, not the head noun of the matrix n.p. This is consistent with the claim made earlier that the relative n.p. was the antecedent in the identity condition responsible for the. So in positing that the underlined n.p. of 13 is derived from the structure indicated in 15, two new rules must be posited - one that copies modifiers (here just one clause) from the relative n.p. on to the head noun, and another which introduces the determiner the as part of the relativization process. It is clear that the analysis proposed for 13 is applicable also where there are no surface modifiers of the head noun, only the determiner the. Thus the underlined n.p. in 16(a) is attributed in this analysis to the deep structure indicated in 16(b):

16(a). Please pass me the book.

(b). $\left[\begin{array}{c} \text{book} \\ \bar{N} \end{array} \right] \left[\begin{array}{c} \text{there is a book} \\ \bar{V} \end{array} \right]$

Further consideration will be given to the syntactic aspect of the proposal in § 11.

C. Presupposition

The clearest semantic implication of the proposal is that the embedded *s*. in structures underlying the-phrases are presupposed by the matrix *s*.: sentence 13 presupposes 'there is a green book'.

In using the term 'presuppose', I here follow Keenan's definition of logical presupposition, "A sentence *S* logically presupposes a sentence *S'* just in case *S* logically implies *S'* and the negation of *S*, $\sim S$, also logically implies *S'*" (Keenan 1971:45). Among the linguistic structures Keenan lists as bearing presuppositions are restrictive relative clauses in definite n.p. Thus it is claimed that both 17(a) and (b) logically imply (c); hence 17(a) - and 17(b) - each presuppose 17(c).¹ With this we may contrast 18:

18(a) logically implies 17(c), but 18(b) does not.

17(a). Mary loves the puppy she found.

(b). Mary doesn't love the puppy she found.

(c). Mary found a puppy.

18(a). Mary loves a puppy she found.

(b). Mary doesn't love a puppy she found.

The difference as to presuppositions between 17 and 18 is naturally accounted for in our analysis for in 17, but not in 18, the embedded *s*. is syntactically and semantically independent of the matrix *s*.

1. The validity of the logical definition of presupposition is of course open to question (cf. Kempson 1973). I shall however accept it without comment until the discussion of Ch.IX.

In 20(a) one sentence is embedded inside another, rather than each being separately embedded into the noun phrase structure as in 20(b). If each clause were embedded separately also in 20(a), we should have two sources for the and would have to posit an ad hoc the-deletion rule.

When 19(a) occurs in a sentence, that sentence presupposes You lent me a book on syntax. But 19(b) is uninterpretable out of sentential context; it is in principle applicable to a number of objects. A sentence containing 19(b) does not carry a LOGICAL presupposition related to the clause, cf. I HAVEN'T lost a book on syntax which you lent me - you never lent me one, so I can't have done. The first of these sentences does not guarantee the truth of You lent me a book on syntax. In 20(a) the presupposition of 19(a) is precisely the sentence that would be generated by the structure headed by the topmost \bar{V} if this \bar{V} were not embedded. In 20(b), there is no embedded \bar{V} which is semantically independent of the matrix.

The term 'presuppose' as used here must be distinguished from two other possible usages. First, it is differently used when contrasted with 'focus'. The pair focus/presupposition relates to the information structure of a sentence and has to do with what is presented as 'known' or as 'new' information.¹ The term 'information structure' will be used for the interrelationship of constituents of the sentence with respect to their relative prominence in conveying "components of a message" - this definition is intended to be

1. cf. Lakoff, G. (1971a:261). Lakoff is surely incorrect to suggest that ALL restrictive clauses are presupposed - I know of no sense in which the clause is presupposed in the following: Chimpanzees are clever, but I've never met a chimpanzee who can TALK.

compatible with Halliday (1967b:199). What is logically presupposed by a sentence is, necessarily, outside the focus in the information structure, i.e. when the sentence is used, the information is presented to the hearer AS IF already known to him. But logical presupposition is not the only means available in the language of presenting information 'out of focus'. I shall use 'presuppose' for 'logically presuppose'.

Secondly, presupposition is not the only basis for inferences to be drawn from a sentence or from a speaker's utterance of a sentence. For other types of implication¹, I shall use 'imply' as a cover term to express my lack of understanding of the exact nature of the inferential relationship. In general I shall use the term for something a speaker does in uttering a sentence (and by extension for something an utterance does), but in some cases 'non-logical' implication seems to be a property of sentences and not exclusively of the use of the sentence, e.g. most sentences containing 19(b), or the relationship between 21(a) and (b):

21(a). Max did not receive a letter Sue sent him.

(b). Sue sent Max a letter.

Since the presupposition we are considering is guaranteed by the the-phrase itself and is not due to the structure in which the phrase occurs, it seems reasonable to speak of phrases presupposing, as well as sentences presupposing. Strictly "the the-phrase x

1. Except for entailment when this is clearly distinguishable as such: that is, I shall use 'entail' as equivalent to 'logically imply' (as defined in Keenan 1971:45 cf. 'logical consequence') - so presupposition is a special kind of entailment in this usage. 'Imply' will not be restricted to logical implication.

presupposes" is an abbreviation of "any sentence containing the the-phrase X presupposes".¹

D. Familiarity

A sentence which is presupposed by a the-phrase is not only presupposed but also 'out of focus'. When such a phrase is used it presents to the hearer information AS IF the information were already known to him. The speaker who utters a the-phrase MAY use the relative clause - or modifiers derived from them - for information that is new, but the information so presented is implied to be such that the hearer is expected to know it. This ties in with Sørensen's account of familiarity as a factor in the meaning of the - in his view the use of the definite article indicated that the hearer was expected to know some FACT. Strawson's (1964) concept of identifying knowledge - knowledge attributed by the speaker to the hearer - is too complex to be caught by the presupposition of a sentence such as there is an X, but this presupposition is at least an indication that the hearer is expected to know SOMETHING. Further, the analysis proposed here brings in the notion of identification: for the n.p. in the presupposed sentence is the antecedent of the head noun in the matrix n.p. In pragmatic terms the p-marker proposed for the-phrases might be informally glossed as "you know such and such, well that's the one I mean".

E. Restrictive and non-restrictive modification

Discussion of relative clauses raises many complex problems which are connected with our main theme but not central to it: the

1. This usage implies an extension of the notion 'logical presupposition' to non-declarative sentences.

stacking analysis discussed in Stockwell (op.cit.:42-7); the question of whether adjectives should be derived in a uniform way and whether any should be derived from relative clauses (cf. Bolinger 1967); restrictive and non-restrictive modification. Let us consider one particular issue: the distinction between restrictive and non-restrictive pre-nominal adjectives. In formulating the remarks which follow, I assume (i) that there is a clear distinction between Restrictive (R) relative clauses and Non-restrictive (NR) relative clauses and that NR clauses are, at least in some instances, derived either from conjuncts of the sentences in which they occur or from sentences which are quite distinct in deep structure¹; (ii) that at least some adjectives are derived by pre-posing from relative clauses²; (iii) that the distinction between R and NR interpretations of preposed adjectives can be found in adjectives that have been derived by pre-posing.

22. the philosophical Greeks

22 may be used of all Greeks, or of some set 'the Greeks' previously established as such in the discourse; alternatively the phrase may be used referentially or attributively of a subset of Greeks to be identified by means of the characteristic 'philosophical'. The first reading is the NR reading, the second is R. By use of the phrase in its NR reading the speaker may inform the hearer that the Greeks are philosophical. For discussion see Jespersen (1924:Ch.8); Chomsky (1965:217).

1. cf. Thorne (1972b)

2. e.g. those whose function Bolinger characterizes as 'referent modification'

The question arises as to whether this type of ambiguity is also found in non-definite n.p. There is an interesting discussion of R/NR clauses in Huddleston (1971:212-233). NR clauses following non-definite n.p. in e-e contexts appear to be distinct from R clauses only in information structure. But after non-definite n.p. in generic contexts, there is a clear semantic distinction between sentences containing the two types of clause as shown by 23.

23(a). Ostriches, which are heavy, cannot fly.

(b). Ostriches which are heavy cannot fly.

It is in such contexts therefore that we may expect to find the most obvious cases of the R/NR distinction when applied to pre-nominal modifiers. It is arguable that 24 is ambiguous; but it is doubtful whether the ambiguity is syntactic:

24. Heavy ostriches cannot fly.

Now it may be that the NR reading of 22 is derived by pre-posing of the adjective from a NR clause. But such a derivation involves a sentence which originates as an entailment or assertion¹ becoming a presupposition in the course of the derivation, for BOTH readings of 22 carry the same presupposition. That is to say, 25(a) presupposes 25(b) whether one interprets the underlined phrase in (a) as R or NR:

25(a). He admires the philosophical Greeks.

(b). There are Greeks who are philosophical.

25(b) is true if some Greeks are philosophical; it is also true if all Greeks are so. Any sentence containing 22 presents 25(b) AS

1. If the NR clause originates as a conjunct (S_1) of the sentence (S_2) in which it is later inserted, then the underlying conjunction entails but does not presuppose S_1 . If S_1 originates as a separate sentence altogether, it originates as a sentence that may be used to make an assertion.

IF known whether or not the characteristic 'philosophical' is used for purposes of identification, whether or not the speaker deliberately uses the structure to introduce information he believes to be unknown to the hearer. Therefore I propose that 22 has but a single deep structure, and that in it the embedded s. is the structure underlying 25(b).

The point is that the deep structure proposed for the phrases is neutral with respect to the R and NR readings of adjectives. But the T rules which generate clauses and preposed modifiers are NOT neutral, for the deep structure underlying 22 also underlies 26(a) - but not 26(b):

26(a). the Greeks who are philosophical (R)

(b). the Greeks, who are philosophical, ... (NR)

The rationale for blocking the derivation of NR clauses from the same source as R clauses relates to: (i) the unclear status of NR clauses with respect to presupposition/entailment; (ii) the unclear status of NR clauses with respect to place in constituent structure; (iii) the clear semantic difference between sentences containing clauses, R and NR, after non-definite n.p. in generic contexts; (iv) the occurrence of NR clauses which MUST have a different source - They are coming, which is a good thing; (v) the occurrence of NR clauses after proper nouns; (vi) the data considered in Thorne (1972b).

The implication is that while R and NR clauses must (at least sometimes) be distinguished at source, there is no reason to extend the distinction in the deep structure to pre-nominal modifiers.

Such modifiers may in all cases be derived from the source for R clauses; but some means must be found of controlling the T rules with respect to the pragmatic distinction between identifying and characterizing information.

F. Stacking

My analysis is presented as a stacking analysis (Stockwell op.cit.:442-7). But the claims made are dependent on stacking in only one respect. In 20(a), the non-definite relativization (book-which-is-on-syntax) is stacked inside the definite relativization (you-lent-me-an-X): this structural relationship is essential to the proposals. The relationship between other embedded s. generated in the n.p. could be one of co-ordination.

G. Relative clauses from conjunctions

We are now in a position to compare these proposals with those of linguists who favour an analysis in which the relative clause originates outside the matrix sentence and as a conjunct of it.¹ For non-definite n.p., the conjunction source is not compatible with the analysis offered above: it is essential for my analysis that the embedded s. in non-definite relativization originates within the n.p. for this is itself a variable bound by its sentential context. When divorced from its clause, the head noun may no longer be regarded as an element in the semantic structure of the sentence.²

1. cf. Stockwell (op.cit.:440-441); Drubig (1968); Thompson (1971). For an interesting discussion of Drubig's proposals, see Hawkins (1971:88-90).

2. This fact poses problems for Thompson, who admits that her analysis does not cover such sentences as Men who smoke pipes look distinguished.

This fact has been formalized by making the clause anaphorically dependent on the head noun. But for the-phrases the position is different. The embedded s. is independent and could be treated as a left-hand conjunct. In this case the place held by the node that would come to dominate the the-phrase might be filled by a third-person pronoun in deep structure, thus formalizing the claim that the relative n.p. is antecedent and the head of the matrix n.p. is anaphor in deep structure. Indeed, with respect to this anaphoric relationship, the two proposals would seem to be notational variants.

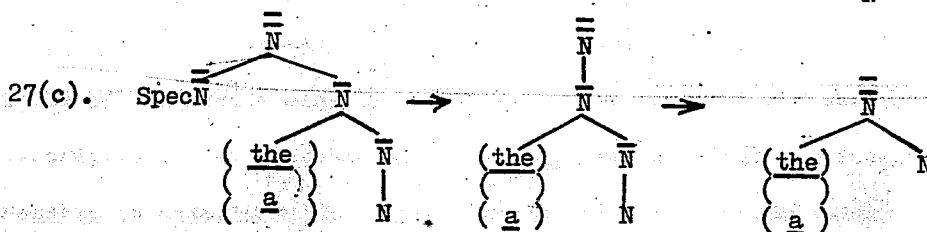
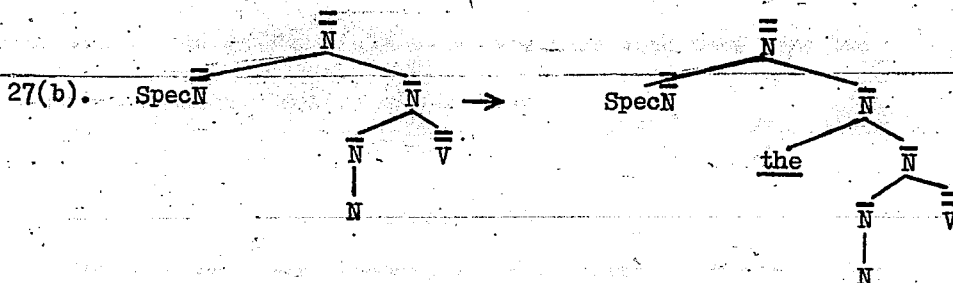
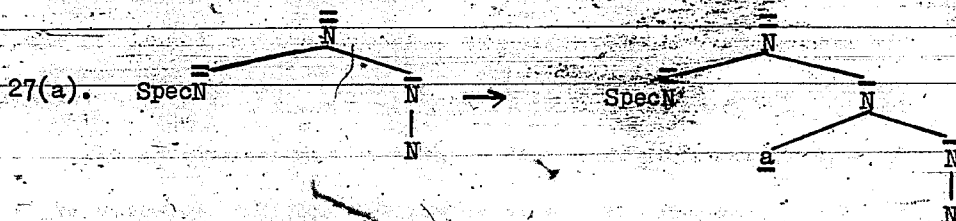
But the serious disadvantage of the conjunct proposal is that the presuppositional status of the embedded s. is not formalized in the proposed deep structure. (The problem is the same as that which would arise if NR pre-nominal modifiers were derived from clauses originating outside the sentence which is matrix in the surface structure). An alternative possibility is to adapt Lakoff's suggestion that presuppositions be formalized in a separate p-marker, and have the relative clause originate in a separate p-marker labelled PR (presupposition).¹ But until we have much greater understanding of the various relationships we call 'presupposition', it is impossible to say whether this proposal would have any advantages of over the one followed here. I shall continue to adopt the simpler analysis - where the embedded s. starts out as such.

H. Derived structure

Finally, let us consider derived structure. Both the and a are to be introduced transformationally. The bar-notation

1. cf. Lakoff, G. (1971a)

configuration permits an indefinite extension of the original structure by means of Chomsky-adjunction. Consider the following processes:



In 27(a) the determiner a is introduced before a count noun in a non-plural phrase. It is NOT introduced under SpecN; SpecN, like SpecV, is destined to be pruned. The determiner is introduced into a position which is configurationally identical with the position of the subject in sentence structure. SpecN is a place-holder for features on the non-terminal node N.

In 27(b) the is introduced as part of the process of definite relativization. In § 8 I shall consider the need for a feature

analysis of the segment introduced by this rule, for the moment we can think of the item the being introduced as such.

In 27(c), where the relative clause motivating the has been deleted, SpecN is pruned and subsequently the unwanted one-bar N nodes are pruned.

The pruning processes will be discussed in Appendix A. 27 may be compared with the discussion of Subject Placement in § 2.4. There is one problem that this Chomsky-adjunction analysis cannot deal with: it cannot generate a structure with more than two conjoined modifiers preceding the noun.

§ 5 'The' and Existence

Both Russell and Strawson claim that the existence of some entity to which the description is applicable is a condition of the truth of statements made by use of sentences containing a definite description.¹ My proposal to derive the from embedded sentences results in underlying structures incorporating sentences which resemble those that might be used to assert the existence of such an entity. I therefore wish to posit a relationship between 'existence' and the embedded sentence from which the is derived.

In this section I aim to show that there is no logical presupposition of existence directly dependent on the word the. I shall use 'existence' in two ways: first, to mean 'logical existence' i.e. if a sentence is used to make a true statement of

1. "Both Russell and Strawson assume that where the presupposition or implication is false, the truth value of what the speaker says is affected. For Russell the statement made is false; for Strawson it has no truth value." (Donnellan 1966; cf. Steinberg & Jakobovitz 1971:101) In what follows I extend the discussion from 'definite descriptions' to the-phrases in general (contrast Russell, cf. §1.2.)

some particular entity/entities X, X has 'logical existence' in the world in which the statement is true; second, to mean 'concrete existence', i.e. spatio-temporal extension in the world in which we live. Logical existence is the existence which is expressed by the existential quantifier. Strawson's basic particulars - persons; and objects "which are, or possess, material bodies"¹ - have what I call 'concrete existence'.

A. Existence-establishing contexts.

1(a). the dog that's eating that bone

(b). A dog is eating that bone.

(c). is eating that bone.

2(a). the woman John is talking to

(b). John is talking to a woman.

(c). John is talking to

Both 1(b) and 2(b) may be expressed by the logical formula:

$$(\exists x) f(x) \cdot g(x)$$

where 'x' is a variable and 'f' stands for the predicate expressed by the noun in the underlined n.p., and 'g' for a complex predicate derivable from the (c) examples. 1(c) and 2(c) are thus e-e contexts. The definite descriptions in (a) presuppose the logical existence of something meeting the description. Further if 1(a) and 2(a) occur in sentences used in and of our world they presuppose concrete existence: this is an effect of the lexical items involved (contrast the evidence he put forward).

The presuppositions are not due to the as such but to the sentence from which it originates - and the is not always derived

1. Strawson (1959) cf. especially p.39.

from a sentence in which the relative n.p. occurs in an e-e context.

B. Ambiguous phrases

3. the car John keeps talking about buying.

4. the fish John wants to catch

3 and 4 may be understood in different ways, one of which implies concrete existence. It is tempting to suggest that the different readings of 3, and of 4, are attributable to differences in the sentence embedded in the deep structures. Thus the 'concrete entity' reading of 3 might derive from the structure underlying 5, and the non-concrete reading from the one underlying 6:

5. There's a car John keeps talking about buying.

6. John keeps talking about-buying a car.

Whether or not there are two deep structures underlying 3, 5 is not sufficient to guarantee concrete existence although it does guarantee logical existence. 5 may be used to make a statement true of a particular car which John can describe in detail, but which exists only in his imagination.

There is (at least) one reading of 3 which presupposes 6 and is derived, in our analysis, from a structure containing 6 as the embedded s. But in 6, a car occurs in a non-specific context (in the sense § 3.2.): the context provided by 6 is not sufficiently explicit to guarantee the logical existence of a particular car.

So we must conclude not only that the does not necessarily indicate a presupposition of concrete existence, but also that it may determine a phrase which does not presuppose logical existence.

C. Negation

7(a). the book I'm not reading

(b). I'm not reading a book.

(c). There's a book I'm not reading.

There is for me only one reading of 7(a)¹, one which presupposes logical existence and is derived from a structure containing the structure underlying 7(c). There is a strong probability of concrete existence. 7(b) is semantically inadmissible as the source of this reading. 7 suggests the hypothesis that when the is derived from "there is ..." in a structure that involves negation as in 7(c), both logical and concrete existence are presupposed. This is clearly so for logical existence since "there is ..." is a natural language correlate of the existential quantifier:² but what of concrete existence?

D. Resultative verbs and negation

In this section the phenomenon is due both to negation and to lexical properties of the verb. Consider

8. the pictures Picasso did not paint

The utterance of this phrase in a sentence may, but need not, imply that the speaker is thinking of concrete entities. The speaker may wish to refer to concrete entities - pictures that someone other than Picasso painted; or he may have in mind pictures that Picasso might be expected to have painted (as in The pictures Picasso did not paint were those he thought about most). But neither of the

1. It may also be necessary to allow for a semi-grammatical whimsical reading derived from 7(b). It would be semi-grammatical because semantic well-formedness constraints would in principle mark it as marginal.

2. Though not identical in its function, as will become clear in § 18.

interpretations can plausibly be attributed to 9. Rather both must be attributed to 10.

9. Picasso did not paint pictures.

10. There are pictures Picasso did not paint.

Here then we find that the 'there-source' even when followed by négation (and concrete nouns), does not unequivocally guarantee concrete existence. If a structure corresponding to 10 occurs in the underlying structure of 8, it must be vague as to whether or not it signifies concrete existence.

Confirmation of this account comes from the following:

11(a). He painted the picture.

(b). He did not paint the picture.

Sentences 11(a) and (b) should both imply the existence of a referent for the picture if this is part of what is signalled by the. But suppose 11 were uttered in response to a question something like 12:

12. "What did John do during his holiday? Did he mend the car or paint the picture he was planning?"

In such a context 11(a) guarantees (and 11(b) precludes) the concrete existence of the picture (at least at some past time) - but the guarantee in 11(a) is due to the sentential context in which the the-phrase occurs and is unconnected with the word the; the context is existence-establishing.

11 suggests that both Russell's and Strawson's existence condition ^{are} is open to question. — Yet in both (a) and (b), what is indicated by the picture may possibly be said to 'exist' in that it

is something that has been planned and discussed. The here indicates that there is something in the discourse-world to be identified by the hearer. In deriving the picture in 11 from something like 13:

13. $\left[\begin{array}{c} \text{picture} \\ \bar{N} \end{array} \right] \left[\begin{array}{c} \text{there is a picture} \\ \bar{V} \end{array} \right]$

our account of the underlying structure of 11 leaves open the possibility of concrete existence but indicates logical existence of 'some picture' - one that exists therefore in the sense that it is distinguishable from other pictures that might be talked about.

E. Time

We have found that noun phrases that are definite descriptions presuppose a sentence the deep structure of which is embedded at source in the structure of the phrase. Sometimes this presupposed sentence guarantees the existence (logical or concrete) of an entity described by the phrase. The existence presupposed by the embedded sentences may relate to a time before the time of utterance. Thus 14 presupposes 15.

14. Mary is feeding the puppy she found.

15. Mary found a puppy.

However, the noun phrase underlined in 14 here occurs in an existence-establishing context and so 14 not only presupposes 15 (and thus the past existence of the puppy) but it also guarantees the present existence of the puppy. Here we find, as also in D, that the implications of existence to be associated with the utterance of a

sentence are related not only to the phrase determined by the but to the sentential context in which that phrase occurs. In 14, the implication of present existence is no different from the effect of that same context on a non-definite phrase.¹

F. Conclusions

We have found that, given sentences sincerely used in appropriate contexts,

1. The word the does not in itself signal a presupposition of existence, either logical or concrete.

2. Concrete existence of an entity described by a the-phrase is sometimes guaranteed by

(i) the sentence whose deep structure is embedded in the deep structure of the phrase

OR (ii) a combination of (i) and the structure of the sentence in which the phrase occurs.

3. An embedded s. of the form "There is an X" provides an e-e context for X: it is not sufficient to establish concrete existence, but establishes logical existence. (So also for any embedded sentence providing an e-e context for the relative n.p.)

4. When derivable from "There is ...", a the-phrase presupposes the existence of something qua subject of discourse, i.e. as something to be talked about. This is a third notion of existence.

However, this third notion of existence is not clearly distinct

1. There are sentences which do not provide an e-e context for the n.p., but which by virtue (partly) of their tense entail that an implication of existence due to the presupposition of the definite description holds also at the time of utterance of the sentence, cf. Mary loves the puppy she found.

from that of logical existence. It is preferable to abandon it, for the time being, in favour of the notion of familiarity developed earlier: the hearer's supposed familiarity with the fact expressed by the embedded *s*. This has the advantage that it covers both facts of existence and other facts.

These preliminary conclusions regarding presupposition will be re-examined in § 21.

CHAPTER III

DEMONSTRATIVE DETERMINERS

This chapter comprises § 6, § 7 and § 8. In § 6, the proposals of Ch. II are extended to the forms this and that, and it is suggested that there are two different demonstrative determiners having the form that. In § 7 the claims made by the description are examined in the light of well-known problems of reference. In § 8, the description is revised and recast in terms of features.

§ 6 'This' and 'That'6.1. Initial hypothesis

The two main sources for this chapter are Thorne (1972a) and Lyons (1973). These papers examine deixis and the notion of location in relation to demonstrative pronouns and determiners.

Thorne attributes the forms this and that (both as determiners and as pronouns) to embedded s. with here and there. The is derived as the unstressed form of that. He subordinates the distinction of definite v. non-definite to one (within definiteness) of + speaker and -speaker (this/here/now on the one hand, that/there/then on the other). The speaker/hearer dimension is preserved in my analysis, but considerably modified. In my account it will be argued that the pronouns, not adverbs,¹ may be the source of the locative deictic element (see § 9, § 18). But in the present chapter,

1. I shall refer to here and there as locative adverbs; later they will be analyzed in terms of the categories formalized in this description (cf. § 18).

demonstrative determiners are derived from locative adverbs: in this respect I follow Thorne, though not in the details of the analysis.

Many of the ideas in this chapter are due to Lyons (1973) - in particular the importance of existential there, the distinct status of two kinds of that, and the parallelism between what I shall present as

there₂ : there₀ : here // that₁ : that₂ : this

However my different understanding of the 'kinds' of that and the nature of the distinction involved leads to abandonment of the parallelism in its simplest form. In examining the semantic relationship between demonstrative determiners, pronouns and locative adverbs (to use my own terminology), Lyons argues that the primary syntactic source of the relationship is not 'adjectivalization' (essentially the process adopted by Thorne). Instead Lyons attributes demonstrative determiners to two distinct types of apposition which may, he suggests, optionally combine with a different application of the adjectivalization process in such a way as to provide four alternative sources for phrases such as that dog (Lyons 1973:99-101).

Comparisons are difficult, for Lyons seeks to account for a child's grammar at a stage in the acquisition of English, while this thesis is concerned with the adult language system. However I have opted to explore the approach rejected by Lyons (determiners from adverbs) - but without using the process of adjectivalization. The question arises whether my proposals are compatible with those

presented in Lyons' paper, either in the adult's grammar or in a child's system. If the principle of alternative sources were accepted, I see no incompatibility between my treatment and the first two structures distinguished in Lyons' account of that dog (op.cit.:100). Lyons' apposition-structures of type (i) and type (ii) might be distinguished somehow in my grammar - or rather in a child's version of it - by the central distinction made in my formalism between argument-expressions and predicators.¹ But the two accounts are at variance with respect to the complexities introduced to make further distinctions.

In §4 it was argued that the is transformationally derived, its introduction triggered by a relativizable embedded s. with a non-definite relative n.p. One such source, as we saw, is an embedded s. containing the underlying form of "there is ...", which we may call existential there. If this proposal is accepted for the, consistency requires that we consider a parallel proposal for that and this. On this view, the (a) phrases in 1 - 3 below are derived from the structures characterized by 1(b) - 3(b).

1(a). this book

(b). $\left[\begin{array}{c} \text{book} \\ \bar{N} \end{array} \left[\begin{array}{c} \text{a book is here} \\ \bar{V} \end{array} \right] \right]$

2(a). that book

(b). $\left[\begin{array}{c} \text{book} \\ \bar{N} \end{array} \left[\begin{array}{c} \text{a book is there} \\ \bar{V} \end{array} \right] \right]$

3(a). the book

(b). $\left[\begin{array}{c} \text{book} \\ \bar{N} \end{array} \left[\begin{array}{c} \text{there is a book} \\ \bar{V} \end{array} \right] \right]$

1. Thus L's formula (i) ($D_1 - N$) would involve my predicator (N), and L's formula (ii) ($D_1 = N$) would involve my argument-expression (N).

In claiming a deep-structure distinction between 2(b) and 3(b), I adopt a position similar to that of Sampson (1972) and Lyons (1973:108). The nature of the distinctness of these two kinds of there is a matter of controversy. For purposes of the present discussion, I shall treat them as two distinct but related items and label them there₀ and there_E. Lyons (1967) shows the close semantic and syntactic relationship between location and existence.¹

There₀ expresses a specifiable location; that is, I claim that a speaker using there₀ could, on demand, give some more or less vague specification of the location he intends. There₀ is semantically opposed to here, may be stressed, may complement a copula or modify a clause, may occur at the beginning or end of a clause, for instance:

- 4(a). He's there. / There he is. / THERE'S John.
 (b). He's there, not here.
 (c). He bought his ticket there.

In use, there₀ may be accompanied by ostension, i.e. by some non-verbal indication of the place intended by the speaker. '0' has been chosen as a mnemonic for 'may be used with ostension'.

There_E expresses existence (but cf. Atkinson & Griffiths 1973), is not stressed (but cf. Allan 1971), always occurs with a copula and always precedes the copula, cannot modify a clause:

- 5(a). There's a crisis. / A crisis there is.
 (b). What shall we eat? There's the fish pie.

1. For a thought-provoking alternative account of there_E, see Allan (1971, 1972). Allan presents a mass of pertinent data; while I dissent from his conclusions it is clear that his assimilation of there_E with a tensed analogue of the existential operator within a Bachian analysis of n.p. has influenced my own approach.

I propose that we consider the following derivation for that book (abbreviated presentation):

- 6(a). $\begin{array}{c} \boxed{\text{book}} \\ \bar{N} \end{array} \quad \begin{array}{c} \boxed{\text{a book is there}_0} \\ \bar{V} \end{array} \rightarrow \text{(oblig.)}$
 (b). the book which is there₀ → (opt.)
 (c). the book there₀ → (opt.)
 (d). that book

This may be compared with 7, a derivation based on the proposals made in §4 for phrases consisting of the + noun:

- 7(a). $\begin{array}{c} \boxed{\text{book}} \\ \bar{N} \end{array} \quad \begin{array}{c} \boxed{\text{there is a book}} \\ \bar{V} \end{array} \rightarrow \text{(oblig.)}$
 (b). the book that there is → (opt.)
 (c). the book there is → (opt.)
 (d). the book

This book might be derived from 8(a) by a route analogous with 6 above.

- 8(a). $\begin{array}{c} \boxed{\text{book}} \\ \bar{N} \end{array} \quad \begin{array}{c} \boxed{\text{a book is here}} \\ \bar{V} \end{array} \rightarrow \text{(oblig.)}$
 (b). the book which is here → (opt.)
 (c). the book here → (opt.)
 (d). this book

For the moment no specific evidence is put forward in favour of 6 and 8: the proposal is made on the grounds of consistency with the treatment of the. That and this will be called demonstrative determiners.

6.2. Exhaustive specification and the locative element in deep structure

In the philosophical literature on definite descriptions attention has been concentrated on the description with a singular

head noun. It has been claimed that proper use of such a phrase (at least when used for purposes of identifying reference) requires that one and only one thing fits the description. My purpose is to consider the 'uniqueness condition', but the linguist must attempt to generalize to cases where the is used with plural nouns.

Vendler's account of the is helpful: "The definite article marks the speaker's intention to exhaust the range determined by the restrictive clause" - the noun so restricted is "to be taken exhaustively, extending to any and all objects falling under it" (Vendler 1967b:51,60). But the-phrases are commonly context-dependent, as emphasized in Strawson (1950),¹ Vendler aimed to restrict the range of the description by postulating clauses 'present or recoverable' (p.46), which provided additional information. The clause might be omitted if "derived from a sentence actually occurring in the previous part of the discourse, or if the information content of a sentence in which N has an identifying occurrence is generally known to the participants of the discourse" (p.60). As indicated above in § 1.3., attempts to develop a formal description of these lines have not been entirely successful.

There is the further problem that the distinction drawn by Donnellan between reference and attribution prevents us from saying that a the-phrase, considered in isolation from its use, in any sense determines a REFERENT - and to use the term DENOTATION for the entities described by a definite n.p. is likely to clash with other uses of this term. In an attempt to generalize between referential

1. cf. Caton (1963:177,183)

and attributive uses of the-phrases, I have coined the term 'exhaustively specifying' to characterize such phrases and will use 'mention' as neutral between referential and attributive uses.

The hypothesis I wish to consider is 9:

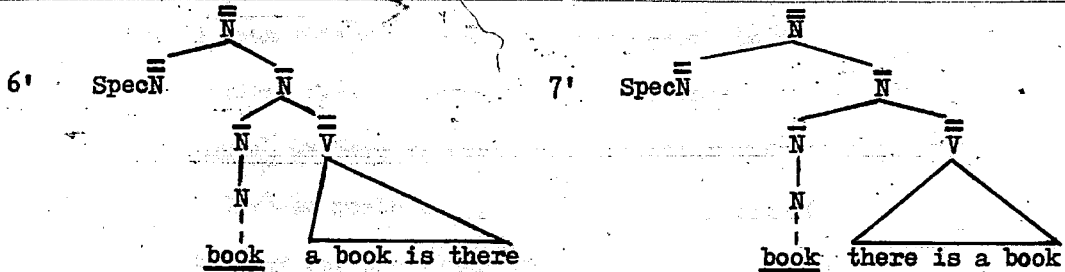
9. In the context of utterance the noun phrase determined by the exhaustively specifies the set whose members may be mentioned by use of the phrase.

This hypothesis fails to take into account Donnellan's observation that one may refer successfully even if the description used is not true of the referent, one may for example choose to refer to a highly respectable citizen as a rogue. This fact about use may for the moment be ignored, for I am here attempting to identify the meaning of n.p. considered as part of the language system (hence, of 'sentence meaning') - Donnellan's observation suggests that such meaning only partially determines the uses to which the phrases may be put.

If we use the term 'descriptive phrase' for that part of the noun phrase which excludes the determiner, we may say that when determined by the the descriptive phrase itself is exhaustively specifying. But when determined by a demonstrative, the descriptive phrase need not be exhaustively specifying. Thus use of the sentence Pass me that green book does not imply that there is only one green book in the context of utterance. It may be uttered in circumstances where there are many green books which are potential referents. In contrast, it is often claimed that in using the phrase the green book a speaker implies that there is one and only one green

book in the restricted discourse-world which may be called the context of utterance.

Our proposed analysis uncovers a generalization that underlies this superficial contrast between demonstrative phrases and the-phrases. For let us consider the deep-structure p-markers for 6 and 7:



At this level, it can be claimed that in each of them the embedded s. is such that the N phrase as a whole is exhaustively specifying. That is to say, that green book, when derived from 6' and used to refer, enables the hearer to identify a referent if the following conditions are met: if there is one and only one green book at the place indicated by there₀. There₀ is distinguished from there_E by the fact that it signals that a specific place is intended. In other words, once the location specified by the demonstrative itself is taken into account, the demonstrative n.p. as a whole may be construed as exhaustively specifying. On the other hand, the green book, when derived (as it must be according to our grammar) from 7', and when used to refer, enables the hearer to identify the intended referent on condition that there is one and only one green book IN THE VICINITY. But the greater or lesser restriction of 'the vicinity' is shown in 7' to be undetermined by the meaning of the phrase. Here I am suggesting that there_E has a residual locative sense and that it is because of this that the descriptive phrase in

the green book may be said to be exhaustively specifying. The residual locative sense of there_E is the origin in syntactic-semantic structure for the notion 'context of utterance' with respect to which phrases like the book must be interpreted.

Thus in place of 9, the earlier hypothesis concerning the-phrases, let us substitute the following:

10. A noun phrase in which the determiner is derived from a sentence including there_O, there_E or here exhaustively specifies the set whose members may be mentioned by use of the phrase, providing account is taken of the locative element in deep structure.

This restricts the range of the n.p. to entities in a specifiable location in the case of there_O and here, and to those in an indefinite 'location', the context of utterance, in the case of there_E. A speaker using such phrases to refer may choose to incorporate information into the descriptive phrase for purposes of identifying or characterizing the intended referent - characterizing information may be introduced if the locative element is clearly interpretable in the communication situation (cf. our discussion of the philosophical Greeks in §4.2.)

Thus in 11 book and chapter have an identifying function when the phrases are used, but final can only be interpreted as having a characterizing function:

- 11(a). this book
 (b). this final chapter

Since the demonstrative determiner itself signals identifying information, the n.p. so determined is peculiarly suited to the introduction of additional characterizing information as in 11(b) - perhaps it is for this reason that an n.p. so determined (and on strictly informational grounds, superfluously so) is often understood to have some additional emotive value, as in 12:

12(a). this England

(b). this wife of mine

6.3. 'That₁' and 'that₂'

The question now arises as to whether the forms this and that are always tokens of each of the same type - that is, of the same linguistic item - or whether we should in the grammar make formal distinctions between different types of this, and similarly of that. I shall argue that there are grounds for distinguishing different types of that, but not of this.

First consider this. We have observed that this sometimes determines n.p. where the descriptive phrase is exhaustively specifying (11(b), and 12), but such uses are natural extensions of what we may call the primary use (11(a)). The element in the meaning of this which is attributable to underlying here is appropriate in all these examples. The strictly locational interpretation of this element is naturally replaced by a wider interpretation in some instances; I shall gloss this as 'associated with the speaker'. This extension allows for the informal use of this to indicate that the speaker is mentioning something or someone

with which he, but not necessarily the hearer, is acquainted (cf. Thorne 1972a). This use is exemplified by 13¹:

13(a). this guy I was telling you about

(b). This fellow she is going to marry is a scoundrel.

Since the element 'associated with the speaker' is compatible with all the examples of this we may conclude that a single linguistic item is involved but that it is capable of being used for different purposes. With the exception of 12(a),² the derivation illustrated in 8 would seem to be appropriate for each of the examples discussed: in each case, this may be attributed to a deep structure incorporating here.

With that, we find a similar range of uses but the proposed deep structure is not in all cases appropriate. The source of that was distinguished from the source of the by the distinction between there₀ and there_F (see 6 and 7). There₀ was said to indicate location, such that it was opposed to here, a location that could be specified. But there are uses of that which seem to be closer to the and to be more appropriately derived from there_F than from there₀. Consider 14:

14(a). ?that highest mountain in the world

(b). ?that equator

In 14 that is only marginally acceptable whereas the is normal - the two forms are clearly semantically distinct in this environment.

-
1. This is sometimes inclusive of the hearer in this conversational use: a man approaching a woman may greet her with This new hairstyle is most affecting.
 2. I assume that 12(a) is a contraction of "this place, England" and implies contrast with other places. If so, this in 12(a) is non-distinct from other occurrences of this.

However there are contexts in which the and that are used more or less interchangeably:

15(a). Have you read (the) book I lent you?
(that)

(b). Where are (the) keys?
(those)

(c). Did (the) man who telephoned leave his name?
(that)

Moreover the use of that illustrated in 15 occurs quite freely before descriptive phrases which (like those of 14) are exhaustively specifying:

16(a). That man who won the race got £100.

(b). That man she's going to marry is a scoundrel.

Now 16 may be compared with 13, and it might be argued that this and that are in contrast here as much as in the explicitly locating uses - and hence that if this in 13 is formalized as non-distinct from the same form in other uses, then that in 16 should also be non-distinct from that in the explicitly locating use. I am unable to counter this argument except by reference to the proposed deep structure for that and the problem of distinguishing it in a systematic way from there₀/the. We were able to envisage a notional extension of the locational element in the meaning of here until it became 'associated with the speaker'; but it is not so easy to extend the meaning of there₀ in the same way because it must be kept distinct from there_E. One possibility however is to suppose that there₀/that may be extended to 'dissociated from the speaker' and that there are three terms in the system, viz,

1. +speaker (= associated with speaker) : this
2. -speaker (=dissociated from speaker) : that
3. unspecified as to +speaker : the

But this negative analysis of that is not satisfactory, for the use of that - whether locational or not - always implies that the hearer is expected to identify the object mentioned and the negative notion 'dissociated from the speaker' gives the hearer insufficient information for this purpose.

I propose that we recognise two distinct items that₁ and that₂. I shall call the that which may be accompanied by ostension that₂; and the that occurringⁱⁿ 15 and 16 that₁.¹ That₂ is opposed to this as there is to here; that₁ is somehow related to the.

6.4. 'That₁' and 'the'

If that₂ is derived from 6 (an embedded sentence with there₀), to what source should be attribute that₁? An obvious possibility is the there_E source to which we have already attributed some occurrences of the. On this suggestion, both those keys (in 15) and the keys would be derived from an identical source, which we may characterize informally as:

$$17. \left[\begin{array}{c} \text{keys} \\ \bar{N} \end{array} \left[\begin{array}{c} \text{there are keys} \\ \bar{V} \end{array} \right] \right]$$

This proposal is attractive because it establishes an equation between the relationship of there_E to there₀ on the one hand, and between that of that₁ to that₂ on the other:-

$$18. \text{there}_E : \text{there}_0 = \text{that}_1 : \text{that}_2$$

1. The numbering corresponds to the distinction made in Lyons (1973:102), but the distinction made here is not drawn in quite the same terms. (Note that the subscripts do NOT correspond to the order in which these items have been introduced into our discussion.)

If the derivation of that₁ from there_E could be established, there would be strong support, on the basis of symmetry, for the derivation of that₂ from there₀.

The proposal to derive that₁ from there_E raises an important problem: what is the relationship between that₁ and the?

Our current proposals provide two types of embedded s. as source for the, and one type of embedded s. as source for that₁. Remember that the embedded s. which triggers the insertion of the DOES NOT ALWAYS contain there_E (see § 4). But that₁, it is suggested, is always due to the occurrence of there_E in the embedded sentence.

Let us consider the pair 19 and 20 (19 in a that₁ reading):

19. that gorilla he saw

20. the gorilla he saw

19 will be attributed to the deep structure indicated in 21:

21. $\left[\begin{array}{c} \text{gorilla} \\ \underline{\underline{N}} \end{array} \left[\begin{array}{c} \text{there was} \\ \underline{\underline{V}} \end{array} \left[\begin{array}{c} \text{a gorilla} \\ \underline{\underline{N}} \end{array} \left[\begin{array}{c} \text{he saw it} \\ \underline{\underline{V}} \end{array} \right] \right] \right] \right]$

20 is attributable to 22:

22. $\left[\begin{array}{c} \text{gorilla} \\ \underline{\underline{N}} \end{array} \left[\begin{array}{c} \text{he saw a gorilla} \\ \underline{\underline{V}} \end{array} \right] \right]$

But if the is sometimes attributable to there_E in deep structure, we are forced to consider a rule which transforms that₁ to the. In this case might not 20 have a double source, 21 and 22? We must examine the semantic and syntactic relationships between the alternative embedded s. in 21 and 22; the sentences are:

23. There was a gorilla that he saw.

24. He saw a gorilla.

The semantic relationship between 23 and 24 is logical equivalence. 23 entails 24, and 24 entails 23. Since each sentence of our pair

entails the other, we might wish to argue that one should be derived from the other. But 23 and 24 must have different deep structures. First it is clear that 23 cannot be derived from 24 for 23 has two negations, while 24 has only one:

23'. There was no gorilla that he saw.

23''. There was a gorilla that he did not see.

24'. He did not see a gorilla.

Generalizing from this, we can say that the deep structure of 23 must show two sets of modality choices (Spec \bar{V}) whereas the deep structure of 24 requires only one such set. It is not merely a question of whether the n.p. a gorilla in 24 and its negation 24' is to be understood as specific. It is a question of accounting for such clearly well-formed sentences as 25:

25. There will have been a gorilla that he did not see.

23 cannot therefore be derived from 24, but there remains the possibility that sentences like 24 are sometimes derivable from sentences like 23.

In 24, a gorilla occurs in an e-e context. Let us consider the possibility that sentences providing e-e contexts are derived from a there_E structure. This hypothesis raises two problems:

(1) The suggestion must be restricted to sentences containing non-definite phrases - sentences containing phrases determined by the, or by demonstratives, cannot be accounted for in this way:

26(a). He saw the gorilla

(b). There was the gorilla he saw.

(c). He didn't see the gorilla.

(d). There was the gorilla he didn't see.

Clearly it is implausible, on semantic grounds, that in 26, (a) should be derived from (b), (c) from (d).

(ii) The hypothesis fails where there is more than one non-definite n.p. in the sentence. Thus it does not make clear whether 27(a) is to be derived from the structure underlying 27(b) or 27(c)¹:

27(a). A dog bit a man.

(b). There was a dog that bit a man.

(c). There was a man that a dog bit.

Points (i) and (ii) lead us to reject the hypothesis that sentences of type 24 are derived from sentences of type 23. This leaves us with an alternative conclusion:

28. the will have two deep structure sources when the embedded s. from which it derives provides an existence-establishing context for the relative n.p.

The two source structures will be in an equivalence relationship with each other.

Our proposal involves the prediction that there will be sentences where that is unacceptable as an alternative to the because the only embedded s. available as the source for the does not contain there. This will be the case where the embedded s. provides a non-specific context for the relative n.p., and where this n.p. cannot be understood as specific. Such a sentence is:

1. Note that the structures underlying 27(b) and (c) are required, in our analysis, for the sources of that dog that bit a man, and that man that a dog bit.

29. A man will win the race.

29 is not equivalent to 30.

30. There is a man who will win the race.

because 29 does not entail 30: if the race in question is due to be held far in the future the winner may not exist at the moment of utterance of 29. 29 is equivalent to 31, but 31 does not provide an e-e context. At the time of utterance of 31, it does not make sense to ask of what individual 31 is true.

31. There will be a man who wins the race.

Thus where 29 occurs embedded in the deep structure of ^athe phrase, we should expect no counterpart phrase with that. And this expectation is partially confirmed by:

32. The man who wins the race will get £100.

33. ?*That man who wins the race will get £100.

32 and 33 provide crucial evidence for my analysis. The acceptability of 33 was informally tested and the majority of informants (thirty out of forty) found it less than wholly natural. There are however other types of that which confuse the data. Consider for instance:

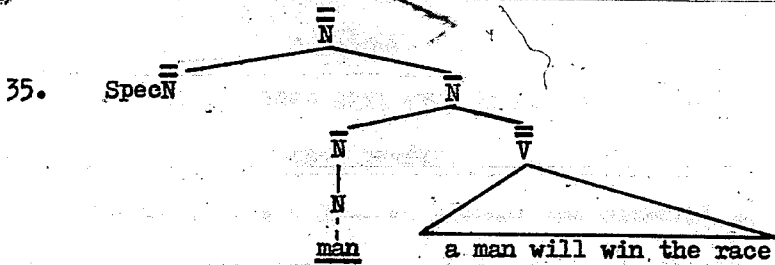
34(a). "... that man can be satisfied, who has not lost faith in goodness, the constancy of the will, the desire to keep active."

(Turgenev Home of the Gentry translated by R. Freeborn; Penguin Books 1970:202)

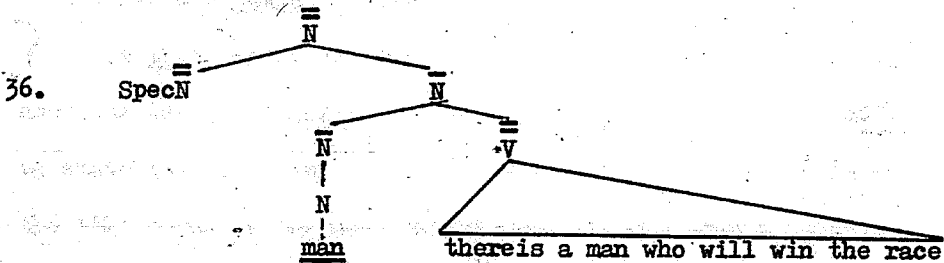
(b). "Certainly that man were greedy of Life, who should desire to live when all the world were at an end ..." (Thomas Browne Religio Medici c.1635)

Since I cannot claim that 33 is judged ill-formed by all speakers I must base my argument on the claim that 33 is clearly less natural than 16(a).¹ From this observation I conclude that the determiner that₁, which occurs in 16, is not generated in the sentence-type illustrated in 33.

32 is due to the deep structure informally indicated in 35:



This deep structure undergoes deletion of will in the course of the derivation.² Structure 36 does NOT underlie 33. According to our current proposal 36 underlies both 37(a) and (b):



37(a). that man who will win the race

(b). the man who will win the race

37,-(a) or (b), may be appropriately used only when the man in question is identifiable at the time of utterance.

1. See Appendix B, Selected Results V.
2. This phrase-type is studied in Dean (1968). One of the proposals made there involves the assumption that will occurs in the source of the relative clause and is deleted in the course of the derivation. By generalizing the deletion rule, Dean relates the absence of will in such structures to its absence in certain other structures (e.g. If John brings a girl to the party ...). Alternatively (or additionally?) it might be connected with the data studied by Burt and Lakoff leading them to the conclusion that "will can be deleted just in case it is presupposed that the event is one that the speaker can be sure of" (Lakoff, G. (1971b: 339)).

Further examples of sentences which are not generated if this proposal is adopted, and which I find unacceptable, are the (b) members of the following pairs:

38(a). The man she marries will have to be wealthy.

(b). *That man she marries will have to be wealthy.

39(a). The girl John brings to the party is sure to be a beauty.

(b). *That girl John brings to the party is sure to be a beauty.

The (b) examples are blocked because the embedded s. from which the relative clauses derive do not provide e-e contexts for the relative n.p. The presupposed sentences are understood to be non-specific. Let us tentatively conclude then that the may be, and that₁ must be, derived from a there₂ source.

Is that₁ appropriately termed demonstrative? So far we have used the label 'demonstrative' only informally and we are at liberty to state its extension. I wish to associate the term with any of the 'th' forms in the noun phrase system which have a locational element in deep structure. Since we maintain that there₂ is residually locative, it follows that that₁ is demonstrative, and so also the whenever it is derived from this source.¹

1. I have not examined in detail the use of this and that for textual anaphora. My impression is that the two items contrasted here are this and that₂, and that therefore we do find in this instance a notional extension of the locational element in that₂.

§ 7 Reference

7.1. Donnellan's distinction

'Opaque' contexts are those where the substitution of a coreferential phrase does not necessarily preserve truth value, (Quine 1960:141-146). Thus:

- 1(a). I am looking for the Dean
 (b). I am looking for Professor Smith.

are not necessarily both true for a speaker who utters 1(a), even in circumstances where it would be true to say:

2. Professor Smith is the Dean.

Now the following exemplifies an opaque context where that may be used to disambiguate the sentence:

- 3(a). Mary was surprised that the man who won was drunk.
 (b). Mary was surprised that that man who won was drunk.

3(a) may be understood to express Mary's surprise at a certain individual's being drunk, or her surprise that someone who was drunk managed to win. The first interpretation may be called the 'referential reading' - truth value is preserved if a coreferential n.p. is substituted for the n.p. underlined in (a). The second interpretation is the 'opaque reading'. In 3(b), I claim, there is only one reading, the referential one. 3 may be compared with a pair we have already studied, repeated below:

- 4(a). The man who wins the race will get £100.
 (b). ?*That man who wins the race will get £100.

(32 and 33 of §6)

4(a) has only one reading, the 'opaque' reading. And our grammar accordingly predicts that 4(b) will be ungrammatical.

(Keenan & Ebert (1973) submit comparable data from other languages, but overlook this example from English).

In another type of context¹ (discussed without reference to that in McCawley 1970:174), the effect is similar:

5(a). John said that he had seen the woman who lives at 219 Main Street.

(b). John said that he had seen that woman who lives at 219 Main Street.

In 5(b) the underlined phrase will normally be attributed to the speaker rather than to John, but 5(a) has two readings in one of which John's own words are reported.

We find then that 3(a) and 5(a) have two readings, while 3(b) and 5(b) have only one. By the hypothesis summarized in 28 of § 6., we have already assigned two sources to phrases of the type occurring in 3(a) and 5(a), whereas our analysis provides only one source for their (b) counterparts. But it is improbable that the non-referential and referential readings of the (a) sentences are to be attributed each to one of the two sources: for we have established

1. Strictly this is not an opaque context. But the two readings of 5(a) are closely parallel to the referential and opaque readings of 3(a). See also Hasegawa (1972) and McCawley (1973). McCawley insists that in the non-referential reading of 5(a) it is a proposition, rather than a form of words, that is attributed to John - thus he allows for an updating of his 1970 analysis in terms of Donnellan's distinction, attributing this distinction to underlying structure (1973:223-4, 226). Kato (1972) makes similar proposals.

that the source structures are logically equivalent. We need to examine the notion of reference more carefully.

Donnellan (1966) suggests that definite descriptions have two uses, referential and attributive, and it has been suggested (Partee 1970a:360-361) that if Donnellan's distinction is successfully accounted for, no separate account of the behaviour of definite descriptions in opaque contexts should be necessary. Donnellan does not regard this distinction as syntactic but in view of our examples above we must review the possibility that it may be at least partially so. Donnellan's position was summarized in § 1.2.

The distinction may perhaps be extended to other types of phrase, but it is most easily applied to cases where the object (a) to which the speaker refers, or (b) which fits the attributively-used description, has, or has had, spatio-temporal extension. Where this is not the case, the distinction is difficult to maintain and could only be applied if some means were found of explicating the notion of fitting the description and 'picking out the right thing' when said of some 'thing' lacking concrete existence in the sense § 5.¹

Extending the distinction to demonstrative phrases, we find that the paradigm situation-types in which the determiners this and that₂ are used are restricted to referential use of the phrases. The referential use is also predicted by the fact that after a demonstrative determiner the descriptive phrase may be used to characterize rather than to identify (cf. above § 6.2.), thus

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1. It might be possible to establish a criterion for reference in terms of the ability (of speaker or hearer?) to supply an alternative non-synonymous description. Thus I may refer to an event as "what happened yesterday afternoon".

this young scoundrel is my son may be used to make a successful reference and (according to Donnellan) a true statement whether or not the referent is indeed a scoundrel.

That₁ correlates with a referential reading in some opaque contexts. The source of that₁ is currently assumed to be one source of the in the counterpart phrase occurring in the same context. Is there therefore any reason to associate the when derived from there_E, or that₁ itself, with Donnellan's referential use of n.p.? The answer is 'no'; there are two reasons, each subdivided into (a) and (b):

(i,a) Definite descriptions necessarily derived from a there_E source (and hence from that₁) may be used attributively. Examples were given in Ch. II of phrases for which only a there_E source is available, and some are repeated here:

- 6(a). the book
- (b). the green book
- (c). the bicycle he did not take
- (d). the pictures he did not paint

Consider a situation where A is instructing B as to the arrangement of books on a shelf, the following dialogue might occur:

7. A. The green book comes next.
 B. But there isn't a green book.
 A. (i) I mean that one under your hand - it looks green from here.
 (ii) Oh, then the pattern is spoilt.

According to whether A answers with (i) or (ii) we can tell whether or not his first utterance he was using the underlined phrase referentially or attributively.

(i,b) That₁ may also be used attributively. In 8 the speaker may not be in a position to recognize the entity of which he speaks, nor to substitute any other non-synonymous description for the phrase he uses. If no entity fits the description, the sentence is pointless - a characteristic of attributive use:

8. That book Max lent you must be returned to him
at once.

(ii,a) It was established in §5 that, even when used with concrete nouns, the there_E source of definite descriptions was not sufficient to guarantee the spatio-temporal existence of anything fitting the description. But reference, in the clearest application of Donnellan's usage, requires that the referent exist, in time and space. So phrases derived from a there_E source are not necessarily referring, in Donnellan's sense.

(ii,b) Just as the-phrases derived from there_E may be appropriately used where no 'concrete' entity fits the description, so phrases with that₁ may be so used. Hence, by the argument of (ii,a), phrases determined by that₁ are not necessarily referring in Donnellan's sense. In support consider 9:

9(a). Now is when we need that car you wanted to buy.

(b). He didn't paint that picture he was planning.

In 9, the truth of statements made with these sentences does not guarantee the concrete existence of the picture, or the car, either at the time of utterance or prior to that time.

The conclusion must be that Donnellan's distinction between reference and attribution does not enable us to account for our understanding of that in opaque contexts.

7.2. The discourse effect of 'that' v. 'the'.

Let us compare pairs with that, and the:

10(a). What have I done with those keys?

(b). What have I done with the keys?

11(a). Who is that scoundrel who walked off with my pen?

(b). Who is the scoundrel who walked off with my pen?

12(a). That girl who telephoned was my sister.

(b). The girl who telephoned was my sister.

13(a). For supper we can have that fish Bill's hoping to catch.

(b). For supper we can have the fish Bill's hoping to catch.

In 10, the difference between (a) and (b) is tenuous, and might possibly be associated with level of formality. In 11(b), but not in 11(a), we find the referential/attributive contrast giving rise to alternative readings. In 12, both that and the must (in my judgement) be used attributively¹ - but there is no alternative reading. In 13, neither (a) nor (b) requires that the speaker intend some fish identifiable in space and time at the moment of utterance.

The common element in the (a) examples is that the speaker signals to the addressee that he must re-identify what the speaker is talking about as a particular entity (or set) with which he, the addressee, has had previous acquaintance. Thus I wish to distinguish between 'identify' and 're-identify'. All phrases determined by the or by a demonstrative are exhaustively specifying²:

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1. Assuming the interlocutors are on the receiving end of the telephone call.
 2. This observation must be restricted to the types considered so far.

thus they signify that what is being spoken of is identifiable (either in the real world or the thought-world) and is to be identified by the hearer. A hearer identifies what is being spoken of by establishing a correspondence between what he supposes the speaker to be thinking of and what he himself thinks of. This identification is such that re-identification at some subsequent time is in principle possible (in contrast to non-specific occurrences of non-definite n.p.'s). A hearer re-identifies what is being spoken of when not only does he establish the correspondence mentioned above, but he RECOGNIZES what is identified as something he has been aware of (in the world, in speech, or only in thought) at some previous time.

If this informal attempt to elucidate the significance of that₁ in examples 10 - 13 is on the right lines, it implies that a message is involved which is directed towards a specific audience, whereas this need not be the case with the. This use of that results from the speaker's assumptions about the addressee's world. This accounts for the informality of the situations in which that is used in this way: it requires a person-to-person situation.

In the examples in 3 and 5, the referential reading involves an act of referring on the part of the speaker; the non-referential reading involves the reporting of an attitude or assertion attributed to a third party. That involves a message from speaker to addressee - it must therefore be correlated with the reading that gives the speaker's choice of phrase, hence the referential reading. The speaker-to-addressee message signalled by that₁, while it is not

the same thing as referring, is like it in that it cannot be reported of a third party.

It is interesting that in Keenan and Ebert (1973:423) a gloss is provided for the Malagasy word ilay which applies equally well to that₁.¹

This account of that₁ explains the way in which that-phrases are understood in opaque contexts; but it leads to a different problem. If the and that₁ are derived from the same source, how can T rules preserve meaning?

§ 8 Deixis

We have distinguished two types of that: that₁ (re-identifying) and that₂. That₁ and the, on our current proposals, are said to be derived from the same source. But this suggestion poses the

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1. Keenan & Ebert write of "a second definite article, ilay, whose use is narrowly restricted to objects that the hearer has specifically identified prior to the utterance. This re-identifying function need not be anaphoric in the sense that the specific identifying experience on the part of the hearer need not have been occasioned by an explicit reference to the object in the preceding discourse. The object may be something that both speaker and hearer observed together. On the other hand the function of ilay is not deictic either, in the sense that it cannot be used to pick out an object in the visual field of the speaker and hearer. For this a demonstrative adjective must be used. If the referent of an ilay-determined NP is present in the visual field of both speaker and hearer it must still have been identified by the hearer prior to its mention in the utterance." It is to these characteristics of ilay that K and E attribute its effect in the opaque context exemplified in 3.
(It is not clear whether ilay, like that, may be used of some 'thing' that has never had spatial dimensions. It is also possible that the two items do not correspond with respect to textual anaphoric function.)

problem of meaning change. Further, our account of the is itself complicated by the need to accommodate that₁ into the system - for the is sometimes but not always derived from the source proposed for that₁, i.e. from an embedded s. with there_P.

Let us consider first the possibility that when the embedded s. contains there_P, the determiner that is introduced by relativization is not the but that₁ and that that₁ is later changed to the by a rule of "That-Reduction", which applies - perhaps optionally - in certain environments. Some the-phrases are derivable only from a source containing there_P: for instance, the pen, the pens, the moon. In 1(b) below it may seem satisfactory to derive the by the optional application of That-Reduction; but this account is less plausible for 2 and 3:

1(a). That pen was broken.

(b). The pen was broken.

2(a). *He gave me two pens and a pencil, but those pens were broken. (*for anaphoric reading of those pens)¹

(b). He gave me two pens and a pencil, but the pens were broken.

3(a). ?*That moon rises at 1 a.m. tonight.

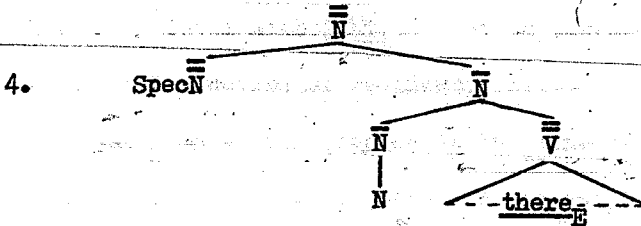
(b). The moon rises at 1 a.m. tonight.

2 and 3 require that in certain cases That-Reduction apply obligatorily. But the ill-formedness of 2(a) and 3(a) strongly suggests that a meaning change is involved. Further, the ill-formedness of 2(a) relates to textual anaphora, a relationship which so far we have linked only to pronouns (in the discussion of 'identity' and relativization §3.3. and §4.2.), not to the.

1. 2(a) is well-formed if those is stressed, thus implying (possible coreference with the pens mentioned in the preceding clause, but also) contrast with some other pens in the context of utterance.

If we have correctly interpreted that₁, we could claim that the meaning change involved related to pragmatic person-to-person signals and that such signals were perhaps different in kind from the meaning to be attributed to deep structure. There is however another possibility that I will present below.

The deep structure underlying the relevant n.p.'s in 1 - 3, on our current proposals, is:



We have argued that the content of the embedded s. is presented to the hearer "as if known" to him. This pragmatic effect is correlated with a syntactic-semantic fact: the embedded s. is a linguistic structure whose grammaticality and significance is not dependent on the matrix sentence and not negatable by negation of the matrix sentence (§4.2.).

The content of the embedded s. in 1(b), 2(b), and 3(b) is "there is an X". This information is presented AS KNOWN. Since the 'X' in this embedded s. is antecedent of the noun functioning in the matrix sentence, this analysis of the source of the provides an explanatory account of the three examples. In the (b) examples the signals that the phrase is used coreferentially with some X that already in some sense "there is". The hearer is expected to explicate "in some sense". In 2(b) he will naturally do so in terms of the preceding text; in 3(b) he will do so in terms of the real

world known to speaker and hearer. Thus the hearer identifies what the speaker is talking about.

The is thus explicated in terms of deep structure. But that₁ and the are contrasted as to re-identification and identification, although currently attributed to the same source. If That-Reduction were recognized as a meaning-changing rule, we would STILL have failed to account for the origin of the notion of re-identification associated with that₁. Let us therefore consider how we can formalize the notion of re-identification.

There is a tense choice in the embedded there_E sentence of which our proposals have so far taken no account. The information presented as known to the hearer may vary as to:

5(a). There is an X.

(b). There was an X.

5(b) may naturally be associated with an instruction to re-identify some X that there was. What is required of the semantics is that "there was" be explicated in terms, not of existence in the real world, but of existence in the addressee's thought-world at a time earlier than the time of utterance. "There is" also applies to existence in a thought-world - but to the thought-world shared by speaker and hearer at the time of utterance.¹

It has been argued by Bach (1968:98-103), Thorne (1972a), Anderson (^{1973b}unpub.) that noun phrases must be tensed (and subject to other Modality choices) in their source structure and that the tense opposition accounts for time distinctions with respect to which there

1. I am here re-introducing that third notion of existence which was considered in §5 and found at that stage to be unnecessary. This proliferation of types of 'existence' will be scrutinized in §21.

may be or have been objects meeting the description expressed by the phrase. The contrast in tense proposed here does NOT express this distinction, but rather signals information about what the hearer is expected to know. When my presentation is complete it will be seen that provision can be made within my formalization for at least some of the contrasts which are discussed by the authors just mentioned.

The distinction in tense permits us to attribute that₁ and the to different deep structures. An immediate effect of this proposal is that we thus spoil the symmetry set up earlier (cf. example 18 of § 6, expanded as 6 below):

6. there₂ : there₀ : ~~this~~ ^{here} = that₁ : that₂ : ~~here~~ ^{this}

for we now have four terms, distinct in deep structure, to be inserted on the righthand-side of 6:

7. the : that₁ : that₂ : ~~this~~ ^{here} this

However this complication of the pattern seems to be more nearly correct than 6, for that₂ is opposed to this with respect to proximity, and that₁ is opposed to the with respect to re-identification/identification. The form that, when used as a determiner, never occurs in environments which explicitly indicate proximity to the speaker. The determiner that, however analyzed, does not co-occur with here; in this there is an important difference between that and there for there₂ can co-occur with here:

8(a). *that book in my hand/*that book here

(b). this book in my hand/this book here

(c). There is a book in my hand/here

The notion of deixis that must now be introduced has to do with "the 'orientational' features of language which are relative to the time and place of utterance" (Lyons 1968a:275). A natural way to formalize (part of) the meaning of deictic items is in terms of features. I argue that both this and that₂ are 'positive' in that the range of uses of one neither includes nor overlaps with that of the other.¹ Let us say that this includes a feature +prox and that₂ includes a feature +dist (where 'prox' is a mnemonic for proximate, and 'dist' for distal).

That₁ is in opposition to the: we have formalized this contrast in terms of tense and explained its effect in terms of the distinction between re-identification and identification. Here the deictic opposition is one that operates with a marked and an unmarked term: that₁ is marked with respect to the, for the can be used in all linguistic environments and situational contexts in which that₁ is appropriate. The difference in communicational effect is that in the case of that₁ the addressee receives a signal instructing him to re-identify, and in the case of the the instruction is merely to identify. But identification does not preclude re-identification. In terms of features, we may say that that₁ includes a feature +past but the contains no such feature.

It may seem fanciful to formalize this contrast in terms of tense - but tense fits our needs in that it is an opposition in terms of marked/unmarked², and if we were to introduce another feature contrast ad hoc we should have also to introduce special

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1. On marked and unmarked terms, see Lyons (1968a:79).
 2. Lyons (1968a:306).

tense-sequencing conditions to avoid contrasts in the syntax (+past, with there_R) for which the semantics could provide no explanation.

The conversational use of this to determine a n.p. used to refer to something known to the speaker rather than to something known to the addressee can be accounted for without the need for changes in our formalization of features, for this being 'proximate to the speaker' is appropriately used in contrast to +dist or to +past.¹

It is well known that the has developed diachronically from a demonstrative. In OE there were two demonstratives, the se paradigm (from which the forms that and the come) and the þes paradigm (from which this comes). Quirk & Wrenn say that the se paradigm was specifying or identifying whereas the þes paradigm was deictic: se "merely particularises, singles out from the generality, indicates and identifies the known and expected"; þes (which is used more rarely) "points to and singles out a part of a series, the whole of which may already be specific" (Quirk & Wrenn 1957:69). There are contexts in which þes and se are in contrast "simply as deictic and identifying words respectively", and "we have other contexts (though few of them AND FAIRLY LATE) in which þes and se^{are} in partial contrast also as 'near' and 'far' deictics respectively" (op.cit.:70, my caps. JH). These comments apply to the forms occurring as determiners, as is clear from examples

1. I am informed by A. Backhouse that in Japanese, which has a three-term demonstrative system, the first ('proximate to speaker') and third ('far from speaker and addressee') are used to make distinctions relating to speaker's discourse world and addressee's world. He remarks that the yon (cf. yonder) in the Yorkshire dialect of English is similarly used.

not repeated here. What I want to suggest is that in modern English we have two deictic oppositions:

(a) $that_1$: the

(b) $that_2$: this

(a) appears to be a development of OE se in its earlier use, and (b) a development of the deictic demonstrative þes that came to be contrasted for proximity with se in its later use. It seems then that the difference between (a) and (b) goes back further in time than the deictic opposition between the terms of the (a) system or that between the terms of the (b) system.

We are now in a position to reconsider the synchronic derivations leading to the forms that, the, and this. The reader is asked to turn back to examples 6 - 8 of § 6, at the beginning of this chapter. There it is proposed that the form the be introduced by the relativization process discussed in § 4 (and to be formalized in § 11), and that subsequent rules amalgamate the locative adverbs to the determiner in such a way as to distinguish that and this from the. I retain this proposal in substance, but we can now recast it in terms of features. The relativization process will introduce not a form but a feature complex, to which additional features may be added later. The feature complex is a segment¹ occupying the position of the determiner in constituent structure (as indicated in 27 of § 4). Phonological information leading to distinct forms will be added by the second lexical lookup after all the T rules have applied (cf. § 2.3.). The segment that is introduced by

1. cf. Jacobs & Rosenbaum (1968), Postal (1966).

relativization will consist of two features:

9. $\begin{bmatrix} +D \\ +the \end{bmatrix}$

+D is a categorial feature, such that the segment is sensitive to T rules and constraints mentioning determiners; +the is used for a feature that is the neutral term in the system¹ of contrasts operating in determiners in definite n.p. There is no feature +def here for (a) definiteness is taken to be a property of n.p. rather than of determiners, (b) not all n.p. determined by the will be found to be definite (§ 12).

If there₀, here or there_n was/were occur in the embedded s. and are subsequently deleted, a feature is added to the determiner matrix: +dist, +prox or +past respectively. Thus the segments to which phonological information is added are as shown in 10 (subject to additions to be introduced in § 13.3):²

10. $\begin{bmatrix} +D \\ +the \\ +dist \end{bmatrix}$: that $\begin{bmatrix} +D \\ +the \\ +prox \end{bmatrix}$: this
 $\begin{bmatrix} +D \\ +the \\ +past \end{bmatrix}$: that $\begin{bmatrix} +D \\ +the \end{bmatrix}$: the

It should be noticed that this process is quite distinct from adjective-preposing and thus meets the criticisms presented in Lyons (1973:99) of any proposal that attributes determiners to that process. In particular, the formalization proposed here captures the notion that "the demonstrative adjective in English encapsulates in some way both the definite article ... and the ... adverb". But

1. More precisely a system of system or 'systemic network' to use Halliday's terminology.
2. The features +dist and +prox each entail +dem: see below, p.126.

there are common phrase-types that have not yet been accounted for,

e.g.

11(a). this book here

(b). ?this here book

(c). this book in my hand

12(a). that book there

(b). ?that there book

(c). that book on the table

11(a) and 12(a) suggest that the features +prox and +dist can be added by a copying process (a sort of concord) and not only on deletion of the element which triggers the process. The (c) examples are interesting; it may be that in 11(c) the first-person feature in my is sufficient to introduce +prox in the determiner but there is no positive deictic feature in the post-nominal modifier of 12(c). 12(c) has two readings - according to whether that is understood as that₁ or that₂. If understood as that₁, 12(c) may be used to refer to some book-on-the-table with which the addressee has had previous acquaintance ("you know, that book that's always on the table"). But this is the least natural reading for the phrase when it is considered out of context. If that in 12(c) is understood as that₂ then the phrase may be used to identify a referent in the context of utterance, but CANNOT be used if the table is not an object in the context of utterance. Thus 13 is only grammatical in a that₁ reading:

13. He asked me to pass him that book on his table.

This problem can be solved if we posit a deictic adverb there in apposition to the table in the deep structure of 12(c); and a

similar solution therefore suggests itself for 11(c). In the (b) examples - commonly heard but considered non-standard - the surface form may be an alternative realization of the surface structure this book and that book respectively: thus the constituent structure of 11(b) is ((this here) book) - which would account for the absence of here book as a predicative nominal.¹

Finally in 14 and 15 we come across another type of that altogether:

14. In that article in Personal Idealism (1902) on 'Axioms as Postulates' in which he first avowed himself a pragmatist, he explicitly denies that ...

(Passmore, A Hundred Years of Philosophy
Penguin 1968:113)

15. It is reported that one American linguist of the 1950's remarked that syntax was that part of linguistics that everyone hoped the other fellow would do.

(Palmer, Grammar Penguin 1971:124)

14 and 15 illustrate a common use of that, one which seems to be determined by surface structure. If my observations are correct it requires that the post-nominal modifiers consist of at least one prepositional phrase followed (immediately or not) by an unreduced relative clause. The complexity of the n.p. suggests that this type of that occurs most frequently in formal discourse, and in the written medium, so that it is not often likely to conflict with that₁.

1. cf. Lyons (1973:99)

Its communicative function seems to be to warn the hearer/reader to wait for the clause - if the were substituted for that in 14 and 15 the texts would be more difficult to read. To account for such occurrences of the form that, I propose that a feature +cat ('cataphoric') be mapped on to the determiner segment at a near-surface stage of the derivation. Therefore the feature complex underlying the forms in 14 and 15 will contain no positive deictic feature, it will be as in 16:

16.

$$\left[\begin{array}{l} +D \\ +the \\ +cat \end{array} \right] : \quad \underline{that}$$

CHAPTER IV

PRONOUNS, AND DESCRIPTIVE DETERMINERS

In this chapter, discussion of the relative clause source of determiners is brought to a provisional conclusion. Discussion of pronouns (§ 9) is restricted to matters relevant to the main theme. In § 10, it is shown that both the and that are sometimes due to a non-demonstrative source, and that the in generic phrases is in large measure accounted for by rules required for other phrase-types. In § 11 a formalization of two new rules is presented.

§ 9. Pronouns

We have adopted an analysis which derives demonstrative determiners from there_p, there_o, here. These three expressions are predicative, that is, they occur after or before the copula and, when so occurring, they are not subjects for they do not govern verbal concord. Our analysis is clearly incomplete unless pronouns can be accounted for within the same system.

There are three pronouns it, that, and this, which seem to be parallel in their deictic oppositions to the three predicative-expressions.¹ If the same deictic contrasts are operative in both the pronoun and the predicate system, an economical grammar will assign these contrasts to a single source. There may however be no non-arbitrary means of deciding whether pronouns should be

1. cf. Lyons (1973)

analyzed in such a way as to attribute locational deixis to predicates, or whether predicative-expressions should be decomposed into phrases which include a pronominal element marked for deixis.

Thus a demonstrative pronoun might possibly be attributed to an underlying structure characterizable as "thing which is there", or alternatively the predicative-expression there might be analyzed as "at that". Both suggestions have been made in the literature.¹

Within the framework of our description, there are some indications that to regard pronouns as basic leads to the greater number of generalizations. For the moment, I shall adopt this position without comment.

Let us then assume that pronouns are generated by rules of the base² and that a feature analysis can adequately present the semantic relationships between them. The feature analysis I propose is:

1.	$\begin{bmatrix} \bar{N} \\ +dem \\ +prox \end{bmatrix}$	<u>this</u>
	$\begin{bmatrix} \bar{N} \\ +dem \\ +dist \end{bmatrix}$	<u>that</u>
	$\begin{bmatrix} \bar{N} \\ +dem \end{bmatrix}$	<u>it</u>

These segments may be generated by the rule which expands the symbol \bar{N} in the phrase structure rules. Rule 4 of § 2.3. may be revised to include a line as follows:

-
1. cf. Thorne (1972a:563); Sampson (1972)
 2. The claim that third-person pronouns are sometimes generated by the base rules does not preclude the possibility that they may in other cases be introduced by T rules, cf. above § 2.5.

2. $\bar{N} \rightarrow \text{Spec}\bar{N} \begin{bmatrix} +\bar{N} \\ +\text{dem} \end{bmatrix}$

The feature +dem may then serve as input to rules which account for the other features in the system. The feature contrast +pl is introduced by means of Spec \bar{N} . Gender features have been ignored.

The feature + \bar{N} may be compared with the feature +D in the analysis of determiners. The analogy is not absolute for pronouns are generated under a node labelled \bar{N} , whereas most determiners are not. However the feature + \bar{N} shows that the pronouns are intrinsically, and not just by virtue of place in structure, argument-expressions. The features +prox and +dist are identical with those used in the analysis of determiners. +dem may be glossed as 'demonstrative'. The features $\begin{bmatrix} +\bar{N} \\ +\text{dem} \end{bmatrix}$ formalize the extent to which it and the thing that there is have the same meaning: if we discount whatever in the shared meaning is attributable to + \bar{N} and to the +count feature on thing, we have the sense of +dem. +dem indicates a locational element, which is a principle of identification, in the sense of it.

There is however a type of pronoun which is not accounted for by this analysis and which is necessary for our understanding of determiners. It is illustrated in the following:

3(a). Hold fast that which is good.

(b). He that is down need fear no fall.

(c). She who will not when she may, may not when she will.

The underlined n.p. in 3 are generic; thus in the utterance of 3(a) the phrase is used to mention everything of which 'good' may be truly

predicated. The occurrence of he and she in (b) and (c) might lead us to suppose that in 3(a) that is an alternative realization of it. But the feature analysis proposed for it is not appropriate for the pronoun in 3(a), for the feature +dem - as glossed above - introduces a principle of identification: in this the feature is directly analogous to the deep structure occurrence of there_E under \bar{N} - it is deictic.

This feature cannot occur in the structure underlying the phrases of 3, for in 3 the pronouns are not deictic; their communicative value is determined by the following clause, and not by the situation. Phrase 3(a) will be derived by processes to be discussed in § 10.

§ 10 Descriptive Determiners

10.1. Generic 'the'

By 'generic the' I mean occurrences of the which determine non-plural phrases that are interpreted as designating a class or the members of a class rather than as ^{designating} an individual. I shall use 'designate' for a relationship holding between an n.p. and that which it may be used to mention by virtue of the denotation of, and any deictic features in, the words contained in the n.p. My use of 'designate' is idiosyncratic but is intended to preserve certain elements in Russell's term 'denote'. I shall use 'denote' for the relationship which holds between lexemes (and lexical collocations which may be substituted for them) and everything of which they "are true" in the sense of Quine (1960:90-91). Nouns, adjectives and

(non-adjectival) verbs in their past participle form may denote.

What is denoted is external to the language system.¹

In English generic the occurs with singular count nouns, as in:

1. The dog is an intelligent beast.
2. The greyhound is swift.

Although there are stringent restrictions on the contexts in which generic the occurs, the following examples show that it is not restricted to surface subject:

3. The greyhound moves more swiftly than the terrier.
4. Bob is studying the elephant. (Chafe 1970:201)
5. Euclid described the parabola. (Vendler 1967b:59)

Generic the does not occur with non-count nouns or with plurals.

The distinction between class and individual does not hold clearly in such cases. If a phrase determined by the designates the members of a class co-extensive with the denotation of the head noun alone, then it is generic. This is never the case in English with non-count nouns, and seldom so with plural nouns. Possible exceptions are found when the class denoted by the head noun is a class limited by means other than language (e.g. by passport, or biological classification) - the Italians / the mammals. But we shall not regard these phrases as generic for the deep structure already proposed for such phrases adequately covers the range of interpretation they receive, for the interpretation of there_s will be more or less restricted according to the context of utterance.²

-
1. Strawson (1959:155) objects to Quine's use of 'true' as preserved here. For a discussion of problems relating to the term 'denotation', see Lyons' forthcoming book on semantics.
 2. References, Christophersen (1939:69, 146-7), Chafe (1970:196).

The distinction between generic the and non-generic the might be due to features of the context in which the phrase occurs. If this were the case, the underlying noun phrase structure (considered in isolation) would give no indication of the distinction. Alternatively the surface phrase (considered in isolation) might be analyzed as syntactically ambiguous - i.e. derivable from both 'generic' and 'non-generic' underlying n.p. structures. I shall argue that this alternative, syntactic ambiguity, is the correct analysis.¹ There are four reasons for this decision:

(i) the account of the presented so far is incompatible with vagueness in the underlying structure with respect to genericness of the surface phrase. Phrases consisting of the and a singular count noun have been attributed to a source including there, and this source has been shown to be particularizing: it provides an e-e context for the relative n.p.

(ii) If we consider the three context-types set up in § 3.2., we find that with non-definite n.p.'s the generic context is correlated with a favoured reading of the sentence. Thus in 6 the obvious interpretation of the sentence is generic.

6. A dog is intelligent.

However if a the-phrase occurs in the same context the sentence has two readings which are equally probable:

7. The dog is intelligent.

(iii) The-phrases in existence-establishing contexts can sometimes be interpreted generically (e.g. 4 and 5 above) so the generic interpretation of the phrase cannot be attributed to the classification of context-types set up for non-definite n.p.'s.

1. For a statement of the position rejected here, cf. Smith (1964:49-52)

(iv) The fourth reason for favouring syntactic ambiguity in accounting for generic the is that it can be attributed to a source distinct from non-generic the - a source moreover which would otherwise need to be blocked in an arbitrary way.

The grammar of English must account for such phrases as:

8. the beautiful / the poor / the whimsical /
the dead / the rejected / the unemployed

I propose that generic the as it occurs before singular count nouns is an instance of the in the function illustrated by the phrases of 8. There are three arguments which support this proposal:

(i) In 8, the n.p. is headed by a word of the class categorized as V in our rules. Grammatically these words function as predicators and those that occur in such phrases as 8 are logically equivalent to one-place predicates. The n.p. can only designate all that is denoted by the class V word: there is no vagueness or ambiguity with respect to the genericness of such phrases. (There is ambiguity with respect to countability and number, but we shall return to this point later.)

If we recognize the head-word of the phrases of 8 as predicators of class V, we must ask whether there are not similar phrases whose head-words are predicators of class N.¹ Clearly there are: precisely that phrase-type with which our discussion began, illustrated in 1 - 5. The hypothesis is that the source underlying the phrases of 8, and the phrases of 1 - 5, will introduce the surface head-word as a predicate in underlying structure.

1. See § 2.3. ('Bar notation') and § 19.

(ii) When generic the is discussed the same lexical items are often used as head-words in the examples + names of animals, and other easily classifiable entities, certain well-worn abstractions (the good, the true and the beautiful), certain sets of individuals frequently referred to as such (the wealthy, the unemployed, the underprivileged). This might suggest that this phrase-type was not generated by freely productive rules of the grammar. Is it possible to think of suitable generic contexts for 9?

9. the rascal / the dear / the broken

My aim is not to answer this question but to show that the same sort of questions and constraints are applicable to phrases with a N head-word as to phrases with a V head-word. I shall assume however that the constraints, if there are any, are semantic and not idiosyncratically lexical, i.e. that in principle generative rules can be established to account for this phrase-type.¹

(iii) The sentential contexts in which such phrases occur are severely restricted. To attribute the generic versus non-generic distinction to ambiguity requires a statement of the constraints blocking the generic structure in inappropriate contexts. If generic the occurred only with noun-headed phrases, this might be an argument for attributing the distinction to context rather than syntactic ambiguity. However the occurrence in underlying structure of the distinctive structure for V-headed phrases makes necessary in any case a statement of the contexts in which it can occur. It is possible that the contexts for V-headed generic phrases and N-headed

1. One restriction on the phrase-type might be that the principles of classification in virtue of which the members of a class are designated be (i) relatively permanent, (ii) relatively public. (cf. Gallagher (1972)) But the formal status of such a restriction is unclear.

generic phrases are similar, and that they may be stated in terms which show a large extent of overlap between them. If this were indeed the case, it would provide further evidence in favour of our view that these phrase-types are connected at source.

As we saw in § 9 the grammar of English must account for such phrases as 10

10(a). that which is beautiful

(b). those who are dejected

I propose that 10(a) and (b) are alternative surface forms of the beautiful, the dejected. If my earlier arguments are sound, it follows that the underlying structure of the generic phrase the dog must be one which corresponds to 11:

11. that which is a dog

The difference between 10 and 11 is that 11 does not occur on the surface, but is blocked in favour of the alternative form the dog.

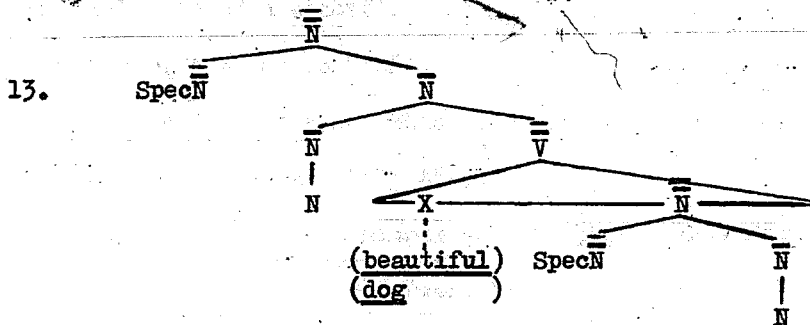
The n.p. illustrated in 8 govern both singular and plural concord in the verb, although there is no feature contrast +count in their head-word. When governing singular concord, the designatum of the n.p. is understood to be non-animate, to be everything of which the head-word is true. When governing plural concord, the designata of the n.p. are understood to be human, to be everyone of whom the head-word is true. Now when the head-word is N, and +count this distinction as to animacy does not hold - singular concord correlates with both animate and non-animate. However plural concord correlates with designata that are human in such phrases as 12:

12(a). those who are doctors

(b). *those which are dogs / parabolas

12 is clearly related to 10 in this respect.

It was established in § 9 that the 'th' pronouns in 10 were not demonstrative (cf. example 3 of § 9). I suggest that 10, and hence 8 and generic the before nouns, can be accounted for quite easily in our grammar providing we accept the principle that N can be generated without being lexicalized. The proposed deep structure is indicated in 13:



Under Spec $\bar{\bar{N}}$ there is a feature choice $+pl$: there are two readings of the poor ('poor people', or 'what is poor') differing in deep structure according to whether or not $+pl$ occurs under the two occurrences of Spec $\bar{\bar{N}}$ in 13.¹ 13 meets the conditions for the relativization process that introduces the: the relative n.p. is not lexicalized, but neither is the head noun, so the identity condition is fulfilled. Thus the generic phrase the dog can be generated with the minimum of change in the grammar already set up, by means of the following derivation:

- 14(a). $\left[N \left[\bar{\bar{N}} \text{ is a dog} \right] \right] \rightarrow$ (oblig.)
 (b). the N which is a dog \rightarrow (oblig.)
 (c). that which is a dog \rightarrow (oblig.)
 (d). the dog

1. Once again this poses the problems of well-formedness. There are not many lexical items which can serve as head-words both in $+pl$ and non-plural n.p. in this structure. In the case of V head-words the constraint is semantic, but in the case of N it might be argued that the constraint should be syntactic. I leave the problem unsolved. In 13 'X' is a cover-symbol standing for 'N' or 'V'.

The step from (b) to (c) requires a new rule, but the rule serves an important purpose: it accounts for the pronoun that in such a way as to show both that it is non-demonstrative and that it never occurs without a following relative clause.

This treatment may be compared with Vendler's: the advantage of the empty N analysis proposed here is (i) there is no problem of recoverability of a specific lexical item, (ii) the derivation transforming the source predicate into a surface head-word is largely described by rules which are required elsewhere in the grammar; (cf. Vendler 1967b:56-59).

A fact ^{which} ~~with~~ distinguishes generic the-phrases from non-definite singular n.p. is that the former, but not the latter, may occur with predicates that cannot be true individually of members of the class designated (Stockwell et al. 1973:89). Thus while the generic reading of 7 has its counterpart in 6, there is no such counterpart for The dinosaur is extinct (cf. *A dinosaur is extinct). The latter may be called the class reading, as opposed to the distributive reading, which is exemplified by 7. It is not clear whether there are sentences with generic the which are ambiguous as to the two readings. The alcoholic is getting younger these days has most obviously a class reading, but one would expect it also to have a distributive generic reading for those who, like Merlin, are prepared to contemplate living backwards.¹ This raises the question of whether the analysis of generic the-phrases should allow for two distinct deep structures, one corresponding to the class reading and one to the distributive

1. The example is adapted from Alcoholics tend to get younger these days, which is discussed in Hawkins (1971:26), and is due to Seuren. Hawkins claims that while the non-definite example is ambiguous, its generic the-phrase counterpart has only what I have called the class reading.

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reading. I have not pursued this point and my analysis provides only the one deep structure for generic phrases consisting of the plus head-word. It is worth noticing however that some the-determined n.p. which might be called generic are accounted for in my grammar without recourse to the empty N analysis. Thus the underlined n.p. in 15(a) is attributed to 15(b) in this analysis by the derivation discussed in relation to 32 of §6:¹

15(a). The man that asks shall receive.

(b). $\begin{array}{c} \boxed{\text{man}} \\ \text{N} \end{array} \quad \boxed{\begin{array}{c} \text{a man will ask} \\ \text{V} \end{array}}$

10.2. Partitive 'that'

Consider the following examples which are to be understood as occurring in the context of a discussion of "next month's exam":

16(a). Those students who do well will be given prizes.

(b). The students who do well will be given prizes.

(c). The student who comes top will be given a prize.

(d). ?*That student who comes top will be given a prize.

The underlined n.p. in (b) and (c) will be derived from 17(a) and (b) respectively, by rules that we have already discussed:

17(a). $\boxed{\text{students}} \quad \boxed{\text{students will do well}}]$

(b). $\boxed{\text{student}} \quad \boxed{\text{a student will come top}}]$

The embedded s. provide a non-e-e context for the relative n.p.

1. This suggests the possibility of developing an analysis of 'distributive' generic the in terms of an embedded s. with may subsequently deleted. The subject n.p. in The good teacher is seldom flustered, is derived by the empty N analysis in my grammar, but alternatively it might be attributed to teacher [a teacher may be good]]. Formalization of the notion logical presupposition would set up an 'if' relationship between the matrix sentence and the embedded sentence.

It is to this non-e-e context, and hence to the non-availability of a there_E source, that we have attributed the doubtful acceptability of 16(d). (See § 6.4. and the discussion of examples 32 - 39.)

How then are we to account for 16(a)?

It must be admitted that the well-formedness of 16(a) is damaging for the account presented so far. The form those suggests a demonstrative source - are we then, after all, to admit a deep structure combining there_E and a non-specific reading?

Use of the underlined n.p. in 16(a) is necessarily attributive. Note that, if we add the time modifier suggested for the context of utterance of 16, the phrase cannot occur after the copula:

18. *John and Peter are those students who do well next month.

This suggests that its use cannot be referential, from which we may infer that it must be attributive. Those in 16(a) cannot be understood as equivalent either to that₁ or that₂: it is much nearer the that which occurs in 14 and 15 of § 8, to which we gave the feature

analysis $\left[\begin{array}{l} +D \\ +the \\ +cat \end{array} \right]$ The determiner in 16(a) is indeed cataphoric -

if the clause is deleted the determiner is understood in quite a different way. Perhaps it can be accounted for by near-surface addition of the feature +cat, as was suggested for the earlier

examples? This suggestion is bad: firstly, 16(a) does not meet the conditions suggested for addition of the feature +cat;

secondly, to add this feature would not explain why it could not be added also in 16(d).

Let us suppose that there is a deep structure distinction between 16(a) and (b) that accounts for the difference in determiners. Consider the presuppositions. 16(a) presupposes 19, while 16(b) presupposes 20:¹

19. Some students will do well.

20. Students will do well.

The semantic distinction here is that 19 is marked as partitive.

That is to say, one who uses 19 asserts "will do well" of students but not of all students. One who uses 20 does not indicate whether or not it is his intention to restrict his assertion in this way.

But how does the proposition expressed by 19 differ from what is expressed by 21?

21. There are students who will do well.

The difference between 19 and 21, I suggest, is that 19 has a non-specific reading whereas 21 does not. If 21 is true, it is true in principle of particular students (whether or not anyone using the sentence can identify them). I want to suggest that 16(a) is derived from a structure in which the embedded s. is the structure underlying 19 rather than 21. But if this is a genuine distinction, and not just an effect of the future time context, it should show up in other phrase-types. And so it does:

22(a). Those soldiers who were wounded were taken to the hospital.

(b). Those wounded soldiers were taken to the hospital.

22(a) has both attributive and referential readings. First note

1. These examples are discussed again in § 21 in relation to the notion of presupposition.

that those in 22(a) may (with some difficulty perhaps) be read as that₁ or that₂, and in these readings the participle may be pre-posed to give 22(b). But there is a more obvious reading of 22(a) - one that is analogous with 16(a): let us call it the partitive reading. There is no partitive reading for 22(b).

If 22(b) is derived by pre-posing of the modifier in the structure underlying 22(a), how are we to account for the discrepancy in the range of interpretations available for the two phrases? The discrepancy does not occur with:¹

23(a). The soldiers who were wounded were taken to the hospital.

(b). The wounded soldiers were taken to the hospital.

Earlier we found that rules for pre-posing modifiers from reduced relative clauses must be controlled in some way with respect to pragmatic factors relating to characterizing and identifying information (cf. the conclusion to § 4.2.E). In the data considered there the pre-posed modifiers gave rise to both restrictive and non-restrictive readings (R/NR) - but in no case is there an R reading of a clause which is not also available in the pre-posed transform if there is one. So whatever is operating to block the pre-posing of the participle in the partitive reading of 22(a), it is not the constraint alluded to in § 4.2. If 22(a) were syntactically ambiguous, the rule of modifier pre-posing could be restricted in its application, so accounting for this difference between (a) and (b).

But suppose the partitive reading is distinguished from the others merely by being attributive - perhaps it is a distinction which is due to the speaker's intention rather than to syntactic

1. See Appendix B, Selected Results VI

structure? Noun phrases having this partitive reading are distinguished phonologically¹ - but this may not be a sign of structural distinctness. However it is possible to think up situations where the that₁ reading of the underlined n.p. in 22(a) can be used attributively: "Do you know the names of those soldiers who were wounded?". So there is a semantic difference between the readings of 22(a) which is not due to Donnellan's distinction; the partitive reading of the n.p. must be distinguished in deep structure.

In fact there is a well-formed surface phrase whose semantic and syntactic properties have much in common with our problem examples. Compare 16(a) and 22(a) with 24:

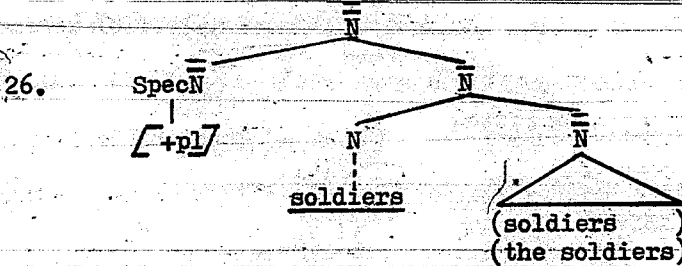
24(a). Those of the students who do well ...

(b). Those of the soldiers who were wounded ...

24 is clearly partitive in its structure: the surface antecedent of the relative pronouns in 24 is those, so there can be no preposing of the modifier. 24 is confirmation of the proposal to attribute the partitive readings of the earlier examples to a deep structure having such sentences as 19 for the embedded s.

Following this proposal, in the partitive reading of 22(a). the embedded s, (and hence what is presented 'as if known' to the

1. If my casual observation is correct, the partitive reading of 22(a) is correlated with the n.p. being distinguished as a separate tone group with the tonic falling at the end of the clause. This is of some interest in view of Halliday's account of phonological signals of information structure and his distinction between 'given' and 'new' information (Halliday 1967b:199-211). So the clause in the partitive reading indicates a sentence which is logically presupposed, but which is marked phonologically as new information? What is new, I suggest, is the formation of the concept of the class whose members are mentioned by use of the n.p.



The determiner some can be introduced by a rule analogous with the rules proposed for the introduction of a and the; in 25(a) the lower non-definite n.p. is deleted, but in 25(b) the higher N is deleted and the determiner is pronominalized.

If 26 is accepted, the following derivation will account for 16(a):¹

- 27(a). [students [students-students will do well]]
- (b). NOM-copy (see § 11)
- [~~students-students~~ [students-students will do well]]
- (c). THE-insertion + relativization
- the students-students who do well
- (d). Deletion + feature trace
- those students who do well

This derivation may not be correct in all respects, but the important point is that 16(a) can be generated by processes already established or closely analogous with ones already established. Steps (a)-(b), and (b)-(c), are required for the derivations discussed in Ch. II and III - the copying rule must be made sensitive to a different type of modifier. Step (c)-(d) is new, but in principle the same as the rules of § 8 which added a feature to the determiner on deletion of

1. of is not mentioned in the derivation; it is assumed that if the lower n.p. were definite, it would be introduced by a late T rule. 'students-students' stands for the partitive structure exemplified in 26.

matter following the noun. In this case the feature +cat is added. So the resulting feature complex is the same as for the cataphoric that introduced as 16 in §8, but in 27 the feature is due to deep structure and to the semantic meaning of the n.p.

There is a tendency for cataphoric that to occur with abstract nouns, and the analysis of this section should perhaps be held to apply also to such examples as 28:

28. These three letters Mr. Pen used to read ... and embrace with that delight and fervour which such beautiful compositions surely warranted.

(Thackery (1850) Pendennis Chap.8)

10.3. Demonstrative and descriptive: review

The n.p. determined by the, that and this, discussed in Ch.II-IV may be called 'definite': a term whose formal place in the grammar has still to be established. The definite n.p. studied so far may be contrasted with non-definite n.p. in the following respects:

(i) definite n.p. are exhaustively specifying. A speaker using such a phrase expects his hearer to identify what is mentioned.

(ii) definite n.p. are interpretable (within the limits of semantic meaning) without reference to the sentential context.

(iii) if re-used within the same stretch of discourse, a definite n.p. is usually coreferential with the earlier occurrence.

((i) and (ii) do not apply to the full inventory of definite n.p.

Condition (i) will be subjected to important qualifications in Ch.V.

Condition (ii) is not applicable to pronouns. But in § 17,

Condition (iii) will be found to be a necessary though not a sufficient condition of definiteness.)

Referential and attributive use of n.p. is not fully determined by syntactic structure. However, a deep structure containing here or there is probably incompatible with attributive use. A deep structure leading to generic the or to partitive that determines attributive use, and so does a deep structure in which the embedded s. necessarily has a reading which is 'neither generic nor specific'.

The determiners have been grouped into those which have a locational element in deep structure (demonstrative) and those which have no such element (descriptive). But it must be emphasized that, on the evidence considered so far, the determiner the is neutral with respect to this distinction when it is considered in isolation: it is demonstrative when derived from an embedded s. containing there and otherwise it is descriptive, but we may speak of 'demonstrative the' and 'descriptive the' only in cases where we know the deep structure from which it originates. The rule introducing the segment underlying the and the feature analysis of this segment are the same in either case. Moreover in very many cases, an n.p. determined by the is attributable to TWO sources - one demonstrative and one descriptive. This matter will be taken up in § 13.

§ 11 Definite Relativization

We are now in a position to consider the formalization of the processes leading to the introduction of the segment underlying the, this and that. Let us consider again the phrase the book on syntax

which you lent me. The proposed deep structure for this n.p. was illustrated in § 4.2. (see 20(a)). The following rules are among those which must apply in the generation of the surface n.p. - this derivation may be compared with the NOM-S analysis in Stockwell *et al.* (1973:470;478;494). It is presented informally and only selected information is given:

1. (a) deep structure of the nominal N

$\left[\begin{array}{c} \text{book} \\ \underline{\underline{N}} \end{array} \left[\begin{array}{c} \text{you lent me} \\ \underline{\underline{V}} \end{array} \left[\begin{array}{c} \text{SpecN} \\ \underline{\underline{N}} \end{array} \left[\begin{array}{c} \text{book} \\ \underline{\underline{N}} \end{array} \left[\begin{array}{c} \text{it is on syntax} \\ \underline{\underline{V}} \end{array} \right] \right] \right] \right] \right] \right]$

(b) after WH-Rel-attachment and WH-fronting

$\left[\begin{array}{c} \text{book} \\ \underline{\underline{N}} \end{array} \left[\begin{array}{c} \text{you lent me} \\ \underline{\underline{V}} \end{array} \left[\begin{array}{c} \text{SpecN} \\ \underline{\underline{N}} \end{array} \left[\begin{array}{c} \text{book} \\ \underline{\underline{N}} \end{array} \left[\begin{array}{c} \text{WH} \\ \underline{\underline{V}} \end{array} \left[\text{is on syntax} \right] \right] \right] \right] \right] \right] \right]$

(c) after REL-BE-deletion

$\left[\begin{array}{c} \text{book} \\ \underline{\underline{N}} \end{array} \left[\begin{array}{c} \text{you lent me} \\ \underline{\underline{V}} \end{array} \left[\begin{array}{c} \text{SpecN} \\ \underline{\underline{N}} \end{array} \left[\begin{array}{c} \text{book} \\ \underline{\underline{N}} \end{array} \left[\text{on syntax} \right] \right] \right] \right] \right] \right]$

(d) after NOM-copy

$\left[\begin{array}{c} \text{book on syntax} \\ \underline{\underline{N}} \end{array} \left[\begin{array}{c} \text{you lent me} \\ \underline{\underline{V}} \end{array} \left[\begin{array}{c} \text{SpecN} \\ \underline{\underline{N}} \end{array} \left[\begin{array}{c} \text{book on syntax} \\ \underline{\underline{NM}} \end{array} \right] \right] \right] \right] \right]$

(e) after THE-insertion

$\left[\begin{array}{c} \text{+D} \\ \text{+the} \\ \underline{\underline{N}} \end{array} \left[\begin{array}{c} \text{book on syntax} \\ \underline{\underline{N}} \end{array} \left[\begin{array}{c} \text{you lent me} \\ \underline{\underline{V}} \end{array} \left[\begin{array}{c} \text{SpecN} \\ \underline{\underline{N}} \end{array} \left[\begin{array}{c} \text{book on syntax} \\ \underline{\underline{N}} \end{array} \right] \right] \right] \right] \right] \right]$

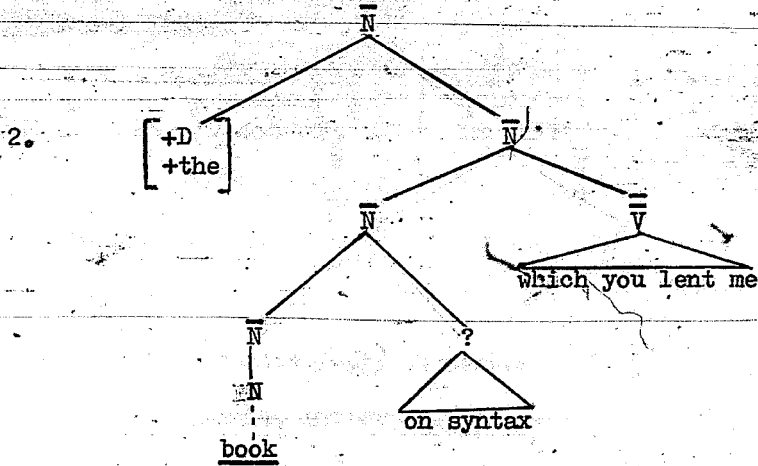
(f) after WH-Rel-attachment

$\left[\begin{array}{c} \text{+D} \\ \text{+the} \\ \underline{\underline{N}} \end{array} \left[\begin{array}{c} \text{book on syntax} \\ \underline{\underline{N}} \end{array} \left[\begin{array}{c} \text{you lent me} \\ \underline{\underline{V}} \end{array} \left[\begin{array}{c} \text{WH} \\ \underline{\underline{N}} \end{array} \right] \right] \right] \right] \right]$

(g) after WH-fronting

$\left[\begin{array}{c} \text{+D} \\ \text{+the} \\ \underline{\underline{N}} \end{array} \left[\begin{array}{c} \text{book on syntax} \\ \underline{\underline{N}} \end{array} \left[\begin{array}{c} \text{WH you lent me} \\ \underline{\underline{V}} \end{array} \right] \right] \right] \right]$

The output structure¹ is:



The \bar{N} constituent illustrated in 2 is right sister to $\text{Spec}\bar{N}$, thus:

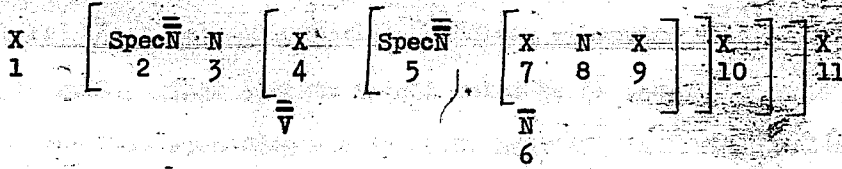


In the sketch of the derivation 'WH' is used to indicate a feature analysis of the segment underlying the relative pronoun, such as is used in Stockwell. The features specified in Stockwell are incompatible with my analysis, but my analysis of the segment must (like theirs) include a feature +def.² The derivation includes two new rules: NOM-copy, which introduces modifiers onto the head noun; and THE-insertion, which introduces the segment underlying the. I shall now attempt to formulate these rules.³

1. REL-BE-deletion, as formulated in Stockwell (op.cit:494), has the effect of \bar{S} -pruning. The node dominating the reduced clause is not \bar{V} , but is not identified by the rules presented in this thesis.
2. Throughout my presentation I have ignored questions relating to the form of the surface relative pronoun.
3. Also, WH-REL-Attachment must be sensitive to two different inputs (cf. § 19).

NOM-copy (Provisional Formulation)

Structure Index



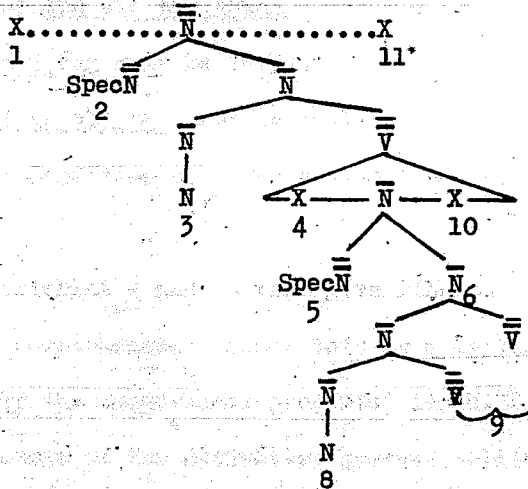
Conditions

1. 3 = 8
2. Iff 2 dominates [+pl], 5 dominates [+pl].
3. 7 is non-null, and/or 9 is non-null.
4. 8 is the head of 6.
5. 7 does not contain [+the].
6. Obligatory.

Structure Change

Copy 6 in the place of 3.

P-marker exemplifying the S.I. for NOM-copy



Comments.

- (1) In the S.I., the symbol 'X' stands for 'an arbitrary list of symbols' (Stockwell op.cit.:14). Unless otherwise specified 'X' may be null. This applies to all rules to be formulated.
- (2) The S.I. specifies and the S.C. mentions dominating nodes. This course is also adopted in Stockwell (op.cit.:14).
- (3) Condition 2 might be formulated in terms of " $2 = 6$ " but I wish to leave open the possibility of entering other features under Spec \bar{N} . 'Iff' = 'if and only if'.
- (4) No account has been taken of non-predicable quantifiers (every etc.): the presence of such quantifiers must block the rule, but formalization depends on a satisfactory account of these quantifiers.
- (5) Condition 3 is included to prevent vacuous application of the rule.
- (6) Condition 4 ensures that 6 is correctly identified.¹ In the derivation of the old box which I painted the top of, the structure underlying old box must be identifiable as 6, but the structure underlying top of an old box must be ineligible as 6. The latter is precluded by Condition 4. The notion 'head of' will be explicated in § 19.
- (7) The variables 4 and 10 will give rise to unwanted derivations if not further constrained. Since this is a copying rule, it is not controlled by the constraints presented in Ch.IV of Ross's thesis.² At a later stage of the derivation however relativization will involve movement rules that are controlled by these constraints and

1. For discussion of the theoretical implications of such conditions, see Appendix A.

2. cf. Ross (1967a:Ch.IV and p.208), Stockwell et al. (1973:449-465).

therefore it is not necessary to formulate special constraints on these variables for NOM-copy and THE-insertion.

(8) NOM-copy is formulated on the assumption that the determiner a is introduced by a late, possibly post-cyclic, rule. Otherwise it would be necessary to include an extra line under S.C., viz., "If 7 includes a, delete a". Provision has not however been made for the deletion of one after only: cf. I bought only one book / the only book I bought.

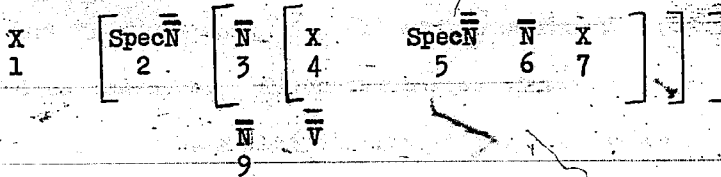
(9) NOM-copy is ordered before any other rule in the process of definite relativization. But the n.p. consisting of 5 and 6 will be fully developed by rules of a lower cycle before NOM-copy applies. Element 7 in the S.I. allows for pre-posed modifiers.

(10) There is a major problem with the rule as formulated here. No provision is made for cases where strings 4 or 10 include a noun identical with 3 and 8. Such will be the case in the structure underlying, the man who was talking to a man. I had hoped to be able to account for such phrases by positing that in their deep structure NON-coreference was indicated by lexical insertion (e.g. of other). But this hypothesis does not allow us to generate the other man who was talking to a man. Relative pronouns (unlike personal pronouns) unambiguously indicate coreference, and there seems no alternative - given the methodological decisions of §2 - to an unambiguous indication of coreference in the deep structure, that is to the use of some form of index or variable. But formalization in terms of indexing must not be allowed to confuse the distinction established earlier between definite and non-definite

relativization. I therefore postpone further consideration of this problem until we consider non-definite relativization in §19.

THE-insertion

Structure Index



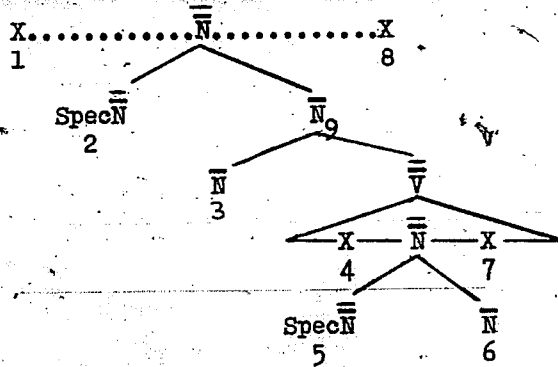
Conditions

1. 3 = 6
2. Iff 2 dominates [+pl], 5 dominates [+pl].
3. Neither 4 nor 7 contains a constituent which is identical with 6.
4. Obligatory.

Structure Change

Chomsky-adjoin the segment $\begin{bmatrix} +D \\ +the \end{bmatrix}$ to the left of 9

P-marker exemplifying the S.I. for THE-insertion



Comments

- (1) As before, no account has been taken of non-predicable quantifiers.
- (2) THE-insertion is ordered after NOM-copy. Condition 1 must cover cases where the identical constituents are (a) constituents of more than one word, \bar{N} , (b) single words, N, (c) unlexicalized terminal nodes, N. Since the phrase structure rules allow for an expansion of \bar{N} such that it exhaustively dominates N, the S.I. covers these three possibilities.
- (3) Condition 3 is provisional and is intended as a filter. If it had been possible to formulate non-coreference for NOM-copy in terms of deep structure occurrence of other, then 3 would adequately control the-insertion, for in a well-formed structure any n.p. headed by a noun identical with the head noun of 6 would be distinguished from 6 by the fact of being differently modified.
- (4) The feature +D is a categorial feature ('determiner'): on the introduction of categorial features by T rules see Chomsky (1970:208).

CHAPTER V

NOUN-DEPENDENT CASE, AND POSSESSION

Chapter V comprises § 12 - § 14. In § 12 a second rule of the-insertion is introduced and it is shown that the does not guarantee definiteness of the phrase it determines. In § 13 possessive determiners are accounted for and there is discussion of the status of n.p. so determined with respect to definiteness. The need to distinguish two types of the is established. § 14 is a note on various n.p. structures that have not been considered in detail.

§ 12 Relational 'The'12.1. Evidence

In this section evidence will be presented which shows that the phrase-type exemplified by 1 - 3 is crucially different from those we have considered so far. The evidence is both syntactic and semantic.

1. the future of England
2. the legs of the table
3. the summit of a mountain

(a) Syntactic evidence: the one test. The pro-form one cannot be substituted for the head noun; thus the (a) examples below are ungrammatical:

- 4(a). *the future of England and the one of France
- (b). The future of England and that of France are interdependent.

5(a). *the legs of the table and the ones of the chair

(b). The legs of the table and those of the chair were
not of the same length.

6(a). *the summit of a mountain and the one of a hill

(b). The summit of a mountain and that of a hill may be
expected to vary in height.

The one test (suggested by a reading of Lakoff, G. 1970a:629-631)
does not relate merely to the surface form of a prepositional phrase,
for the following is well-formed:

7. the picture of Bill and the one of John

Phrases containing other prepositions occur freely after one.

(b) Semantic evidence: the more-than-one-test. A change in
number and substitution of a for the first the in 2 results in a
phrase whose utterance carries with it a certain implication:

8. a leg of the table

The implication is that the table in question has more than one leg.
Thus phrase 9 will be ill-formed for speakers whose understanding of
the word summit precludes the possibility of a mountain having more
than one:

9. ?a summit of the mountain

There is no such implication associated with a phrase containing a
relative clause, or other types of prepositional phrase - for example,
to speak of a mountain Jo climbed is not to imply that Jo climbed more
than one mountain.

The oddity of phrases 1 - 3 clearly relates to the relational
character of the head noun. We will call nouns heading such phrases
'relational nouns'. Bierwisch (1970a,b) uses the term 'relational

noun' and I assume that in his usage the term would be applied to the nouns I class as relational. He also speaks of the different types of semantic relationship involved as different 'pertinence relations' (1970b:171).

(c) Semantic evidence: the definiteness test. The term 'definite' was introduced in § 10.3. Definite n.p. have a semantic reading at deep structure level which is independent of their sentential context; non-definite n.p. are indeterminate, in isolation, with respect to the polarities generic-nongeneric and specific-nonspecific.

Before a relational noun, the determiner the is not an infallible signal of definiteness. When the complement n.p.¹ is non-definite, the range of interpretations available for the matrix phrase includes that of the embedded non-definite phrase:

10. (existence-establishing) I saw the summit of a mountain.
11. (generic) The summit of a mountain is its highest point.
12. (non-specific) I feel as if I were on the summit of a mountain.

In addition there is a reading of the underlined phrase in 10 for which the phrase the mountain summit might be substituted. This reading can be accounted for by demonstrative the.

Furthermore two of Postal's tests of definiteness² show 13, and

-
1. The term 'complement n.p.' will be used for an n.p. occurring in surface structure in a prepositional phrase where that phrase functions as modifier of a noun, and also for n.p. themselves functioning as post-nominal modifiers.
 2. Postal (1966): the first test is adapted here, since I find 14(b) well-formed but semantically distinct from (a) in a revealing way.

the analogous phrase 15, to be indefinite:

13. the summit of a mountain.

14(a). There's a mountain in the corner of the photo.

(b). There's the mountain in the corner of the photo.

(c). There's the summit of a mountain in the corner of
the photo.

In 14 our understanding of (c) is closer to (a) than it is to (b), which suggests that (c), like (a), is non-definite.

15. the legs of a table.

16(a). The table is John's.

(b). *A table is John's.

(c). The legs of the table are John's (but the top is mine).

(d). *The legs of a table are John's

In 16, both (b) and (d) are ill-formed, which suggests that the subject n.p. is in each case non-definite.

(d) Semantic evidence: in support of the definiteness test.

The determiner a appears to be interchangeable with the in non-definite singular phrases of the type discussed above - in many perhaps all contexts. Consider the substitution of a for the in 10 to 12.

The evidence presented in paragraphs (a) - (d) suggests that \bar{N} constituents of the type \bar{N} of \bar{N} where the head noun is relational, are syntactically distinct from the descriptive phrases of other n.p. In the readings that have interested us, the determiners appear to be operating in a quite distinctive manner. For purposes of discussion I shall call the, when it occurs in such phrases with such readings, 'relational the'. The evidence of

paragraphs (a) and (b) shows that the relationship between the head noun and the complement n.p. cannot plausibly be attributed to a relative clause in n.p. determined by relational the. The one test is evidence that the special nature of the semantic relationship between relational nouns and complement n.p. has repercussions in the syntax. And if 9 is analyzed as a summit such that it is of the mountain, how can we account for the more-than-one implication?

Since the nature of the relationship is determined by lexical properties of the head noun and since the relationship between a whole and its parts (and other pertinence relations) is permanent, any embedded s. predicating a relationship between two arguments each containing one of the two nouns would be semantically superfluous.

But if there is no embedded s. how are we to account for the occurrences of the? There is the possibility of the there_n source. Thus 17(a) might be attributed to 17(b)., But 13 cannot be attributed to the analogous 17(c), for if it were, all occurrences of 13 would be interpretable as 'the summit of a mountain that there is', which is possibly synonymous with the mountain summit and in any case is clearly definite.

17(a). the summit of the mountain

(b). [summit [there is a summit of the mountain]]

(c). [summit [there is a summit of a mountain]]

Thus the evidence of paragraphs (c) and (d) regarding the non-definiteness of n.p. determined by relational the shows that the cannot be demonstrative (i.e. attributed to a there_n source) when the complement n.p. is non-definite.

If it is necessary to formulate a distinct rule to account for relational the when occurring in relational structures with non-definite complements, it is improbable that this rule need be restricted to non-definite environments. There is some evidence that even when the complement n.p. is definite an analysis which identifies relational the ^{with} ~~and~~ demonstrative the is unsatisfactory. Thus, in the exchange

18. "Sorry! Is that your foot?"

"No. It's the leg of the table."

the underlined sentence cannot be construed as a statement of identity but must be understood 'predicatively' in the sense of § 19. This reading cannot be attributed to demonstrative the. There may be several legs of the table and no single entity is identified by use of the phrase determined by the.

I conclude that the evidence of paragraphs (a) - (d) cannot be accounted for by the rules of earlier chapters; a new rule of the-insertion must be postulated. Before considering the formalization of this rule, I add some further observations concerning relational the.

Native speakers were asked to comment on the normality of 10 - 12 and of variants with a replacing the: there was marked preference for the. They were presented with similar sentences involving definite phrases, and it is quite clear from their responses that certain relational nouns occur with the without there being any implication of uniqueness (e.g. the side of the car).¹ As already noted the use of a resolves the vagueness of the in this

1. See Appendix B, Selected Results III

respect: cf. the brother of John/a brother of John.

This means that the uniqueness condition (whatever its nature) associated with the author of Waverley is not due to the item the as such, but rather to semantic properties of the head noun author and to the structure in which this noun occurs. Clearly some relational nouns include within their meaning a notion of one-to-one (or one-to-many) - but this strand in their meaning can be cancelled by the structure in which they occur, e.g. a king of France.¹

Abstract nouns appear to enter into relational structures as relational nouns - whether de-adjectival (foolishness) or not (rhetoric). The semantic test of non-definiteness confirms this (cf. the rhetoric of a madman, which may be differently interpreted in different contexts). Where the head noun is abstract, the occurrence of the is highly favoured, and in some cases may even be grammatically determined: ?*foolishness of John; ?*rhetoric of a madman.² Where the head noun is non-count, a phrase determined by relational the is exhaustively specifying.

It is when the relational noun is count, and the n.p. is plural, that the widest range of contrasting choices is available. Consider:

19(a). some kings of France / some citizens of London

(b). kings of France / citizens of London

(c). the kings of France / the citizens of London

-
1. But ?an author of Waverley: it seems that not all relational nouns are equally accessible to this structure.
 2. Some foolishness of John's is not a counter-example, for the structure is not relational. See below pp.184,198.

20(a). Some citizens of London pay higher rates than anyone else in the country.

(b). Citizens of London pay higher rates than anyone else in the country.

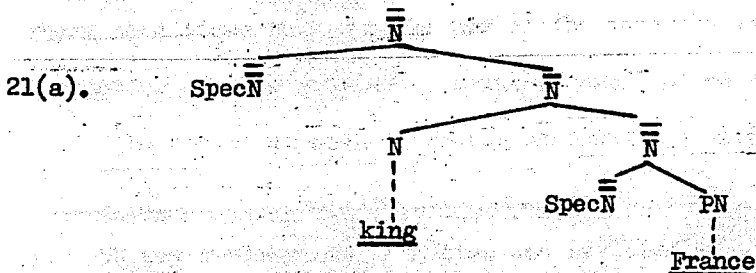
(c). The citizens of London pay higher rates than anyone else in the country.

The operative contrast in 20 relates to whether or not all the citizens of London are intended. In contrast to examples where the head noun is singular, the in 20(c) indicates that all members of the described set are intended by the speaker (providing that the phrase is discourse-initial). In 20(c) the descriptive phrase determined by the is exhaustively specifying. Some indicates a partitive reading, and the phrase which has no determiner is unmarked with respect to this distinction.¹

12.2. Source of relational 'the'

Here are some more examples of phrases determined by relational the: the king of France; the sides of a triangle; the father/mother/brother/sisters/of Jo; the voice of Caruso; the legs/arms/eyes/nose/of the little boy; the roof/doors/windows/of the house.

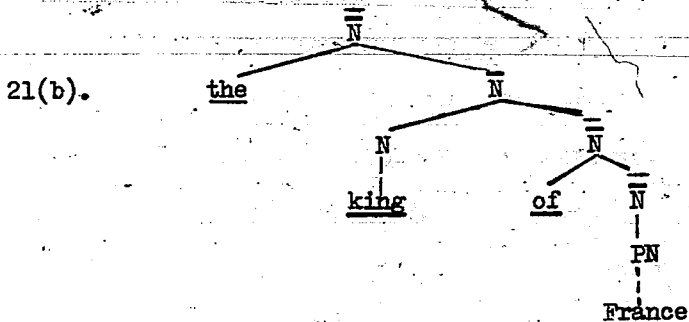
Let us suppose that the complement n.p. of the surface is generated as such in deep structure, thus:



1. See Appendix B, Selected Results IV, for the unmarked status of phrases of type 20(b).

The preposition of should probably be introduced by a T rule whose application is not restricted to this particular structure. It may be a near-surface rule operating to introduce of into such diverse phrases as one of the boys, a copy of the book, that type of house.¹

The will be generated by a rule formulated in terms of Chomsky-adjunction. The surface structure will be:



The problem is to establish the S.I. for a rule of the-insertion, for the full range of determiners can occur before the phrase king of France. Let us first attempt to identify the structural information relevant for our problem. The categorial information of 21(a) is not sufficient for our purposes; it would be so only if,

- (i) all occurrences of this configuration had relational nouns as head of the phrase
- (ii) only 'appropriate' n.p. were generated in the complement position.

These conditions make crucial use of the term 'relational noun'.

The notion of case provides a means of explicating this term.

The notion of noun-dependent case which I wish to introduce here

1. We may envisage an extension and revision of the rule of OF-INSERT sketched in Stockwell (op.cit.:44,64). The need for consistency with the rest of our grammar suggests that of should be introduced by Chomsky-adjunction and that it is therefore dominated by N̄ in surface structure.

stems from the paper 'Types of Lexical Information' (Fillmore 1969a). My aim is not to consider the problem of how lexical information is incorporated into the grammar, but rather to show that the bond between relational nouns and the complement n.p. may be regarded as a case relationship in the sense of Fillmore's paper. Three of the types of information discussed there are:

(i) for an item that can be used as a 'predicate', the number of arguments that it conceptually requires (Fillmore's no.3)

(ii) the role(s) which each argument plays in the situation which the item, as predicate, can be used to indicate (Fillmore's no.4)

(iii) the presuppositions or 'happiness conditions' for the use of the item, the conditions which must be satisfied in order for the item to be used 'aptly' (Fillmore's no 5)

(i) is referred to as 'predicate structure' and (ii) as 'case structure' - 'elementary role notions' being cases. This suggests that a case relationship originates in the predicate¹ and that such a relationship requires a structure consisting of a predicate and one or more arguments. The role or case in which an argument functions is not primarily due to inherent features of its own structure or lexical content, but is partially determined by the predicate word. Selection restrictions in the sense of Chomsky (1965) may be re-interpreted in terms of 'presuppositions' originating in the predicate word and mapped on to the argument.

If we reconsider our string king of France, and contrast it with

1. I use the term 'predicate' throughout this section following Fillmore (1969a). Fillmore writes, "I assume that 'content words' in a language can be characterized in the lexicon in terms of their use as predicates. I take this to be true of nouns, verbs, adjectives, most adverbs, and also a great many conjunctions." (op.cit.:114)

king in England, letter about England, letter from England, it seems that the appropriacy of the word France and the 'role' in which it functions is ~~determined~~ by semantic properties of the lexical item king whether or not the noun king is functioning as a predicate.

Nouns may function as predicates. This function of nouns is to be explored in §19, but has been anticipated in our formalization and nomenclature, for N (a no-bar symbol) indicates a predicator - i.e. an item that may function as predicate. The case-governing property of predicates is (in Fillmore's view) a property of the lexical item functioning as predicate, hence it is not inconsistent to argue that the item may govern a case even if not functioning as predicate.

Once the predicator-argument nature of the structure is recognized, the theoretical possibility of adding case-type information to the categorial information of 21(a) is opened up. I have no precise mechanism to suggest, but claim in principle that the lexical item at N is the source of a feature or label that is introduced onto the following n.p. Let us say that the head noun has an inherent feature 'relational' which we shall abbreviate to +rel. The following n.p. may then be given the feature +related: we may regard this n.p. feature as a case but I postpone the task of identifying it in terms of some theoretically-established case inventory.¹

1. Arguing against a relative clause source for the complement n.p. after relational nouns, Bierwisch comments, "It seems more reasonable to assume that relational nouns 'govern' an object NP in much the same way as verbs and adjectives do." (1970a:42).

I propose that the be introduced into this structure by a rule whose S.I. includes 22:

$$22. \left[\begin{array}{c} \overline{N} \\ \left[+rel \right] \end{array} \quad \left[\begin{array}{c} \overline{N} \\ \left[+related \right] \end{array} \right] \right]$$

One point in favour of this proposal is that it allows us to account for the normality of the by attributing phrases not so determined to more complex structures. Thus consider 23.

23(a). some citizens of London

(b). citizens of London

(c). a king of France

In 23, (a) can be attributed to the partitive structure discussed in §10.2. (though I shall not attempt to formalize this proposal), while (b) and (c) can be attributed to 24 and 25 respectively:

24(a). $\left[\begin{array}{c} \overline{N} \\ \left[\text{citizens} \right] \end{array} \quad \left[\begin{array}{c} \overline{V} \\ \left[\text{they are citizens of London} \right] \right] \right] \rightarrow$

(b). citizens who are citizens of London \rightarrow

(c). citizens of London

25(a). $\left[\begin{array}{c} \overline{N} \\ \left[\text{king} \right] \end{array} \quad \left[\begin{array}{c} \overline{V} \\ \left[\text{he is king of France} \right] \right] \right] \rightarrow$

(b). a king who is king of France \rightarrow

(c). a king of France

Thus 23(b) and (c) are derived from a source which shows clearly their non-definite status. Only one additional rule is added to the grammar. The additional rule is the deletion rule that constitutes the step from (b) to (c) in 24 and 25; the process will be considered in more detail in §19.5., where it will be found that this so-called deletion is a special instance of a wider phenomenon.

Secondly it permits us to attribute to syntax an ambiguity in relational phrases with plural head nouns (cf. the citizens of London).

It was claimed that in 20(c) the phrase applied to all citizens of London. But one can think of contexts where this phrase may be used to apply to only a subset of the individuals that may be so described, a subset whose limits are defined by elements in the discourse or situation. When the set is thus restricted, the determiner may be attributed to the relative clause source for the; this will contain a locational element - thus accounting for the restriction:

26. [citizens [there are citizens of London]]

To recapitulate, we have posited a rule which inserts the in the environment of relational nouns followed by n.p. in 'related' case.

I shall call this new rule REL-THE-insertion, and retain the name THE-insertion for the rule presented in § 11. Any attempt to formulate the new rule however shows up a large number of problems. These fall into four groups:

(i) The question arises as to whether the rule should apply when there are modifiers preceding the noun in the surface structure (e.g. the left bank of the river). If the modifier is due to ~~definite~~ relativization, the will be accounted for by the embedded s. from which the modifier derives. But we saw that relational the occurs both in definite and non-definite n.p. Perhaps then when the complement n.p. is non-definite (the bank of a river), any modifiers should be attributed to non-definite relativization such that the deep structure of 27(a) would be as suggested by (b):

27(a). the sunny bank of a river

(b). [bank of a river [it is sunny]]
 N V

Relational the might then be generated on pre-posing of the modifier, such that 27(a) and 28 would have the same deep structure:

28. a bank of a river which is sunny

Further 29 would be attributed to a deep structure different from 27(b) only as to the embedded s.:

29. a bank of a river where we picnicked.

The problem with this proposal is that it is in conflict with the proposals made above for examples 23. One way of resolving the conflict is to rule that structure 27(b) is ill-formed unless the embedded s. introduces a modifier that is pre-posable, and that pre-posing is obligatory in such cases. This seems ad hoc. And in § 19, when non-definite relativization is formalized, we shall find that we cannot formalize the structure sketched in 27(b) given the assumptions on which this grammar is based.

Let us then adopt the position that relational the is restricted to structures where there is no modifier, and that where there is a modifier in relational structures the is due to the rule of THE-insertion presented in § 11. Note however that this position commits us to the view that THE-insertion is not a guarantee of definiteness for it will occur in the derivation of 27(a). A deep structure that, on current proposals, would lead to 27(a) is such as may be characterized by 30:

30. $\underbrace{\text{bank}}_{\bar{N}} \underbrace{\text{a bank of a river is sunny}}_{\bar{V}}$

Now the context ... is sunny provides a generic context for the relative n.p.; it is possible that this is pertinent to the non-definiteness of the matrix n.p., for this is the first instance of

the being derived from an embedded s. providing a generic context where the relative n.p. is lexicalized. I shall return to this point below (§13.3.). For the moment, it is sufficient to note that the rule of REL-THE-insertion will be restricted to structures where there are no clauses or clause-derived modifiers.

(ii) Relational nouns differ in their behaviour. Some occur with relational the whether singular or plural (king, leg, side ...). Some occur with relational the only in the plural (citizen, member ...). Non-count nouns which are +rel may be grouped with the first set. To account for this we must introduce a rule feature (cf. Stockwell op.cit.:24). That is, relational nouns will be sub-classified according to the feature contrast +many. (Given the hierarchic relationship between +many and +rel, the feature +rel may be introduced into the p-marker by a redundancy rule of the lexicon in cases where an item is lexically specified as +many (cf. Chomsky 1965:165)). The feature +many inheres in nouns of the set exemplified by citizen. Note that this feature is not defined in semantic terms, for notionally some of the nouns in the other set are many-to-one.¹

(iii) I have suggested that REL-THE-insertion is crucially dependent on a semantic relationship between noun and complement n.p.

1. However it may be that it is correlated with a semantic distinction between different types of 'pertinence relations', e.g. the difference between class-membership and part-whole; if such proved to be the case the syntactic rule feature +many could be abandoned in favour of semantically motivated features. (The data on parent presented in Ross (1972) can be accounted for by assigning to parent the features +rel, +many. But speakers may vary in their judgements of well-formedness here.)

which I have attributed to a feature +rel inherent in the noun. The claim thus formalized is that use of the phrase determined by relational the is not in any way dependent on the context of utterance. The use of demonstrative the and (usually) descriptive the may be affected by the speaker's assumptions as to the hearer's knowledge of a specific situation - and this is reflected in the grammar by the derivation from an embedded s. having the semantic status of a presupposition. With relational the, there is no embedded s. and hence no formalization of situation-dependent information presented 'as if known' - rather, according to the case proposal, what is attributed to the hearer is knowledge of the language. My attention has been drawn to the problems posed by structures which must be recognized as relational although the head noun is not inherently relational. Thus the radio of a ship is non-definite in that it can be understood to have a non-specific reading in appropriate contexts; yet radio is not relational. If this problem can be naturally restricted to phrases where the complement n.p. is non-animate (i.e. the head noun does not contain an inherent feature +anim), it may be solved by a rule which derives the radio of a ship from the structure underlying the radio of a ship's, that is from the structure we shall discuss below under the heading 'alienable possession'. Note however that there must be a semantic constraint on this derivation. Use of the phrase the radio of a ship depends for appropriacy on the truth of the generalization Ships have radios. Thus - as with the case-based structures - its use does not imply an appeal to the hearer's knowledge of the situation.

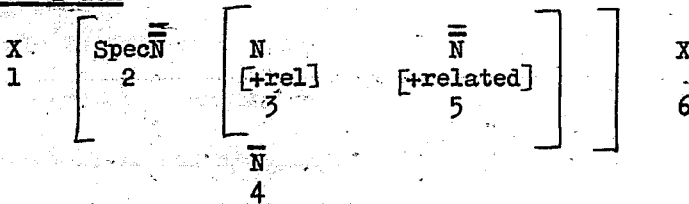
I shall adopt this solution, thus committing myself to the view, alas not fully investigated, that relational the can in all other instances be attributed to case - though not necessarily to +related.¹

(iv) In formulating REL-THE-insertion I have considered relationships which are, in semantic terms, one-to-one or many-to-one (discussed above), but I have not fully investigated the implications of the relationship one-to-many (e.g. author/books). Nor have I fully considered structures where the complement n.p. is undetermined. In the writer of novels it is unclear whether the the is relational: there is, I find, no non-specific reading of the phrase. Further investigation of these matters would probably lead to the recognition of the need for additional conditions on the rule.

The following formalization of the rule of REL-THE-insertion is offered as an approximation. A fully satisfactory statement of the rule would require fuller investigation of points (ii) - (iv) above.

REL-THE-insertion

Structure Index



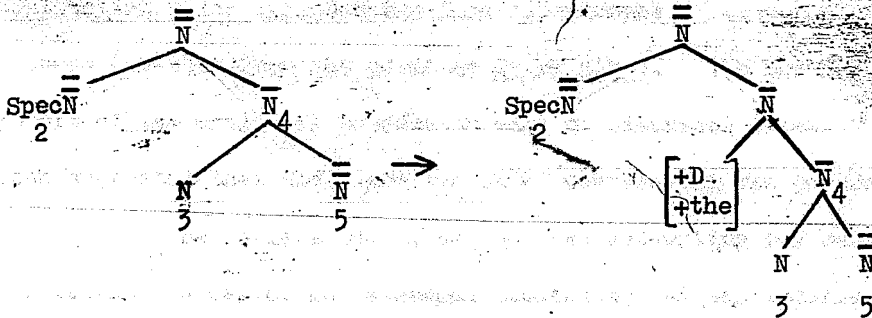
Conditions

1. If 3 dominates [+many], then 2 dominates [+pl].
2. Obligatory

1. cf. § 14.2. on de-verbal nominals

Structure Change

Chomsky-adjoin the segment $\begin{bmatrix} +D \\ +the \end{bmatrix}$ to the left of 4.

IllustrationComments

(1) As before (cf. the rules presented in § 11), no account has been taken of non-predicable quantifiers.

(2) The S.I. specifies a feature on a phrase node (i.e. on 5). Discussion of the formalization of this is postponed until we consider POSS-DET-formation.

(3) We must ask whether the two rules, THE-insertion and REL-THE-insertion, introduce the same feature-complex. The rules have been formulated so as to introduce the same segment in each case. Arguments in support of this view will be presented in § 13.3.

(4) In derived structure phrases of the type exemplified in 25 (and possibly in 24) will meet the S.I. for REL-THE-insertion, but we do NOT want the rule to apply to these phrases. In § 19 we shall see how application of the rule can be blocked in such cases.

§ 13 Possession

I shall use the terms 'possessive' and 'possession' for any construction which includes the form 'apostrophe s' or a possessive pronoun (whether from the paradigm my or mine). The semantic import of the notion of possession will be discussed later. It has been suggested that there are two chief sources for the possessive determiner, one (a relative clause source) accounting for ownership and related concepts, and a second accounting for the occurrence of possessive determiners with derived nominals (Chomsky 1970:199-201; Stockwell et al. 1973:672-716 = Chapter 11 'Genitive').¹ The analysis to be proposed below will also provide for two sources. The analysis of 'alienable possession' offered here derives from Smith (1964), and the distinction between case-derived possessive determiners and relative-clause-derived possessive determiners is found in Stockwell. The discussion which follows presents two new ideas:

(i) from whichever source it is derived, the possessive determiner is shown to have absorbed an intermediate level the by a process analogous to the rules which generate that (cf. above § 8, § 10.).

1. I speak of two 'chief sources', for the distinction to which I refer does not cover all occurrences of possessive determiners. The analysis of this chapter for instance does not cover the determiner in factive gerundives (John's leaving the house). Those who favour a transformational account of nominalization would also - presumably - allow for a major distinction in source for possessive determiners: those generated in the course of nominalization, and those derived from relative clauses (cf. Fraser 1970; Newmeyer 1970, 1971). But it is not clear how they would account for inalienable possession.

(ii) the need for two sources is established without reference to problems posed by derived nominals; to this end, evidence presented as secondary by Chomsky and in Stockwell is here re-examined and supplemented.

13.1. Case-based possession

Consider the following pairs:

1(a). the father of John

(b). John's father

2(a). the legs of the younger child

(b). the younger child's legs

3(a). the legs of the table

(b). the table's legs

4(a). the king of France

(b). ?France's king

5(a). the future of England

(b). England's future

6(a). the roof of a car

(b). a car's roof

7(a). the summit of every mountain

(b). every mountain's summit

1(a) to 7(a) are phrases with relational head nouns determined by relational the. The (b) examples are paraphrases of the corresponding (a) version. This paraphrase relationship can be accounted for if (b) is derived from the structure underlying (a). 6 and 7 show that the determiner of the complement n.p. is preserved in the transformational process, and therefore that the initial the of 2(b) and 3(b) originates in the complement n.p. The required transformation might substitute the n.p. that is complement of the relational noun

for the determiner of the matrix phrase, marking the new determiner for possessive inflection. (Throughout this chapter, I shall assume a late rule of OF-insertion.)

There are three points to be discussed in connection with this proposal:

(i) The relative acceptability of the (a) and (b) phrases varies.

Thus the leg of John is less acceptable than John's leg while 4(b)

is less acceptable - or at least less common - than 4(a). There

seem to be four factors affecting the issue. Firstly, animacy of the complement n.p. - which is highly correlated with acceptability of the (b) version (and may be a guarantee of its acceptability).

Secondly, the length of the complement n.p. - which increases the acceptability of the (a) version as shown by 2. Thirdly, where the

complement n.p. is non-animate, the 'exhaustive reading' of the relational-the-phrase increases the acceptability of the possessive determiner version. Thus while the table's leg is doubtful

(starred in Stockwell p.712), 3(b) is not impossible. In the

'exhaustive reading' of 3(a) all the legs of some table are

intended by the user of the phrase. Fourthly, lexical properties

of the head noun intervene - the prevalence of the possessive

determiner with kinship terms and parts of the body may be attributed

to the animacy of the determiner-phrase, but the greater acceptability

of 4(a) when compared with 4(b) is attributable to none of the

factors mentioned above, and is presumably connected with the word

king itself.

We have considered these matters in relation to acceptability rather than grammaticality for there is little evidence that speakers' judgements are sufficiently clear-cut to warrant exclusion of some (b) versions from the phrases generated by the transformational rules.¹ The distinction in terms of animacy would suggest that grammaticality might be involved were it not over-ruled by the second factor, that of length of the complement n.p. The length of phrases factor is similar in kind to the general 'output conditions' discussed in Ross (1967aCh.3). That animacy is over-ruled by phrase length is clear from the ease with which the pronoun it is used as a possessive determiner.

Consider:

8(a). ?the box's side

(b). Put the box down on its side.

No further attempt will be made to account for these variations in acceptability; it is recognized that our analysis is inadequate in this respect.²

-
1. For further discussion, see Stockwell pp.710-712; but note that that discussion considers possessive determiners derived from other cases than the 'related' case under examination here. In particular note that picture is not classed with relational nouns in this analysis, although it is in Stockwell.
 2. If the table's leg is ungrammatical then it must be blocked by a factor which appears to relate to this particular process rather than to general constraints. It may be that an adequate specification of the Conditions on POSS-DET-formation will require yet further subcategorization of relational nouns. More interestingly, it might be argued that the phrase in question implies that the table has only one leg. If this were so, it would suggest that relational nouns cannot be adequately subcategorized in the lexicon but are used in conjunction with a grammatical (and hence situationally-motivated) choice between many-to-one and one-to-one. This problem has however been ignored in what follows.

(ii) In addition to the phrases exemplified in 1 - 7, provision must be made in a complete grammar for such phrases as 9:

- 9(a). a car roof
- (b). the table legs
- (c). every mountain summit
- (d). the French government

The difference between 9 and the (b) versions of 7 is that in 9 the determiner determines the head noun (underlined above) while in 1 - 7 it is the head noun of the possessive phrase that is determined by the initial word. A comparison of 4(b), 3(b) and 9(d) confirms this statement (providing it is accepted that 9(d) is in essential respects like 9(a) - (c)): the proper noun in 4(b), France, corresponds to the phrase the table in 3(b) so it is clear that in 3(b) the determines table; but in 9(d) the adjectival form of French shows that the must determine the head noun government. Therefore it is claimed that the phrases of 9 do NOT derive from the structures underlying 10:-

- 10(a). the roof of a car
- (b). the legs of the table
- (c). the summit of every mountain
- (d). the government of France

There may indeed be a paraphrase relationship between 9 and 10, but this is not to be captured by a one-step transformation - for consider 11:

- 11(a). the legs of every table
- (b). every table leg

11(a) and (b) are NOT paraphrases. Thus we may assume that the deep structures underlying 9 will be more like the source of pre-nominal adjectives than like that of possessive determiners: they will not be discussed further.

(iii) Returning to the phrases 1 - 7, we have established that the determiner that is preserved in the transformational process is the determiner of the complement n.p. Now we shall see that the rule which formalizes this process, call it POSS-DET-formation, only applies when the occurs in the input structure. This is clear from considerations of paraphrase:

12(a). These sides of the triangle are equal.

12(b). The triangle's sides are equal.

12(a) and (b) are not paraphrases, for (a) but not (b) includes a deictic signal indicating selection from the set 'sides of the triangle'.

13(a). two windows of that car

13(b). that car's two windows

13(a) and (b) are not paraphrases, for only (a) could be used in 14:

14. Two windows of that car were broken but the other windows were all right.

13(b) on the other hand may be paraphrased by the two windows of that car.

-
1. But in some cases it may be more plausible to postulate near-surface deletion of a possessive form: thus his bedroom window may be due to the structure underlying ?his bedroom's window.

Not only is there a lack of paraphrase relationship between 13(a) and (b) but there is a distinction in definiteness. 13(a) is non-definite for, although it cannot occur in a generic context with generic interpretation, its interpretation varies according to whether it occurs in an existence-establishing context or a non-specific context:

15(a). I smashed two windows of that car.

(b). I want to smash two windows of that car.

A statement made by use of 15(a) entails the (past) existence of two windows such that the speaker smashed them; whereas sentence 15(b) fails to guarantee the existence of two specific windows such that the speaker of the sentence wants to smash them, cf. above § 3.2. But 13(b) is not indeterminate in its interpretation: it is exhaustively specifying, like the definite n.p. discussed in Ch. III and IV.

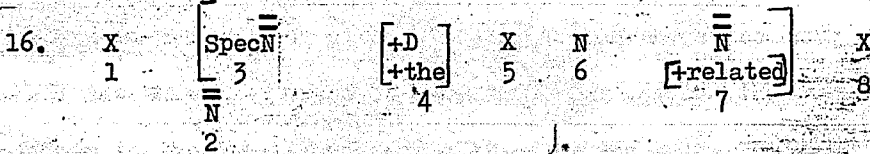
Now consider 6(b) in our earlier examples. 6(b) is non-definite just as is 6(a) - the phrases are comparable with those exemplified in 10 - 12 in the last section (the summit of a mountain). So the possessive determiner is not a guarantee of definiteness.

Clearly this evidence shows that the input to POSS-DET-formation needs to specify the occurrence of the in the input phrase. What is required is something like the amalgamation of the and there₀ to give that₂ which was presented in Chapter III.

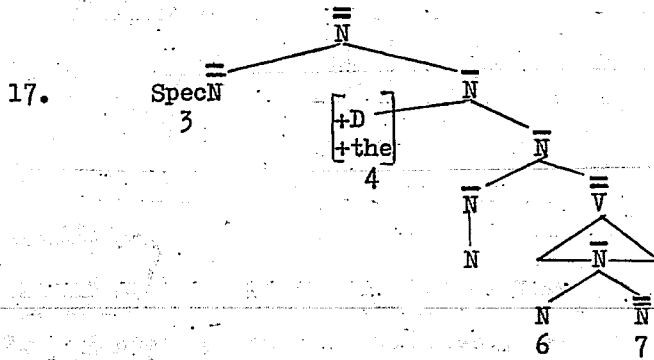
We are now in a position to make a first attempt to formalize the rule of ROSS-DET-formation.¹ Let us consider 16 as a possible

1. The rule has SOME similarity to Emonds' 'Possessive Transformation', which he applies to structures headed by derived nominals. But Emonds argues that possessive determiners must originate as such before relational nouns (Emonds 1970:Ch.2).

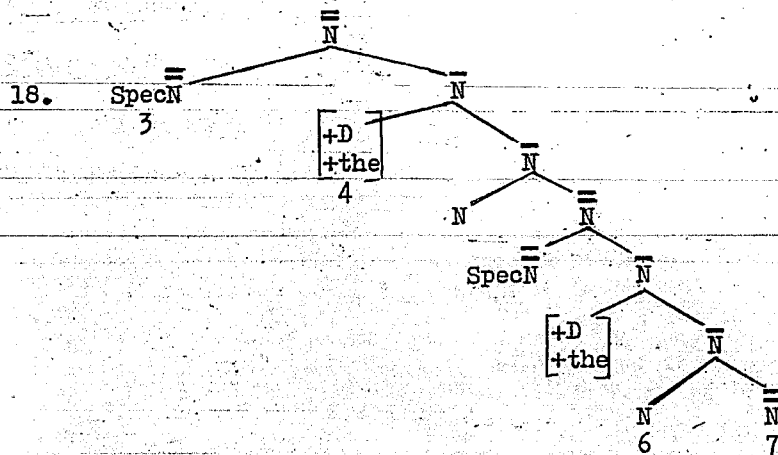
Structure Index:



Phrases whose structures meet this S.I. include the father of John, the sunny bank of a river etc. but not the brother of John that I know: that is, it allows for pre-nominal modifiers but not for modifiers following the complement n.p. at 7. The problem is that because of the variable at 5 both 17 and 18 will also meet the S.I. and these structures are not required as input to the rule:



(e.g. the scratch which is on the side of the car)
4 5 6 ..7....

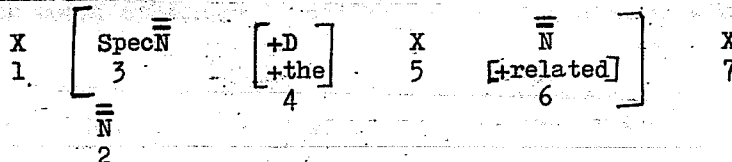


(e.g. the father of the uncle of Bill)
45..... 6 7

Looking at the unwanted strings numbered 5 in 17 and 18, we see that in each case they stretch across a noun-phrase boundary. I shall use this as a means of discriminating against the unwanted strings in the provisional formulation of the rule; subsequently we shall find that this is not the correct generalization. Further, no mention will be made of the node labelled 6 in example 16 for this node is necessary neither for the recognition of the structure nor for the statement of the S.C.

POSS-DET-formation (Provisional Formulation)

Structure Index

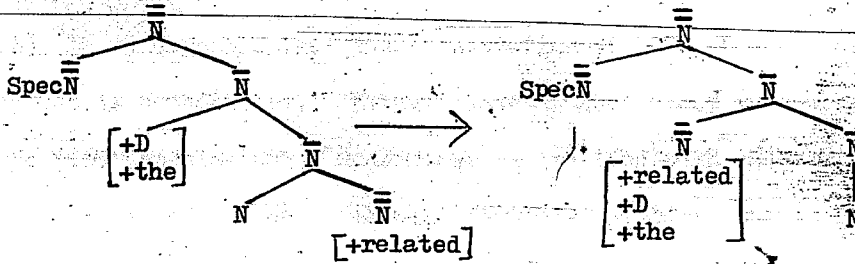


Conditions

1. 5 does not contain the symbol $\text{Spec}\bar{N}$
2. 4 does not dominate features other than those specified in the S.I.
3. Optional.

Structure Change

1. Copy 4 onto 6, then
2. Replace 4 by 6.

IllustrationComments

(1) As mentioned earlier, there are many poorly understood factors affecting the acceptability of the output of this rule.

(2) The brackets around elements 3 to 6 in the S.I. block 19(b), which would otherwise be derivable from the structure underlying 19(a):

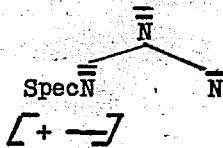
19(a). the windows of your car that I smashed

(b). *your car's windows that I smashed

(3) The inclusion of element 2 in the S.I. is not strictly necessary, because a constituent beginning with SpecN-bar must be a n.p.; but 2 will be mentioned in the final formulation of the rule.

(4) The output p-marker has a base-category node N-bar to which has been added the derived-category feature +D. The output configuration allows us to state constraints and rules mentioning determiners and if necessary mentioning N-bar with the feature +D.

(5) In the formulation of this and other rules a general convention is assumed. It is that $\left[\begin{array}{c} \bar{N} \\ + \text{ ---} \end{array} \right]$ (where '+ ---' represents a feature) is a contraction for:



Any feature applying to the n.p. as a whole is entered under Spec^N.¹

(6) It is arguable that the preservation of BOTH +D and +the in the output is unnecessary. Either alone is sufficient to ensure that the n.p. functioning as determiner is realized with the correct possessive inflection. +D was introduced earlier, and is now preserved, on the assumption that the formulation of some T rules, or constraints, needs to mention the category 'determiner' where this category includes not only the items determining definite n.p., but also a and certain quantifiers. The preservation of +the give us a different category: the '+the' determiners. If it is determined at all, a definite n.p. is necessarily determined by a '+the' determiner - but the reverse does not hold. I do not know whether an adequate grammar needs to make formal mention of this category.

(It is also doubtful whether +related needs to be preserved - but this is a matter of the formalization of case and is not relevant to our main theme)

(7) It is anticipated that a study of case relationships in derived nominals would lead to specification of other cases under 6 but this possibility has not been pursued. Rather, we shall now extend the rule to cover clause-derived expressions of possession.

13.2. Alienable and inalienable possession

The distinction between alienable and inalienable possession is discussed in Lyons (1968a:301,394), Fillmore (1968:61-81), Chomsky (1970:200-201), Stockwell et al. (1973:690-693). The term 'inalienable possession' may be used to refer to the relationship of the whole to the part in the body of an animate being, but the

1. Except that features inherent to the head noun will sometimes be treated as features on the n.p. (cf. p.195).

extension of the term is usually taken to be wider. Some such semantic notion is reflected in the syntactic system of several languages (vd. Lyons, Fillmore). But there are several different semantic notions in this area reflected in the syntax of English, and it is not clear how wide a range of phenomena should be brought under the notion inalienable possession. In the description to be presented here the distinction between alienable and inalienable relationships is reflected in the distinction between the noun-to-nounphrase 'related' case structure on the one hand, and the noun-to-relative-clause structure on the other.

Interacting with 'inalienability', there is also the part-whole relationship, which excludes expressions of kinship; and parts-of-the-body, which excludes non-animate wholes in the part-whole relationship. Parts of a whole may be 'obligatorily possessed' (Fillmore 1968:74) or not. Some, perhaps all, ^{of} these distinctions are reflected in the syntax in that syntactically motivated rules show a high correlation with the notional distinction - though not necessarily 100% (vd. Stockwell). If the use of the term 'possession' is restricted to relationships where the possessor is animate, then it is a cross-category including all possessive relationships which are alienable and only some of the syntactically motivated inalienable relationships which are expressed by 'possessive' morphology. It is doubtful whether the syntax of English provides sufficient evidence for this cross-category to be given theoretical status in the grammar; but the term 'possession' may be usefully employed to cover all relationships expressed by possessive forms derived either from relative clauses or from the

'related' case. It will be so used in the discussion which follows.¹

~~The need for two sources for possessive determiners is discussed~~
by Chomsky who attributes the ambiguity of John's leg to a double source: one accounting for the body-part relationship, the other for the situation where John has a leg that is not part of his body.

In using the label 'alienable possession' for the second source of possessive determiners, I refer to a distinguishable source structure and to other structures derived from it. Semantically there is a very wide range of associations between objects and people that may be expressed by 'alienable' possessive constructions. Thus, to give an example from Stockwell (op.cit.:694), "Peter's team may be a team owned, founded, organized, or managed by Peter; it may equally well be one that he regularly plays for, is presently playing for, supports" In appropriate contexts, as wide a range of associations can be expressed by the predication ... is Peter's.

In the proposals made here, I follow the Stockwell grammar in making no syntactic distinction between these different types of association.

The following criteria however support the need for a syntactic distinction between two types of possession - the semantic correlates would seem to be an interaction of alienability and animacy.

(i) Possessive constructions derived from case-based structures with 'related' case have (as we saw above) a well-formed counterpart: the N of N̄. Phrases with animate possessive determiners

-
1. Possession in the narrow sense of 'animate possessor' gives rise to an interesting class of ambiguities (cf. John's leg) but these can be accounted for by an interaction of three semantico-syntactic notions: (a) alienability v. inalienability (b) obligatorily possessed v. non-obligatorily possessed (c) animacy of the possessor. (Note that (a) and (c) are not the only notions here for John's sister is not ambiguous in the same way.)

derived from relative clauses do not have this counterpart:

*the table of John.

(ii) Phrases derived from a relative-clause structure, but not those derived from noun-dependent case, may have a post-nominal possessive form:

20(a). that table of John's

(b). *that roof of the car's

(c). *a side of the triangle's

Animate relational nouns do occur in phrases analogous to 20:

21(a). That voice of John's drives me mad.

(b). That brother of yours is an odd fellow.

(c). What shall I do with this son of mine?

but it is noticeable that this usage seems to be restricted to phrases determined by that and this:

22(a). *a brother of mine

(b). ??two toes of John's

I conclude that 21 is attributable to a recategorization of the head noun motivated by the characterizing function that we earlier associated with the descriptive phrase in n.p.'s determined by that and this (see §6.2.). With the exception of (c), the underlined phrases in 21 do not differ effectively in semantic content from their alternatives with prenominal possessive (John's voice/your brother), but 21 is stylistically marked.

(iii) When the possessive determiner is derived from a relative clause, there is an analogous sentence (as shown below) which is well-formed and unquestionably acceptable:

23(a). John's book

(b). The book is John's.

24(a). my picture

(b). The picture is mine.

25(a). a man's hat

(b). The hat is a man's.

But this is not so when the determiner is derived from noun-dependent case:

26(a). the mountain's summit

(b). ?The summit is the mountain's.

27(a). the doctor's nephew

(b). ?The nephew is the doctor's.

28(a). England's future

(b). The future is England's. (Well-formed, but not related

to (a) as 23(b) is to 23(a).)

Let us now consider the route by which 'alienable possession' constructions are derived. Smith (1964) presented the following analysis, which appears with variations in many transformational accounts. 29 is derived by a route sketched here as 30:

29. John's hat

30(a). John has a hat

→

(b). the hat is John's

→

(c). DET hat which is John's

→

(d). DET hat of John's

→

(e). John's hat

{ (c) is the
output of a double-
(base transformation)

For Smith, the hat of John's is grammatical¹ and so (d) - (e) is an optional step. Oddly, no provision is made in the rules for the DET in (c) and (d) to be specified as the. In some accounts (e.g. Burt (1971:91-93)), the derivation goes from a structure having (a) as an embedded s. to (d) by a route which omits steps (b) and (c). In Stockwell it is argued on semantic grounds that the embedded s. in the structure underlying (e) is that of (b) rather than (a) (pp.695-702).

The writer of the chapter on Genitive in Stockwell argues against Smith that the steps from (c) to (d), and from (d) to (e), are not correct. He wishes to derive (d) from (e). He criticizes the claim that these steps in Smith's analysis are instances of relative clause reduction and modifier-preposing. His main argument for an alternative analysis is based on such phrases as a proposal of mine - here, it is argued, the form of mine must be due to POST-posing from the determiner because the determiner itself must be due to a case-based relationship (Stockwell op.cit.:703). I reject the premiss that the n.p. underlying mine is in a case-relationship to the head-word proposal (see below § 14.2.). As to the step from (c) to (d) if it is accepted - as it is elsewhere in the Stockwell grammar (p.64) - that of is a form introduced by a fairly late insertion rule, then it is difficult to escape the conclusion that (d) is a reduced relative clause.

Let us examine further the step from (d) to (e). Smith's account fails in explanatory adequacy by not showing more clearly the role of the determiners. The correct generalization is not with

1. Subject to dialectal variation (Smith 1964:44).

adjective-preposing but with the amalgamation process that we have already examined in connection with that and case-derived possessive determiners.

13.3. Alienable possession: implications for definiteness

I have argued that it is necessary to make a distinction, in the source of possessive determiners, between the inalienable and alienable relationship. We have noted that alienable possession has in the past been attributed to a relative clause source. Let us accept this proposal and consider the structure underlying the relative clause.

Phrases determined by possessive determiners are definite providing the possessive determiner is itself a definite n.p. If the possessive element originates in a relative clause, it is a natural step - given the description presented so far - to posit a derivation whereby the segment underlying the is introduced by THE-insertion as part of the process we have called definite relativization. The possessive element may then be moved into the determiner position by an expanded version of POSS-DET-formation. This proposal accounts for the examples of 31; if (c) is ruled ungrammatical, its ungrammaticality may be attributed to obligatory application of POSS-DET-formation.

31(a). that hat of John's

(b). this hat of John's

(c). ?the hat of John's

It was mentioned earlier that we had yet to decide whether the same feature complex was to be introduced by REL-THE-insertion and by

THE-insertion. Consideration of alienable possession leads to a resolution of this problem.

- 32(a). John's hat
 (b). *A hat is John's.
 (c). John has a hat.

Following suggestions made in Lyons (1967) - and to be considered further in § 16 - let us assume that 32(b) and (c) are derived from a single source.¹ Lyons argues that (b) is nearer to source than (c), but in the framework adopted in this presentation we must suppose rather that in the source structure which underlies both 32(b) and (c) neither argument has yet been promoted to subject. The ungrammaticality of 32(b) is thus attributed to conditions on the rule of Subject Placement; this enables us to claim that notwithstanding its ungrammaticality there is a well-formed deep structure underlying 32(b). This structure meets the necessary conditions for the embedded s. in a structure expressing alienable possession and leading to the possessive determiner. The proposed derivation may be sketched as follows:

33(a). Derived structure

[hat [a hat is John's]] →

(b). Definite relativization (several rules)

the hat which is John's →

(c). Rel-clause-reduction (optional) (REL-BE-deletion)

the hat of John's →

(d). POSS-DET-formation (obligatory)

John's hat

1. cf. also Bach (1967)

32 shows that the deep structure provides an e-e context for the non-definite n.p. a hat in the embedded s. of 33. But compare 32 with 34:

- 34(a). a man's hat
- (b). *A hat is a man's.
- (c). A man has a hat.

The comparison shows that the e-e properties of 32 are due to the definiteness of the n.p. John, for 34(c) has a generic reading. But 34(a) is NOT definite: this phrase may occur in sentences with generic, specific, or neither-s-nor-g readings.

This observation confirms the fitness of the derivation proposed for the sunny bank of a river in §12 (see examples 27-30 of §12).

At that point in the presentation it may have seemed somewhat arbitrary that the determiner the in relational structures should be attributed to two different rules according to whether or not a clause-derived modifier was present. But the non-definiteness of 34(a) (assuming a derivation parallel to 33) shows that there are independent grounds for the claim that when introduced by ~~THE~~ insertion the does not guarantee definiteness. It also strongly suggests that the same feature complex is introduced by each of the two rules.

Another inference to be drawn from the observation that there is an e-e context in the embedded s. in the deep structure of 32(a), but not in that of 34(a), is that 32(a) should also be derivable from a there_E source but that 34(a) should not be derivable from such a source.¹ The alternative derivation would look like this:

1. This prediction is in accordance with the discussion of §6.4.(28).

- 35(a). [hat [there is a hat [it is John's]]] →
 (b). [hat [there is a hat which is John's]] →
 (c). [hat [there is a hat of John's]] →
 (d). [hat of John's [there is a hat of John's]] →
 (e). the hat of John's that there is →
 (f). the hat of John's there is →
 (g). the hat of John's →
 (h). John's hat

Steps (a) to (g) are already allowed for in our grammar; it is the final step that I wish to question. I want to argue that in spite of the very low acceptability of 35(g), there is a reading of (g) which is distinct from (h). If 35(g) is used at all, it will not be used in discourse-initial contexts: its use will indicate co-reference with some hat-of-John's previously mentioned or mention of one to be selected from other hats already in some way the object of the attention of the interlocutors. Such use is also of course possible for (h), but (h) has a wider range of uses. The point can be made more clearly with respect to 36.

36. ?the hat of a man's

If 36 is to be generated by the grammar it must have a reading quite distinct from a man's hat: it must have the reading appropriate to the there_E source. So if we rule that 35(g) and 36 are grammatical POSS-DEF-formation must be blocked when the is derived from there_E, i.e. when it is demonstrative.

This line of argument leads to the conclusion that while relational the and descriptive the are realizations of the same feature complex, demonstrative the must be distinguished. But the

marginal well-formedness of the key examples weakens the argument.

There is further evidence however in 37

37(a). the summit of a mountain

(b). a mountain's summit

(c). the mountain summit

37(a) underlies 37(b), but ONLY if the is relational. If the is demonstrative, the phrase is nearer in sense, and is possibly transformationally related, to 37(c). If it is agreed that 37(a) has two readings, one of which is nearer to (c) than to (b), then a formal distinction must be made in the syntactic rules EITHER between relational the on the one hand and demonstrative and descriptive the on the other, OR between demonstrative the on the one hand and relational and descriptive the on the other. But if a modifier is added to the phrases of 37 (cf. the snow-capped summit of a mountain) the same arguments lead to the conclusion that demonstrative the must be distinguished from descriptive the. So demonstrative the must be formally distinguished from other occurrences of the: demonstrative the guarantees definiteness of the phrase it determines.

There is furthermore a very natural way of formalizing the distinction, one which preserves the claim that THE-insertion and REL-THE-insertion introduce the same feature complex. It is that on deletion of there is as in 35(f)-(g) a feature, say +dem, is copied on to the determiner matrix.¹ In this way both THE-insertion and REL-THE insertion introduce the segment $\left[\begin{smallmatrix} +D \\ +the \end{smallmatrix} \right]$ and subsequently demonstrative the will be distinguished by the addition of an extra feature.

1. By suggesting that this is a copying process, I imply that +dem occurs in the underlying form of there; cf. § 9 and § 18.

The non-definiteness of some n.p. determined by the introduced by THE-insertion calls in question some of the generalizations presented in earlier chapters. First, we can no longer claim that the deep-structure sources of the which contain embedded s. are exhaustively specifying. The deep structure underlying 32(a) is not exhaustively specifying, for a man may have more than one hat but there is no locational element in the source to which may be attributed a situational restriction (cf. the discussion of § 6.2. and § 10.3.). In this too we find that descriptive the (occurring in the derivation of 32(a)) and relational the fall together as one item - for a phrase determined by relational the, e.g. the leg of the table, need not be exhaustively specifying either.¹

It seems that in certain phrase-types the embedded s. which motivates the insertion of the fails to 'bind' the non-definite relative n.p. and the matrix n.p. is therefore susceptible to the binding effects of the matrix sentence. The fact of there being an embedded s. in deep structure is thus insufficient to guarantee the binding effect of the embedded s. and the consequent definiteness of the matrix phrase. It is worth considering the embedded s. more carefully.

In the deep structure of 34(a), on current proposals, is the structure which is common to 34(b), and (c). Underlying 38(a) there is a structure containing an embedded s. corresponding to 38(b):

38(a). the sunny bank of a river

(b). A bank of a river is sunny.

1. When derived by REL-THE-insertion, the signals exhaustive specification when the head noun is non-count, or the phrase is plural, but not necessarily otherwise (see § 12.1).

The sentences in 34 and 38 have a generic reading. Embedded s. leading to the definite n.p. in Ch. II - IV were either such as to provide e-e contexts or non-specific contexts for the relative n.p. Earlier it was claimed that the embedded s. was presupposed by the matrix sentence. But it is clearly false to claim that 39 presupposes the generic reading of A man has a hat.

39. A man's hat was lying on the table.

On semantic grounds therefore it seems possible that the embedded s. has been incorrectly identified in the foregoing discussion. I propose, on semantic grounds alone, that the correct form of the generic embedded s. in structures where THE-insertion leads to a non-definite n.p. is the structure underlying modal sentences such as 40:

40(a). A man may have a hat.

(b). A hat may be a man's.

The modal realized as may in 40 will be deleted quite naturally in the process of relativization by the rule that also deletes will in the structures discussed in § 6.4. The sentences of 40, like those of 34 and 38, are generic: they may be used to make statements about men in general, or hats in general. But 40 is presupposed by any sentence containing the n.p. a man's hat. Thus 39 logically presupposes both 40(a) and (b) - which have a common deep structure; it also entails (but does not presuppose) that some specific man has a hat (informally speaking, the man whose hat is lying on the table 'that there is' in the context of utterance). But the entailment is due to the context provided by the matrix sentence. The presupposition and the entailment together show that the embedded s.

does bind the relative n.p. but that this binding effect is overruled by the effect of the matrix sentence - which is another way of saying that the n.p. a man's hat is non-definite.

It is tempting to conclude that whenever the is derived by THE-insertion from a modal generic embedded s. the matrix n.p. will be non-definite. But if the good teacher in one of its readings is derived from 41,

41. [teacher [a teacher may be good]

then we must abandon this conclusion for 41 is definite in that (i) it does not have three readings dependent on the three context-types e-e, generic, non-specific; and (ii) if it is re-used within the same stretch of discourse the two occurrences normally co-refer.¹ Moreover in § 20 it will be suggested that phrases derived by THE-insertion from structures containing non-generic embedded s. may also be non-definite. The determining factor seems to be the non-definiteness of an n.p. eligible for determiner status.

13.4. POSS-DET-formation

Let us reformulate POSS-DET-formation so that the same rule accounts for possessive determiners expressing both 'alienable' and 'inalienable' possession. It is necessary to modify Condition 1 of the provisional formulation in order to account for 42.

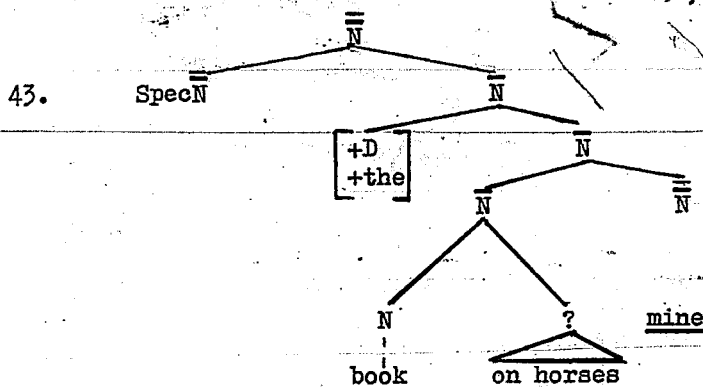
42(a). John's letter from the bank

(b). my book on horses

A condition that prevents the rule from applying to the structures exemplified in 17 and 18, but which allows for the phrases of 42 to

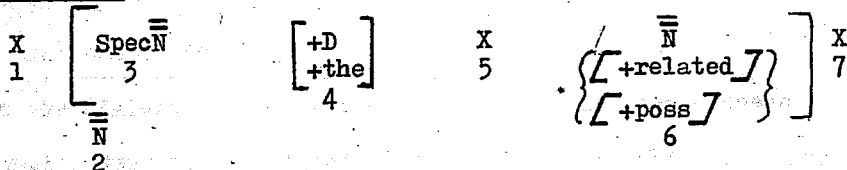
1. On generic phrases determined by the, see § 10.1. The discussion of this section strongly suggests that the footnote of p.135 should be followed up.

be generated, is given as the new Condition 1 in the final formulation of the rule (below). With respect to alienable possession the condition operates satisfactorily only if the sentence-node (i.e. \bar{V}) dominating the possessive in deep structure is pruned, as shown in the intermediate structure illustrated in 43. This pruning is effected by the reduction of the clause¹.



POSS-DEF-formation (Final Formulation)

Structure Index



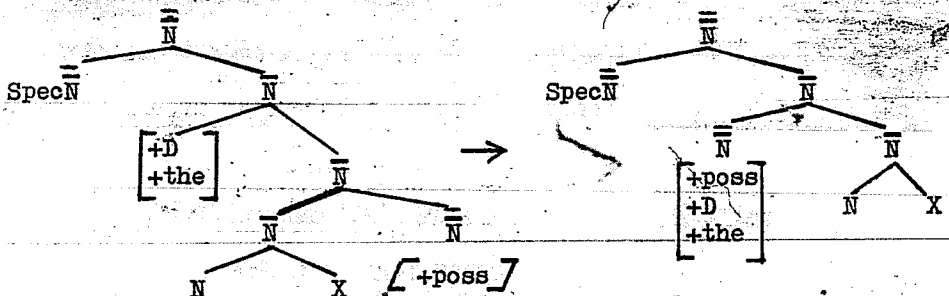
Conditions

1. 6 is connected to 2 by a path consisting solely of nodes labelled \bar{N} .
2. 4 does not dominate features other than those specified in the S.I.
3. Obligatory if 6 dominates [+poss] and [+anim].
4. Otherwise optional.

-
1. For the theoretical implications of this and other conditions on T rules, see Appendix A. Node pruning is discussed in the appendix, Section V.

Structure Change

1. Copy 4 on to 6, then
2. Replace 4 by 6.

Further illustrationComments

- (1) The comments on the provisional formulation are relevant (§ 13.1.).
- (2) The curly brackets in the S.I. indicate that one or other of the mentioned features is present. Further investigation of derived structure might enable a formulation of the rule that did not use this device. In § 16 it will be argued that both +related and +poss are indications of Loc case.
- (3) In the dialect under consideration, full relative clauses are disallowed under the node labelled X in the illustration (cf. *John's book which I borrowed). This does not need to be mentioned in the formalization of this rule, for operation of the rule is blocked if there is a clause introducing element 6 which is not itself reduced, and reduction of this clause will depend on reduction of the clause to its left.
- (4) The S.I. ensures that the rule does not apply when there is an unreduced clause, or any other matter, AFTER the possessive element

but within the n.p. Hence such phrases as the book of John's which I borrowed are generated.

(5) It is intended that, if the rule is not applied when element 6 dominates +poss but not +anim, a subsequent rule will delete the feature +poss that gives rise to the possessive inflection and the structure will be realized as (for example) the radio of the ship.¹

§14 Noun-dependent Case: Other Possibilities

14.1. How many noun-dependent cases?

In § 16 we shall see that noun-dependent 'related' case is probably to be identified with Loc in the verb-dependent case hierarchy. In § 19 we shall see that in non-definite phrases, an n.p. headed by a relational noun is due to a structure where that noun functions as a predicate. In my view, Loc is the only clear example of a verb-dependent case that also occurs in noun-governed structures. Anderson (1973:59-62) takes a different view, reflecting different theoretical assumptions.

The chief other possibility is exemplified by the phrases the symbol [x], the name [Mary], the process [of [falling]], the fact [that he did it]. All these are correlated with sentences where the bracketed element occurs as subject, viz. X is a symbol etc. The truth of statements made by use of these sentences is implied by use of the phrases. All this suggests that the phrases may be

1. The feature +anim is relevant only if it occurs on the head noun of the \bar{N} , but we have yet to formalize the notion 'head-of' in syntactic terms (cf. §19). Selection restrictions and concord rules (however formulated) must treat this feature as if it were a feature on \bar{N} . It is assumed that features on a head noun may be mentioned as features on the n.p.

analysed as instances of noun-dependent case, specifically of whichever case is identified as that of subject in the correlated sentence. But in this description there is an alternative explanation. The phrases may be due to relativization - thus the name Mary may be a contraction of the name that Mary is, itself due to $\left[\text{name} \left[\text{Mary is a name} \right] \right]$. The non-definiteness of the embedded n.p. supports this view.

In § 10, I presented a partitive structure to which certain determiners (partitive that, and some) are attributed in this description. The partitive relationship can be regarded as case (as it is by Anderson). But there is no correlated sentence, and I know of no syntactic reason to identify this bond with one of the case relationships in the verb-dependent hierarchy.

The nominal expansion $\bar{N} \rightarrow N \bar{N}$ that generates relational structures presumably accounts for other structures¹ where (as with relational nouns) selection restrictions (or lexical presuppositions in the sense of Fillmore (1969a)) are operative - e.g. copy $\left[\text{of} \left[\text{a book} \right] \right]$, gallon $\left[\text{of} \left[\text{petrol} \right] \right]$. These structures must be distinguished from relational structures for POSS-DET-formation does not apply to them; but there is no obvious reason for treating them as instances of case. There are semantic reasons for associating phrases headed by words expressing quantity with sentences predicated by verbs such as measure, as in 1:

1. The petrol measures a gallon.

1. For relevant data cf. Quirk et al. (1972:130-3)

But this possibility does not lead to the conclusion that in a gallon of petrol we are dealing with noun-dependent case, for in 1 both gallon and petrol occur in argument-expressions.

There are also words of quality (kind, sort, etc.) which are complemented by nouns rather than noun phrases: these have not been allowed for in the description presented in this thesis.

It has been suggested that the notion of noun-dependent case should be extended to such phrases as the book by Chomsky (Agent), cf. Stockwell et al. (1973:444, but 694-5). These phrases can however be attributed to relativization with deletion of some appropriately chosen verb - the relationship is quite different from that exhibited in relational n.p., for it is one that can be expressed by the copula be and a preposition linking two n.p. - i.e. two arguments - as in 2.

2. The book is by Chomsky.

Whatever the deep structure of 2, the relationship between the two n.p. is one that holds between two arguments: neither noun may be construed as a predicate. In this grammar the book by Chomsky is attributed to the structure underlying the book which is by Chomsky.

The same arguments apply to the picture of Jo, though it is well-known that in English 'picture nouns' pose special problems and may be due to some unobvious underlying structure (Ross 1967a: 4.1.2;4.1.6). Sufficient for our purposes to point out that picture is not in the sub-category we have labelled 'relational noun', and does not govern a case in the clearcut way that relational nouns do.¹

1. But the current formulation of POSS-DEF-formation does not allow for Jo's picture to be derived from the picture of Jo.

14.2. De-verbal nominals

I use 'de-verbal nominal' to cover both derived nominals (Chomsky 1970, Newmeyer 1971) and action nominals (Fraser 1970, Newmeyer 1970). We have in general confined our attention so far to central nouns, i.e. to nouns which cannot be regarded as nominalizations of verbs or adjectives. I have examined determiners in relation to de-verbal nominals but have reached no sure conclusion. Full discussion of this complex area would take us unduly far from our main theme. From my study, my impressions are as follows.

De-verbal nominals may be divided into two types according to the way in which determiners are generated. Derived nominals frequently have two readings which may, in gross terms, be characterized as 'event' and 'result'. In phrases understood in the event reading (as in 3)

3. The destruction of the city was a tragedy
 the determiner is sometimes due to REL-THE-insertion. For in 3, if the were attributed to a relative clause it would have to be a there_p clause, the would be demonstrative the. But this is incompatible with the non-definiteness of the destruction of a city. Action nominals also occur with relational the. Phrases understood in the result reading do not occur with relational the but may be modified by the 'alienable possession' construction (a proposal of John's); and in general their determiners may be treated as those of non-relational central nouns.

That grammatical relations are crucially involved in the derivation of the with some de-verbal nominals is clear from 4¹, where the reading is that which, in stative verbs, corresponds to the event readings:

4(a). The pills came into the possession of some children.

(b). Some children came into possession of the pills.

If these impressions prove correct they have two implications:

(i) if a transformational derivation is adopted (e.g. for the event readings) it should probably be confined to transformation of \bar{V} to \bar{N} , rather than sentence to NP - for it is the relationship between the predicator and its arguments which has been shown to be operative in the generation of relational the.

(ii) if a lexicalist treatment is adopted, one plank of lexicalist theory as presented in Stockwell must be abandoned. It is not the case that the rule of Subject Placement can be formulated to apply both to propositions and to nominal constituents, for the process which accounts in n.p.'s for the 'subject' being moved into the determiner position will be a two-stage process: first the introduction of relational the and subsequently POSS-DET-formation.

It is also to be expected that the S.I. of POSS-DET-formation must be made sensitive to a wider range of cases at element 6.

1. The example is due to Quirk et al. (1973:889)

CHAPTER VI

§ 15 'The'

We have now completed our analysis of the determiners that occur in definite n.p.: deictically-marked demonstratives (this, that₁, that₂), cataphoric that (partitive or not), possessive determiners (when themselves definite), and the. It has been argued that in spite of the wide range of uses of the, this word can be accounted for on the basis of:

- (i) 2 T rules inserting the: differently motivated but introducing the same segment
- (ii) A distinct source-structure for generic the
- (iii) A feature-copying rule to distinguish demonstrative the as a distinct type

In discussion I have had occasion to use such terms as 'demonstrative the', 'descriptive the', 'generic the', 'relational the'; these terms correspond to clearly formalized distinctions in the grammar¹, but only in the case of demonstrative the has it been necessary to posit a feature distinction, and even then the segment underlying demonstrative the is built up by the addition of a single feature to a segment identical with that underlying other occurrences of the. Thus we distinguish two types of the: demonstrative and non-demonstrative; but the two types are NOT distinct contrasting items.

1. Except that the term 'generic the' might be used for phrases that are not derived from the empty N structure.

In fact we find that it is not always possible to decide to which source an actually occurring n.p. must be attributed. We have allowed for two derivations for occurrences of the that can be derived from an embedded s. having e-e properties that are not dependent on there_E (§ 6.4.). Another phrase-type for which the question must be raised as to the possibility of two sources is the n.p. which consists simply of $\left[\text{the} + N \right]$ but has a relational noun as head, e.g.

1. Before leaving the ship, he spoke to the captain.

Captain is a relational noun. In 1, it is equally plausible to suppose that the before captain is derived from an underlying relational structure captain-of-the-ship (with subsequent deletion of the ship), or to suppose that the is here demonstrative, (cf. "the captain that there is"). Clearly since the hearer knows of the ship, the fact "There is a captain" need not be presented to him as new information. In this environment it is the lexical properties of captain that guarantee the appropriacy of the: from whichever source the determiner is derived.

But consider Karttunen's problem example¹:

2. Every time Bill crossed the Atlantic by ship,
he became friends with the captain.

Here again either source is syntactically viable, and either source runs into the same semantic problem: the fact that the interpretation of the relative n.p. in an embedded s. of a definite n.p. IS AFFECTED BY certain types of quantifier in the matrix sentence. In 2, whether the captain is analyzed as containing demonstrative the

1. Karttunen (1968b)

or whether it is derived from captain-of-the-ship, there will be a there_E sentence in the deep structure ("there is a captain", or "there is a ship"). And the e-e properties of the context provided by the embedded s. are cancelled by factors ("every time") in the matrix sentence. Thus 2 does not presuppose,

3. There is a captain

but rather:

4. Every time Bill crossed the Atlantic by ship

there was a captain.

Sentence 4 provides a non-specific context for the underlined non-definite n.p. The effect on the use to which the definite n.p. may be put is the same as the effect of a non-specific context in the embedded s.; that is, the underlined n.p. in 2 must be used attributively.¹

The cancellation of the e-e properties of the embedded s. is not restricted to structures where the embedded s. contains there_E, for it is also found in 5, which presupposes 6:

5. Every morning that week, the bus I caught was empty.

6. Every morning that week, I caught a bus.

In 5, the embedded s. which motivates the insertion of the need not contain there_E.

This observation, that the e-e properties of embedded s. can be cancelled, means that we must modify our account of definite n.p. We can no longer say that definite n.p. are interpretable without reference to the 'binding' of sentential context (§10.3.). This

1. This may be open to dispute, but it will be agreed that the attributive use is an extremely high probability and that this high probability is due to the effect of every.

is damaging to the theory, for non-definiteness was originally characterized in terms of susceptibility to the binding effects of the sentential context (§ 3.). But it is only with respect to certain types of expression, in particular, the non-predicable quantifiers, that any qualification to our earlier generalization is necessary. I suggest that we distinguish two types of binding effect: those of type-1 do not affect the meaning of definite n.p.; those of type-2 are distinctive in that they bind not only the matrix sentence but also the sentences embedded in definite n.p. Our examples in previous chapters have shown that type-1 binding is due to such factors as deixis, aspect, modality (will, may), lexical choices (want), and proper names. Type-2 binding, as exemplified in this section, occurs when there is a sentential time modifier qualified by every. We may expect to find other instances of type-2 binding but I have not explored this area.

But further, if an e-e sentence embedded in n.p. structure can lose its existence-establishing property when the n.p. occurs within the scope of a quantifier such as every, it is possible that an embedded sentence may be interpreted as if so occurring when there is no overt quantifier in the linguistic structure (or when the quantifier occurs in a separate but preceding sentence): thus situational as well as linguistic factors will affect our understanding of the presupposed sentence and may lead to the definite n.p. being interpreted in use in different ways with respect to the referential/attributive contrast.

The syntactic rules proposed in the preceding chapters in this description show that the is essentially a signal that the following noun should be understood WITH RESPECT TO something else (the embedded s. or the complement n.p., in the first instance). When the embedded s. consists of there followed by the copula and a n.p., the term with respect to which the n.p. is to be understood in actual use is left vague. This allows for occurrences of the which would otherwise be difficult to explain - the following examples were collected by Ahlgren¹:

- 7(a). He was carrying clutched to his forefinger, as his ancestors might have carried a falcon clutched to the wrist, a small bright-coloured semi-tropical bird. (Chesterton, The Flying Inn)
- (b). On the throat they have a small pouch of naked skin. (Alexander, Birds of the Ocean)
- (c). "That's all," said Parker abruptly, with a wave of the hand. (Sayers, Whose Body?)

Notice that in these examples, as in certain phrases determined by relational the (§ 12.1. John's brother), we cannot claim that the signals that the hearer must identify either a referent or a uniquely-defined descriptum. It seems that with some relational nouns², whether the is non-demonstrative (as in § 12) or demonstrative

1. cf. Ahlgren (1946:6), where other examples are also given.

2. In Old English nouns denoting parts of the body, when determined at all, were more frequently determined by an early form of the than by possessive determiners. The 'Dativus Sympatheticus' construction, still found in German, occurred in OE, and survives today in such fixed expressions as look him in the face; cf. Ahlgren (op.cit.).

(as possibly in example 7), there are limits of tolerance within which identification is expected. (Note especially 7(c).) There are other cases, semi-fixed expressions with non-relational nouns (e.g. go to the theatre), which seem to require this notion of 'limits of tolerance' on identifiability.

Many languages do not have a definite article, but it is a plausible hypothesis that all languages have demonstrative pronouns and demonstrative determiners. It might be that whenever a language has a definite article¹, the distinction I have drawn between demonstrative and non-demonstrative determiners shows up in some formalizable way. In English the distinction is not apparent in the surface form of the, but in some languages clearly distinct items are used for the two types of determination. In such cases we should not expect the line demarcating the range of uses of the two items to be the same in different languages. Let us consider just two.

Ebert (1971)² shows that in Fering there are "two definite articles"; "... the D-article indicates that some contextual information is necessary for the hearer to identify the individual(s) or object(s) mentioned. The D-article only points anaphorically to a previously identified individual, as in (5), or cataphorically to a following relative clause that specifies the referent, as in (6) ..."

-
1. Kramsky (1972:33) suggests two criteria for distinguishing languages with a definite article from those with only demonstrative determiners: the article should be used both in phrases with specific reference and those with generic reference; the article should be obligatory (i.e. presumably, in definite n.p. not otherwise determined).
 2. Fering is a Northfrisian dialect spoken in the islands of Föhr and Amrum. The quotations are from Keenan and Ebert (1973), which in turn is based - for Fering - on Ebert (1971).

The translation equivalents given for the two examples (5) and (6) are 8 and 9 below:

8. Oki bought a horse yesterday ... The horse is in the paddock.

9. The milk which is standing on the table is sour.

"The A-article, on the other hand, is used to refer to objects whose identity can be taken as known. Thus the A-article is used with generics ... with objects of common knowledge ... and with objects which can be identified by their known relation to other objects or events mentioned in the sentence or given in the speech situation ..."

Translation equivalents of the examples omitted from the above quotation are: the Danish people (generic), the sun (object of common knowledge), and house the door (known relation).

In French also there are two items, which I will refer to as ce and le (ignoring inflexion). Ce is clearly demonstrative, but unlike this and that, ce may combine with a form marked as proximate or with a form marked as distal (ce livre-ci; ce livre-là).

Huddleston (1963)¹ shows that the range of uses of French ce includes some of those which in English belong to the. French le on the other hand has a wider range of non-demonstrative uses than English the for it determines plural n.p. and non-plural n.p. with non-count head nouns, when these are used in generic sentences. Thus Les chiens sont intelligents may (in its generic reading) be translated into English as Dogs are intelligent.

1. On p.325 of his thesis, Huddleston analyzes the translation equivalents of ce in a restricted corpus. Where the French n.p. consists of ce + N + postnominal modifier (Huddleston's 'q') the most frequent equivalent of French ce is English the. The figures given for the English equivalents in such phrases are: this 66; that 43; the 93.

CHAPTER VII

DEFINITENESS IN TRANSFORMATIONS

This chapter is a linking chapter, touching on areas which are not examined in depth. The aim is to consider whether, and under what sort of conditions, the contrasts in definiteness considered hitherto correspond to distinctions that must be made in the formulation of syntactic rules. Two areas are selected for examination: location (§ 16) and negation (§ 17).

§ 16 Locative Sentences16.1. Introductory

My claim is that definiteness is a semantic property of noun phrases; it is to be assumed that it has syntactic repercussions. We shall now consider whether the feature contrast +def is used in the statement of transformational processes - either in the S.I. or in the Conditions of T rules. The treatment is exhaustive neither in its range nor its depth, but examination of this question will enable us to establish criteria for the contrast that are more satisfactory than those considered so far.

No feature +def has yet been introduced into our formalism. If we can successfully isolate the properties of a definite n.p. - and if these are expressible in syntactic terms - then a feature mapping rule can be incorporated into the grammar by means of which

the feature +def can be introduced under Spec \bar{N} in all definite n.p. (NOT of course into the feature complex underlying the determiners).

Thus the feature +def will be a means of grouping together n.p. whose internal structures differ but which share a common property. Let us for the time being assume that such a rule can be formulated, and proceed on that assumption. The purpose of the rule will be to allow statements about transformations to mention the class of +def n.p., and hence also those n.p. that are not +def.

A rule commonly thought to involve a condition of non-definiteness on the subject n.p. of the S.I. is "There-insertion" (Emonds 1970:Ch.II; Burt 1971:22ff.). However Langendoen (1973) speaks of this as a "well-worn but false claim". Certainly the non-definiteness condition, if there is one, is not so straightforward as early formulations suggest, for consider: Suddenly there appeared the hatless stranger / In the corner there slept the boy we had been looking for. We shall however confine our study of there_R to (i) transformationally-introduced occurrences in locative sentences (§16.3.), (ii) occurrences originating in deep-structure elements (§18), and shall leave open the question of whether +def is operative in other rules involving there_R.

16.2. The source of 'have' and 'be'

Lyons (1967) presents and discusses the hypothesis that "in many, and perhaps in all, languages existential and possessive constructions derive (both synchronically and diachronically) from locatives". I accept this hypothesis and aim to show how it can most elegantly be incorporated into our framework. Sections §16.3. and §18 are

relevant. But first let us consider sentences which are overt statements of physical location.

1(a). A cat is in the garden.

(b). ?The garden has a cat in it.

2(a). ?A fountain is in the garden.

(b). The garden has a fountain in it.

3(a). The cat is in the garden.

(b). *The garden has the cat in it.

4(a). The fountain is in my garden (not in his).

(b). My garden has the fountain in it (not the fishpond).

The ? and * indicate my judgements of ill-formedness; I choose to regard the sentences marked ? and * as ungrammatical. It is improbable that all speakers will agree, but it is nonetheless of interest to enquire what sort of factors must be mentioned in order to block the generation of these sentences. It is natural to suppose that the sentences of each set are transformationally related and that the deep structure is closest to the (a) examples. Something like this is implied in Lyons' account and a case-grammar version is presented in Fillmore (1968:44-47).

In terms of our grammar we may posit an underlying locational predicate and two arguments, one in Obj case and one in Loc case.¹

1. I use Obj and Loc as abbreviations for Fillmore's cases Object and Location (Fillmore 1971:42). We shall not be concerned with other cases in the hierarchy, nevertheless the account of possession adopted here calls in question the validity of Fillmore's distinction between Experiencer and Location. In Fillmore (1969b:61), it is argued that (in addition to its derived occurrences) have may occur as a verb in its own right, 'more or less synonymous with possess'; and his case inventory reflects this view.

But what is the predicator? Fillmore uses a case frame

[0 +] with a blank verb, "(that is, zero)" (p.44). But

this account is incompatible with the view of case presented above in § 2.3. where it was stated that in our grammar information as to cases was to be attributed to the lexical item functioning as predicate. Instead we might posit a 'pro-verb' (cf. Anderson 1971:86), the semantic content of which was sufficient to permit the specification of cases but which was later deleted because redundant. But the putative pro-verb is redundant in the (a) phrases above because of the surface occurrence of in. Might it not be that the preposition is itself the underlying predicate?

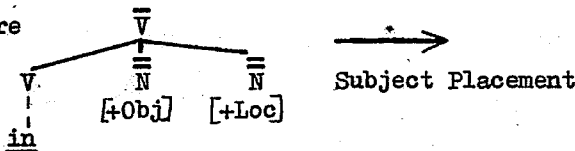
What is required for sentences 1 - 4 is an underlying locational predicate relating two arguments as 'located' to 'location'. The prepositions fulfil this requirement - they vary in lexical content but have in common that they express a relation between 'located' and 'location'. An alternative is to consider that have and be are different realizations of a single underlying abstract item, an item having the properties just mentioned. The disadvantage of this proposal is that the underlying item must clearly be different from anything that may underly other occurrences of be, for be is not always locational. Either proposal provides a lexical item of some sort to fill the empty space in Fillmore's case frame. Let us postulate then that prepositions are predicators, and occur as predicates in the deep structure of 1 - 4; final justification for such a proposal depends on a wider set of data.¹

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1. There are many problems with this proposal, for example, the derived structure status of prepositional phrases. Also, if prepositions are predicators the absence of a de-verbal nominal must be accounted for. And the gerunds having and being must be given a syntactic treatment which adequately accounts for their semantic range.

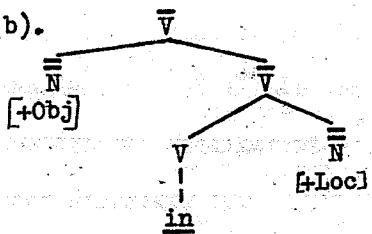
On the possibility that prepositions should be analysed as predicators, see Becker & Arms (1969), Geis# (1970), and Allan (1973). Allan adduces a mass of data as evidence for the predicative nature of prepositional phrases complementing the copula be, and argues for a distinction between functional and lexical categories which is in some respects similar to the one I have set up. I regard a preposition (e.g. at) in its locational and in its temporal interpretation as a single item, operating in deep structure, its range of application restricted by the governed n.p. Geis# discusses the problems posed by this view (cf. *John is at two o'clock).

If the deep structure predicate in 1 - 4 is in, then the relationship between the (a) and (b) examples may be stated quite simply. We will confine our presentation to the informal sketch below (which is restricted to propositions, i.e. the top node is \bar{V} not \bar{V}).

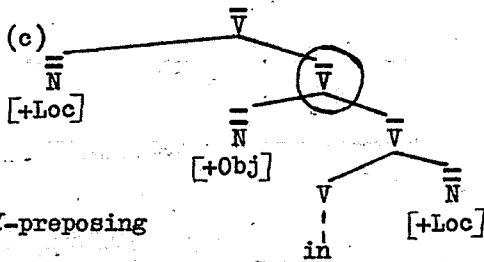
5(a). Deep Structure



(b).



(c).



LOC-COPY-preposing

Subsequently, the lower locative n.p. in (c) is pronominalized, and have is inserted by Chomsky-adjunction on the circled \bar{V} . If LOC-COPY-preposing does not apply, the surface structure is derived more directly from (b) and the output is realized as in 1(a) - 4(a).

This treatment can be extended to cover possession. With

1 - 4, compare 6 - 7:

6(a). *A book is John's.

(b). John has a book.

7(a). *Three sides are to a triangle.

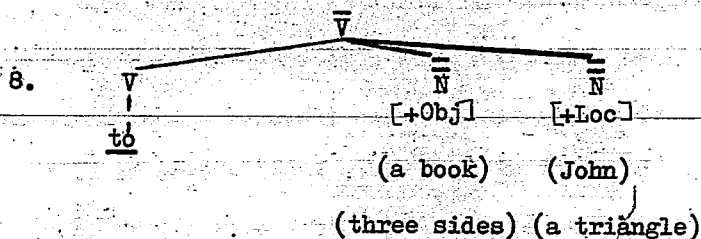
(b). A triangle has three sides to it.

(c). A triangle has three sides.

On the evidence of 7(b), let us posit an underlying predicate, to, whose semantic reading is 'abstract location', a sense which covers both the range of alienable relationships predicable by ... is John's, and the range of inalienable relationships expressed by the noun-dependent 'related' case (cf. § 12 and § 13). The sense of to suggested here is thus wider than that of Anderson's possess/belong (Anderson 1971:107-118). This to is distinguished from the directional to at least by the feature contrast +stative.

6 - 7 will be generated by the derivation sketched in 5, with the addition of a rule that the preposition and the lower Loc n.p. are deleted (obligatorily¹ for 6, optionally for 7). The proposed deep structure is:

-
1. To + \bar{N} is obligatorily deleted when the Loc \bar{N} is +anim. However it is only optionally deleted with non-animates (cf. The ward has three beds to it.). This analysis has the unwanted result that the grammar generates Ships have radios to them as an optional variant of Ships have radios. There must be additional factors that I have failed to identify.



However we come across a strange set of data in 9:

- 9(a). The book is John's.
 (b). John has the book.
 (c). John has green hair.
 (d). John has the green hair.

First note that 6(b) is naturally interpreted as abstract location, a semantic notion having a very wide range of application, but 9(b) is perhaps more restricted in its meaning, and suggests 'availability' rather than ownership. On the distinction between 'general possession' and 'possession of availability' see Lyons (1968a:395), Anderson (1971:113). Such a distinction is made overtly in some languages (e.g. Turkish), the question arises whether it is to be formalized in the grammar of English. The difference between the two structures appears to depend on the definiteness of the Obj n.p. in 9(b). In 9(c) and (d) the same problem arises - (c) clearly expresses abstract location (given the definition of this notion presented above), but (d) might be appropriately used in a wig-making class, it has an availability reading. However it would be incorrect for the grammar to block the abstract location reading when Obj n.p. is definite, for 9(d) can have this reading in suitable contexts (e.g. One boy had green hair, and the other had pink toenails - John had the green hair.) Nor is the abstract location reading restricted to relational nouns, for it is found in John has the top flat nowadays.

When the Obj n.p. is definite, the probability is enhanced of the sentence being used with the restricted, availability reading. One way in which we might hope to account for this fact is to allow deletion of prepositions other than to to occur, but only when the Obj n.p. is definite - thus 9(b) and (d) - but not 6(a) and 9(a) - would be derivable from sentences having in intermediate structure an additional phrase by him, near him, with him etc. However I must regard the predicator to ('abstract location') as including availability for otherwise I cannot account for the range of interpretations of John's book by the rules introduced in § 13. This suggests, unfortunately, that the extra machinery required for deletion of additional prepositions in the environment of +def serves no useful purpose. I am unable to offer an alternative solution to the problem posed by 9.

If prepositions are predicators, there is some reason to regard to as the appropriate lexicalization of abstract location, for it can occur in predications involving relational nouns.¹ I do not propose that the distinction between alienable and inalienable possession should be lexicalized. The distinction is adequately made by the n.p. structure discussed in Chapter V.

This proposal leads to an interesting problem. Underlying the predicative occurrence of John's, it is suggested, is a composite element to John which becomes a constituent in the course of the cyclic T's - i.e. after deep structure. The formation of John's from to John cannot be postponed until the second lexical lookup (discussed in § 2.3.), for the preposition must not occur as a separate item when of-insertion applies, to generate the book of John's.

1. See Appendix B, Selected Results II.

We shall return to this problem.

By analysing possession as a kind of location, we increase the number of structural types in which the determiner of a definite phrase is attributable to a locational element in the deep structure, and we provide a rationale for the distinction drawn earlier between POSS-DET-formation and the preposing of adjectives. Furthermore the fact that sentences predicating 'inalienable' relationships are generated by rules for locative sentences shows that the noun-dependent +related case is almost surely to be identified as Loc. This receives support from a consideration of 10, for rules generating 10 must overlap with those generating the pairs of 1 - 4. The occurrence of have in 19(b) may be accounted for quite easily if noun-dependent +related case occurs in 10¹ and if this case is identified as Loc.

10(a). John is the leader of the Reds.

(b). The Reds have John as their leader.

16.3. 'There_p' in locative sentences

The subject to be examined in this section and in § 18 has been the subject of recent debate, cf. Fillmore (1968), Lyons (1967; 1968b; 1973:102-5), Allan (1971; 1972), Sampson (1972), Anderson (1971:107-118; 1972:Ch,VI). These studies are concerned with syntax and semantics; by contrast Atkinson & Griffiths (1973) analyse the conditions of use of a number of sentences containing here and there, their aim being to characterize "the knowledge a native speaker of English must be presumed to have in order for him to use these sentences appropriately". The three-way distinction

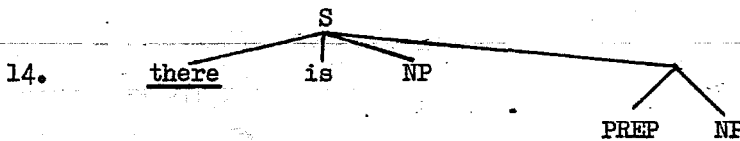
1. But confirmation of this point must await a study of de-verbal nominals.

they propose is not adopted here. However most of the sentences they classify as 'functional' would be derived in this description from the deep structure to be considered in § 18. An important exception is my 24, which is discussed below.

Consider the following sentences:

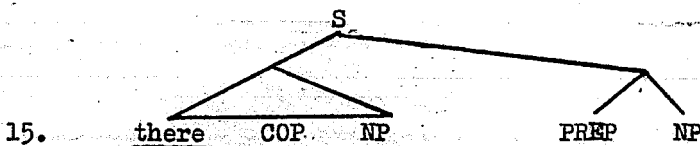
11. There's a cat in the garden. (Compare 1)
12. There's a fountain in the garden. (Compare 2)
13. There are three sides to a triangle. (Compare 7)

Fillmore and Anderson propose different derivations for these sentences, but they have in common that the constituent structure of the surface sentence may be represented as follows (compare Fillmore 1968:46; Anderson 1971:109)



(In 14, much information presented in the analyses of Fillmore and of Anderson is omitted, or re-presented in a different formalism.)

I propose, on the contrary, that the surface structure should be:



15 is to be associated only with transformationally-derived there_E and is supported by consideration of 13 and 16:

- 16(a). There's a cat on every chair.
- (b). On every chair, there's a cat.

There₁ was identified in § 5 as providing an existence-establishing context - the following n.p. is normally understood as specific. But this is not the case in 13 and 16. The scope¹ of quantifiers is usually stated in terms of the command relationship (Lakoff, G. (1971); Jackendoff (1972:292)). Since there is only one S node in 14, there and every command each other and it could therefore be argued that the reading of there in 16 is quite compatible with 14 providing it is realized that the quantifier cancels the existence-establishing properties of there. But this analysis is not available for 13, in our description, for we have assumed that non-definite phrases are interpreted with respect to their context. On the evidence of 13, it seems that the scope of there is restricted to the n.p. immediately following it - such a restriction could be stated more elegantly on 15 than on 14.

Underlying the propositions in 11 and 12 is the deep structure illustrated as 5(a) and shared by 1 - 4. There are various alternative possibilities as to the route by which 5(a) is transformed to 15. Time does not permit a thorough investigation of the alternatives. One possibility may be sketched as in 17.

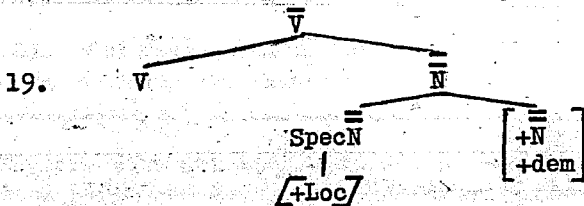
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1. I shall say that item₁ is 'within the scope of' item₂ if item₁ is interpreted with respect to item₂ by virtue of occurring in a certain structural relationship to it. The relationship of 'command' is defined in Langacker (1969:167) as "a node A 'commands' another node B if (1) neither A nor B dominates the other; and (2) the S-node that most immediately dominates A also dominates B." The relationship 'in construction with' was formulated by Klima and is given above in § 3.1.

- 17(a). in - a cat - the garden (Deep Structure) →
 (b). a cat - in the garden (Subject Placement) →
 (c). in the garden - a cat →
 (d). (in the garden - a cat) in the garden →
 (e). (there -a cat) in the garden

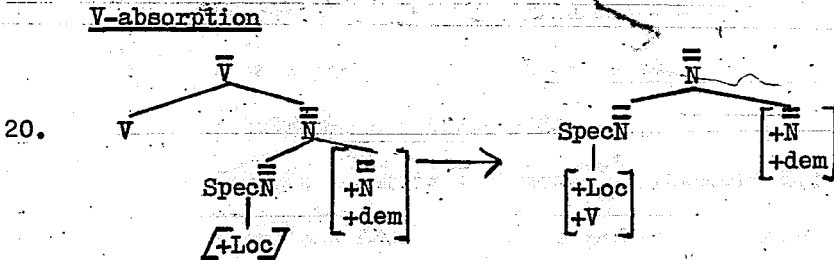
Stages (a) and (b) are the same as 5(a) and (b). There_E is not subject for it does not control verbal concord. The rule effecting step (c) is disjunctively ordered with LOC-COPY-preposing (see. 5c) and generates a structure that directly underlies 18, a stylistically marked paraphrase of 11.

18. In the garden is a cat.

(This stage of the derivation should be compared with the Russian and Chinese examples in Lyons (1967).) Steps (d) and (e) use copying and pronominalization as an alternative means of formulating the view expressed in Sampson (1972) that these structures should be generated by extraposition. The claim made in this derivation is that there is here a pronominalized form of a constituent formed in the course of the derivation; lexical information is removed from both V and \bar{N} and what remains may be illustrated by 19: it will be remembered that the feature-complex underlying it is $\left[\begin{array}{c} \bar{N} \\ +dem \end{array} \right]$



The problem posed by this configuration is similar to that posed by John's. A rule amalgamating the V and the \bar{N} of 19 is required, for in subsequent rules the whole constituent is treated as a noun phrase (cf. Burt 1971:237). The rule might cover both 19 and possessive forms, but here we concentrate on there_E: the process effected by the rule, call it V-absorption, might look like this¹:



The output of 20 will be lexicalized as there_E with the phonological specification of there_E by the second lexical lookup.

16.4. Conditions on T rules

Reviewing examples 1 - 13, let us consider what factors must be mentioned in the formulation of conditions on the rules. To facilitate reference, the relevant examples are repeated below:

- 1(a). A cat is in the garden.
- (b). ?The garden has a cat in it.
- 2(a). ?A fountain is in the garden.
- (b). The garden has a fountain in it.

-
1. The feature +V under Spec \bar{N} indicates that the \bar{N} is overtly marked for deep structure case, and therefore is not subject. An alternative way of treating there_E, John's etc. is to treat them as case-inflected forms of it and John, and allow for the underlying predicate to be deleted rather than absorbed. This analysis (adapted from a suggestion made in Thorne (1972a)) is attractive in the case of there_E but is difficult to extend to John's since this form occurs after no full verb (*belongs to John's) unless a following noun can be 'understood'.

- 3(a). The cat is in the garden.
 (b). *The garden has the cat in it.
- 4(a). The fountain is in my garden (not in his).
 (b). My garden has the fountain in it (not the fishpond).
- 6(a). *A book is John's.
 (b). John has a book.
- 7(a). *Three sides are to a triangle.
 (b). A triangle has three sides to it.
 (c). A triangle has three sides.
11. There's a cat in the garden. (Compare 1.)
12. There's a fountain in the garden. (Compare 2.)
13. There are three sides to a triangle. (Compare 7.)

Our aim is to identify meaning-differences¹ in the surface structures and to formulate the conditions in such a way that the T rules are meaning-preserving. I suggest that in addition to the distinction[†]def the following meaningful contrasts must be mentioned in the conditions on T rules: contingency v. non-contingency² (cf. 1-3), theme v. rheme (cf. 4), animacy (cf. 6, 7, 13). That is, if the T rules are to be meaning-preserving we must, in addition to information that can be read off the p-marker, allow for systemic options of the

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1. Meaning-differences signalled by stress are not considered here.
2. I use the term 'contingency' because the observations of this section seem to be pertinent for Anderson's account of aspect (Anderson 1973), but the contrast would I think be more correctly characterized as 'temporary' v. 'relatively permanent'.

type envisaged by Halliday (1967_{a,b}; 1968).¹ The rules are presumably motivated by a complex interaction of such factors as these, let us try to concentrate on the effects of +def. We will look at three stages in the derivation:

(i) Subject Placement. If the Obj \bar{N} is +def and the Loc \bar{N} is -def, Obj \bar{N} is subjectivized. This may be overridden by animacy of the head noun in the Loc \bar{N} , otherwise it seems to be regular:

21(a). *A garden has the cat/the fountain in it.

(b). A man had the gun (by him).

(ii) Subject Placement in other environments. In discussing this rule, we must remember that later rules may introduce there_E if a non-definite Obj \bar{N} is subject. If the relationship is contingent, as in 1, the Obj \bar{N} is subjectivized (1,3). If the relationship is non-contingent and Obj \bar{N} is -def, the Loc \bar{N} is subjectivized - obligatorily if it is +anim, optionally if it is -anim. It is this condition that blocks 6(a) and also *There's a book to John. We see from this that abstract location is classified as a non-contingent relationship. These conditions allow for 1(a) and 2(b), also for 2(a), which underlies 12, and 7(a), which underlies 13.

-
1. I use the term 'theme' in the sense of Halliday (1967b). He clearly regards the option as to which element in the clause should come first as a meaningful option. The unorthodox suggestion that systemic options should be used alongside p-markers to determine T rules may be regarded as a means of formalizing "position (d)" in Partee's discussion of meaning-preserving hypotheses (1971:9). If syntactic arguments enable us to decide what should go into the p-marker, then position (d) predicts that the deep-structure p-marker will contain all those parts of meaning that have to do with truth-value in all possible worlds.

(iii) Processes introducing there_E. If the subject n.p. is in Obj case and -def, there_E is introduced obligatorily if the relationship is non-contingent and optionally (but favoured?) if the relationship is contingent (11-13; from 1(a), 2(a), 7(a)).

These rather superficial observations are intended to show how ±def interacts with other factors. The facts are complex, but there is worse to come. The contrast definite v. non-definite is not sufficient for the statement of these conditions. For the underlined phrases in 22 will be shown below (§ 17) to be non-definite, yet they occur here in a context where -def has been blocked:

22(a). Some of the books are John's

(b). Two of the books are John's

(c). All the books are John's

The phrases underlined in 22 are non-definite (as will be confirmed by § 17) but their range is restricted. Assuming that (c) is a variant of all of the books, each of the examples is partitive. If we think of the underlying head noun of the n.p. (subsequently pronominalized) as a variable ranging over a limited part of the world, namely the denotata of books, the range of the n.p. of which that noun is head is further restricted to what is designated by the books. As shown by 22, this notion of restricted range is required for a satisfactory statement of the conditions of paragraph (ii).

In all the books the range of the n.p. is not merely restricted, it is exhaustively specified. This is immaterial for the conditions

of paragraph (ii). But the conditions of paragraph (iii) operate on a different classification, for consider 23:

23(a). There were some of the books on the table.

Some of the books were on the table.

(b). There were two of the books on the table.

Two of the books were on the table.

(c). There were all the books on the table.

All the books were on the table.

In 23(a) and (b) there_E is due to the process sketched in 17, and is governed by the conditions of (iii); but in (c) there_E must be accounted for in some other way for the two sentences are not synonymous.¹ After there_E, all the books behaves like a definite n.p.

In fact 23(c) leads to a further problem. The occurrence of there_E in locative sentences is not confined to non-definite environments. Consider 24:

24. There's Bill at the pub.

This sentence is discussed by Atkinson & Griffiths (1973:56). They find that it may occur with stress on Bill, in answer to the question 'Who is at the pub?', but not with stress on pub. Is 24 to be attributed to the structure underlying Bill is at the pub by derivation 17? If so, a meaning change will occur, though not one that affects truth value. This suggests that the derivation is 17, but that it is controlled by a systemic option.

The systemic option controlling 24 is that of 'predicated theme' (Halliday 1967b:238). Predicated theme is marked. Marked theme

1. In one reading 23(c) is comparable to 24; in another the there_E of 23(c) is due to deep structure and the sentence is derived by the processes to be discussed in §18.

'represents a foregrounding of the speaker's point of departure'
 (p.214). For this reason I do not regard there with non-definites
 as 'predicated theme', for it represents no such foregrounding. In
 this connection contrast Atkinson & Griffiths' analysis of 24 and, on
 their page 55, of There's an X 'there. The recognition that 24 has
 predicated theme would seem - so far as it goes - to be compatible
 with Atkinson & Griffiths' analysis of 24 as a functional sentence.

This shows up something in the nature of the +def distinction:
 its interaction with syntax is in this area subordinated to mean-
 ingful contrasts having to do with theme. Only in the case of
 6, 7, and perhaps 21, is the ungrammaticality of the starred examples
 such as will generally be agreed upon. In these cases we can say
 with some confidence that +def should be used to prevent the
 generation of such sentences. But in most of the other examples
 considered, the effect of +def is pragmatic - relating to the
 sentence as potential communication, having its place in discourse.
 In the next section however we shall consider an aspect of definiteness
 which is semantic and syntactic rather than pragmatic.

§ 17 Definiteness and Negation

Negation is another area where a distinction between definite
 and non-definite is necessary for the formulation of T rules, where
 indeed the distinction has been used in the rules proposed in Klima
 (1964). I have argued that definite n.p. are, in their deep
 structure, interpretable in isolation with respect to specificity
 and genericness whereas non-definite n.p. are variables bound by

sentential context. This generalization has been qualified, both with respect to restrictions on the interpretation of non-definites (§ 3.3.) and with respect to the effects of type-2 binding on definites (§ 15), but the fundamental distinction holds good. However if we were to use it alone as a criterion of definiteness it would be difficult to say why personal pronouns should be classified as definite. Negation suggests a more stringent condition of definiteness which is in fact a special instance of the more general claim that definite n.p. are interpretable without reference to sentential context.

The meaning of a definite n.p. is constant whether or not the sentence in which it occurs is negated; that is, its potential for referential or attributive use is unchanged by the presence of a negative element. Equivalently, we may say definite n.p. are 'never in the scope of negation', or are 'impervious to negation'. It is clear that, given Keenan's definition of logical presupposition¹, this fact about definite n.p. is crucially related to the presuppositional status of the embedded s. and hence to the very nature of definiteness.

In English there is a syntactic correlate of this semantic fact: except in certain conjoined structures, not and no do not occur before definite n.p. in non-copular sentences.² This is exemplified

1. cf. § 4.2. and Keenan (1971)

2. It is to be expected that the semantic property of being impervious to negation is a condition of definiteness in any language, although languages differ as to the grammaticality of the sequence 'neg' + definite n.p. (cf. Bach 1968:98). The sense in which definite n.p. are impervious to negation is quite distinct from the phenomena discussed in Bach, which relate to the distinction between given and new information.

in 1:

1(a). *Not John came.

(b). Not a man came.

(c). *No the man came.

(d). No man came.

The well-formedness of 2 is of particular interest for it is clear from the equivalence of 3(a) and (b) that the underlined n.p. in 2 is non-definite:

2. No Archibald came.

3(a). I know of no Archibald who came.

(b). I do not know of an Archibald who came.

In order to account for these facts it is highly probable that in the syntactic rules of English mention must be made of the category distinction definite v. non-definite.

However the property of being impervious to negation is not a sufficient condition of definiteness because it also characterizes phrases introduced by 4:

4. some / several / a certain

But phrases introduced by 4 are non-definite because re-use of the identical phrase within the same stretch of discourse does not imply coreference.

Using these two conditions as necessary conditions of definiteness, and together sufficient for the identification of a definite n.p., let us consider T rules involving negation. The problem is of course related to the difficulty of finding a satisfactory description of quantifiers, but I suggest that it is non-definiteness rather than the presence of quantifiers that is relevant for the

grammar of negation. It is obvious that the scope of a negative element varies with its surface structure position; thus, in their most natural readings, 5(a) and (b) are not synonyms:¹

5(a). No member of the committee was on time.

(b). A member of the committee was not on time.

But it has been much debated whether this fact constitutes evidence that surface structure interpretation is necessary for an adequate description (as advocated in Jackendoff (1969; 1972:Ch.8), Ghomsky (1971:207-9)), or whether it can be satisfactorily accounted for in a theory which requires that transformations be meaning-preserving (as claimed by Lakoff, cf. Lakoff G. (1970b, 1971a:238-252)). The methodological decisions of § 2 and the tenor of the arguments of the foregoing chapters commit me to the position that the interaction of negation and specificity can be accounted for without recourse to surface structure interpretation.²

I shall confine my remarks to a few crucial examples, my purpose being not to explore this complicated area in depth but to indicate

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1. My proposals fail to account for the distinction between no and not. Assuming that any is an item containing a feature +non-specific and that an n.p. determined by a is necessarily non-specific when in the scope of negation, it is natural that phrases determined both by any and by a should have alternate realizations with no. But how then to account for not a man? Perhaps in this phrase-type a is indeed an unstressed form of the numeral one (cf. Perlmutter and § 3.2.)
 2. In fact the exposition of Ch. II - VI does not depend on the deep structure interpretation of negation. It depends on deep structure interpretation of 'modal structures' of what Jackendoff calls Types I and II (Jackendoff 1972:292) but even in Jackendoff's scheme these types of scope could be interpreted in deep structure, although in fact they are not. The exposition however is totally incompatible with Jackendoff's arguably ad hoc treatment of there_{II} (p.301, fn.). Given my treatment of there_{II}, deep structure interpretation of negation is natural though not inevitable.

a line of enquiry compatible with my claims on definiteness.

6(a). Not many arrows hit the target.

(b). Many arrows did not hit the target.

(c). The target was not hit by many arrows.

It is generally agreed in the literature¹ that 6(a) and (b) are not synonyms and that 6(c), in its most natural reading, is synonymous with 6(a). Lakoff proposes that underlying 6(a) and 6(c) is a structure which he presents as in 7:

7. $\left[\underset{S}{\text{not}} \left[\underset{S}{\text{arrows}}_1 \left[\underset{S}{\text{arrows}}_1 \text{ hit the target} \right] \text{ were many} \right] \right]$

In 7, not asymmetrically commands the quantifier many, whereas in the structure underlying 6(b) many asymmetrically commands not.

This underlying structural relationship is the basis of a condition on derivations which ensures that only semantically appropriate surface structures are generated. I wish to criticize Lakoff's proposals on three counts:

(i) As has been forcefully argued by Partee (1970b), the T rule of Quantifier Lowering which Lakoff postulates for the derivation of 6 leads to an unwarranted complication of syntactic rules

(ii) Lakoff's account is ad hoc in its treatment of definiteness: quantifiers may only be derived from a lower sentence (via relativization) if the n.p. is determined by the; and quantifiers originating in higher sentences may not be lowered if the n.p. on

1. cf. Lakoff, G. (1971:244). Jackendoff discusses Not many of the arrows hit the target (1972:326). I do not think the difference in the examples is fundamental to the arguments put forward - but Johansson (1974) reports that people's perception of ambiguity varies with this difference in the examples. Unfortunately, I saw Johansson's paper too late to incorporate a discussion of it in this section.

which they are predicated is definite (cf. Lakoff, G. 1970b:391,401). Lakoff agrees that the latter condition is 'not independently motivated'.

(iii) Lakoff's gloss of the structure presented in 7 is

8. The arrows that hit the target were not many.
(1971a:244). This is inaccurate. There are few fully acceptable English sentences having quantifiers as predicates and non-definite subjects, but 9 is fully acceptable:

9. People who read ten books a week are few and far between.

9 is equivalent to 10:

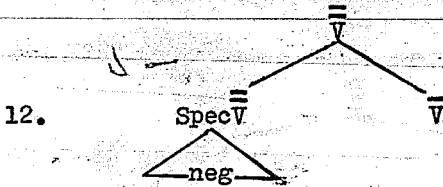
10. There are few people who read ten books a week.
This shows that the predication are few and far between is an e-e context for the subject n.p. Assuming that far between is redundant, we may conclude that predicable quantifiers are existence-establishing and that the correct gloss for 7 is 11:

11. There were not many arrows that hit the target.

Anderson (1972:Ch.8; & forthcoming) has recently proposed an alternative treatment of sentences containing two quantifiers (e.g. Many men read few books) which can naturally be extended to the problem we are considering. He accepts Lakoff's proposal for a higher predication and for derivational constraints which ensure that inappropriate surface structures are not generated, but argues that the higher predication should be a 'predication of existence'. The proposals to be made below are in essence a reformulation of Anderson's central idea in terms of the framework of this thesis.

In the foregoing presentation, three claims have been made which are pertinent to our problem. First our base rules

distinguish various operators affecting the proposition by introducing them under $\text{Spec}\bar{V}$. Thus the base structure in 12 is unambiguous: it is the whole proposition \bar{V} that is negated.¹



Second, as in the grammars proposed by Fillmore and by Stockwell et al., there is in our grammar no Passive rule that destroys a pre-existing subject/predicate configuration. Third, it has been claimed that in some instances there_{P} is not due to a copying or insertion transformation but is a direct realization of deep structure elements.

Given these three premises, let us reconsider 6 and compare it with 13:

13(a). No arrow hit the target.

(b). An arrow did not hit the target.

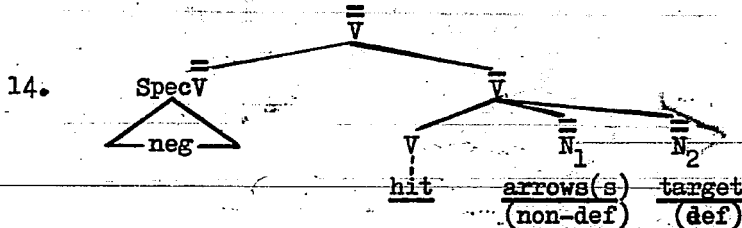
(c). The target was not hit by an arrow.

13(b), I wish to claim, is ambiguous having a reading that is synonymous with 13(a) and a reading that corresponds to a statement about some particular arrow (the specific reading). 13(c) is synonymous with 13(a) and there is no passive for the specific reading of 13(b). The same pattern is found in 6 except that there is generally said to be only a specific reading for 6(b) and there is some doubt as to whether there is a secondary reading of 6(c) which is synonymous with 6(b). I ignore the possibility of the secondary

1. It is not immediately relevant to enquire whether 'neg' is a lexical item (not) or a feature.

reading of 6(c),¹

To account for 6(a) and 13(a), 6(c) and 13(c), I propose the deep structure shown in 14, where many will be generated under \bar{N}_1 in the case of 6.



Either before or after Subject Placement, neg is Chomsky-adjoined to \bar{V} into a position immediately preceding the verb (I ignore the question of auxiliaries). But after Subject Placement, if the subject is definite neg remains before the verb (6(c), 13(c)), while if the subject is non-definite neg is incorporated into the subject phrase (6(a), 13(a)). The latter process will be optional or obligatory according to whether or not one wishes one's grammar to generate a reading of the (b) examples synonymous with (a) and (c).²

The specific reading of the (b) examples can be attributed to a deep structure directly reflected in the surface structures of 15:

15(a). There were many arrows that did not hit the target.

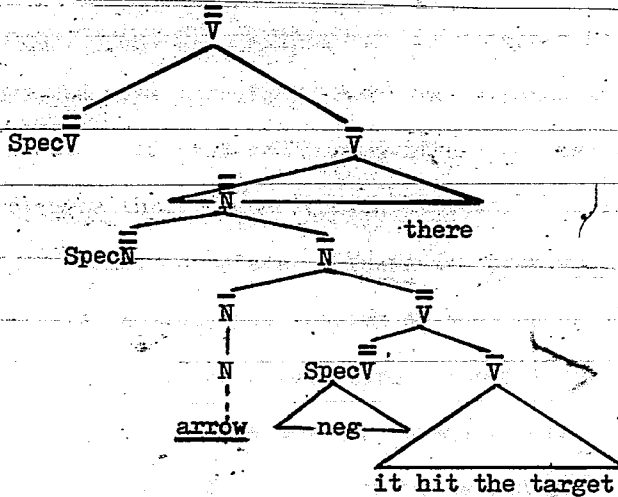
(b). There was an arrow that did not hit the target.

The relevant properties of the structure underlying 13(b) and 15(b) are indicated in 16:

1. Jackendoff finds a secondary reading only under certain conditions of intonation and stress (1972:353). But even under these conditions it is doubtful whether his example 8.38 (p.327) is well-formed. If it is not, then there are good grounds for claiming that the secondary reading of my example 6(c) is due to factors of information structure not directly related to negation and specificity.

2. Compare Klima (1964).

16.



In the embedded *s*, the relative n.p. is definite and so it does not subsequently incorporate the negative element. Hence both in deep structure and in surface structure arrow is outside the scope of negation. By assuming that the (b) examples of 6 and 13 are derived from such a structure as 16 by deletion of there, we can account for the lack of passive counterpart without recourse to derivational constraints. Similarly we can account for the lack of active counterpart for Many of the demonstrators weren't arrested by the police (Jackendoff 1972:328).

Partee (1970b) has observed that the quantifiers that can most plausibly be regarded as predicates can in general occur after the, for example:

17(a). the men who were there were many / the many men
who were there

(b). this money is too little / the little money I had

(c). this money is too much / *the much money I had

(d). ?this money is all / *the all money

I regard many, much, few, little and the numerals as predicable quantifiers and must therefore treat the ungrammaticality in 17(c) as an accident. If predicable quantifiers are derived from relative clauses their occurrence in definite n.p. is predicted by the rules of earlier chapters. There are problems with the relative clause analysis (notably the problem of pre-posing across unreduced clauses) but it has nevertheless been assumed in the formulation of the rules presented in this thesis. Since no distinction is made in the deep structure of our grammar between R and NR pre-nominal modifiers, it is not necessary to rule that many etc. must originate in a non-restrictive clause. However a more significant generalization may be that predicable quantifiers, but not all those that are not predicable, may occur after there_R. The source sketched in 15 and 16 applies only to predicable quantifiers.

I shall not pursue this enquiry further. Problems arise when we come to consider Dative Movement (for example cf. Jackendoff 1972:333), Topicalization or 'Y-movement' (for example cf. Lakoff 1971a:246), and numerals (cf. Heny 1970). There is also the question of whether there_R should be used in the description of sentences containing two quantifiers¹. Perhaps the most interesting

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1. It may be that negation and double-quantifier sentences do not fall under a single generalization. Heny (1970), who seeks to provide a semantic interpretation of quantifiers as generated by phrase-structure rules of the type proposed in Chomsky (1965), argues that the notion of scope is not adequate for a treatment of quantifiers although it may be necessary for negation. In the base rules proposed in § 2 the scope of negation is indicated by SpecV, but if quantifiers originate under N, then no scope relations based on dominance hold at deep structure level between two quantifiers occurring in the same clause.

problem is whether or not a principle can be established as to the extent of the data to be accounted for by appeal to there_E. Thus both Lakoff (cf. Sam claimed that John had dated few girls; 1971a: 241ff.) and Anderson (cf. Mary wants to marry a Norwegian) attribute to distinctions in underlying structure, ambiguities which - according to arguments presented in earlier chapters - should probably not be regarded as syntactic.

My claim is that where a deep structure distinction between different readings of negated sentences can be motivated, the appropriate deep structure for the specific readings is that corresponding to there_E, for:

- (i) it is semantically appropriate, providing an e-e context for a non-definite n.p.
- (ii) it accounts for the lack of active/passive counterparts without recourse to derivational constraints
- (iii) the there_E structures have got to be generated anyway
- (iv) the there_E source is not semantically appropriate when the subject n.p. is definite, hence the different behaviour of quantifiers in definite and non-definite environments is naturally accounted for.

The disadvantage of the proposal is that it seems to commit us to a double source for many many sentences. If 6(b) is derived from the structure underlying 15(a), then why should not 6(a) be derived from the structure underlying 11 as well as from 14? In such cases the two sources would not lead to ambiguity. There really may be some redundancy in the language system in this area.

While there may be no empirical grounds for preferring a deep structure analysis of negation to a surface one, it is surely incorrect to say - as Jackendoff does of the problem of the lack of active/passive counterparts - that "under the assumption that transformations do not change meaning, these facts will be very difficult to account for" (Jackendoff 1972:328).

In the non-negated version of the sentences of 13 the non-definite n.p. occur in an e-e context; it is this which makes the there_E alternative source viable. 18 and 19 are offered as examples of sentences with non-specific and generic readings respectively:

18(a). A girl will win the race.

(b). A girl will not win the race.

(c). No girl will win the race.

19(a). A bird can talk.

(b). A bird cannot talk.

(c). No bird can talk.

On the proposals presented above, the (b) and (c) examples will be derived from structure 14 (suitably lexicalized); (b) is not ambiguous, for there is no there_E paraphrase to which an alternative reading could be attributed. For 18, I find this account valid. With respect to 19, we may discount a non-generic reading or (if we prefer) attribute it to there_E. The problem arises with the generic reading: are (b) and (c) synonymous? Could it be argued that 19(c) can only be used falsely - because there are birds (e.g. parrots) that, in some sense, 'talk' - but that 19(b) may be used to make a true statement because true of 'birds in general'?

I leave the question open, because it will re-occur in a more acute form with plural nouns.

- 20(a). Birds eat berries.
- (b). Birds do not eat berries.
- (c). No birds eat berries.
- (d). No berries are eaten by birds.
- (e). Berries are not eaten by birds.

According to the proposal under consideration, 20(b) - (e) are all unambiguous synonyms attributable to deep structure 14. Here again is the problem of 19.

The problem seems to be that IF we characterize generic readings in terms of 'true of most or all x' or 'true of x in general' then the proposed T rules do affect truth value. But 'true of x in general' is a characterization of natural language use rather than of semantic meaning such as may be expressed by logical formulae.

I have introduced this problem in order to make the following point. One way of accounting for these facts, a way that would be consistent with the discussions of § 16, would be to posit a deep structure choice on non-definite n.p. expressible in terms of a feature that would control T rules in such a way as to block the movement of neg from the verb into the subject n.p. This deep structure choice would be taken only in non-e-e contexts, would affect Subject Placement, and would be correlated with the 'true of x in general' reading. Where the feature was not selected, neg would be incorporated into the subject. A feature that would achieve this is +def.

It has been observed in other areas of the grammar that certain syntactic processes may be stated more simply if generic n.p. are classified as definite.¹ In the case of plural n.p., and n.p. headed by non-count nouns, they meet one of the necessary conditions of definiteness mentioned at the beginning of the section; re-use implies coreference. But to use the feature +def in this way is terminologically confusing: it involves the use of +def to mean something quite distinct from 'definite'. Nevertheless, generic n.p. which are unquantified do share certain properties with definite n.p., properties that may be expected to affect syntactic processes. However these are to be formalized in the grammar, let us - for purposes of future reference - label these shared properties +m. It is just possible that +m could be used instead of +def in the formulation of T rules, so making the +def distinction redundant in the description of syntactic processes.²

Non-predicable quantifiers raise special problems, but do not suggest that the proposals of this section are fundamentally incorrect:

- 21(a). Every child received a prize.
 (b). ?Every child did not receive a prize.

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1. cf. Postal (1966, p.204 of the reprint in Reibel and Schane 1969), Stockwell et al. (1973:87-88); on coreference, or 'absence of non-coreference' cf. Postal (1969 footnotes), Stockwell (op. cit.:91).
 2. This would depend on correct identification of generic n.p. which itself depends on more detailed study of the effect of contexts than I have undertaken. An interesting question arises: is the distinction (within non-e-e contexts) between generic and non-generic one that is determined by the deep structure p-marker before the operation of Subject Placement? As indicated in the main text, I think not. This makes generic v. non-generic a distinction which is different in kind from the existence-establishing v. non-e-e distinction.

- (c). Not every child received a prize.
- (d). A prize was not received by every child.
- (e). No prize was received by every child.

The proposals involve the predication that 21(b) - (e) will be synonymous. This is clearly not the case for 21(e) - but (e) may perhaps be regarded as support for the double-source hypothesis: in this case the special properties of every would block derivation from one of the sources but not from the other. (21(e) will be derived from the structure underlying There was no prize that was received by every child.) 21(c) and (d) provide supporting evidence for the type of movement rules envisaged above, and (b) can be blocked by making the movement rule obligatory.

21 shows that phrases determined by non-predicable quantifiers must be classified as -def, even such phrases as all the books. However phrases thus quantified cannot occur after there_E. So there will be T rules which apply to non-definite n.p. but which do not apply to them (§ 16). This suggests that there are syntactically-motivated distinctions to be made among non-definite n.p.

The quantifier some also raises a special problem. We must generate 22(a) and block 22(b):

- 22(a). Some elephants do not like peanuts.
- (b). *No some elephants do not like peanuts.

I reject the possibility of a some-any suppletion rule because of the non-equivalence of 23(a) and (b)¹:

1. cf. Klima (1964), Lakoff, R. (1969)

23(a). He didn't take some of them.

(b). He didn't take any of them.

22(a) might be attributed to the structure underlying:

24. There are some elephants that do not like peanuts.

It seems that n.p. determined by some are, like definite n.p., impervious to negation in deep structure as in surface. 22(a) will therefore be attributed to structure 14 and some will be interpreted as outside the scope of neg. In § 10.2. some was attributed to a T rule motivated by a distinctive partitive structure: its essential meaning is partitive and it cannot therefore be unambiguously negated - for the negation of some could be none or all.

For purposes of discussion, it seems natural to make a two-tier distinction, first between definite and non-definite using the two necessary conditions of definiteness discussed above (non-negatability and implication of coreference), then among non-definite n.p. between those that we will call indefinite and others. Let us stipulate that the term 'indefinite' will be used for n.p. which in surface are undetermined, determined by a, some, no, by a predicable quantifier, or by non-demonstrative the before a relational noun with indefinite complement, or by an indefinite possessive determiner. This listing sets up a class which is co-extensive, in the description presented here, with non-definite n.p. which originate in a deep structure where there is no quantifier under $\overline{\text{SpecN}}$. If it were not for the occurrence of any after there_P, one could say that indefinite n.p. formed a natural class with respect to transformationally-derived there_P in locative sentences.¹

1. Several and a certain are still unaccounted for.

This very summary treatment leads to the following tentative conclusions regarding definiteness in syntactic rules:

- (i) Subject to (iv), a contrast \pm def is needed, in order to block ungrammaticality and to preserve meaning, in the formulation of neg-movement rules.
- (ii) It interacts with grammaticality in possessive constructions, but only when qualified, as in (v,b) below.¹
- (iii) Elsewhere it interacts with many other factors in its effect on rules generating alternative surface forms differing as to information structure.
- (iv) It might possibly be subordinated to another contrast grouping together non-definite generic n.p. and definite n.p.
- (v) Within non-definite n.p. further distinctions are necessary
 - (a) relating to type of quantifier
 - (b) relating to range of the variable represented by the head noun (§ 16).

1. cf. § 16, examples 6 and 22.

CHAPTER VIII

NON-DEFINITE PHRASES: EXISTENCE, PREDICATE NOMINALS

In this chapter we will examine certain syntactic structures and processes which lead to a greater understanding of non-definiteness. Two factors relating to non-definiteness have been given but summary treatment hitherto: the deep structure of expressions assigned to "a there_E source", and the identity condition for non-definite relativization.

§ 18 is devoted to the former; the latter is studied in the context of an investigation into copular sentences (§ 19). This also leads to clarification in the formulation of definite relativization.

§ 18 'There_E' in Sentences of Indeterminate Location

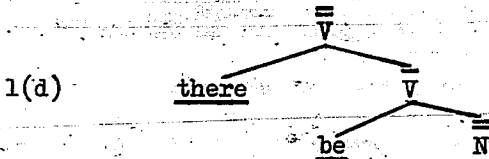
The type of sentence to be discussed in this section is exemplified by:

- 1(a). There never was a King Arthur.
- (b). There was a disaster.
- (c). There are people who can run a mile in four minutes.

It is indefinite n.p., rather than the larger class non-definite n.p., which typically occur with there_E in predications of 'existence'.

In 1, there_E occurs in a clause in which there is no other locative phrase and so it cannot be attributed (as elsewhere, cf. § 16) to

pronominalization of a lexicalized expression occurring in surface structure. Relevant aspects of the surface constituent structure of 1 are represented in 1(d), which may be contrasted with the p-marker shown in 15 of §16.



In 1(c) the form there are must be derived from a higher predication in the deep structure. It is not correct to derive 1(c) from 2, for to do so would not allow for other SpecV choices on the main clause of the surface structure. It would also involve a meaning-changing transformation:

2. People can run a mile in four minutes.

However a T rule of there-insertion is generally agreed to be required in a transformational grammar of English.¹ In Emonds (1970:Ch.II) it is formulated in such a way as to derive 1(c) from the structure underlying 3:

3. People who can run a mile in four minutes are.

Similarly, 1(a) and (b) could be derived on this analysis from:

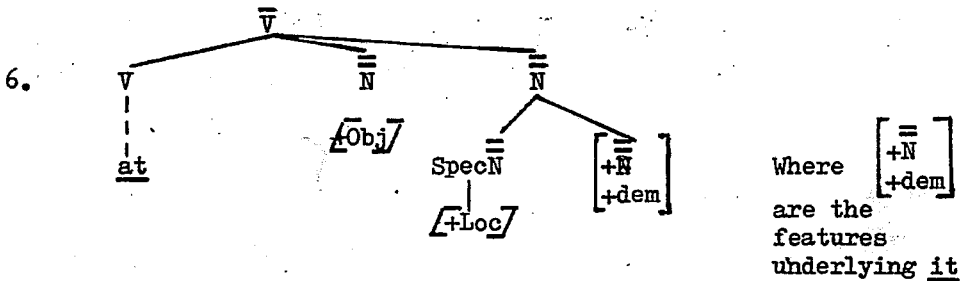
4. A King Arthur never was.
5. A disaster was.

This is to claim that be is basic and there derived, while the obvious alternative is to suggest that there in its underlying form is basic and be derived. It might seem that these alternatives

1. My proposals do not obviate the need for a rule of there-insertion, that is a rule that introduces there rather than deriving it from already existing elements. They restrict the range of application of such a rule.

were not making different claims, but the difference lies in the number of arguments governed by the underlying predicator. Be as used in 3 - 5 has a single argument, and suggests that existence is a one-place predicate. A locative predicator governs two arguments. The advantage of positing a two-place predicate of location is that, as we shall see, the context into which the indefinite n.p.'s of 1 are introduced can be shown to be existence-establishing rather than generic or non-specific.

I propose then that underlying 1 are propositions whose common deep structure is 6. 6 is developed by rules already discussed in relation to other locative sentences: Subject Placement, and amalgamation by V-absorption of the constituent thus formed.



At some stage after Subject Placement, a 'new rule' will be required to pre-pose the newly formed constituent underlying there. But it is to be assumed that this movement (or copying) rule can be brought within general statements of thematization, and that it is motivated by the factors discussed in § 16, including definiteness of the Loc \bar{N} .

The preposition at, the semantically least marked locational predicator, is generated as V and controls the cases of the two arguments. The Loc \bar{N} is developed as a pronoun in the base. The

pronoun is it and there is no identifiable antecedent. Note that the intention with which a speaker uses the form it is normally indicated by textual anaphora rather than ostension. And in other European languages, expressions corresponding to there_p is also include forms which might in a different context be explicated by anaphora. In French, and in Italian, there is a formal contrast between locative pro-forms: French y, là; Italian ci, là. The first member of these pairs is usually explicated by textual anaphora. The second may be explicated by ostension. It is the first that occurs in the expressions corresponding to there_p is: il y a; c'è. Thus we may posit a deep structure occurrence of an anaphoric pronoun without antecedent.

The segments underlying there₀ and here may be expected to derive from a structure differing from 6 only in the pronominal features on the Loc \bar{N} . The Loc \bar{N} will dominate at least the features of that and this respectively. In this way we might hope to formalize the proportion discussed in Lyons (1973):

7. it : that : this = there_E : there₀ : here

However, it may be that a feature of 'place' (as opposed to Loc case) should be included in the segment underlying there₀/here. This is one way in which these items may be distinguished from then/now. In effect this would be to propose that underlying adverbial and copula-complement occurrences of there₀ was a structure at + there.

Such expressions as in there, up there etc. may possibly be regarded as support for this view.¹

If the segment underlying there₀ contains a feature 'place' distinguishing it from then, this feature also presumably underlies there_E - thus distinguishing there_E from at + it by just this one feature. Whether or not the feature of place is necessary, these proposals for there_E, there₀ and here formalize a relationship between the predicative-expressions and the pronouns it, that, this. It has been argued elsewhere that determiners are derived from pronouns.² In this analysis determiners are derived from pronouns only by way of the predicative-expressions - it is these that are in their turn derived from pronouns. The view that predicative there and here are derived forms is based on the requirements of syntactic description, the need to analyze them in terms of a predicator and an argument-expression. It is this that leads us to formalize a dependency of there on that, rather than the other way round as was tentatively suggested in § 9. However the possibility that the argument-expression in the structure underlying predicative there itself contains a feature 'place' leaves open the question as to whether there is a fundamental distinction to be made between pronouns

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1. The problem arises because it was suggested above (§ 16) that locative and temporal occurrences of at were not to be regarded as occurrences of two different items. If Loc and Time are two separate cases (as in the Fillmore hierarchy) the distinction might be attributable to case. Alternatively, it could be claimed that the basic sense of the underlying segments is 'place' and that then and now are distinguished by a feature 'time'. The fact that there is an expression of place neutral with respect to deictic contrasts (there_E), but no corresponding expression of time, can be expressed more naturally in a system which treats then and now as containing an extra feature.
 2. cf. Sommerstein (1972)

of place and pronouns which may be used to refer to entities other than place. Further, if there is this distinction, then it would be possible to formalize a dependence of the entity-pronouns on the place-pronouns, the entity-pronoun that being analyzed as

$$8. \quad \left[\begin{array}{c} \text{Spec} \bar{N} \\ \bar{N} \end{array} \right] N \left[\begin{array}{c} \bar{N} \\ \bar{V} \end{array} \right] \text{is at } \left[\begin{array}{c} \Delta \\ \bar{N} \end{array} \right] \text{there} \right] \right]$$

or, less abstractly, as the-N-which-is-there. However I know of no syntactic arguments for formalizing such a dependence in the grammar, and shall continue to analyze the entity-pronouns in terms of features.¹

Underlying there, we have posited a pronoun without antecedent; that is, a segment containing the feature +dem, the neutral term in the deictic system of place, but containing no positive deictic feature and no textually identifiable antecedent. What justification is there for such a move? First, it is in formal terms, strictly unnecessary. We could as well posit a deep structure containing at + place, and assume that there was derived by copying and pronominalization, the processes of § 16. The lexicalized expression containing place would then be deleted. One point of interest about this alternative is that the underlying Loc \bar{N} would be indefinite: this shows up the e-e properties of the underlying structure. It is, I suggest, impossible to predicate position other than of particulars - if the sentence is true it is true of some thing(s) and

1. The problem of formalizing these syntactico-semantic relationships has its parallel in the philosophical literature. Quinton has recently argued that "demonstrative references to positions are logically proper names", and that "the regress which Russell attempted unsuccessfully to halt with the word 'this' is brought to an end" with "minimal demonstrative indications of position" (Quinton 1973:38)

some place(s) - a non-specific or generic reading of either \bar{N} is excluded. So whatever the underlying structure of there_P it is to the predicator in that structure that we must attribute the e-e properties of the context. But with respect to the alternative sources for there_P, I find no reasons to choose between them - they are, I believe, notational variants. Either alternative makes a different claim from that of Anderson's formalization. He suggests that the underlying N in Loc \bar{N} is not place but existence; but this obscures what I believe to be a crucial element in the sense of there_P - the sense of restriction: to say that x's are placed somewhere is to leave open the question of whether other x's are placed elsewhere; a there_P sentence is not a generic sentence.¹

Such sentences as 1 may be characterized as existential. Sentences which would be analyzed in our grammar in precisely the same way occur in contexts which suggest that the purpose for which the speaker is making use of them is not to make an assertion of existence but rather to assert availability of an entity with respect to some 'need' of the hearer (Atkinson & Griffiths 1973: VI). The semantic representation determined by deep structure 6 will allow for both these uses. The content that must be formalized in the semantic representation determined by 6 must include the following three interdependent notions. (They are presented here for cases where the n.p. functioning in Obj case is plural and consists of a common count noun, unmodified; and where the sentence is not negative.)

1. cf. Anderson (1971:112; & f.coming)

- (i) the Obj \bar{N} designates¹ a set whose members exist in the world in which the designatum of Loc \bar{N} exists
- (ii) the members of the set thus designated are in principle re-identifiable
- (iii) the members of the set are a subset of the denotata of the head noun of the Obj \bar{N}

Comments on (i) - (iii):-

- (i) We have argued that the underlying it has no antecedent in the linguistic structure, therefore the designatum of Loc \bar{N} is undetermined; in use, the place is signalled by situational context.² Our formulation of (i) suggests - I think rightly - that a positive sentence having a locational predicate guarantees the existence in some world of a designatum of the Loc \bar{N} .
- (ii) Re-identifiability is entailed by 'logical existence'. If I say, "I met a man", I can later refer to the man by use of the expression "the man whom I met". But re-identifiability in this sense is not a distinguishing property of whatever is introduced into the discourse by means of an indefinite n.p. in an e-e context. For if I say, "A girl will win the race", I can later make attributive use of the expression "the girl who wins the race".
- (iii) The set designated is limited and use of the sentence implies the possibility of there existing entities denoted by the head noun (or descriptive phrase) and not designated by the n.p.

1. My use of the term 'designate' (see § 10) is here extended to non-definite n.p. occurring in e-e contexts.

2. also by linguistic context: higher quantifiers, discourse etc.

(iv) There_E is to be distinguished from the logical operator ' \exists ' although its effect is sometimes similar: in a logical formula more than one variable may be bound by ' \exists ' whereas there can be only one occurrence of the elements underlying there_E in the deep structure of a simple sentence containing no definite n.p. There_E is not a means of talking about propositional functions (as ' \exists ' is, following Russell 1918:89) but expresses a predication on some particular entity.

We have examined this structure in some detail for it occurs in the deep structure that is presupposed by demonstrative the. Our account shows clearly why there is a strong semantic contrast between 9(a) and (b); a contrast which is shown by the different situations in which one might use the negation of such sentences:

9(a). There's a X.

(b). There's the X.

(b) is analyzed as the assertion of a presupposition. Clearly the use that is made of such sentences is not fully accounted for by such an analysis. But this account of the semantics might possibly be grafted on to a pragmatic analysis, for although the asserted and presupposed sentences in 9(b) are syntactically and semantically identical, they may be interpreted differently when used - for the two occurrences of it may be understood to have different references. In saying There isn't John we are not denying that John exists, but saying that John is not in the place (or situation) currently under discussion.¹

1. cf. Atkinson & Griffiths (1973)

The same contrast seems to be operative in 10:

10(a). There was an Arthur.

(b). There was Arthur.

Such occurrences of non-definite proper nouns can be accounted for by positing an underlying structure characterizable by 11

11. $\left[\begin{array}{c} \text{there was} \\ \bar{V} \end{array} \left[\begin{array}{c} \bar{N} \\ \bar{N} \end{array} \right] \text{ such that } \begin{array}{c} \text{he} \\ \text{it} \end{array} \text{ was Arthur} \right] \right]$
 $[-pl]$

Further our understanding of 10(b) suggests that proper nouns in their normal definite occurrences may be analysed semantically (though not syntactically)¹ as the that there is. In other words proper nouns are analysed as semantically equivalent, in the relevant respects, to definite n.p. determined by demonstrative the. But this reading is cancelled by structure 11, which will be further examined in §19.

Sometimes the presupposed sentence in a definite n.p. does not contain a demonstrative element. This would seem to allow for There were those who believed without our having to say that the n.p. is non-definite, as was suggested by Jespersen,²

-
1. If this analysis were formalized in the syntax, 11 would no longer be required - but the special properties of proper nouns would also be obscured.
 2. cf. Jespersen (1924:155).

§19 Nominal Copular Sentences

The rules formalized in this section are re-presented in their final form in Appendix A.

19.1 Equative and predicative sentences

The distinction between equative and predicative sentences may in the first instance be made as follows. Equative sentences are used to make statements of identity, e.g.

1. That man is John.
2. John is the leader.

Two definite noun phrases are linked by the copula; if the two n.p. are reversed, the sentence remains grammatical, whatever the sequence the first n.p. may be construed as the subject.¹

Predicative sentences which consist of two noun-headed expressions linked by a copula are used to make statements of varying kinds including at least class-membership (3), and class-inclusion (4):

3. This is a rose.
4. Roses are flowers.

The second nominal expression appears to be a non-definite n.p., and the sequence is not readily reversible:

1. For a more sensitive statement of function and sequence in equative sentences, see Halliday (1967a: § 3; 1967b: § 6; 1968: § 8.3.). The term 'subject' is not clearly defined for equative sentences (cf. Jespersen 1924:153). Let us say (using Halliday's terminology) that in either sequence the reader may imagine a context in which the first n.p. can be understood as the VR in a VR, VL ('variable'/'value') decoding clause. Even thus clarified, our generalization is vulnerable to well-known counter-examples that call in question the equative-predicative dichotomy, (*John is this).

5. ?*A rose is this.

6. Flowers are roses.

7. and a merry old soul was he!

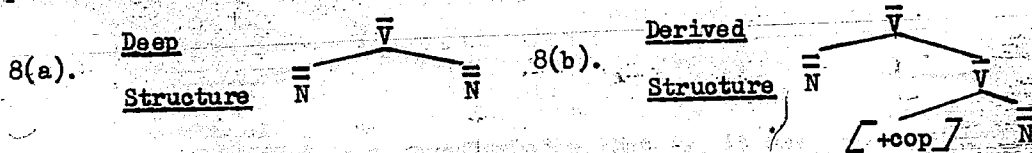
5 is ungrammatical - unless it is understood to be syntactically analogous to 7: a rose is not the subject. 6 is grammatical, but unrelated to 4.

Nominal copular sentences are discussed by Lyons (1966:228-9; 1968a:389; 1973:95). Of the many problems he points out, I shall concentrate on the following: an attempt to account for the predicative or verb-like properties of the second noun in sentences such as 3-4. If these are identifiable in the p-marker, then our understanding of 5 and 7 is explicable.

A sentence which meets the criteria suggested for equative sentences may yet, on an alternate reading, be 'understood predicatively'. An example is the well-known Scott is the author of Waverley. Not only may this be construed as a statement of identity (answering the question 'Who is the author of Waverley?') but also as a characterization of Scott. In this latter sense it may, perhaps must, be classed as predicative (Lyons 1973; cf. also Halliday 1967a:68-9).

I shall assume that sentences such as 1 and 2 are derived from an underlying structural relationship between two noun phrases. For purposes of argument let us posit a deep structure proposition as in 8(a) (to which frequent reference will be made). The copula^t will be introduced transformationally after Subject Placement

possibly as shown in 8(b)¹:



It may be that predicative sentences are due to a different deep structure. Semantically common count nouns are 'general terms' (cf. Quine 1960:91) or predicates (cf. Cresswell 1973:133). There is support in the literature for the view that nouns should be analyzed as in some sense verbal when occurring in predicative nominal sentences (e.g. Lyons 1966). This has been allowed for in our formalism by the recognition of a functional class 'predicator'. The problem however is to account for all the nominal modifiers that can occur in predicative sentences - it is not enough to regard N as a predicator, one must treat \bar{N} as a predicate.

Predicative sentences are particularly important for our analysis because twice in the foregoing discussions a syntactic distinction involving an unexpected occurrence of a has been attributed to an underlying predicative sentence, thus:

9(a). There was an Arthur

(b). $\left[\text{there was } \left[\bar{N} \text{ such that } \begin{array}{l} \text{he} \\ \text{it} \end{array} \text{ was Arthur} \right] \right]$

(§ 18; e.g. 11)

10(a). a king of France

(b). $\left[\text{king } \left[\text{he is king of France} \right] \right]$ (§ 12; e.g. 25)

Let us then consider the possibility that structure 11, a

1. It is possible that the copula should be introduced by daughter-adjunction to \bar{V} in structure 8 (as shown), and by Chomsky-adjunction before 'true' predicates as illustrated in 26 and 33 - but I have not investigated this matter.

proposition, occurs in the deep structure:



\bar{N} is an argument and \bar{V} is a 'predicator' - that is, it may exhaustively dominate N, and thus a lexeme belonging to the functional class predicator, or it may dominate a noun-headed construction which has predicative not argument status.¹ We shall now formulate the S.I. and Conditions for non-definite relativization on the assumption that structure 11 occurs in the grammar. In doing so we shall find reason to conclude that the assumption is incorrect.

19.2. Non-definite relativization

The S.I. considered here is the S.I. for the first of a group of rules that together effect 'relativization' in non-definite n.p. (themselves sometimes the relative n.p. of a definite matrix phrase). In § 11, the derivation of a definite n.p. was sketched and it was remarked that the rule of WH-Rel-attachment must be made sensitive to two distinct input structures. One of these depends on the identity condition for definite relativization and the other on the identity condition for non-definite relativization. We are here concerned with the latter. The purpose of the discussion is to isolate properties of non-definiteness. Since we are not concerned with relativization as such, the S.C. of the rule will not be formulated.

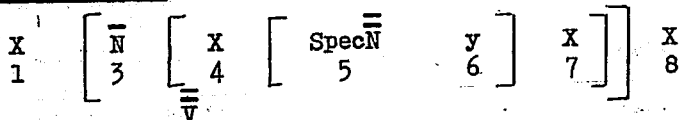
1. The term 'predicator' denotes a functional class so that all nouns are (always) predicators. The term 'predicate' as used here denotes a function (a position in structure). Predicators do not always occur as predicates.

The chief difference between definite and non-definite relativization is that in the latter case, but not in the former, the relative n.p. is definite. Earlier we symbolized this by use of a pronoun. But a formally specified pronoun is inadequate, for there might be more than one identical pronoun in the embedded s. Therefore I use variables rather than pronouns to state the S.I. and Conditions for this process. Non-definite relativization can apply more than once within the same n.p.

Non-definite relativization:

Provisional Formulation of S.I.
for WH-Rel-attachment.

Structure Index¹



where 'y' is a variable ranging over constituents, and non-null

Conditions

1. Iff 3 is in construction with a node dominating \bar{N} , then 5 dominates \bar{V} .
2. 3 is indexed by a variable.
3. (the variable occurring under 3) = 6

Comments

(1) The aim is to formalize the logical relationship informally expressed as

an N such that it f

where 'N' stands for any noun and 'f' for any predicate.

(2) The variables 'X' and 'y' are to be distinguished. As else-

1. The numbering in the S.I. allows for later revision.

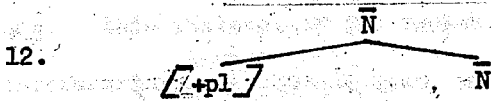
where 'X' ranges over strings and may be null. Two occurrences of 'X' do not normally have the same value, but the lower-case variable-symbols are used as logical variables: in their case two occurrences of the same symbol within the same formula have the same value, i.e. are coreferential.¹

(3) Given the range of the variable, the brackets around 5 and 6 show that these elements together constitute a noun phrase. To label these brackets, or those around 3-7, would be to give redundant information.

(4) Condition 1 ensures that there is number agreement between the matrix constituent and the relative n.p. It is formulated in such a way as to cover instances where the matrix constituent is \bar{N} , an argument, and instances where it is \bar{N} , a predicate, as in structure 11. Two assumptions have been made:

(i) that if the matrix constituent is \bar{N} , and if +pl occurs under the subject \bar{N} shown in 11, this feature is copied on to \bar{N} before the rules of relativization apply.

(ii) that the feature is copied by Chomsky-adjunction to generate the sub-structure shown in 12:



The use of the structural relationship 'in construction with' is necessitated by the indeterminacy of the dominating nodes. But it is not adequate, for it does not ensure that the node dominating +pl is in fact pertinent to element 3. Element 3 might be head of a

1. In the term 'coreferential', I use 'referential' in a much wider sense than in using the term 'reference'. This confusing, but not uncommon, practice is discussed in Partee (1970a).

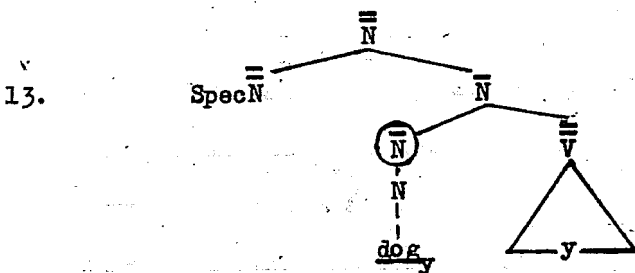
noun phrase itself singular but embedded to a plural n.p. In such a case the condition would apply, but incorrectly. This difficulty is overcome in the final formulation.

(5) Element 3 is specified as \bar{N} rather than N to allow for modifiers due to lower relative clauses or for noun-dependent case.

(6) Other conditions (including obligatory application) will be such as are found necessary for relativization in general. The formulation given here may be compared with WH-Rel-attachment in Stockwell *et al.* (1973:470).

Let us now consider what is meant by 'indexed by a variable'.

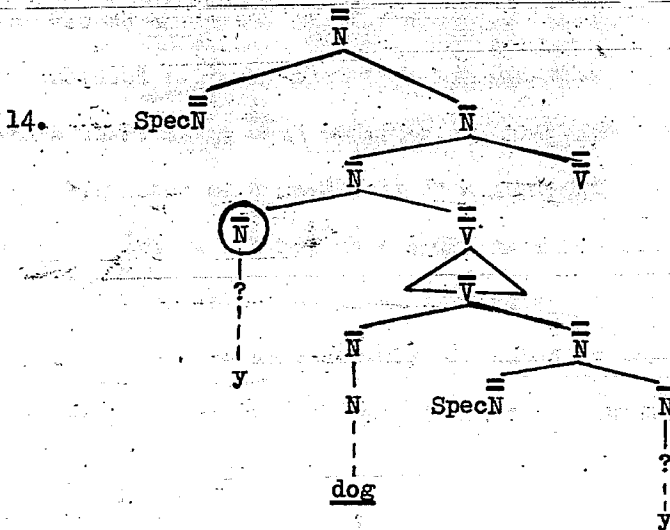
Consider p-marker 13:



This adequately expresses coreference and captures the logical relationship "a dog such that it". The leftmost occurrence of the variable is here shown, as it were, in apposition to the noun dog. This instance of the variable is the binding instance - the coreferential sequence is bound by the sentential context of the n.p. headed by dog. This means of integrating logical variables into syntactic structures is not unlike the use made of variables in Partee (1970a:375,384 fn.13).

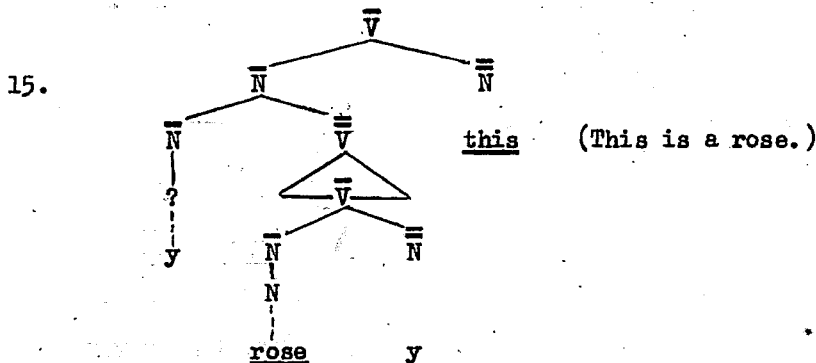
But how are the variables introduced into the p-marker? An obvious possibility is to posit one further layer of relativization

such that 13 is derived from 14; where dog is the predicate in the lower \bar{V} :



In other words we allow the node \bar{N} to dominate a variable-symbol, and the noun that is realized as head of the n.p. in surface structure originates as a predicate predicated on this variable. One node in 14 is marked '?' because I postpone formulation of the rule which generates the variable. But the S.I. for non-definite relativization applies as well to 14 as to 13, if the circled node is taken as element 3 of the S.I. We will however need an extra rule of a rather special type which transforms a structure corresponding to y which is dog to dog_y. Also, Condition 2 must be revised. But in order to formulate Condition 2 satisfactorily, we shall need to mention the structural relationship 'head of \bar{N} '. The problem arises because element 3 in the S.I. must apply not only to p-markers 13 and 14 but also to p-markers where element 3 dominates a modified noun.

But if variables are required for relativization, and are introduced where the surface structure includes noun modifiers due to embedded s., they must also for the sake of consistency occur where there is no noun modifier in surface structure: if the noun dog originates as a predicate in a good dog it must also do so in a dog. Let us see how this would look for sentence 3. By our original proposal, 3 would be attributed to structure 11, and [rose] would be exhaustively dominated by the predicate \bar{N} . But if our new proposal is followed, 3 would be attributed to structure 11 as expanded in 15:



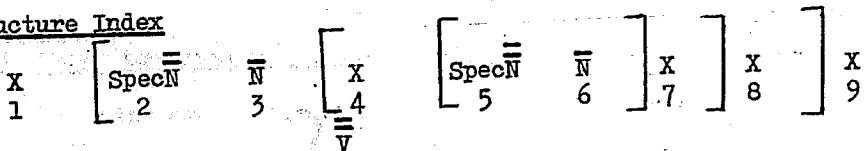
Here rose is predicated of a variable and not directly of the subject n.p. (this). But if this is correct, there is no point in introducing \bar{N} into p-markers as a predicate, for the predicative origin of the noun is formalized whether the matrix constituent is \bar{N} or \bar{N} . If 11 is expanded as in 15, then the distinction between 11 and the 'equative' structure 8 is spurious. Therefore if we retain the proposal concerning variables, we must discard 11 (and 15) and attribute both equative and predicative nominal sentences to structures involving two n.p. in deep structure (as in 8). Now the

use of the variable proposed here is a natural way of formalizing the claims made in regard to the identity condition for non-definite relativization. Since this identity condition is essential for the distinctions in definiteness, we will retain the proposal concerning variables and the predicative origin of nouns in non-definite phrases. Structure 11 and 15 are therefore discarded: the node \bar{N} will not be generated as a predicate.

Before pursuing the discussion of variables, I shall revise the formulation of non-definite relativization. The environment is now unequivocally identifiable as \bar{N} ,

Non-definite relativization: Final Formulation of S.I. for WH-Rel-attachment.

Structure Index



Conditions

1. Iff 2 dominates $\left[\begin{array}{c} +p \\ \bar{V} \end{array} \right]$, then 5 dominates $\left[\begin{array}{c} +p \\ \bar{V} \end{array} \right]$.
2. (i) 3 exhaustively dominates a variable, OR
(ii) 3 is headed by a noun which is indexed by a variable.
3. (the variable occurring under 3) = 6

Comments

- (1) The presence in the S.I. of element 8, and the alternatives under Condition 2, allow for non-definite relativization to apply more than once within a single n.p. For 'head' see below, § 19.4.
- (2) The symbol ' \bar{N} ' has been substituted for the variable at 6 in the

My proposal has something in common with both that of Bach (1968) and that of Anderson (1973:73-5) - specifically the positing of an embedded s. to show the predicative nature of nouns. It is interesting that similar conclusions should have been reached on the basis of different argumentation and theoretical premisses. My proposal is distinctive with respect to the subject-term on which the noun is predicated.¹

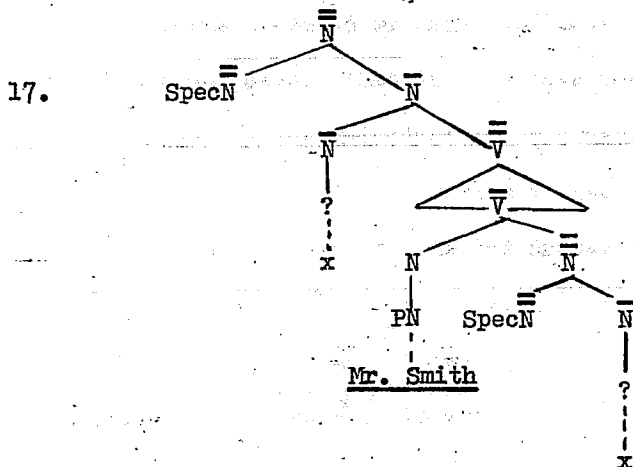
The subject-term is a variable - as suggested by Bach. The first or binding instance of the variable is the one which occurs as head of the matrix noun phrase. That is to say the non-definite phrase of which it is head is itself equivalent to a variable and is bound by sentential context. So this use of variables formalizes the analysis of non-definite phrases for which I have been arguing throughout the foregoing chapters. (It is of some interest that the proposed deep structure appears to be reflected in the surface structure of sentences which express a denial of existence: e.g. There are no such things as ghosts.)

The proposal also clarifies the function of the determiner a. In the environment of uninflected count nouns, a distinguishes an indefinite singular term from a general term,² i.e. an argument-expression from a predicator, a noun phrase from a noun. So the

1. If nouns originate as predicates there will be a tense option in the underlying sentence in which they are predicates (cf. Bach). In the description presented here, this tense option, and its significance, must be distinguished from the tense option on there, by means of which a distinction was made in Ch. III between that and demonstrative the. The proposal made here may be contrasted with McCawley (1970; 1973). In his later paper McCawley suggests a variant of Bach's analysis in which the subject term is sometimes a referential index, sometimes a bound variable. This suggestion is incompatible with my treatment of definiteness, which is based on the notion of n.p. as bound variables.

2. cf. Quine (1960:136-7, 118)

The rule that introduces a can be motivated by the occurrence of a variable in derived structure indexing a count noun occurring as head of a non-plural n.p. But the determiner a also distinguishes common nouns from proper nouns. Our proposal allows for non-definite uses of proper nouns: the process of recategorization is a syntactic one - the base rules must allow not only \bar{N} but also N to be expanded as PN ('proper noun') so that such phrases as a Mr. Smith can be attributed to deep structure 17:



In this way we can also account for the Mr. Smith I used to know.¹ It may be objected against 17 that proper nouns are not predicable of the individuals who bear the name. Lyons (forthcoming) distinguishes nomination from predication, for the relationship between a name and its bearer is different from the relationship between a common noun and its denotata. I suggest that this distinction is adequately maintained in 17 by the presence of the label PN. If the embedded s. in 17 were (alternatively) structured

1. The proposal also allows for ?the Mr. Smith, but I doubt whether this should be blocked in an arbitrary way for it seems to be part of the system, cf. "I travelled home with a Mr. Smith and a Mr. Jones. The Mr. Smith"

like 8 and the PN were introduced immediately under a node \bar{N} , the p-marker would not express the fact that the phrase a Mr. Smith is non-definite and cannot be used for identifying reference. (There are expressions in which proper nouns are used predicatively and not as names - e.g. He is no Cicero. These are not accounted for by 17, which is appropriate rather to phrases paraphrasable as 'a person called such-and-such'.)

Noun phrases headed by non-count nouns may be treated like those with count nouns except that in this case the variable is deleted without triggering the introduction of a determiner. In passing we may note that the +count distinction is necessarily inherent to lexemes in this analysis - it is the predicative noun and not the subject-term on which it is predicated that is the locus of the distinction. This is in accordance with the conclusions of § 3.2.¹ The adoption of an analysis in which nouns originate as predicates does however open up another attractive line of enquiry. If the form of the subject term on which count nouns were predicated were one, then it might be possible to synthesize the account of definiteness proposed here and the analysis of a as the unstressed form of one (not of the numeral however, but of the pronoun). But this possibility poses two immediate problems which have deterred me from exploring it further:

(i) how could this use of one be combined with the need to express coreference?

As suggested on p. 47.

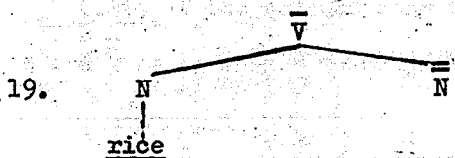
1. [^] It is possible that the feature +count on abstract nouns is derived, not inherent. One possibility - not to be explored here - is that it is motivated by a partitive configuration in deep structure.

(ii) how could one formalize identity for purposes of relativization in cases where the head of the n.p. was non-count? In my account, variables are used indifferently with count and non-count nouns wherever there is a relative clause.

Nevertheless non-count nouns are distinguished syntactically in that (if unmodified) they may occur as predicates where the subject-term is not a variable. Consider 18:

18. This is rice.

There seems to be no good reason to attribute this to the structure illustrated in 8. If attributed to 8, 18 would have a deep structure that could be glossed as "this is \underline{x} such that \underline{x} is rice". If we attribute 18 to 8, we must introduce a well-formedness condition on deep structure to the effect that nouns can only be predicated of variables, hence can be predicates only in structures dominated by \bar{N} . Such a condition is arbitrary and unlike any other: \bar{V} will be expanded differently according to the (indirectly) dominating node. But if the proposition in 18 is attributed to 19, the well-formedness condition will be different - namely, that only non-count nouns may be predicates in structures that are not dominated by \bar{N} .



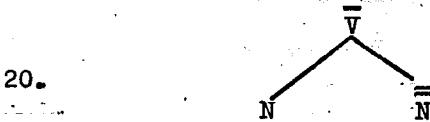
Now this is not arbitrary for a distinguishing feature of \bar{N} is that it introduces the +plural option - an option that is not relevant for non-count nouns and is not present in 19.¹ By contrast the

1. This well-formedness condition allows for creative neologisms, which may account for the way we talk about foodstuffs (This is apple/rabbit).

proposition in These are peas may be attributed to structure 8.

Here the deep structure n.p. under which peas is introduced will contain a variable in construction with, hence within the scope of, the Spec \bar{N} dominating +pl.

Let us pause to consider an alternative possibility. If N is a predicator, we should perhaps permit all nouns to be generated as predicates in deep structure in the configuration:



The fact that count nouns must be marked for number (by a or by the plural form) could be attributed to a rule of concord with the subject \bar{N} .¹ I have rejected this alternative because:

(i) it involves the concord rule, which is otherwise unnecessary

(ii) it will not satisfactorily account for the predicative/equative distinction for we have rejected the possibility of generating modified nouns as predicates. Yet non-definite n.p. that contain noun-modifiers are 'understood predicatively'.

(iii) if the concord rule is allowed, the distinction between N and \bar{N} is no longer meaningful.

1. If number concord between subject n.p. and predicate noun were allowed for, then the +plural option on n.p. might be attributable to the subject-term in the nominal predication underlying n.p. Something like this is proposed by Kato, who is working in a generative semanticist model (cf. Kato, forthcoming). In my framework I see no means of making a distinction in the subject-term - that is, the variable - with respect to number.

19.4. Definite relativization: reconsideration

In §11 we found that it was not possible to formalize NOM-copy, one of the rules in the process of definite relativization,¹ without some unambiguous signal of coreference. Let us now consider the use of variables for this purpose. Unless we can formalize the distinction between 'antecedents' and 'anaphor', that is unless we can identify the binding instance of the variable, we shall have lost the distinction between definite and non-definite relativization. However if we reconsider the mechanism by which the variable is introduced into the p-marker, we shall find a means of making the necessary distinction.

It is now proposed not only that the noun in non-definite n.p. originates as the predicate in a relative clause, but that this is also the case with definite n.p. Let us then revise the phrase structure rule expanding \bar{N} to include the line shown in 21:

21. $\bar{N} \rightarrow x$

where 'x' is a variable-symbol chosen from 'x', 'y', 'z' ...

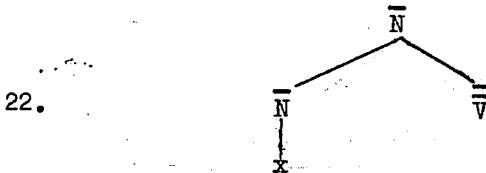
At this point we are making an apparently arbitrary decision as to the source of the variable, choosing to ensure that it does not occur under N in any p-marker. There is some advantage in this formulation as will become apparent below in discussion of THE-insertion.

The use of variables suggests that N may always originate as a predicate and that the expansion of \bar{N} to N in the phrase structure rules should not occur. This is incorrect, as can be seen

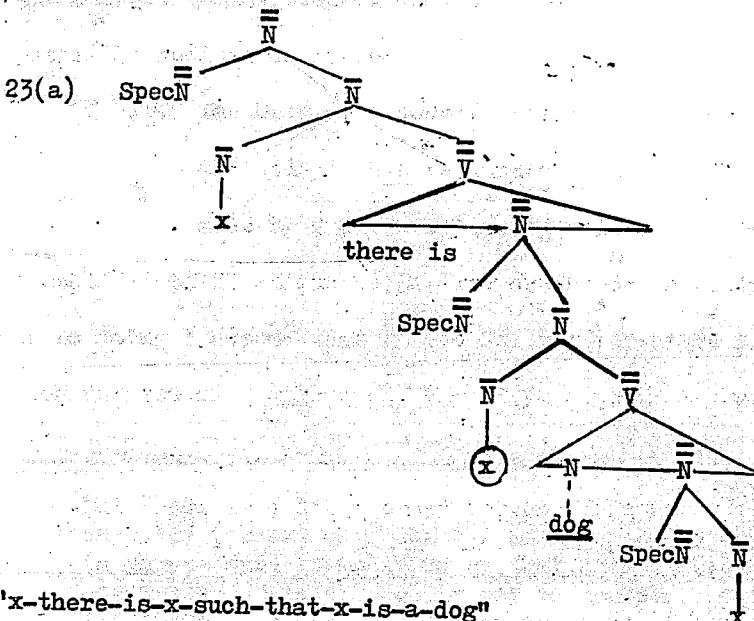
1. I shall continue to refer to 'definite relativization' in spite of the fact that n.p. derived by this process are not in all cases definite (cf. the sunny bank of a river discussed in §12, e.g. 27).

immediately by consideration of generic the. In §10.1., it was suggested that the structure underlying generic the-phrases required that the subject-term on which the noun was predicated be an unlexicalized N. This formulation must be retained for it is necessary to make a distinction between the unlexicalized N and the variable: the function of 'N' in the generic p-marker is that of a place-holder in the syntactic structure, while the lower-case symbol occurring in 21 is a variable ranging over non-linguistic entities. N must therefore be one of the possible expansions of \bar{N} .

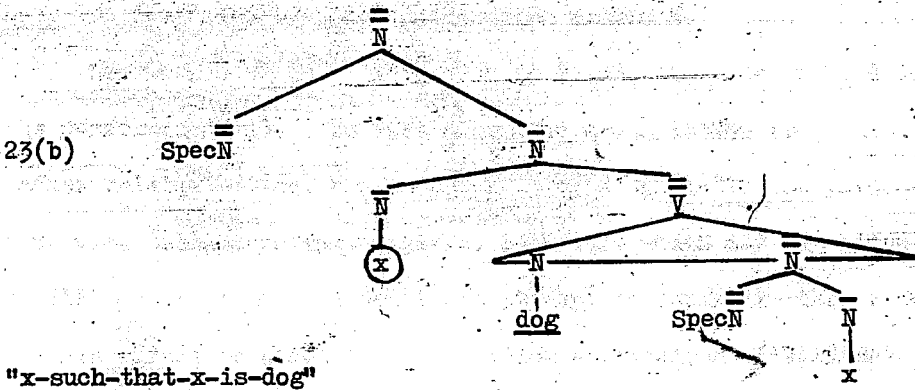
22 shows one of the sub-structures that may be dominated by \bar{N} :



The 'x' in 22 will be antecedent of any occurrence of 'x' under the \bar{V} , PROVIDING that occurrence of the variable is not itself left sister to \bar{V} . Let us see how this works out for the two phrases the dog (23(a)) and a dog (23(b)):



"x-there-is-x-such-that-x-is-a-dog"



The antecedent variables in 23 are indicated by the circles

Contrasting 23(a) with (b), we find that we can define 'antecedent variable' as follows:

24. An instance of a variable is antecedent if:

- (i) it occurs as left sister of \bar{V} AND
- (ii) it is the lowest such occurrence of a variable under some \bar{N} .

Before finalizing the formulation of NOM-copy, we must consider the definition of 'head of \bar{N} ' which was used without explanation in the earlier formulation of the rule (§ 11). The term head may be partially defined as follows:

25. The head of a constituent labelled \bar{N} or \bar{N} is the node N that is linked to the dominating node by a path consisting solely of \bar{N} nodes

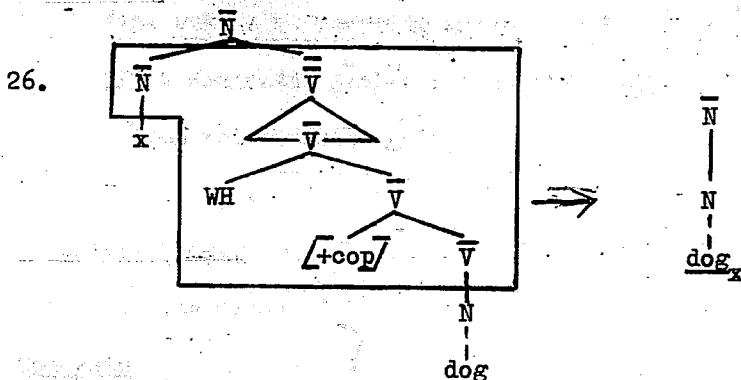
I shall adopt 25 as the definition of 'head' in nominal structures.

In so doing I assume¹ that in the derived structure p-markers of such phrases as a coke oven, that type of book, the words coke and

1. But there is a discrepancy between this assumption and the remarks on p.197 (above) on [N of N] phrases headed by kind, sort etc. (a phrase-type exemplified by that kind of book). If the assumption is incorrect, it may be necessary to refer to deep structure (i.e. to meaning) in order to identify the head of a n.p.

book are dominated by a node other than no-bar N.¹

Look again at 23. According to 25(a), there is no head in the p-markers of 23. We must allow for a conflation rule that (after relativization, e.g. x-which-is-dog) conflates the predicate noun with the antecedent variable, in a rule which may be called VARIABLE-conflation. I shall not attempt to formalize this rule, but its effect is shown in 26.² After application of VARIABLE-conflation, the N immediately dominating dog in the output of 26 becomes head of some \bar{N} .



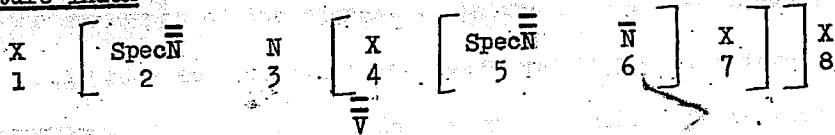
All the boxed matter is deleted and the variable becomes an index. This process is quite unlike anything else in the syntactic rules. This may be a reason for abandoning the rule and with it (unless some preferable alternative can be found) the use of variables in the description of syntax; it certainly shows that the variable-

1. If the assumption is correct, this partial definition is adequate for purposes of this section - and probably also for the problem noted in § 13.4. (f.n.). If NOM-copy applied before the matter dominated by element 6 were relativized, and the variable and noun conflated, 25 would need to be supplemented by a clause identifying a variable as head in deep structures. The definition does not deal adequately with the derived structure of definite generic n.p.
2. Strictly 'WH' should be ' \bar{N} ' - but the informal presentation adopted here may be easier to follow.

and-predicate-nominal analysis is essentially a device for presenting semantic information.

NOM-copy (Final Formulation)

Structure Index



Conditions

1. 6 is headed by a noun which is indexed by a variable.
2. (the variable occurring under 6) = 3
3. Iff 2 dominates $\left[+pl \right]$, 5 dominates $\left[+pl \right]$.
4. 6 does not dominate $\left[+the \right]$.
5. Obligatory.

Structure Change

Copy 6 in the place of 3.

Comments

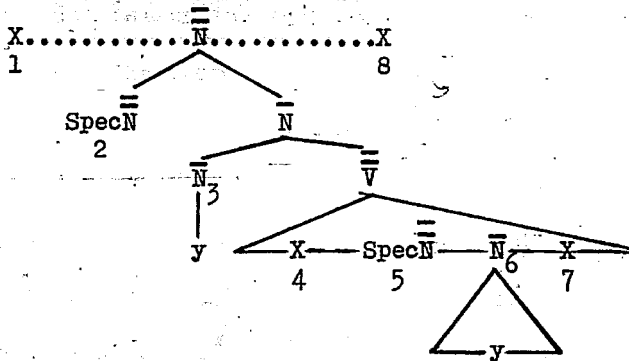
- (1) Element 3 has been changed for the intention now is to specify a variable, not a noun.
- (2) Element 6 is no longer shown as a dominating node for Condition 1 adequately specifies the structure it dominates. By the time NOM-copy applies, the structure dominated by 6 will have been developed by rules of relativization applying to a lower cycle. Hence \bar{N} will be headed by a noun.
- (3) Condition 3 of the provisional formulation has been dropped since it is no longer necessary to prevent vacuous application of the rule,

for the rule must apply in order to move the noun into the position of head of the matrix n.p.

(4) The S.I. ensures that the rule applies to some constituent \bar{N} ; element 6, which is highest in some noun phrase itself occurring under the dominance of the highest \bar{V} in the matrix noun phrase.

But the S.I. does not control 'bad trees' due to the structure dominated by element 6. Hence Condition 4 is necessary to block application of NOM-copy if +the has been inserted on a lower cycle.

P-marker exemplifying the S.I. for NOM-copy

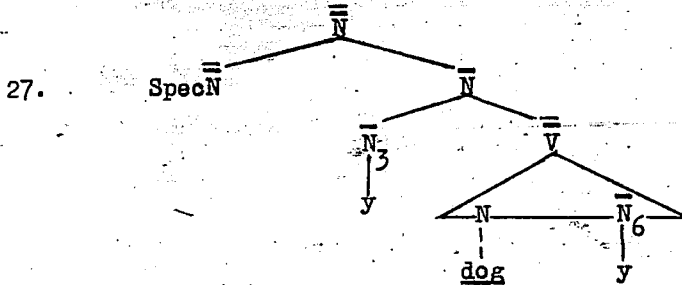


THE-insertion (Further Comment)

The S.I. for THE-insertion presented in § 11 is met both when identity holds between lexicalized constituents (indexed by a variable) and when it holds between unlexicalized N. NOM-copy on the other hand applies only in the first case.

The question arises whether Condition 3 is still required. It was intended to block application of the rule when more than one n.p. in the embedded s. met the identity condition. The question will be reconsidered below in discussion of the phrase structure rule to be presented as 40.

As currently formulated the S.I. and Conditions are met by the structure underlying the non-definite n.p. a dog. This can be seen from:



The two \bar{N} nodes dominating the variables in deep structure are identical and could therefore motivate THE-insertion. There are at least two ways of preventing this unwanted result. First WH-Rel-attachment (non-def relativization) could be applied before THE-insertion, thus destroying the identity relationship before it can motivate insertion of the segment underlying the. Second an additional Condition can be added to the rule to the effect that:

Both 3 and 6 dominate N.

The latter captures the original specification of conditions for the presented informally in Chapter II in terms of identity between noun-headed structure (and this is the reason for my decision that variables should not originate under N in deep structure); but the former is the 'simpler' solution in a grammar that recognizes rule ordering. Hence the former is adopted.

Definite relativization: S.I. and Conditions for WH-Rel-attachment

The following is the input to WH-Rel attachment when it is part of the process of definite relativization. The S.I. can be met only

once within a single n.p. (assuming there is only one fully developed coreferentially indexed \bar{N} in the embedded s.).¹ The numbering in the S.I. has been organized to show the maximum overlap with non-definite relativization as presented above (§19.2.).

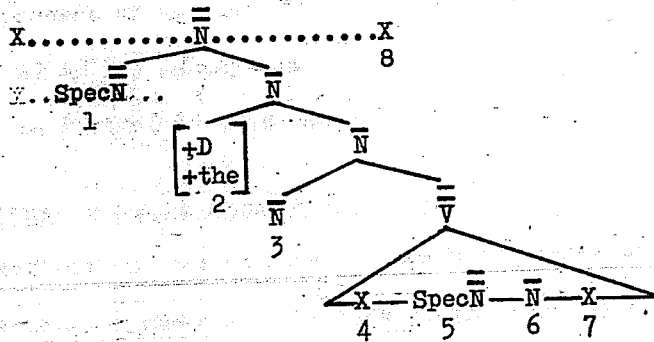
Structure Index



Conditions²

1. Iff 1 dominates $[+pl]$, then 5 dominates $[+pl]$.
2. 3 = 6
3. Obligatory

P-marker exemplifying S.I. for WH-Rel-attachment as part of definite relativization



Comment

It is not necessary to bracket elements 1 - 7 because THE-insertion will ensure that any structure meeting the S.I. for this type of WH-Rel-attachment is such that 8 comes outside the matrix n.p.

1. I have not considered problems posed by reflexive pronouns but assume that these do not originate as lexically specified n.p.
2. Conditions not relevant to the main discussion have not been examined.

Rule Ordering

The ordering of the rules of relativization that we have considered is as follows:

1. WH-Rel-attachment (non-def relativization)
2. NOM-copy
3. THE-insertion
4. WH-Rel-attachment (def relativization)
5. WH-fronting
6. VARIABLE-conflation

The loops join rules that are necessarily ordered with respect to one another. 1 and 4 do not occur in the same cycle on the same n.p. - but whichever applies, it must precede 5. If 6 applies, 1 must have applied previously - not 4 - hence 6 may be regarded as part of the process of non-definite relativization. NOM-copy has been formulated on the assumption that 6 has applied in a lower cycle. But it could be revised if this assumption were shown to be incorrect.

19.5. Relational nouns in copular sentences

The distinction between equative and predicative sentences is becoming blurred; I shall use the term 'copular sentence' to cover both. We have concluded so far that nouns can function as predicates, but that the majority of English sentences that are normally "understood predicatively" are to be attributed to deep structures which contain two n.p. (8) rather than one n.p. and a predicate noun (19).¹ Only when the second noun is non-count do

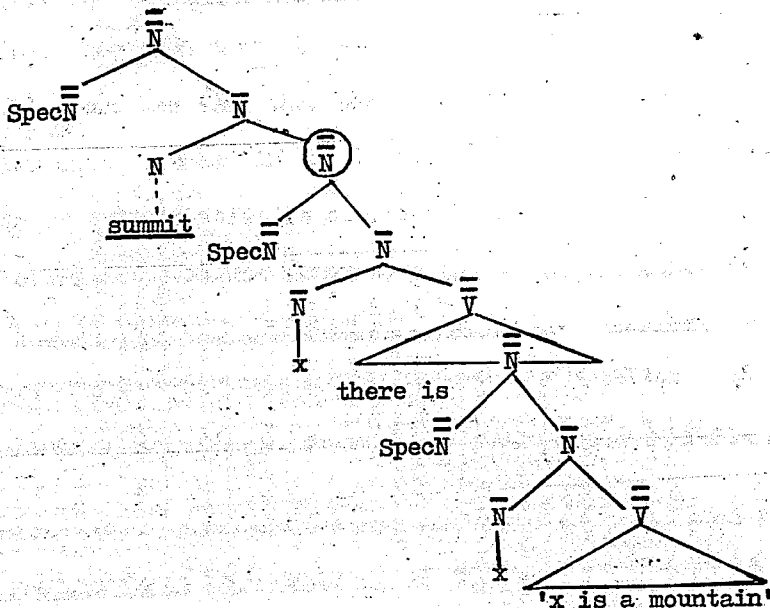
1. Anderson (1973:54, 73-5) has distinguished a contrast of contingency v. absoluteness which he associates with the predicative/equative distinction, and has proposed that the structures are crucially distinct in the nature of the underlying predicate. While I accept that there may be a locational structure expressing contingency, I doubt whether it is the norm in English for predicative sentences - rather it may be a marked option.

we attribute the sentence to a structure having a noun as predicate in the main proposition. Now clearly it is not the case that of copular sentences only those with non-count nouns in the second position can be analysed as predicative. Rather we must recognize that the equative/predicative distinction is to be defined initially on utterances in situations and in terms of the act of referring. The distinction in terms of sentences can only be made if a sentence, by its structure, determines the use that can be made of it in utterance. It is to be expected that syntactic structures will differ as to their potential for reference. Before pursuing this point (Ch.IX), let us consider the implications for syntax of the occurrence in copular sentences of n.p.'s headed by relational nouns.

28(a) is a standard case of relational the in a definite n.p.; it will be attributed to the structure indicated in 28(b):

28(a). the summit of the mountain

28(b).



It is only the noun mountain that originates as a predicate. This is consistent with our account of relational the: in phrases so determined it is the definiteness or not of the complement n.p. (circled above) which determines whether the matrix phrase is definite. The sentence That is the summit of the mountain will be attributed to a structure containing 8 where one of the n.p. will be expanded as 28(b).

The sentences in 29 and 30 will all be attributed to structures containing 8. The differences reside in the n.p. But in §12.2., we found it necessary to distinguish the underlined phrases in 29 from those in 30 by attributing the latter to structures characterizable as 31. (See also 10 above).

29(a). It's the leg of the table.

(b). He is the brother of John Smith.

30(a). It's a leg of the table.

(b). He is a brother of John Smith.

31(a). leg such that it is leg of the table

(b). brother such that he/it is brother of John Smith

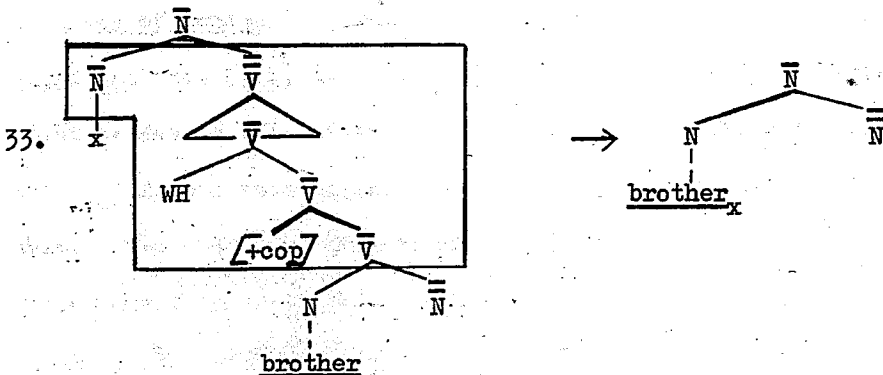
Let us review this proposal in the light of our latest suggestions. The analysis of the non-definite n.p. in 30 will be directly analogous to that of other non-definite phrases, a dog or a Mr. Smith, viz for 31(b), x such that x is brother of John Smith. Brother must be a predicate in the embedded s. This raises a problem: is the predicate simply $\underset{N}{\lceil \text{brother} \rceil}$, or is it $\underset{N}{\lceil \text{brother of John Smith} \rceil}$?

In the former case we must admit nouns as two-place predicates and allow for propositional structures as in 32:



We must then allow for a transformation that later moves the string $[N \bar{N}]$ out from under \bar{V} and attaches it to \bar{N} . In the latter case, our base rules must allow for \bar{V} to be expanded as \bar{N} . Of these alternatives the second entails the greater cost. The movement of the string from \bar{V} to \bar{N} may be formulated as a special case of VARIABLE-conflation. But the expansion of \bar{V} to \bar{N} requires a new formalism for this \bar{N} with relational noun as head must be distinguished from all other \bar{N} constituents. Therefore we adopt the former alternative and allow for relational nouns to function as two-place predicates, i.e. for \bar{V} to be expanded by the string $[N \bar{N} \bar{N}]$.

The effect of VARIABLE-conflation was shown in 26 above. 26 may be compared with 33, which shows the effect of the same process when the predicative noun in deep structure is a two-place predicate:



It can be seen that the boxed matter that is deleted is the same in 26 and 33.

The output of 33 will meet the S.I. for REL-THE-insertion; but the aim is to inhibit the insertion of the into structures derived by the process illustrated in 33. So an extra Condition must be added to REL-THE-insertion to block it when the head noun is indexed by a variable.¹

In this way we are able to make a clear distinction between definite and non-definite n.p. structures involving relational nouns (cf. 29 and 30). When determined by relational the, and where the sense of the relational noun includes the notion 'one to one/many', these structures have some of the properties of proper nouns (cf. Quine 1960:107). It is therefore satisfactory that we should have accounted for the marked alternative in a, by a derivation that also accounts for non-definite occurrences of proper nouns. The proposed deep structure applies equally well to plural phrases - that is, to the distinction between the citizens of London and citizens of London.² Consider again example 27 of § 12. It was suggested that 27(b) might underlie 27(a) and that the in 27(a) might be due to REL-THE-insertion rather than to definite relativization. It was then claimed that this suggestion was not formalizable. The basis for this claim is now apparent: the it shown in 27 (b) would be a variable in our current formulation - but if a

-
1. The rule is reformulated, and the theoretical implications of the Condition are noted, in Appendix A.
 2. It was claimed in § 12.1 that the underlined phrases in 30 implied non-uniqueness, and that this implication affected well-formedness. My analysis does not however provide for non-uniqueness to be formulated as a logical presupposition in the semantic representation. An alternative derivation from a partitive structure (cf. one of the legs of the table) was tried, but abandoned because of the need to allow for THREE possibilities in the plural: some N of NP; N of NP; the N of NP.

coreferential variable underlies bank then the Conditions for REL-THE-insertion are not met.

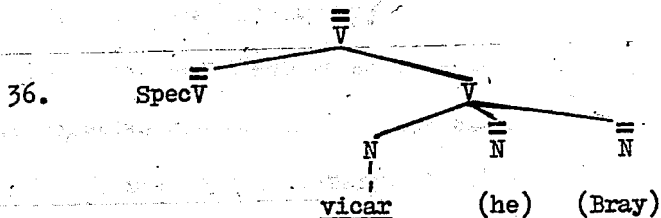
There is a third sentence-type to be accounted for:

34. He is Vicar of Bray.

This type is distinctive in the absence of any determiner after the copula. 35 suggests that the structure is limited to contingent relationships:

35. *He is father of John Smith.

There are two ways of accounting for 34. It can be attributed to 8, one n.p. in the deep structure meeting the S.I. for REL-THE-insertion. Assuming that the conditions controlling the absence of determiner can be identified, REL-THE-insertion can be made optional when those conditions obtain. Alternatively 34 can be attributed to 36 - that is, the relational noun can be analyzed as originating as a two-place predicate in the top sentence:



Furthermore, since we have allowed nouns as two-place predicates in relative clauses (where one argument is a variable) there will be a gap in the system if they do not also occur as such in the \bar{V} of the matrix sentence.

Whichever of these alternative sources is incorporated into the grammar, the grammar will predict that nominal modifiers will not occur in sentences such as 34. This is so because the grammar

presented so far has provided for nominal modifiers only when derived from clauses and (i) REL-THE-insertion does not apply to n.p. containing embedded s. (ii) if the relational noun originates as shown in 36, there will be no embedded s. from which modifiers of that noun could be derived. In general, this prediction is fulfilled; 37 suggests that when there are modifiers, there is a determiner:

37(a). *He was former Vicar of Bray.

(b). *He's good old Vicar of Bray.

There are a number of counter-examples, e.g.

38(a). He is acting secretary of the committee.

(b). He is Honorary Secretary of the Guild.

(c). He is Prime Minister of Britain.

But these modified nominals appear to be fixed expressions, and may not be generated freely by the syntactic rules. My grammar cannot account for them, but it commits me to the view that they are not due to relative clauses of the type exemplified earlier.

We must choose between the alternative sources for 34. Each makes the same prediction as to grammaticality. And either - by deletion of the +related n.p. - could allow for such sentences as She's boss, He's vicar etc. But if we choose to attribute 34 to 8, we imply that the optionality of REL-THE-insertion in this structure is accidental. If rather we attribute 34 to 36, we have both accounted for the fact that it is only in predicative position that the can be absent before one-to-one relational structures, and have filled a gap in the system. I therefore adopt this latter

alternative = although, the grammar will still fail to show why the structure is limited to contingent relationships and thus to explain the ungrammaticality of 35.

Therefore I conclude that the discussions of section § 19 lead to the following revision in the base rules.

19.6. Revision of the phrase structure rules

The expansion of \bar{V} in the rules proposed in § 2.3. must be revised as follows:

$$39. \quad \bar{V} \longrightarrow \left\{ \begin{array}{l} \bar{N} \quad \bar{N} \\ V \quad \bar{N}_1 \dots \bar{N}_n \\ N \quad \bar{N} \quad (\bar{N}) \end{array} \right.$$

The majority of nominal copular sentences will be attributed to line 1. Here I have posited a structure with no underlying verb. My main contention is that two n.p. are involved, but that the head noun of an n.p. is a predicator and may therefore be construed as predicate when following a copula. ¹ T rules will apply to structures generated from line 1 to effect changes in sequence. I shall not attempt to discuss the very complex factors controlling application of these rules, except to point out my analysis of definiteness in principle allows for different kinds of definiteness to be isolated and mentioned in the rules.

-
1. The copula to be introduced into line 1, on the one hand, and the copula to be introduced before adjectives and nouns in lines 2 and 3, on the other, may be compared with Russell's "is of identity" and "is of predication" (Russell 1918:102-3; 1919:172). In the analysis proposed here both types of copular structure occur in the deep structure of a sentence attributed to line 1 and containing a description.

The second line of the revised rule is as before. The third line accounts for sentences 18 and 34. Here the position with regard to sequence is quite clear: preposing of the predicate is not permitted. This line must be accompanied by a well-formedness condition, simply stated when the N is a one-place predicate, complicated when it has two arguments. It is to be hoped that the well-formedness condition can be formulated in such a way as to isolate whatever semantic factors are crucial in the predicate relational noun structure.¹

The second and third lines clearly fail to make a generalization, one that could be formalized by the X-bar convention (Stockwell *et al.* 1973:21). Thus there are indications that the X-bar convention might be used in deep (and possibly pre-deep) structure. There is also the possibility mentioned in § 2.3. that sentences should be embedded directly as arguments - such an analysis could be formalized by the use of \bar{X} as an argument-expression in line 2; it is assumed in the proposed expansion of \bar{N} which makes no provision for embedded s. other than relative clauses.

The following revision is proposed for the expansion of \bar{N} :

$$4.0. \quad \bar{N} \rightarrow \left\{ \begin{array}{ll} \bar{N} & \bar{V} \\ N & (\bar{N}) \\ x & \end{array} \right\} \quad \text{where 'x' is a variable-symbol} \\ \text{chosen from 'x', 'y', 'z' ...}$$

-
- Contingency is apparently a factor, though perhaps not the only one. The cases on the two arguments in 34 are presumably Obj (he) and Loc (Bray), so the structure is directly comparable with that of locative sentences, where contrasts in contingency affect grammaticality (§16), and with the 'contingent' structures in Anderson (1973).

40 consists of the rule introduced in § 2 with the additional line presented above as 21. The rule poses a problem for, according to the discussions of this section, it calls for a well formedness condition such that the N of line 2 is only lexicalized if the following optional \bar{N} is generated (i.e. if the structure generated consists of a relational noun complemented by a noun phrase). When the optional n.p. is not generated, the N is the empty N of definite generic n.p. This is a strange sort of condition and may be an indication of something arbitrary about the proposals for generic the.¹ However if the condition is NOT stated, and if the T rules that we have formulated are retained, the surface structures generated will be well-formed. That is to say, there may be grounds for allowing THE-insertion to apply both when the identical constituents are indexed and are generated by the processes discussed above, AND when the identical constituents are identical lexical items, unindexed nouns. This would reflect the fact that the variables have been brought into the description primarily to formulate conditions of coreference required for the relativization process. This alternative seems preferable and therefore no well-formedness condition on lexicalization will be stated. Two small adjustments must be made to accommodate this decision. First, Condition 3 of THE-insertion, the continued necessity of which was questioned in § 19.4., must be retained. Thus THE-insertion will act as a filter if structures are generated which are indeterminate as to the n.p. to be relativized. Second, the presence of a variable, though a

1. But we must account anyway for the non-demonstrative pronoun in the generic phrase that which is admirable.

sufficient condition will not be a necessary condition for the insertion of a before count nouns under \bar{N} .

The use of variables in syntactic rules does however necessitate well-formedness conditions. As I have not considered the question fully, I will mention two possibilities without giving them formal status. One possibility is that there can only be one predicative N for any \bar{N} . Another that there can be no coreferential sequence of variables unless one of them is subject of a predicative noun.

It has been suggested elsewhere¹ that no lexical-category distinction should be made between nouns and other predicators, rather a single category of predicator should be subcategorized by means of features. In the description presented here, a categorial distinction between N and V is essential because N can occur in deep structure both as predicate and as head of a noun phrase, whereas V can occur in deep structure only as predicate.

1. cf. Bach (1968), Anderson (1973:75)

CHAPTER IX

PROPERTIES OF DEFINITENESS§ 20. Structural Properties of Definite Noun Phrases

In § 16 it was suggested that definiteness was a semantic property with syntactic repercussions, and that if it could be defined in syntactic terms a feature +def could be mapped on to $\overline{\text{SpecN}}$ in order that Conditions on T rules might mention definiteness of n.p. For purposes of discussion, let us consider the following characterization of definiteness:

1. A definite noun phrase is a noun phrase
 - (a) in the deep structure of which there occurs no variable which is not bound as to type-1 binding by the noun phrase structure,
 - (b) OR which is definitized by WH-Rel-attachment.

The reference to type-1 binding in 1(a) is necessitated by the discussion of § 15. 1(b) mentions the only type of definitization that is allowed for in the proposed description: it is relevant only in the case of definite relativization, for when WH-Rel-attachment applies in the course of non-definite relativization the n.p. to be relativized is definite prior to the application of the rule.¹

-
1. Further investigation might lead to the conclusion that WH-Rel-attachment is not an obligatory step in the process of definite relativization: the norm may be optional introduction of a complementizer that and deletion of the relative n.p. This is suggested by the pair the few men that there were / *the few men who there were. In the latter sentence definitization adversely affects the sense of the relative clause.

1(a) is formulated in semantic terms. 2 is offered as a first attempt to translate 1(a) into a formulation that could be read off a p-marker by a rule of DEF-attachment.

2(a). A constituent \bar{N}_1 is a definite noun phrase if in deep structure it dominates no antecedent variable unless there is a node \bar{V} on the path between \bar{N}_1 and the antecedent variable

(b). PROVIDING that if \bar{N}_1 dominates N it also dominates \bar{N} or \bar{V} .

Clause (b) of 2 is only required because in §19 it was decided to permit nouns to be generated freely as an expansion of \bar{N} and not to limit non-relational nouns to predicate position in deep structure (see p.284). The gain in simplicity there is paid for by greater complexity here.

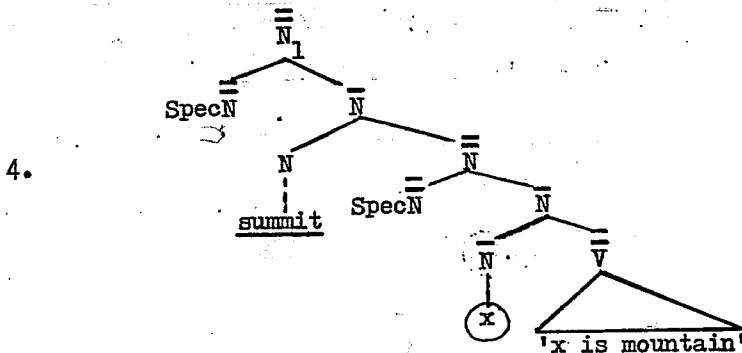
The term 'antecedent variable' was defined in syntactic terms in §19 (see p.269). 2 correctly predicts that proper nouns immediately dominated by \bar{N} , and demonstrative pronouns, will be definite -- for there is no variable in the deep structure of these expressions. It correctly predicts that personal pronouns will be definite whether these are due to pronominalization of definite n.p., to a deep-structure feature complex comparable to the segment underlying demonstrative pronouns, or to a deep-structure variable. In the last case, the variable will not be an antecedent variable. It is to be assumed that non-definite pronouns (e.g. someone) would be derived from structures containing an antecedent variable, if the description proposed here were extended to include them.

2 also correctly accounts for many structures later to be affected by REL-THE-insertion, e.g. the structures underlying:

3(a). the summit of the mountain

(b). the summit of a mountain

In the case of 3(a) the node \bar{N}_1 will dominate a variable but that variable will be connected to \bar{N}_1 by a path which includes a node \bar{V} - see figure 28(b) of § 19. 3(b) is also derived from a structure including an antecedent variable, but in this case there will be no node \bar{V} on the path between that variable and the dominating node \bar{N} , as can be seen from 4 where the antecedent variable has been circled. So 2 correctly predicts that 3(b) is non-definite.



However 2 fails to account satisfactorily for all n.p. headed by relational nouns. First there is the problem of determining the factors that lead to the non-definiteness of phrases such as 3(b). In § 12 it was mentioned that this investigation has not adequately covered relational structures where the complement n.p. are undetermined (plural n.p., or n.p. headed by non-count nouns).

My impression is that in such cases non-definiteness of the complement n.p. does not lead to non-definiteness of the matrix. For instance the phrase the properties of definiteness seems to be definite.

Second, 2 fails to account for the non-definiteness of certain n.p. which undergo THE-insertion - these are the problem phrase-types

discussed in § 13.3. and exemplified there by 5:

5(a). the sunny bank of a river

(b). a man's hat

In § 13 the problem was discussed in relation to the generic context provided by the embedded s. which prompts THE-insertion for the phrases of 5. But we shall now see that where the head noun is relational as in 5(a) the problem is not restricted to embedded s. providing generic contexts. In 6 the embedded s. which prompt THE-insertion in the underlined phrases provide e-e contexts for the relative n.p.

6(a). He was toying with the butt of a cigarette that was lying in the ashtray.

(b). As we flew over the Alps, the summit of a mountain that appeared above the clouds was identified as that of Mont Blanc.

The underlined n.p. must be classified as non-definite because they are in principle applicable to a number of objects, and hence re-use of the expression does not imply coreference¹. If a definite reading is also available, this is attributable to demonstrative the.

The reservations we have considered so far show up the inadequacy both of 2 and of 1. They show that an n.p. may be non-definite even when an antecedent variable occurs in a binding context in the noun phrase structure. But they do not undermine the view that definiteness is determined at deep structure level². We

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1. The phrases of 6 pose a further problem that has not been explored: to what extent are such phrases to be treated as non-definite for purposes of T rules?
 2. Note that the n.p. to be definitized by WH-Rel-attachment as currently formulated, can be identified at deep structure level.

might attempt to save 1(a) by inserting the word 'fully' so that the final clause read, "... which is not fully bound as to type-1 binding by the noun phrase structure". The problem then will be to explicate the notion 'not fully bound'. One way of doing this is to express the condition in syntactic terms such as those of 2. Although 2 is inadequate as it stands, the types of factor considered, in the last few paragraphs suggest that further investigation might lead to the correct formulation of additional clauses that would make 2 adequate - clauses mentioning countability, number, non-definite relational structures as formalized in §19, and locational structures involving +dem. But when we consider the problem posed by 5(b) we find a different problem.

The non-definiteness of 5(b) suggests that definiteness is not in all cases determined at deep structure level. For the structure which underlies 5(b) also underlies 7:

7(a). the hat which a man has

(b). the hat which is a man's

It is not absolutely clear that 7 should be regarded as well-formed in a reading where the is not demonstrative, but I incline to the view that these phrases are well-formed with non-demonstrative the and that in this case the only available reading is generic - hence that the phrases are definite. But if so, 1 is inadequate even in its modified form - for whatever decision is made as to the binding properties of the deep structure underlying 5(b) and 7, these properties are not sufficient to determine the definiteness of the surface phrase one way or the other.

In syntactic terms the problem posed by 7 is not insuperable. An extra line may be added to the S.C. of POSS-DET-formation to the effect that if the possessive determiner is non-definite and SpecN of the matrix dominates +def, the feature +def should be deleted. But this has certain consequences. Assuming that Subject Placement is the first rule in which +def is mentioned, then noun phrases must be fully developed before Subject Placement applies. Either the rules of relativization, reduction of clauses, and POSS-DET-formation must precede Subject Placement in the cycle of rules; or the rules must be cycled on noun phrases as well as on sentences.

In attempting to make a semantic generalization about definiteness however we find that the well-formedness of 7 is a major problem. In place of 1, we must substitute the much weaker claim 8:

8. A noun phrase in the deep structure of which there occurs no variable which is not fully bound as to type-1 binding by the noun phrase structure is a definite noun phrase.

That is to say, the binding properties mentioned in 8 are a sufficient but not a necessary condition of definiteness.

§ 21 Some Implications of the Analysis

Definiteness, in the sense adopted in this thesis, is a property of linguistic expressions. I want in this final section to clarify the implications of the analysis proposed above for the study of the uses to which such expressions may be put, and of the inferences to be drawn from utterances in which they occur.

21.1. Donnellan's distinction reconsidered

Donnellan has argued that definite descriptions may be used referentially or attributively. The analysis confirms Donnellan's judgement that this distinction is one of use rather than of syntax. But the syntactic description offered here is in some sense the 'guarantee' of the distinction in use: the determiner in definite descriptions is shown to be sometimes demonstrative, sometimes not. There are n.p. consisting of, or determined by, demonstratives with marked locational deixis (+prox; or +dist) - these are not used attributively. There are also definite n.p. which cannot be used referentially because they presuppose a sentence which must be understood in a non-specific reading. There is moreover a syntactic structure correlated with attributive use, which is not thus correlated on semantic grounds alone - the partitive that structure.

21.2. Mention

In previous chapters I have used the term 'mention' to cover both reference and attribution. Mention then is a use to which phrases may be put - it is contrasted with predication and my use of the term is similar to Strawson's use of 'reference'. I think it is possible to use a cover term without losing the advantages of Donnellan's observations. Thus those who subscribe to the truth-value gap theory will be able to claim, "If someone asserts that the ϕ is ψ he has not made a true or false statement that the ϕ is ψ if there is no ϕ ," of both referential and attributive uses. This wording is based on the view Donnellan attributes to Strawson (p.107) adapted in the light of Donnellan's discussion of the use of 'statement' in circumstances where reference succeeds though nothing fit the description used to refer (p.111).¹

1. Page references are to Steinberg & Jakobovitz (1971)

Two kinds of mention may be distinguished: identifying mention and introductory mention. I wish to use identifying mention to include both generic and non-generic readings of n.p. - in the former case identifying mention is, I suggest, a special case of attributive use. In English, a test for identifying mention is our understanding of two occurrences of one noun phrase within a single stretch of discourse - if the speaker is understood to be mentioning the same thing each time he uses the phrase then the two occurrences are understood to be instances of identifying mention. Introductory mention, in my usage, requires that the expression occur in an e-e context¹ - that which is mentioned may subsequently be re-mentioned by use of a phrase to make an identifying mention. In this case the second phrase will be formally distinct from the phrase used to make the introductory mention. The distinction between introductory and identifying mention is made in different terms elsewhere² - the point I wish to emphasize is that the distinction I am making is a pragmatic one.

Presumably, if these uses have been correctly identified, they are uses to which phrases are put in all languages. Yet not all languages have definite and indefinite articles, and in those that do there is considerable discrepancy as to when they occur.

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1. It is probable however that the term may be usefully extended to other contexts, and that the reference/attribution distinction can be extended to introductory mention. On the latter proposal, cf. Heringer (1969), Partee (1970a)
 2. e.g. Karttunen (1968a,b), Sampson (1970).

What then is the connection between the syntactico-semantic category of definiteness and the mentioning use? I suggest it is that WHEN a phrase is used to mention, a definite n.p. shows the mentioning use to be identifying. We have found that certain 'limits of tolerance' must be observed in using the notion of identification with respect to definiteness, but the test of re-use of the expression clearly distinguishes definite n.p. as expressions adapted for identifying rather than introductory mention.

The advantage of characterizing the pragmatic effect of definiteness as marking a certain use is that it allows for variation in the extent to which the use is marked in different languages. In Old English the extent to which identifying mention was marked by definiteness was not so great as it is in modern English¹. Even in modern English, not all instances of identifying mention are marked as such by use of a definite n.p., for non-definite n.p. are used for identifying mention in sentences used to convey a generic reading. In French the extent to which identifying mention is marked by use of definite n.p. is greater than it is in English, and extends to generic readings of plural n.p. and n.p. headed by non-count nouns. This variation in the extent of the marking of the identifying use is the reason why I wish to extend Donnellan's referential/attributional distinction to include generic readings.

The feature +m which was used in the discussion of generic n.p. in § 18 was chosen as a mnemonic for 'identifying mention' - it was found that non-definite phrases in generic contexts behaved in some ways like definite n.p. with respect to certain T rules.

1. cf. Quirk & Wrenn (1957:71)

21.3. Presupposition

When a phrase is used for identifying mention, it is necessary that the speaker make certain assumptions as to the hearer's knowledge. For successful identifying mention, the hearer must have or be given sufficient knowledge to enable him to identify what the speaker is mentioning, i.e. what he is referring to, or what he is mentioning attributively. In the formalization of definite n.p. presented in this thesis, certain information is shown by the n.p. structure to be presented AS IF known to the hearer.

Where definiteness is correlated with an embedded s. the content of this embedded s. is presented as if known. Sometimes the information presented in the embedded s. is in itself sufficient to enable the hearer to identify the object of mention whether or not in fact he was previously in possession of that information. But frequently the information is in itself insufficient for purposes of identification and needs to be supplemented by the hearer. Thus the account of definiteness offered here rests heavily on the idea that mentioning use of definite phrases is appropriate or not according to the hearer's state of knowledge¹.

The notion of logical presupposition seems to capture very well the relationship between the matrix sentence and the embedded s. of a definite n.p. If the matrix s. may be used to make a true statement, then the embedded s. may be used to make a true statement.

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1. This raises problems for syntax for which I have no very interesting solution to offer: the problem posed by movement rules which move a definite n.p. into a position preceding a coreferential non-definite n.p. - cf. Stockwell et al. (1973: 76)

And this relationship holds also between the negation of the matrix s. and the embedded s. The examples given in 1 were discussed in §10.2.

1(a). The students who do well will be given prizes.

(b). Students will do well. (cf. §10, e.g. 16, 20)

In uttering 1(a), a speaker commits himself - but only indirectly - to the truth of 1(b); that is to say, if the prediction made by utterance of (a) is fulfilled then (b) could have been truly uttered at the time when (a) was uttered. Assuming that the notion of truth can be satisfactorily extended to future contexts, then logical presupposition seems to account well for the relationship between 1(a) and (b). But logical presupposition, as defined in Keenan (1971), applies only to declarative sentences whereas the relationship that is of interest for definiteness is quite independent of the modality of the matrix sentence¹ - indeed the formalism suggests that it holds not between sentences but between a phrase and a sentence.

Another disadvantage of the notion of logical presupposition is that it rests, in final analysis, on the intuitive notion of a truth-value gap; that is, on one's feeling for an utterance that is made when presuppositions fail. The intuitive nature of this judgement is clear in the account given in Keenan (1972) where he speaks of 'natural denial' and sentences being 'felt to be pointless' if presuppositions fail. These intuitive judgements are then used

1. cf. Keenan & Hull (forthcoming) for an extension of the definition of logical presupposition to questions.

as the basis for a definition of truth on certain sentence-types. Truth is defined in such a way as to allow for a truth-value gap and hence for logical presupposition. (See Keenan, 1972:419-421). But this means that truth must be defined separately for different sentence-types and that it is to some extent arbitrary how one decides to define truth in borderline cases. Thus I assert, on the basis of my own intuition, that 2(a) below does not logically presuppose 2(b), because (a) does not guarantee the truth of (b):

2(a). Max did not receive a letter Sue sent him.

(b). Sue sent Max a letter. (cf. § 4, e.g. 21)

But another might choose to define truth in such a way as to ensure that 2(a) did presuppose 2(b) - and indeed this conclusion is attractive if one uses 'presuppose' in opposition to 'assert' as Keenan does in the informal part of the discussion mentioned above.

Since the borderline between logical presupposition and other types of inferential relationship is hazy in this area it is important to see on exactly what grounds I rest my claim that there is a fundamental difference between the presupposed status of embedded s. in definite n.p. and any that may be claimed for embedded s. in indefinite n.p.¹ The embedded s. in indefinite n.p. are unlike those in definite n.p. in the following respects:

(i) Even if 'presuppose' is defined in such a way as to allow that 2(a), and its positive counterpart, both presuppose 2(b), the information contained in (b) is not presented in (a) as if already known to the hearer.

1. I restrict the discussion to indefinite n.p. When non-definite n.p. are quantified further complicating factors intervene.

(ii) Where a sentence corresponding to a relative clause

in an indefinite n.p. is felt to be presupposed, this may be due to any of a number of factors. Thus in 2 it is relevant to note that 2(b) provides an e-e context for the n.p. a letter. By contrast 3(a) does not presuppose 3(b):¹

3(a). Max did not receive a long letter.

(b). A letter is long.

The sentential context of the n.p. is also relevant, as is clear from 4.

4. Was there a letter written by Sue?

And the use to which the phrase is put may be such as to result in a presupposition very similar, perhaps pragmatically indistinguishable, from that of a definite n.p. Thus if it is agreed that in 5 the subject n.p. is used for identifying mention, we may be led to claim that 5 - like 1(a) - presupposes 1(b).

5. Students who do well will be given prizes.

But these 'presuppositions' have not been formalized as such in the syntactic description - the presuppositions of definite n.p. are distinctive in that they remain constant even if such factors as those just mentioned are changed.

21.4. The equative/predicative distinction

Mention was contrasted earlier with predication. Mention is however a pragmatically defined notion rather than a syntactic one, for the distinction between mention and predication is not in all

1. Possibly it presupposes A letter may be long.

cases determined by syntax. In § 19 we found that my account of definiteness did not lead naturally to a syntactic distinction between equative and predicative copular sentences. If these are to be distinguished pragmatically in cases where the second n.p. is a description, the distinction falls naturally enough into those cases where the post-copular n.p. is used to mention and those where it is used to predicate.¹ Definiteness marks identifying mention by contrast with introductory mention, but it does not distinguish mention from predication. In sentences understood as equative the second n.p. is in most cases understood to be referential as in My brother is the boy in green. But it is possible to find instances of attributive mention in the second n.p. as in the most obvious reading of The men we want to find are the men who stole the Crown. To what extent, we may now ask, is the mentioning and predicative use determined by the n.p. structure of the phrase. Comparison of the range of readings of 6(a) and (b) suggests that some generalizations can be made:

6(a). Scott is the contributor to the Times.

(b). Scott is the author of Waverley.

If there is a predicative reading of 6(a), it is much less obvious than that of 6(b). In 6(a), the is demonstrative, in 6(b) it is non-demonstrative. It may be that demonstrative the cannot occur in an n.p. in the second position in a sentence having a predicative

1. In this section I shall consider only sentences where the first n.p. in the sequence is used to mention, and is therefore to be construed as subject in the sense of § 19.

reading. But the position is complicated by the difficulty of deciding when the is to be attributed to there (cf. § 15). There may be a predicative reading for 7(a) where the is clearly demonstrative¹; there is clearly a predicative reading for 7(b) where the is possibly demonstrative:

7(a). That man is the plumber.

(b). That man is the captain.

If a predicative reading can be found for copular sentences having demonstrative the in the second n.p., the possibility of the predicative reading clearly depends on the noun chosen as head of second n.p. But the borderline between predicative use and attributive mention is very difficult to maintain with phrases of this type.

An alternative approach is not merely to consider the second n.p. but to compare the two n.p. When one n.p. is a proper noun, this approach is fruitful. It has been observed that 8 does not have the predicative reading of 6(b), but in 9 the proper noun Scott need not be construed referentially:

8. The author of Waverley is Scott.

9. This is Scott.

The description of n.p. proposed in this thesis offers a means of grading n.p. containing descriptions. These may be subdivided as follows:

(i) marked demonstrative phrases

(ii) neutral demonstrative phrases

(iii) descriptive phrases

(i) consists of phrases where the determiner realizes a segment containing +prox, +dist, or +past; or where one of these features

1. My judgement of this sentence has changed; I now incline to the view that there is only an equative reading.

occurs after the head noun at a 'relevant' place in structure - i.e. in a structural position which - in an alternative derivation - could have led to the feature being absorbed into the determiner by a T rule. Group (ii) consists of phrases determined by demonstrative the; and (iii) of phrases determined by non-demonstrative the or by a possessive determiner.

Predicative readings are more readily available when the second n.p. comes from group (iii). To this limited extent, a syntactic distinction appears to be correlated with the equative/predicative distinction. But perhaps we can go further and predict that when the number of the group of post-copular n.p. is equal to or lower than that of the n.p. occurring as subject, then there will be a predicative reading available for the sentence (providing that the second n.p. is NOT from group (i)). The non-equative reading will not be available when the second n.p. is higher in number than the subject n.p. If this prediction were accurate one would find a predicative reading for 10(a), only an equative reading for 10(b), and a predicative reading for 10(c).¹ The predicative reading, when available, is not of course the only reading for the sentence, for any definite n.p. may be used to mention.

10(a). That man (i) is the doctor(ii).

(b). The chairman of the Finance Committee (iii) is the doctor(ii).

(c). The doctor (ii) is the chairman of the Finance Committee (iii).

1. The bracketed numbers in 10 show the group to which the preceding n.p. belongs.

Clearly there are many aspects of this topic not touched on here, but my suggestion is that the distinction between demonstrative and non-demonstrative determiners formalized in the description presented above may be a useful tool for further study of this area.

21.5. Existential claims

In § 5 it was shown that there was no existential claim to be associated with the as such. Let us now consider other possible sources of existential inference associated with definiteness. First there is the distinction in use between mention and predication: mention has been so defined as to imply an existential claim for the object mentioned. But this claim is to be attributed to different types of inference according to whether the use is identifying or introductory. Introductory mention, as defined above, involves the use of an expression in an e-e context. Identifying mention involves the hearer in the task of identification and a prerequisite of successful identification is that there be - in some sense of 'be' - something to be identified. Earlier we distinguished 'concrete' existence and 'logical' existence, and this distinction has proved reasonably satisfactory so far. But the inference of existence due to the use of a n.p. for identifying mention implies existence of the object of mention in a sense quite distinct from either of these. It must extend to such objects of mention as those which may be mentioned by use of the phrase the man who wins tomorrow's race or the word truth. To use 'exist' in this third way is to raise philosophical problems far beyond the scope of my enquiry¹ -

1. cf. Strawson (1959:234-25, 242)

nevertheless I believe such a third notion is necessary if we are to account for linguistic usage in formal terms¹. 'Exist₃' is neutral as between reference and attribution and allows for the distinction between identification and re-identification elaborated in § 7 and § 8, and also for additional and different implications of existence to be associated with reference.

Although my description has not included any formal account of existence, it does suggest that existential claims of various sorts must be attributed to a number of different factors: to the use to which a phrase is put, to the 'exhaustive specification' signals inherent in some types of definite n.p., to e-e contexts in a matrix sentence or a presupposed sentence. The discussion leads to an explanation of the fact, if fact it is, that a speaker who uses sentences 11 - 13 does not make the same existential claim in each case².

11. The king of France is bald.
12. Is de Gaulle the king of France?
13. The king of France visited the exhibition.

^{the} In deep structure of the phrase the king of France there is nothing to suggest an implication of existence: there is no embedded sentence, and REL-THE insertion does not imply exhaustive specification when the relational noun is count singular. Hence in 11 any inference

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1. Sampson (1970) presents a formalization of part of what I here call 'mention' which is not, I think, incompatible with 'exist₃'.
 2. cf. Russell (1905), Strawson (1964), Donnellan (1966).

concerning existence is to be drawn from the use of the n.p. for identifying mention. But in a predicative reading of 12, the phrase, though definite, is not used to mention - hence there is no inference to be drawn that there exist some entity the King of France. (If the head noun were plural however, an existential claim might be attributed to the exhaustively specifying property of the n.p., cf. Are they the kings of France?) In 13, the phrase is used to mention - but in this case, unlike 11, it also occurs in an e-e context and thus logical existence can be inferred from the sentence. In addition the e-e context includes deictic signals (tense, demonstrative the before exhibition) and lexical choices which together show that the truth of a statement made by use of 13 guarantees concrete existence (at some point in time) of an entity described by the phrase the king of France.

APPENDIX AI. Selected Derivations from Chapters II - V

Informal presentation of derivations leading to the different types of determiner discussed in Ch. II - V, incorporating the variables proposal of Ch. VIII. No decision has been made as to when the variable should be deleted.

1. the red book (demonstrative the)(a) after development of embedded s.[x [there is a red book_x]](b) after NOM-copy[red book_x [there is a red book_x]](c) after THE-insertion[[+D
+the] [red book_x [there is a red book_x]]](d) after WH-Rel-attachment and other relativization rules[[+D
+the] [red book_x that there is]](e) after 'that' deletion[[+D
+the] [red book_x there is]](f) after clause deletion and feature copying[[+D
+the
+dem] [red book_x]]

N.B. 'that there is' is shown in (d) rather than 'which there is'. This formulation requires that WH be transformed to that, i.e. that Stockwell's R-REL-that (p.492) be in some cases obligatory. But see footnote 1 of § 20, and note that the relativization rules of the Stockwell grammar do not cover what its authors call pseudo-relatives (p.422).

2. the girl who wins tomorrow's race (descriptive the)(a) after development of embedded s. and NOM-copy[girl_x [girl_x will win tomorrow's race]](b) after THE-insertion[+D
+the] [girl_x [a girl_x will win tomorrow's race]]](c) after WH-Rel-attachment etc.[+D
+the] [girl_x who wins tomorrow's race]]3. the dog (generic structure: descriptive the; 5Ch. IV)(a) after development of embedded s.[N [\bar{N} is a dog]](b) after THE-insertion[+D
+the] [N [\bar{N} is a dog]]](c) after WH-Rel-attachment etc.[+D
+the] [N which is a dog]](d) after a pronominalization rule, not formalized

that which is a dog

(e) after a deletion rule, not formalized[+D
+the] dog

N.B. The feature complex for the that which occurs in 3(d) has not been discussed, although it was emphasized in Ch. IV that this item was not demonstrative.

4. that man who won the race (that₁; Ch. III)(a) after development of embedded s. and NOM-copy[man_x [there was a man_x who won the race]](b) after THE-insertion[+D
+the] [man_x [there was a man_x who won the race]]](c) after WH-Rel-attachment etc.[+D
+the] [man_x who won the race that there was]](d) after 'that' deletion[+D
+the] [man_x who won the race there was]](e) after clause deletion and feature copying[+D
+the
+past
+dem] [man_x who won the race]]

N.B. +dem is copied from the deleted there, +past from the deleted tense.

5. that book (that₂; Ch. III)(a) after development of embedded s. and NOM-copy[book_x [a book_x is there]](b) after THE-insertion[+D
+the] [book_x [a book_x is there]]](c) after WH-Rel-attachment etc.[+D
+the] [book_x which is there]](d) after clause reduction (REL-BE-deletion)[+D
+the] [book_x there]](e) after deletion of 'there' and feature copying[+D
+the
+dist] book_x]

N.B. The feature +dist guarantees the presence also of +dem. If here is substituted for there, +prox for +dist, the derivation leads to this book.

6. those soldiers who were wounded (partitive that; Ch. IV)(a) partitive structure in embedded s.

[soldiers [soldiers-soldiers were wounded]]

(b) after NOM-copy

[soldiers-soldiers [soldiers-soldiers were wounded]]

(c) after THE-insertion[+D] soldiers-soldiers soldiers-soldiers were wounded
[+the](d) after WH-Rel-attachment etc.[+D] soldiers-soldiers who were wounded
[+the](e) after deletion of partitive structure and addition of feature[+D] soldiers who were wounded
[+the]
[+cat]

N.B. No variable is shown in 6 for the derivation has not been studied in detail. No bracketing is shown after (b); I do not know whether the surface structure of the this phrase should be assigned the same structure as 1 - 5 or not. The feature complex underlying partitive that also occurs as a result of other derivations.

7. John's eyes (inalienable possession; Ch. V)(a) noun-dependent case in deep structure

[eyes John]

(b) after REL-THE-insertion[[+D] [eyes John]]
[+the](c) after POSS-DET-formation (see p-marker following 8)[[[+D] John] eyes]
[+the]
[+related]

8. John's hat (alienable possession; Ch.V)

(a) after development of embedded s. and NOM-copy

$\left[\text{hat}_x \left[\text{a hat}_x \text{ is John's} \right] \right]$

(b) after THE-insertion

$\left[\begin{array}{l} +D \\ +the \end{array} \left[\text{hat}_x \left[\text{a hat}_x \text{ is John's} \right] \right] \right]$

(c) after WH-Rel-attachment etc.

$\left[\begin{array}{l} +D \\ +the \end{array} \left[\text{hat}_x \text{ which is John's} \right] \right]$

(d) after clause reduction (REL-BE-deletion)

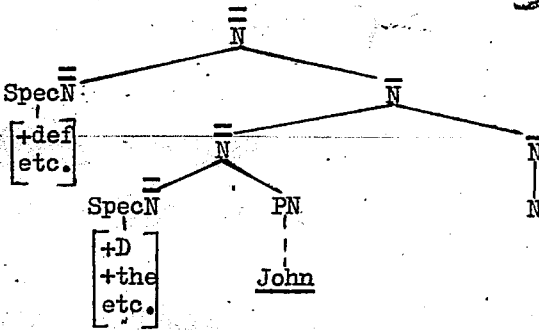
$\left[\begin{array}{l} +D \\ +the \end{array} \left[\text{hat}_x \text{ John's} \right] \right]$

(e) after POSS-DET-formation

$\left[\left[\begin{array}{l} +D \\ +the \\ +poss \end{array} \right] \text{John} \right] \text{hat}_x$

N.B. Where John's is shown, this should be interpreted as John in construction with Spec \bar{N} where Spec \bar{N} dominates +poss

Output structure for 7 and 8 showing definiteness of matrix n.p.



II. Phrase Structure Rules for \bar{N}

(The following rules for \bar{N} are those presented in § 2 with the additions made in § 9 and § 19)

$$1. \bar{N} \rightarrow \text{Spec}\bar{N} \left\{ \begin{array}{l} \bar{N} \\ \text{PN} \\ \left[\begin{array}{l} +\bar{N} \\ +\text{dem} \end{array} \right] \end{array} \right\}$$

$$2.2. \text{Spec}\bar{N} \rightarrow \left[+\text{pl} \right] \quad (D)$$

$$3. \bar{N} \rightarrow \left\{ \begin{array}{l} \bar{N} \quad \bar{V} \\ N \quad (\bar{N}) \\ x \end{array} \right\}$$

where 'x' is a variable-symbol chosen from 'x', 'y', 'z'

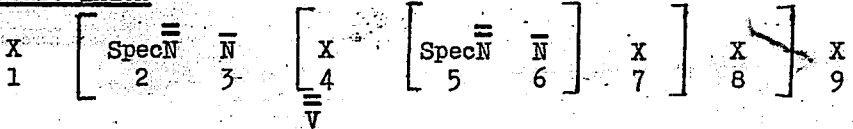
III. Summary of T Rules Presented in

§11, §12, §13, and §19.

1. NON-DEFINITE RELATIVIZATION

1.i. WH-Rel-attachment (non-def) (cf. §19.2.)

Structure Index



Conditions (partial statement)

1. Iff 2 dominates $\left[+pl \right]$, then 5 dominates $\left[+pl \right]$.
2. (i) 3 exhaustively dominates a variable, OR
(ii) 3 is headed by a noun which is indexed by a variable.
3. (the variable occurring under 3) = 6.
4. Obligatory

Ordered before all rules of relativization.

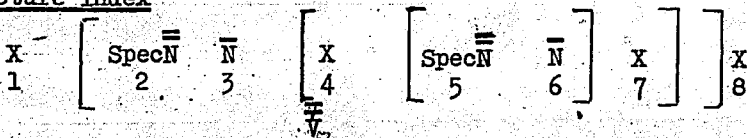
1.ii. VARIABLE-conflation: cf. figures 26 and 33 of §19.

Ordered after WH-fronting

2. DEFINITE RELATIVIZATION

2.i. NOM-cody (cf. 11; 19.4.)

Structure Index



Conditions

1. 6 is headed by a noun which is indexed by a variable.
2. (the variable occurring under 6) = 3
3. Iff 2 dominates $\left[+pl \right]$, 5 dominates $\left[+pl \right]$.
4. 6 does not dominate $\left[+the \right]$.
5. Obligatory.

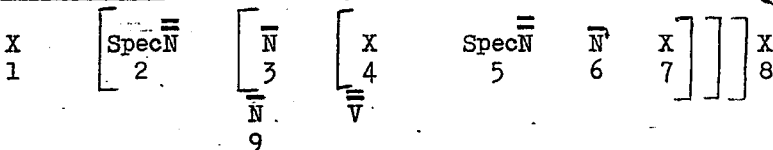
Structure Change

Copy 6 in the place of 3.

Ordered before THE-insertion.

2.ii. THE-insertion (cf. § 11; § 19.4; and for Condition 3 see § 19.6)

Structure Change



Conditions

1. 3 = 6
2. Iff 2 dominates $\left[+pl \right]$, 5 dominates $\left[+pl \right]$.
3. Neither 4 nor 7 contains a constituent which is identical with 6.
4. Obligatory.

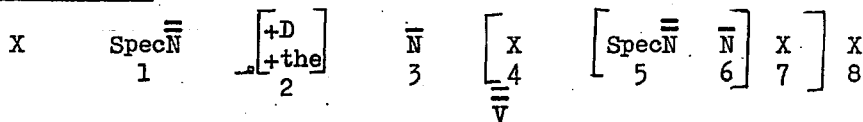
Structure Change

Chomsky-adjoin the segment $\left[\begin{array}{c} +D \\ +the \end{array} \right]$ to the left of 9.

Ordered: after WH-Rel-attachment (non-def) (cf. § 19.4.), after NOM-copy; before WH-Rel-attachment (def).

2,iii. WH-Rel-attachment (cf. § 19.4.)

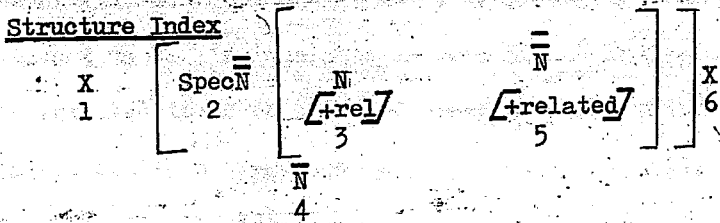
Structure Index



Conditions (partial statement)

1. Iff 1 dominates $\left[+pl \right]$, then 5 dominates $\left[+pl \right]$.
2. 3 = 6
3. Obligatory

Ordered after THE-insertion; before WH-fronting.

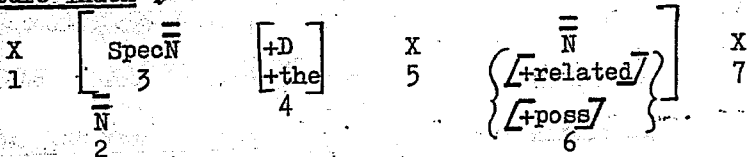
3. RELATIONAL AND POSSESSIVE STRUCTURES3.i. REL-THE insertion (cf. § 12; and for Condition 2 see § 19.5.)Conditions

1. If 3 dominates $\boxed{+many}$, then 2 dominates $\boxed{+pl}$.
2. 3 is NOT indexed by a variable.
3. Obligatory.

Structure Change

Chomsky-adjoin the segment $\left[\begin{array}{c} +D \\ +the \end{array} \right]$ to the left of 4.

Ordered before POSS-DET-formation.

3.ii. POSS-DET-formation (cf. § 13.4.; and for S.C. 3 see § 20)Structure IndexConditions

1. 6 is connected to 2 by a path consisting solely of nodes labelled \bar{N} .
2. 4 does not dominate features other than those specified in the S.I.
3. Obligatory if 6 dominates $\boxed{+poss}$ and $\boxed{+anim}$.
4. Otherwise optional.

Structure Change

1. Copy 4 on to 6, then
2. Replace 4 by 6.
3. If 3 dominates $\boxed{+def}$ and 6 does not dominate $\boxed{+def}$, delete $\boxed{+def}$ under 3.

POSS-DET-formation continued.

Ordered after all relativization rules, including reduction of clauses.

NOTE: the discussion of § 16.2. suggests that +poss and +related are not to be distinguished as mutually exclusive alternatives, for if +related is to be subsumed under Loc then the \bar{N} at 6 will be Loc in all sentence-types considered in § 12 and § 13. Further investigation of locational structures and of de-verbal nominals is required before this rule can be finalized.

IV Comments on the Formulation of the Rules

1. In general, the conventions used follow Stockwell et al. (1973). In particular, the bracketing and labelling of bracketed elements in the S.I., the mention (in the Conditions or the S.C.) of dominating nodes by reference to the numbering in the S.I., the inclusion in the S.I. or Conditions of information about features or about Case, are all found in Stockwell (pp.14-16; 714 & passim). The chief difference is the extent to which I make use of Chomsky-adjunction, which is used only occasionally in Stockwell.

2. The use of variables ranging over non-linguistic entities in the formulation of coreference is a development and revision of the use of referential indices (Chomsky 1965: 145-6). It is suggested but not formalized in Bach (1968: 121).

3. In REL-THE-insertion (3.i. above) the variable is used to block the rule (Condition 2) - this procedure is theoretically problematic. The sole function of the variable after VARIABLE-conflation is to preserve information from deep structure. It could be argued therefore that Condition 2 on this rule is, in effect, a

global constraint (cf. Lakoff, G. 1970a). Postal (1970) used a similar device ('doom!') for preserving information in the course of a derivation but subsequently (1972) he has rejected this procedure in favour of global constraints and has argued that any appeal to coreference is a covert appeal to semantic representation and should be formulated as a global rule. The point of interest here is that IF coreferential marking is allowed in the derived structure then no additional marking is needed to show those structures to which REL-THE-insertion should not apply; i.e. the variable preserves two types of information: coreference and (in this structure) non-definiteness.

4. Condition 1 on POSS-DET-formation (3.ii. above) is a constraint on variables. In this it is not unlike Condition (c) on WH-Rel-attachment as formulated in Stockwell (op.cit.: 470): both place a condition on dominating structure not shown in the S.I.

5. The mention of a structure 'headed' by such and such in WH-Rel-attachment (non-def, 1.i. above) and in NOM-copy (2.i. above) is also an implicit constraint on variables. I am not aware that the structural relationship 'head' is used in rule-particular conditions in Stockwell, but it is used in Ross's Complex NP Constraint which is a general constraint affecting relativization (Stockwell op.cit.: 450). 'Head' is here used in the formulation of the identity condition; and however formulated, this condition raises many special problems (Chomsky 1965:138; Stockwell op.cit.: 421-439).

V Comments on the Bar Notation

1. The chief advantages of the bar notation are:

- (i) it allows for features to be generated on phrase-nodes;
- (ii) the indeterminateness of the intermediate one-bar symbols allows for the introduction of new nodes by Chomsky-adjunction;
- (iii) the notation formalizes a parallelism between noun phrases and sentences,
- (iv) and a distinction between functional categories and lexical categories.

Points (i) and (ii) might in principle be incorporated into an S-and-NP analysis; but point (iii) is less easily expressed in more orthodox p-markers and (iv) is lost all together. Points (iii) and (iv) have not been fully exploited in the description presented above, partly because I have been chiefly concerned with a part of the grammar in which noun phrases are different from sentences. But (iii) and (iv) are, I think, essential for an explication of the notion of noun-dependent case.

The S-and-NP notation used by Stockwell and his colleagues is presented as a 'translation' of bar notation (pp.21 - 3) - thus \bar{N} corresponds to their intermediate category NOM. They introduce noun phrase features on the node ART under D: D (determiner) corresponding to the Specifier in bar notation. I hope to have shown that phrase features and determiner features must be distinguished.

2. $\overline{\text{SpecN}}$ (and $\overline{\text{SpecV}}$) are somewhat spurious as nodes in a p-marker. $\overline{\text{SpecN}}$ is useful in the formulation of T rules for it provides a covert means of referring simultaneously to terminal and dominating nodes - any bracketed constituent starting with $\overline{\text{SpecN}}$ must be a noun phrase. But these nodes are different in kind from other nodes in the structure.

3. If prepositional phrases are ever generated by Chomsky-adjunction of the preposition to a node $\overline{\text{N}}$ (as envisaged for OF-insertion), then the resulting constituent $\overline{\text{N}}$ is not a noun phrase in the sense that I have used this term. The symbol $\overline{\text{N}}$ may still however be glossed as an argument-expression both as prepositional phrase (functioning as the argument of some V), and as noun phrase (functioning as the argument of a preposition whether or not this is itself dominated by V).

4. Node pruning and deletion. Two conventions have been adopted: (i) a node is pruned if it exhaustively dominates an identical node, (ii) a non-terminal node is deleted if it comes to dominate nothing. Convention (i) is adopted also in Stockwell (p.20 - the Stockwell restriction to derived structure is not necessary in the description presented here). Convention (ii) is an adaptation of the conventions discussed in paragraphs (viii) and (ix) of Stockwell p.20. Ross (1966) argues for the need for 'S-pruning', the pruning of a node S leaving the derived structure formerly dominated by that node intact. Ross formulates a general convention to effect S-pruning under certain structural conditions. S-pruning is not formulated as a separate convention in the foregoing

description. In Stockwell, the rules of relative clause reduction are so formulated as to effect pruning of S when taken together with conventions (i) and (ii) above (pp. 494, 497). This has the advantage, in the bar notation adopted here, that not only the sentence node \bar{V} but also $\text{Spec}\bar{V}$ and unwanted \bar{V} nodes are pruned as well. This is required for Condition 1 on POSS-DET-formation as formulated above.

$\text{Spec}\bar{N}$ must not be deleted by convention (ii) for if it were no feature could subsequently be added to the n.p., but Spec nodes must be deleted immediately before surface structure for they are not developed by phonological rules. There is a possible exception in the case of n.p. containing non-predicable quantifiers, for these quantifiers are generated under $\text{Spec}\bar{N}$ in the current formulation. Perhaps unnecessarily, I have also assumed (e.g. in figure 27 of § 4) that in surface structure a one-bar node is pruned if it exhaustively dominates a no-bar symbol of the same letter, or is exhaustively dominated by a two-bar symbol of the same letter.

APPENDIX B

In order to compare my own intuitions about well-formedness and meaning in some key examples with those of others, I prepared an informal test in the form ^{of} a questionnaire which was distributed by hand and by post to 40 native-speaker informants. They were asked to complete the questionnaire in their own time giving their "first reaction" in 4 tasks of which details are given below. The informants were mostly British, mostly graduates; some had linguistic training. It is to be emphasized that no statistical validity is claimed for these tests - far too many problems of 'competence' and 'performance' are involved. The results given below ^{are} of interest only insofar as they provide a minimal indication that the dialect that I have been investigating, my own, is to some extent shared.

TASK A: The instruction included, "For each sentence given below, please indicate whether you find the sentence

- i. wholly natural and normal (✓)
- ii. wholly unnatural and abnormal (x)
- iii. somewhere in between (?)

You are not asked to comment on the meanings." Instructions and an example were provided to show how the answers should be presented. In the tables below

A = natural; B = in between; C = unnatural.

TASK B: The instruction included, "The sentences below are presented in pairs. Please indicate which member of each pair you find more natural and normal". The instructions on the presentation of the answers included the possibility that informants might rate each sentence as equally natural.

TASK C: The instruction was, "Against each pair presented below, please add the signs =, ≠, or ?, thus indicating whether you find the members of each pair:

- i. have the same meaning
- ii. have different meanings
- iii. do not clearly fit with i or ii

TASK D: The instruction included, "The following sentences are set out in threes. For each set, you are asked to indicate if two sentences are closer to each other in meaning than to the third member of the group."

The sentences were not grouped as here. And they were not presented in the same order to every informant.

Selected Results

I. The 'one-test' was discussed in §12.1 with respect to relational nouns. It was expected that the test would show butt, leg, future, and submit to be relational; story, picture, not to be relational.

The following sentences were tested,

1. The story of Bill's arrival was not so amusing as the one of his departure.
Predict: natural. Results A : 31 B : 7 C : 2 O.K.
2. The butt of a cigarette and the one of a cigar were lying in the ashtray.
Predict: unnatural. Results A : 3 B : 14 C : 23 O.K.
3. The butt of a cigarette and that of a cigar were lying in the ashtray.
Predict: natural. Results A : 26 B : 10 C : 4 ?
4. The legs of the table and those of the chair were not of the same length.
Predict: natural. Results A : 37 B : 3 C : 0 O.K.
5. The legs of the table and the ones of the chair were not of the same length.
Predict: unnatural. Results A : 19 B : 16 C : 5 Not O.K.

6. The future of England and the one of France are interdependent.
Predict: unnatural. Result A : 4 B : 6 C : 30 O.K.
7. The future of England and that of France ~~is~~ are interdependent.
Predict: natural. Results A : 27 B : 6 C : 7 ?
8. The picture of Bill is better than the one of John.
Predict: natural. Result A : 37 B : 2 C : 1 O.K.)
9. The summit of Ben Nevis is higher than the one of Snowden
Predict: unnatural Result A : 10 B : 17 C : 13 ?

Task B

compare 9 above with 10:

10. The summit of Ben Nevis is higher than that of Snowden
Predict: 10 preferred. Result: pref. 10 : 38 pref. 9 : 1 equal:1

Conclusions

With certain nouns, in a certain relational structure, that is preferred to the one for purposes of anaphora. The sentences with picture and story suggest that these ^{nouns} are not relational.

II. The occurrence of 'to' with predications of inalienable possession, for discussion cf. § 16.2. It was predicted that 1 - 3 below would be found natural. 4 & 5 illustrate 'to' with non-relational nouns - is this an expression of 'alienable possession' with inanimate 'possessor'?

1. Every triangle has three sides to it.
A : 33 B : 5 C : 2 O.K.
2. There are three sides to every triangle
A : 36 B : 3 C : 1 O.K.
3. The page had a black edge to it.
A : 33 B : 6 C : 1 O.K.
4. There were six beds to a ward.
A : 39 B : 1
5. Every ward had six beds to it.
A : 15 B : 16 C : 9

III. It was claimed in § 12 that the was preferred to a in relational structures, that it was syllistically least marked.

The following pairs were presented in Task B. Against each letter is marked the number of people preferring the sentence with that letter. The number of those who did not prefer either is noted against the sign '='.

1. a. The summit of a mountain is a bad place to camp.

b. A summit " " " " " " " " " "

a : 32 b : 1 a = b : 7

2 a. I feel as if I were on the summit of a mountain.

b. " " " " " " " a " " " "

a : 38 b : 0 a = b : 2

3 a. The summit of a mountain is its highest point.

b. A summit " " " " " " " "

a : 36 b : 1 a = b : 3

4 a. I saw the summit of a mountain.

b. " " a " " " " "

a : 34 b : 1 a = b : 5

5. a. He bumped into a lamp-post and dented the side of his car.

b. " " " " " " " " " a " " " "

a : 35 b : 2 a = b : 3

6 a. Getting up in a hurry, he tripped over the leg of the table and fell.

b. " " " " " " " " " a " " " "...

a : 20 b : 13 a = b : 7

Conclusions

Preference for the before N of a N in a relational ^{phrase} structure in different sentential contexts, confirmed for the single tested

(1 - 4); 5 shows an n.p. determined by the which is NOT exhaustively specifying; 6 is indeterminate - but at least it shows no preference for sentence b. 6 was also included in TASK C: 22 people found a and b had the same meaning.

IV. It was claimed in § 12 that plural relational nouns occurring in relational structures with no determiner might be used of all, or of some, entities so described. See examples 19 and 20. In 1 and 2 below the number choosing each combination as closer in meaning than the others, shows that in 1 most people read the underlined phrase as ALL, but in 2 most read the underlined phrase as SOME:

- 1 a. The members of that committee have not yet been informed.
 b. Some members of that committee " " " " "
 c. Members of that committee " " " " "
- a = b : 0 b = c : 3 a = c : 36 (none alike: 1)
- 2 a. The longest speeches were made by some of the members of the Executive.
 b. " " " " " " the members of the Executive.
 c. " " " " " " members of the Executive.
- a = b : 0 b = c : 11 a = c : 28 (none alike: 1)

V. It was claimed in § 6 (in the discussion of example 33) that that could not occur as a determiner in such sentences as 1 and 2 below. The results show that there is real variation in this area, but that at least 1 and 2 are less acceptable than 3. (Task A).

1. That student who comes top will be exempted from the June examination.

A : 7 B : 16 C : 17

2. That man who wins the race will get £100.

A : 10, B : 12 C : 18

3. That man who won the race got £100.

A : 34 B : 4 C : 2

VI. It was claimed in § 10.2. that partitive that is distinct from other types of that; supporting evidence related to the understanding of pre-posed modifiers. The following pairs are relevant (Task C):

- 1 a. The wounded soldiers were taken to the hospital.
- b. The soldiers who were wounded were taken to the hospital.

$a = b : 34$ $? : 4$ $a \neq b : 2$

- 2 a. Those wounded soldiers were taken to the hospital.
- b. Those soldiers who were wounded were taken to the hospital.

$a = b : 6$ $? : 3$ $a \neq b : 31$

This result supports the claim that pre-posing is not applicable with partitive that.

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Harvard University, Mathematical Linguistics and
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National Science Foundation (U.S.A.)
- FL Foundations of Language
- JESL Journal of English as a Second Language
- JL Journal of Linguistics
- LG Language
- LI Linguistic Inquiry

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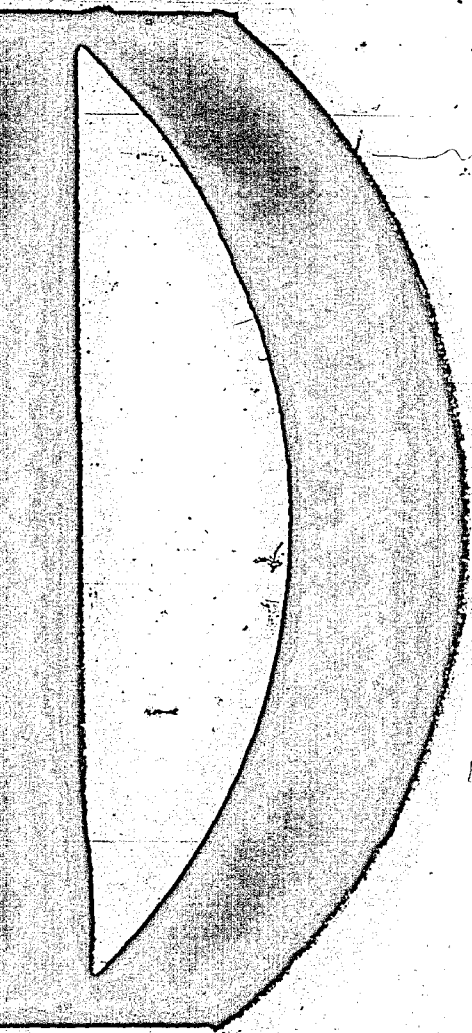
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