

**A Study in the Referential Functions of English
Noun Phrases**

by

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T. T.

Abstract

The present work attempts to establish a theory of reference from a linguistic -- rather than philosophical -- point of view.

PART I: The Preliminaries (pp. 10-113) surveys various linguistic and philosophical problems associated with reference; it argues against predicational analysis as a viable framework for dealing with reference; and it establishes the field of referentiality as the domain divided between deixis (spatio-temporal location) and denotation (categorical location).

PART II: The Theory (pp. 114-233) begins by drawing a fundamental distinction (based on Frege) between syntactico-semantic (SS) and referential-semantic (RS) analysis, and by setting up the notion "referential potential" as a property of linguistic items. The common -- metaphysical -- basis for the calculus of classes and the referential theory is demonstrated, and the formal framework developed.

Four RS-categories are recognized, associated with "all", "kind" (i.e. genus), "some", and "one". These categories are considered to be the 'heads' in referential phrases, each one of which consists of one of the functional (deictic) categories and one lexical (denotative) category. The referential phrases are ordered hierarchically in a referential branch under which NP is generated.

Two different serialization-types (appositive and delimitative) are considered referentially significant. A transformational component is introduced to account for serialization within the NP; three transformational processes are recognized.

After a number of data from languages other than English has been adduced in support of various aspects of the theory, PART III: The Application (pp. 234-413) begins by establishing the (closed) class of referential functives in English. These fall into four subclasses: quantifiers, E-classifiers, determinatives, and pronouns. These subclasses are established distributionally on the basis of the serialization-types they may enter.

The remainder of PART III applies the theory to English NP's which contain a referential functive.

Finally, a number of other areas are briefly mentioned for which RS-analysis is likely to prove insightful.

T. T.

For, how can that be false, which every tongue
Of every mortal man affirms for true?

Sir John Davies, Nosce Teipsum (1599)

CONTENTS

Introduction	8
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PART I: The Preliminaries

Chapter 1: The Linguistic Preliminaries: Predications

1.1 The sentence	10
1.11 'Textlinguistik'	11
1.12 The "independence" of the sentence	14
1.13 The "arbitrariness" of sentence	
-domain grammar	17
1.2 Some contemporary assumptions	28
1.21 Pronominalization	30
1.22 Linguistic relations	38
1.23 Predicational analysis and explan-	
atory adequacy	46
1.3 The alternative	57

Chapter 2: The Philosophical Preliminaries:
Referentiality

2.1	Introductory remarks	61
2.2	The field of referentiality	62
2.21	Denotative analysis	66
2.22	Deictic analysis	70
2.23	Attempts to annihilate the distinction	74
2.24	Assimilation of denotative to deictic analysis	81
2.25	Reconciliation of denotative and deictic analyses	92
2.3	Reconsideration	106
2.31	Existence and denotation	107
2.32	Existence as categorial location	110

PART II: The Theory

Chapter 3: Fundamental Notions

3.1	The relationship between predication and referentiality	114
3.2	Syntactico-semantic and referential -semantic analysis	116
3.3	Referential functions and referential potential	123

Chapter 4: The Basis of RS-analysis

4.1	Form and function	126
4.2	Primary RS-features	127

4.21 The metaphysical basis of primary features	127
4.22 The nature of primary features	128
4.23 Disjunctivity: the hierarchy of primary features	130
4.3 Nominals, nouns, and noun phrases	135
4.4 Referential phrases	137
4.41 Functional and lexical categories: DC and L	137
4.42 The referential phrase	139
4.43 Nominal apposition	145
4.431 A critical discussion of the term "apposition"	145
4.432 Serialization-types: appositive and delimitative	150

Chapter 5: Lexical Insertion

5.1 The strategy	153
5.2 'Grammatical' and 'lexical' words	155
5.3 The secondary features	156
5.31 Functional features	156
5.311 Features on DC	158
5.312 Lexical reflexes of DC	164
5.32 Denotative features	164
5.321 on L_{pres}	165
5.322 on L_{gen} and L_{part}	169
5.323 and on L_{ind}	177

5.4 Summary, statement of rules, and sample derivation	181
5.5 N and NP reconsidered	187

Chapter 6: Subjunction and Adjunction

6.1 Serialization	190
6.2 Lexical and RP-subjunction	192
6.3 The morphophonemic carriage	196
6.4 The Mirror-Image Convention	201
6.5 Adjunction	205
6.6 Preliminary comments on recursion	207

Chapter 7: Relevant Data from Other Languages

7.1 Languages with numeral classifiers	209
7.11 The nature and function of numeral classifiers	210
7.12 Case <u>vs.</u> classifier	222
7.2 Danish "nogen", "noget", and "nogle"	226

PART III: The Application

Introduction: Referential Functives	234
-------------------------------------	-----

Chapter 8: Quantifiers

8.1 The class of quantifiers	240
8.2 The central quantifiers	242
8.3 Primitive quantifier phrases	242
8.4 Non-primitive quantifier phrases	254
8.41 "Two" and "both"	254
8.42 "Each" and "either"	259
8.43 "Any"	273
8.44 "Which?" -- "any" and "some"	281
8.45 "Many" and "much"	288

Chapter 9: E-classifiers

9.1 The class of E-classifiers	294
9.2 Generic and partitive E-classifiers	296
9.21 The derivation of generic E-classifiers	299
9.22 The derivation of partitive E-classifiers	311

Chapter 10: Determinatives

10.1 The class of determinatives	313
10.2 The suppletive determinatives	317
10.21 "A", "every", and "What?"	317
10.22 "No" and "such"	322
10.3 The influence of L_{ind}	331
10.31 Justification for (\pm space) and (\pm time)	332
10.32 Positive expression of (\pm time)	340

10.4 The definite determinatives	343
10.41 "The" <u>vs.</u> "that"/"this"	344
10.42 The possessive determinatives	357
10.43 "Same"	367
Chapter 11: Pronouns	
11.1 The class of pronouns	378
11.2 The derivational characteristics of pronouns	380
11.3 Single-branch pronouns	382
11.31 "It"	382
11.32 "I"	384
11.33 "-thing", "-body", and "-one"	388
11.34 "He", "she", and "they"	389
11.35 The single-branch pronouns re- classified	391
11.36 A note on proper names	396
11.4 Double-branch pronouns	397
11.41 The possessive pronouns	397
11.42 The reflexive pronouns	398
11.43 The relative pronouns	405
Conclusion: Summary and Further Prospects	409
ABBREVIATIONS AND REFERENCES	413

Introduction.

The present work is intended as a modest contribution towards the clarification of one of the problems with which man has preoccupied himself at all times, the relationship between words and things. It is not a philosophical work although the problem is often considered to be, primarily, a philosophical problem. But the problem has many aspects; some of these are philosophical, some are pragmatical, some are sociological -- and some are linguistic. It is the latter aspects that will be treated here, although some notice will be taken of what philosophers have had to say on the question.

The assumptions on which the work is written can be summed up as follows. Language is one of the terms in the relation in which we are interested. It is therefore reasonable to suppose that there is a specifically linguistic approach to the problem. Furthermore, language

can -- by common consent -- be used in such a way that the linguistic elements employed on a given occasion are understood to relate with particular things. It is therefore reasonable to assume that a meaningful inquiry can be made after particular aspects of linguistic structure which will account for this.

On these assumptions it is natural to begin by assessing what possibilities linguistic practice might offer towards the clarification of the problem, in particular as to the viability of current analytical methods for dealing with it at all. A central notion in this connection is the notion of a sentence.

PART I: The Preliminaries

Chapter 1

The Linguistic Preliminaries: Predications

1.1 The sentence.

Recent linguistic literature may be subdivided and classified on various bases among the least scholastic of which would be one according to which one class is constituted by works that, explicitly or implicitly, regard the sentence as the maximum unit of linguistic description and analysis, and one by works that explicitly attempt to transcend the sentence in the descriptional and analytical procedures propounded by them. The former class would be the more numerous, the latter more conscious of the sentence, or so one should imagine at the outset. Let us therefore begin our investigation by looking at some of the works in the latter class.

1.11 'Textlinguistik'.

Squarely within its bounds we find the bulk of Continental 'textlinguistics', notably works by German and Dutch linguists, continuing and reputedly refining work not only by earlier Continentals like Hjelmslev and Mathesius, but also by post-Bloomfieldian American structuralists like Harris, Pike, and Fries.

Two works loom large in this context, Roland Harweg's Pronomina und Textkonstitution (1968) and Wolfgang Ràible's Satz und Text (1972), and not only for their voluminosity. Indeed, Harweg's book is the only example of a coherent and reasonably successful textlinguistics in its own right so far (if we disregard Harris' discourse analysis, if only for the reasons stated by Bar-Hillel (1967a:532-4)).

Before we look at Harweg's and Ràible's treatments of the sentence, however, let us take a brief glimpse at the sentence seen through two articles that purport to present a bird's eye view of the field of textlinguistics as a (sub)discipline of linguistics, viz. Hartmann, 'Texte als linguistisches Objekt' (1971), and Brinker, 'Aufgaben und Methoden der Textlinguistik' (1971), in particular at the arguments they employ to justify their transcendence of the sentence as the maximum unit of linguistic analysis.

Die bisherige Linguistik habe den Satz als höchste sprachliche Einheit betrachtet und sich ausschliesslich auf die Analyse und Deskription der Struktur des Satzes, vor allem auf die Segmentierung und Klassifikation sprachlicher Einheiten unterhalb der Satzebene beschränkt.

.....

Demgegenüber wird ... als neue Erkenntnis scharf herausgestellt, dass „die oberste und unabhängigste sprachliche Einheit nicht der Satz, sondern der Text“ sei. Sprache komme primär in Form von Texten vor; der Text sei somit „das linguistisch signifikante Originalzeichen der Sprache“, das vor aller linguistischen Forschung unmittelbar Gegebene, während die anderen sprachlichen Einheiten (Sub-Einheiten) erst mit Hilfe der linguistischen Analyse aus den Texten herauszuarbeiten seien. Deshalb könne der Satz nicht die bevorzugte Stellung innerhalb der linguistischen Forschung behalten wie bisher; Linguistik sei endlich konsequent als Textlinguistik zu konstituieren (mit Teildisziplinen wie Textsemantik und Textsyntax).

(Brinker, 1971:217)

Wenn die Sprachwissenschaft in einer objektgerechten Breite und Differenziertheit ausgeübt und entwickelt werden soll, hat sie von der tatsächlichen Objektlage im Bereich der Sprachwirklichkeit auszugehen. Ausgangspunkt einer Phänomenologie des linguistischen Objekts ist die Texthaftigkeit des originären sprachlichen Zeichens.

(Hartmann, 1971:12)

Cf. also Hartmann's discussion of this, his second thesis, op. cit. p.p. 12-15.

There are two points in these formulations that merit not a little attention: (a) the appeal to the status of the text as the for linguistic research immediately given, and (b) the appeal to the notion of independence. These

two points have implications of vastly different scope, the former relating to the scientific status of linguistics, the latter to the nature of criteria employed in linguistic research.

On the assumption that Brinker and Hartmann subscribe to the usual definition of linguistics as the scientific study of language, it follows from the implication of Brinker's first point and the explication of Hartmann's second thesis that they entertain an inductivist outlook the feasibility of which was disproved already by Hume himself (cf. Popper, 1963:54-55, and, particularly, 1972: 1-31), according to which theories are supposed to be inferred from observable data. Such a view links textlinguistics to Bloomfieldian structuralism (cf. Katz and Bever, 1974), and in fact implies a reversal to a position from which many textlinguists dissociate themselves (e.g. Harweg, 1968:9 ff).

The second point, according to which the sentence is deprived of its usual status as the independent unit of linguistic analysis in favour of the text, is less far-reaching yet more central to our present purposes than the general question of what kind of science linguistics is. In addition to the passage already quoted from Brinker, the following contains a claim that is of direct relevance here:

Die seit kurzem innerhalb der Linguistik immer stärker erhobene Forderung, eine Textlinguistik zu konstituieren, ist wissenschaftsgeschichtlich zu verstehen als Korrektiv zu bestimmten strukturellen Richtungen der Linguistik (vor allem der generativen Transformationsgrammatik), für die eine (letztlich willkürliche) Beschränkung der Grammatiktheorie auf die Domäne des Satzes kennzeichnend ist.

(Brinker, 1971:233; my emphasis)

A similar view is expressed by Sanders (1969) and Delisle (1973).

The discussion of the second point, consequently, will take the form of an investigation of the two questions 'What is the meaning of "independent" in a definition of the sentence as "an independent unit"?', and, pending the outcome of this, 'In what sense is the status of the sentence as the maximum unit of linguistic description "arbitrary"?'.

1.12 The "independence" of the sentence.

Among the 140 sentence-definitions listed in Ries (1931), eleven include a criterion which can be interpreted as independence in some sense, viz. the definitions by Bühler, Delbrück, Dionysios Thrax, Jespersen, Los, Meillet, Meyer, Michaëlis, E. G. O. Müller, Neckel, and Sievers. But four different kinds of independence must be distinguished: grammatical, semantical, intonational, and unspecified ('psychological'), which last is the

most productive. By way of example of each kind I quote the definitions by

Jespersen (1924:307) (example of unspecified independence)

A sentence is a (relatively) complete and independent human utterance - the completeness and independence being shown by its standing alone or its capability of standing alone, i.e. of being uttered by itself

Bühler (1918:18) (example of semantical independence)

Sätze sind die einfachen selbständigen, in sich abgeschlossenen Leistungseinheiten oder kurz die Sinn-einheiten der Rede

Delbrück (quoted from Ries, 1931:210) (example of intonational independence)

(Der Satz ist) von seiten seiner Form betrachtet: dasjenige, was von zwei Pausen eingeschlossen ist, oder positiv gesprochen: eine aus artikulierter Rede bestehende Expirationseinheit (breath group bei Sweet), innerhalb deren, sobald sie eine gewisse Ausdehnung erreicht, ein Wechsel zwischen höherer (stärkerer) und tieferer (schwächerer) Betonung stattfindet.

Meillet (quoted from Ries, 1931:217) (example, incidentally the only ex., of grammatical independence)

(La phrase est) un ensemble d'articulations liées entre elles par certains rapports grammaticaux et qui ne dépendent grammaticalement d'aucun autre ensemble se suffisent à elles-mêmes.

Even if the various labels attached to the notion of independence are somewhat vague and unprecise, some discrimination is clearly called for in trying to explicate

it. It is a multi-ambiguous notion. If we regard the kind of independence appealed to by Meillet (grammatical independence) as both different from the other types and as basic to the purely grammatical compartment of linguistics -- assuming that such there is -- this kind of independence must be determined on the basis of what grammatical relations we choose to work with. Bloomfield, whose definition of the sentence is a direct continuation of Meillet's, operates, as well known, within a structuralist constituency framework, the grammatical relations being endo- and exo-centricity, but in addition he regards substitution as "a meaningful grammatical arrangement" (1933: 194 ff; 247 ff; my emphasis), which I interpret as willingness on his part to accept the relation (paradigmatic or syntagmatic, as it may be) between substitute and antecedent as a grammatical relation. Within Bloomfield's theory, then, all linguistic forms that are not included in any other linguistic form by any meaningful grammatical arrangement are sentences¹.

On a general plane this means that "a sentence" (and

¹ Among the reasons why no universally accepted definition of the sentence has appeared not the least important is what might be called the "I-know-better" intuition. Cf. for example Kasher (1972:313)

"These definitions (i.e. of "a sentence") may be evaluated by trying to apply them as a criterion for determining when what might appear to be two sentences are in fact one sentence."

(My emphasis). How does he know?

all other grammatical meta-signs) cannot be defined in isolation from a grammatical theory. On a more specific, and for our purposes more relevant plane it means that, on Bloomfield's theory, e.g.

(1:1) he did it

-- is a sentence because, although each of the elements in (1:1) may contract a grammatical relation (of substitution) with a previously mentioned item, it is not included as a whole by any grammatical arrangement in any other form. Yet from the viewpoint of unspecified or semantical independence (1:1) is not "independent". It is on the basis of these latter types of independence that the textlinguists apparently argue.

1.13 The "arbitrariness" of sentence-domain grammar.

The second notion to be investigated was that of arbitrariness. Let us assume for the moment that we are working with a set of grammatical relations not dissimilar to that of Bloomfield, but refined into the system we find in Sørensen (1958).

Sørensen (1963:59) explicitly regards linguistics as a non-empirical science, constituting -- with logic and mathematics -- the 'linguistic' disciplines. On this belief, and on axiomatic acceptance of the Saussuro-Hjelmslevian (biplane) sign, he sets up a theory of grammatical,

semantical, and referential description. The key-concepts in the grammatical theory are classes and relations, with each class being determined by a meta-sign. There are three kinds of classes, derivate, co-ordinate, and one which is neither. Co-ordinate classes are established on the basis of unilateral relation signs, of which "presupposes" is one, derivate classes are established on the basis of bilateral relation signs, like "removability -removability" (Sørensen, 1958:ch. V). We are mainly interested in the sentence here:

The metasign "a sentence" does not determine a derivate class. Nor does it determine a co-ordinate class. The meta-sign we start from must necessarily determine a class which is neither a derivate class nor a co-ordinate class.

(Sørensen, 1958:98; my emphasis)

It is not so much the necessity expressed in this passage that interests us, but rather the question why "a sentence" is the meta-sign we start from, and in particular whether the decision to start from "a sentence" is arbitrary.

Arbitrariness in this connection must mean that no matter which level we took as a starting-point for the grammatical analysis, the analysis would be exhaustive and adequate by application of the conceptual apparatus which is regarded as grammatically relevant to the material under investigation. Starting at "junctional"-level (or phrase-level), the application of Sørensen's apparatus would

clearly not yield an exhaustive result. The same applies to any level below the sentence. Could we then begin from a higher level? Let us try. If we took "a text" as our initial meta-sign then "a sentence" would be a meta-sign which determined a derivate class (Sørensen, 1958:60). This in turn would mean that the definiens of "a sentence" would have to include a bilateral relation sign (id., p. 66). But none of the bilateral relation signs which are capable of, and sufficient to, establishing the derivate classes elsewhere in the theory, would yield a satisfactory definition of "a sentence". Sørensen, of course, is aware of this. On the only occasion where he 'divides' a text containing more than one sentence, therefore, he is forced to coin the 'relation' "binary removability-irremovability" (id., p. 100). But even this nonce-formation would be incapable of yielding a satisfactory definiens of "a sentence", because the definition

"a sentence" = "a sign which can appear from a division of a text on the basis of binary removability-irremovability"

-- which would be a formulation congruent with his usual formulations of this kind -- would force us to register conjunctions and sentences as members of the same derivate class (because essentially the same definition would apply to "a conjunction"), which is hardly a satisfactory result. Another -- inherently contradictory -- possibility is to regard sentences and conjunctions as co-ordinate classes

within the same derivate class. The inherent contradiction then manifests itself in the fact that no single unilateral relation will be sufficient to distinguish these two coordinate classes from each other.

Since Sørensen's conceptual apparatus is capable of yielding an adequate and exhaustive grammatical analysis (description) provided that we start from the sentence but not if we start from a text, it follows that, relative to Sørensen's theory, the sentence is not an arbitrary startingpoint.

This is not to say, however, that we could not devise a strategy which would yield an exhaustive result even if we started from a text. But it is to say that the devices designed to account for supra-sentential entities would be irrelevant for the description of sub-sentential entities, and vice versa.

As we saw, Brinker was especially concerned with the provision of an alternative to, or expansion of, transformational generative grammar, which he accuses of arbitrariness in the present respect. Is Chomsky's (1965) grammar arbitrary in this respect?

Again, arbitrariness would mean that if we started from the initial category symbol T(ext) rather than S, the conceptual apparatus provided would yield an adequate and exhaustive descriptive result, because this is the conceptual apparatus considered adequate for an exhaustive

syntactical description. But such a procedure would be arbitrary, although in a different sense. Since Chomsky's model is neutral with respect to the distinction between analysis and synthesis of sentences, we should expect the revised model to be neutral with respect to the distinction between analysis and synthesis of texts. This, clearly, cannot be the case. A text is infinite in a sense in which a sentence is not. A text can always be continued. The notion of recursion, already incorporated in the S-model, where its occurrence is clearly defined relative to the recurrence of S within a derivation, would have to be extended beyond a point where it loses all significance. It would be a potential the actualization of which could never be predicted in any rigorous way relative to anything but the subjective and somewhat vague notion of 'wanting to go on with the story'.¹

This does not mean that I consider Chomsky's (1965) model to be capable of yielding an exhaustive analysis of language. What is more, Chomsky's own (1970; 1972a) discussion leading to the "extended standard theory" is sufficient indication of his own awareness of this fact.

¹ No more subtle argument than this is needed to make one sceptical about the very basis on which linguists like Petöfi (1971) have attempted to establish a 'generative text-theory'. As far as I am able to determine, this phrase is a contradiction in terms.

But it means that the notion of the sentence as the maximum unit of grammatical description is not arbitrary.

Let us now look at Harweg's treatment of the sentence. On the very first page of his book, Harweg (1968:9) explicitly dissociates himself from Bloomfield on account of the latter's attitude to the sentence. He then goes on to establish a linguistic theory of which the key-concept is "substitution". Substitution is possible along two axes, the syntagmatic and the paradigmatic. Of these, the former is the all-important. He coins the terms "syntagmatic substituendum" (antecedent) and "syntagmatic substituens" (substitute), and the main classifications he gives are on the basis of the capability of a given entity to function as substituendum, substituens, both, or neither. The most important class of functors for the application of his theory is the class of "two-dimensional substituentia" among which we find personal pronouns and definite noun phrases. He begs not a few questions, not only of substitution but also of semantics during his expository pages (pp. 9-87), of which only one need concern us here.

One of the criticisms he directs at Bloomfield is the latter's concept of substitution as essentially a paradigmatic relation (pp. 22; 39). In a nutshell, this criticism is concerned with Bloomfield's claim that substitution holds between "this/the man" and "he", whereas, for Harweg, it holds between "a man" and "this/the man/he". Cf.

also Crymes (1968:34). For Harweg, "this/the man" is a twodimensional substituens, like "he". The recognition of definite noun phrases as substituentia depends on their morphological non-identity with their substituenda ("a man"), combined with the fact that they can be substitutes for any one of a paradigmatically related set of such phrases.

We should now be equipped to look at Harweg's definition of the sentence:

Sätze (sind) die kleinsten Texteinheiten oder voraussetzungsloser: die kleinsten Textabschnitte, die nur indirekt (und nicht auch direkt) syntagmatisch substituiert werden können.

(Harweg, 1968:83)

What this means appears to be this: The syntagmatic substituens which has a sentence (i.e. a main sentence) as its substituendum, does not have the same syntactic properties as its substituendum. He gives as an example "Das Haus brennt. Das Haus brennt". The second occurrence of "Das Haus brennt" can be paradigmatically substituted by "Das ist so". In this latter sequence, however, it is only "das" which substitutes for "Das Haus brennt". But this "das" is itself paradigmatically substitutable by "dass das Haus brennt", which does not have the same syntactic properties as "Das Haus brennt".¹

¹ He claims that "Das ist so" can be interpreted as a direct two-dimensional substituens for "Das Haus brennt" as well. In that case the definition does not hold. In order to save it he argues (not very convincingly) for a different interpretation of "dass das Haus brennt, ist so" as against "dass das Haus brennt, betrübt mich", depending on an interpretation of "so" as semantical-

There are two points to make with respect to the direct/indirect distinction. One of the commonest types of substitution holds between an indefinite noun phrase with specific interpretation and a definite NP, as in

(1:2) a man sat on a seat. The man/he was tall.

Is this a matter of direct or indirect substitution? The answer depends on the precise definition of Harweg's term "syntaktische Gleichwertigkeit" (p. 78). As far as grammatical function is concerned (and this might be the domain of "syntaktische Gleichwertigkeit" since this term is considered to be the generalization of case-relations (loc. cit.)), substituens and substituendum are equivalent. But so they are in "Das Haus brennt. Das ist so" and "dass das Haus brennt, ist so". However, the reason why "Das" is considered to be an indirect substituens seems to be the fact that "Das Haus brennt" and "dass das Haus brennt" are morphologically non-identical. But this difference derives from paradigmatic characteristics. It is the paradigmatic relation between "Das" and "dass das Haus brennt" which is behind the indirectness of sentence-substitution.

If we now return to the tall man on the seat we see that precisely the same holds here. We cannot have, on his own admission (p. 71), "A man is tall" if the NP is interpreted as specific. In this respect, substituens and

ly empty. In other instances "so" = "wahr", in which case it enters indirect substituentia.

substituendum in sentences of the type

(1:3) spec. indef. substituendum: def. substituens + cop + pred.

-- can never be 'syntaktisch gleichwertig'. There is no principled difference between

(1:4) (a)

the house is burning : { that the house is burning is true
that is true

(b)

a man sat on a seat : { the man was tall
he was tall

-- as far as the need goes to formally modify the substituenda before they can paradigmatically substitute their substituentia. Therefore, either "a man" is a sentence, or the definition of the sentence must be modified. For criticism of Harweg's sentence-definition on grounds of circularity, cf. Raible (1972:22-23, and fn 48).

The second point I wish to make concerning Harweg's sentence-definition is connected with Bloomfield's definition as well as with Bloomfield's concept of substitution as a grammatical relation. Harweg's definition in fact states what Bloomfield's definition implies, for the following reasons:

To say (as Bloomfield does) that a sentence is a form which cannot be included in any larger form by virtue of any grammatical construction is to say (from a marginally shifted viewpoint) that a sentence cannot be substituted

syntagmatically. The marginally shifted viewpoint includes giving precedence to syntagmatic substitution as a procedural factor. If we accept substitution as a grammatical relation (as both Harweg and Bloomfield do), and if we accept a fundamental interrelation between syntagmatic and paradigmatic substitution (as Bloomfield, but not Harweg, does) it follows that, if a sentence were syntagmatically substituted (i.e. had a substituens in a different, subsequent sentence), we should expect the substituted sentence to be capable of insertion in unaltered form in place of its substituens. This is impossible on Bloomfield's theory, in virtue of his definition of a sentence. And, as we have seen, it is impossible in Harweg's theory, in virtue of his definition of a sentence. The two definitions have the same implications in terms of grammatical, or structural, independence.

We now cast a glance at Sørensen's definition, which says

"A sentence" = "A sign which does not presuppose any sign and which does not contain two or more signs which do not presuppose any sign."

(Sørensen, 1958:97)

The implication of this definition is the same as that of Harweg's and Bloomfield's. If a sign is absolutely un-presupposing it is a sentence. And if a sentence is a sign which is absolutely un-presupposing, then it is a sign which is independent in virtue of its grammatical structure.

In other words, the implications of three entirely distinct definitions of the sentence centre on one and only one issue, the grammatical, or structural, independence of the unit in question relative to its surroundings. Formulated differently and more pertinently: three distinct theories of linguistic description have all found it necessary to operate with a category of which the most important characteristic is its structural independence, even Harweg's which is explicitly trying to surpass the traditional sentence as the largest unit of linguistic description.

In contrast both to what we might call the definitatorial view of the sentence briefly surveyed in the preceding paragraphs and to what might be called the unquestioned axiomatic approach to the sentence which characterizes the main body of transformational-generative grammar, Raible represents a consciously axiomatic approach. Rather than giving a definition of the sentence, he provides the following sentence-axiom:

Sätze sind dadurch charakterisiert, dass ihre funktionellen Teile mit Hilfe des finiten Verbs und entsprechender Leerstellen (Fragewörter) zu erfragen sind. Daraus folgt sogleich, dass der konstituierende Faktor eines Satzes das finite Verb ist.

(Raible, 1972:6; cf. id. pp. 242-3)

By regarding the finite verb as the sentence-constituting factor, Raible associates his sentence-axiom with the V(erb)-centred definitions of the sentence which have competed with the S(ubject)-P(redicate)-structured definitions

since the beginning of the 19th century¹. Whether V-centred or S-P-structured, such considerations are unqualified as a basis for sentence-definitions since they are concerned with the internal make-up of sentences (cf. Ries, 1931:6-7; Allerton, 1969:29), but not as a basis for sentence-axioms.

Since we shall be concerned exclusively with the referential properties of noun phrases I shall adopt Raible's axiom of V-centricity -- if not the part about "Leerstellen" -- which has the advantage from our point of view that it does not impose priority in any form on a particular NP in the sentence. There is an implicit tendency to accord primacy in some sense to the NP which turns up as surface subject on the S-P-structured view. See further below, § 1.23.

1.2 Some contemporary assumptions.

The issues discussed in the preceding sections are not only of general interest. They serve as a natural background for many of the more specific issues to be gone into in the course of the present work. Many of

¹ Reference to the 140 definitions in Ries (1931) reveals that, since 1782, twenty-three definitions have been V-centred and twenty-three S-P-structured. The three definitions from before 1782 to incorporate such a criterion (viz. by Apollonios Dyskolos, Priscianus, and Petrus Helias) are all S-P-structured.

these pose a threat to what is normally known as grammatical analysis in various ways. Moreover, they nearly all of them invite a distinction between two kinds of linguistic description. I have therefore found it advisable to go into the claims and assumptions of textlinguistics since 'Textlinguistik' a priori would appear to concern itself with most of the phenomena with which we shall be concerned here and thus might appear to provide a framework for the referential analysis.

However, as the discussion in the preceding sections was supposed to make clear, I am somewhat sceptical about the fundamental tenets of textlinguistics. Furthermore, I am sceptical about the capability of textlinguistics and textlinguistic models even of such merit as Harweg's to come to grips with what (to me) appears to be the fundamental aspects of the data it deals with. The reason for this scepticism will become clearer in the next section.

In the remainder of this chapter we shall therefore broaden the outlook somewhat and go into some contemporary assumptions underlying the analysis of the data in which we are interested. Although it is difficult to indicate a clearly delimited field at the outset, three general areas will be discussed under the headings "pronominalization", "linguistic relations", and "predicational analysis and explanatory adequacy". However, some overlap between these areas is in evidence.

1.21 Pronominalization.

There are two fundamental aspects involved in the linguistic analysis of pronouns. Although they are interrelated they call for a distinction which is not always clearly drawn. One aspect is concerned with the internal analysis of pronouns, one aspect is concerned with the function of the pronouns in linguistic utterances. Moreover, it is not immediately obvious what the relationship between these two aspects is in inferential terms: can the internal make-up of pronouns be inferred from a consideration of the functions they (may) perform, or is the range of functions performed by a given pronoun dependent in some way upon its internal make-up? In the present section we shall inquire into these questions on the basis of a number of more or less recent treatments of the pronoun in the linguistic literature.

It would appear to be the case that within each aspect three different views are in contention. Thus within the functional aspect we can distinguish 'co-reference' (I), 'substitution' (II), and 'indication' (III); and within the aspect of internal composition 'NP' (A), 'non-derived' (B), and 'syncretism/segmentalization' (C). These may not be absolutely clear-cut distinctions, particularly with respect to (A) and (C), and they may not cover the whole field of pronominalization. Yet if we simplify the issue somewhat and regard the personal pronouns as constituting the paradigmatic instances of pronominalization on the

basis of which the distinctions are drawn, they at least are not misleading. The following table shows how a number of studies pertaining to pronouns and pronominalization reflect these distinctions:

	I	II	III
A	Lees & Klima (1963) Langacker (1966) Karttunen (1971) Kuroda (1971)	Lakoff (1968 _a) Delisle (1973)	
B	Jackendoff (1972 _a) McCawley (1971)	Crymes (1968) Harweg (1968) Bloomfield (1933)	Collinson (1937)
C	Postal (1966; 1971) Sommerstein (1972)		

Table 1.

The placement of Postal (1971) is perhaps questionable since it does not concern itself with the internal structure of pronouns, yet in connection with his earlier work

it may be seen as a 'functional' extension.

The position AI, I suppose, is what could be called the classical transformational position, most ably defended by Karttunen (1971) against the rival position BI, the two holders of which differ among themselves in matters which need not concern us at present.

What is of immediate interest about the classical position (AI) is that it is reached from the point of view of the functional aspect. Since (personal) pronouns may be used instead of a 'full' NP, the implication drawn is that the internal structure of a (personal) pronoun can be assessed on the basis of the internal structure of NP's. This inference relies on what since Chomsky (1965: 145 ff) has been known as the referential index convention: deep structure NP's are assigned a referential index of some form.

However, a further requirement is imposed on pronominalization. Not only should the referential indices on two (or more) NP's be identical for pronominalization to occur, the NP's should also be lexically identical. If both conditions are met we have what Chomsky calls "strictly identical Nouns". Pronominalization is held to depend on strict identity in this sense.

On the assumption that 'co-reference' has something to do with the notion of reference as this has been developed by linguists and philosophers since Strawson (1950), the requirement of lexical identity is strange. Not only does

it contravene the basic principle of reference, viz. that a great variety of linguistic forms may be used to refer to the same entity salve veritate (cf. also Sampson, 1969: 18), it also creates problems for the analysis of 'co-referential epithets' in which the noun is not the same as the noun in the antecedent NP. This point is mentioned by Jackendoff (1972a:110), and it constitutes one of the major reasons for Lakoff's abandonment of the referential index approach (cf. G. Lakoff, 1968a:16 ff; also 1968b). Jackendoff and Lakoff thus seek to establish TG-parallels to Harweg (1968) in which this principle is of crucial importance. Consequently, both lay themselves open to criticisms of arbitrarily delimiting the domain of grammatical description to the sentence (cf. Delisle, 1973), since such a view in order to be consistent must acknowledge that it is essentially the same processes that operate across sentence boundaries as within.

The referential index convention itself, i.e. divorced from the condition of lexical identity, is the formulation of the assumption that the internal structure of pro-forms can be assessed on the basis of the internal structure of NP's. Yet here, too, there are difficulties. It is, for example, not always clear which determiner is involved in (one or both of) the two NP's between which relativization is supposed to hold. Cf. in this connection Kuroda (1971:184 fn 6) where this point is dismissed as not constituting a "serious drawback" for the argument

advanced (in support of Karttunen (1971)), because the apparent violation of the constraint on backwards pronominalization (disallowed when two indefinite NP's are involved) is avoided since "eventually (the trigger of backwards pronominalization) is replaced by a relative pronoun, which one can reasonably assume to be definite".

(My emphasis). In other words, a deep structurally indefinite NP is 'replaced' by something which is assumed to be definite. Moreover, it is not even clear that this 'replacement' can occur since, presumably, it presupposes the application of a process which, however, is blocked by the presence of two indefiniteness markers.

Disregarding such difficulties, the classical position rests on the assumption that there is a relation (of reference) between words and things, to put it informally and somewhat simplistically. If this relation holds between two words (in the same sentence) and only one thing, then a secondary, parasitic relation (of co-reference) is said to hold between the two words.

In order to be able to state these matters in a slightly more sophisticated manner, let us establish a distinction between entities of various levels. We shall say that an entity of level zero is a non-linguistic entity (a thing, a person, a thought, an emotion, etc.), and that an entity of level one is a linguistic entity (a word, a sentence, a NP, a VP, etc.). See Sørensen (1958:

17 ff) for a more detailed discussion of the notion of "level" in this connection. Dependent on this distinction we shall say that an inter-level relation is a relation holding between entities of different levels, whereas an intra-level relation holds between entities of the same level.

With these points in mind we can now reformulate the classical position. In order to account for pronominalization, advocates of position AI assume the existence of an inter-level relation (of reference). If two entities of level one contract an inter-level relation with the same entity of level zero, then an intra-level relation (of co-reference) is inferred between the two level one entities in question. Schematically the situation is as follows:

(1:5) the dog chased its tail

 level one: the dog----its

 \ /

 level zero: X

Investigation into co-reference is to be conducted within the syntactical and/or the semantical framework. Therefore the inferred (intra-) relation is promoted to primary status, and the inter-relations are left for philosophers and logicians to explore.

In contrast, the advocates of position B -- and particularly of BII -- are engaged in describing a 'purely' linguistic relationship. The diagram which reflects this

position is

(1:6) level one: the dog¹_____its

Substitution is an intra-level relation which holds between entities of level one, and no consideration is given to what possible inter-level relations entities of level one may contract. Such a view is in many ways attractive, and the results it gives rise to are both powerful and interesting. Yet it fails to account exhaustively for many aspects of pronominal usage. To mention but one point, it cannot account for first and second person personal pronouns. If we want to give an account of the functions of pronouns we must take note of the inter-level relations contracted by them.

This, precisely, is what Collinson does in his largely neglected study of "indicators" in various languages. In this respect it can be seen as the complement to Crymes' and Harweg's studies with which it shares the deficiency of not attempting to explicate the relationship between pronominal function and internal composition.

The problems of pronominalization and the various concomitant phenomena behind the tabulation of approaches above are highlighted by Stockwell et al., (1973:ch. 4)

¹ This is not quite correct as far as Harweg is concerned, as will have appeared. To him "the dog" would be a pronoun, or a two-dimensional syntagmatic substituens. Substitution holds between "a dog" and "the dog", as well as between "a dog" and "its". This imprecision does not affect the point being made, however.

partly by the fact that their treatment of pronouns would fall within almost every compartment of Table 1, dependent as it is not only on Postal's segmentalization theory, but also on co-reference (reflexives) and substitution (their anaphora) (simple pronouns)¹, partly in a more explicit form:

It seems, then, that our attempt to push the L(ees) K(lima) approach to pronominalization to its limits, while not entirely successful, has uncovered some interesting and non-trivial problems which have counterparts in the referential indexing approach. Solution to these problems does not appear to be imminent, since the conditions do not appear to be syntactic in any familiar sense of the word.

(Stockwell et al., 1973:184; my emphasis)

Although the sentiment expressed in this passage is often implicit, it is rarely found so explicitly stated as here. I take it to be an expression of the authors' awareness of the limitations of syntactic analysis as currently enforced, and at the same time as an invitation to explore what other possibilities there might be for coming to grips with the problems of pronouns and pronominalization.

¹ They regard the part of their approach which is based on substitution as a continuation of the Lees & Klima position which is here considered to be co-referential -- rather than substitutional -- because, to me, it seems rather to be a precursor of the referential indexing approach than an alternative to it. It just so happens that the referential index had not yet been introduced in discussions of these phenomena when their paper was written. Cf. this with the parallelism between the two approaches commented upon in the quoted passage above.

1.22 Linguistic relations.

In pre-Chomskyan, structuralist linguistics -- by which I intend linguistics as pursued by the Copenhagen School and the American Structuralists in particular -- it was common to recognize three basic linguistic relations, interdependence, determination, and constellation, to employ Hjelmslev's (1943:23 f; also 1939) terminology for the relations when considered to be neutral with respect to his distinction between "system" and "process". Cf. also Diderichsen (1952) and Sørensen (1958:ch. 5) for particularly valuable discussions of the traditional relations. These correlate with Bloomfield's -- perhaps rather better known -- terms "exocentricity", "subordination", and "coordination", the latter two being subsumed under the term "endocentricity" (Bloomfield, 1933:194 f).

Furthermore, appeal was frequently made to the terms "predication", "attribution", and "apposition", the latter two subsumed by Sweet (1900:17-19) under the term "assumption", and some confusion between the two sets of terms is in evidence (cf. e.g. Diderichsen's (1952:90) report on Hammerich's usage). However, it seems that we have two more or less clearly distinct sets of terms used in the description of linguistic phenomena:

(1:7) (a) exocentricity	(b) predication
endocentricity	assumption
subordination	attribution
coordination	apposition

Of these, the terms in (a) are by common consent the names of the basic grammatical relations.

It turns out, however, that the parallelism suggested in (1:7) is only partial. The situation can be displayed more appropriately as in (1:8):

(1:8)

predication	=	exocentricity
assumption	{	apposition = \emptyset
		attribution = subordination
		\emptyset = coordination
	}	endocentricity

The most obvious feature of (1:8) is that there is no term in the right-hand column that corresponds to apposition and no term in the left-hand column to correspond with coordination. We return to this point below, in particular in § 4.43.

Whether or not the assymetry in (1:8) resulting from these gaps reflects a true state of affairs, it should be pointed out that it is strictly speaking wrong to

equate the terms as suggested in (1:8). Whereas a predication is exocentric and an attribution is subordinative, the reverse does not necessarily hold. The relation between a preposition and a noun, for example, is traditionally exocentric, and that between an adverb and an adjective is subordinative. Thus if for the moment we regard the terms involved in (1:8) as the names of classes of constructions, the classes denoted by the left-hand terms are not isomorphic with those denoted by the terms on the right, but are rather included in them.

In Chomskyan grammar -- by which I mean not only the position of Chomsky himself and the group of linguists explicitly following his version of TG-grammar, but also the rival group(s) around Lakoff, McCawley, et al., the determining factor being their common appeal to phrase structure, constituency grammar, which is not one of the points of disagreement (cf. Seuren, 1974:1-27) -- much of the justification for the terminological distinctions in (1:7) has disappeared. In particular, the notion of subordination has been jettisoned.

It might be thought that subordination forms part of Langacker's (1966:167) relation of command, and that it has thus been re-introduced by the back door. This is not the case. As the command-relation is formulated it would seem that both NP_1 commands VP_1 and VP_1 commands NP_1 in any strictly Chomskyan phrase marker. This may perhaps

not be unreasonable, but if it is correct then NP_2 and S_2 will also command each other in the phrase marker underlying "the beautiful girl came", while at the same time NP_2 will command NP_3 and VP_2 , which will also command each other, etc. Surely this is an unstable state of affairs. More importantly, it does not correlate in any obvious way with the traditional relation of subordination.

It is on this background safe to conclude that of the traditional three grammatical relations, only two are exploited in Chomskyan grammar, one corresponding to the traditional relation of exocentricity, and one corresponding to the traditional relation of coordination. Superficially endocentric constructions are explained as deriving from a coordination¹ of underlying exocentric structures. The nature of the transformations involved in a particular derivation determines the superficial

¹ I am here following Thomson (1971) in regarding those relatives (at least) that are not demonstrably derived by stacking (cf. Sussex, 1974; Anderson, 1975a:ch. 4) as originating in a conjunct in an underlying coordination -- not because I agree with her presuppositional views of the distinction between restrictive and non-restrictive relative clauses, but because it seems natural to suppose that underlying sentential structures eventually to appear as a relative-clause sentence are related in underlying structure in a less arbitrary manner than suggested e.g. by Smith (1964) and Jacobs & Rosenbaum (1968:ch. 25). Sussex' (1974) category of "broken" (vs. "unbroken", or stacked) attributive adjectives is characterized, in particular, by the presence in surface structure of either an intonational reflex of a connective element, or of the connector itself. Those who disagree with Thomson may read instead: "... deriving from a combination of exocentric structures between which the same relation holds as that which holds between eventually coordinated structures". Cf. also Traill (1973) for arguments against coordination as a source of relative clauses.

status of a construction as either subordinative or coordinative, the two most central transformation complexes being Relative Clause Reduction and Adjective Movement for subordination, Conjunction Reduction for coordination. Furthermore, the underlying exocentric constructions involved differ among themselves. Whereas eventually subordinative constructions are generally considered to derive from reductions of copulative exocentric constructions -- though cf. Sussex (1974:125) -- this is not (necessarily) the case for eventually coordinative constructions.

Problems adhere to both of these transformation complexes. The Relative Clause Reduction transformation and the Adjective Movement transformation fail to account for a large number of cases involving attributive adjectives. This is a generally accepted ~~limitation~~ on these rules (cf. e.g. Bach, 1968:102 ff; Levi, 1973; Bolinger, 1967). In certain instances, notably when the adjective involved is inherently graded (Lyons, 1968:§ 10.4.4), they violate the assumption that transformations preserve meaning. "Old Sam" does not necessarily imply that Sam is old. Finally, the two transformations fail entirely to take note of the question of order within a string of attributive adjectives. (Sussex, 1974). Since there are rules that govern appropriate serialization within such strings, we would like to account for attributive adjectives within a framework which at least allows reference to serialization.

The original, strict version of the Conjunction Reduction Hypothesis (Chomsky, 1957:35-7), which derives all superficially coordinated structures from two or more deep structure exocentric constructions, is inadequate to account for certain instances of nominal coordination, especially when a reciprocal predicate is involved, like "meet", "mix", etc. Subsequent accounts of coordination (e.g. Lakoff & Peters, 1966; Smith, 1969; Dougherty, 1970; McCawley, 1972; Anderson, 1974b) -- though not subscribing to identical derivations -- all recognize two different sources of superficial NP and NP: (a) similar to Chomsky (1957); and (b) only one underlying sentential structure with coordinated NP. The former is known as sentential conjunction, the latter as phrasal conjunction. McCawley (1972:526) is, I believe, the first to have pointed out that phrasal conjunction can only occur with "and".

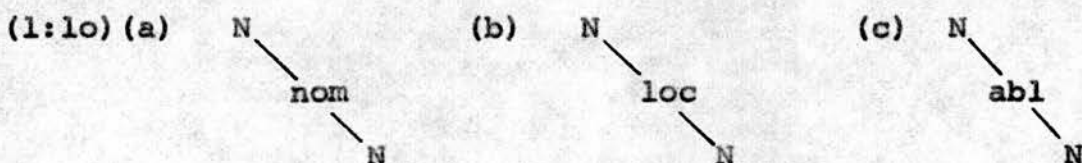
The inability of Chomskyan (rewrite) grammar to account for the traditional relation of subordination is pointed out by Lyons (1968:§§ 6.3.7 and 6.4.3) and Hays (1964), both in discussions of the relationship between phrase structure grammar and dependency grammar.

In dependency grammar -- as Anderson (1971a; 1971b; 1973a; 1975a) -- only the relation of subordination survives. Exocentricity is explained in terms of obligatory dependence, subordination in terms of optional dependence,

and coordination as a non-dependency relation holding between two or more elements which both (all) depend on the same element (cf. in particular Anderson, 1971b:34 fn 5; 1975a:ch. 1; Hjelmslev, 1939).

Anderson (1974a:1) operates with three adnominal cases, nom(inative), loc(ative), and abl(ative), so that, underlying (1:9) are the representations in (1:10):

- (1:9) (a) the name (of) Fred
 (b) the leg of the table
 (c) some of the cheese



The first of these is called the appositive relation (1974a:1; 1973a:61), the third is called a partitive phrase (1975a:97). It is this latter one that is exploited in his account of attributive adjectives (1975a:ch. 4) and of quantifiers (1974a). It is important to realize that he regards these three representations as non-basic, deriving from a reduction of a -- possibly untensed -- relative construction (1974a:1 fn 1; 1975a:97 f), even though this does not play any major part in his analysis of quantification and attribution (cf. the discussion in the next section). Thus the subordinative nature of a superficially attributive adjective is capt-

ured deep-structurally by the optionality of the rule which allows N (and not only V) to govern abl.

The phenomena cursorily surveyed in the present section have one thing in common. They all suggest that an exhaustive analysis of NP involves more than a purely predicational derivation. A number of superficially endocentric constructions (subordinative as well as coordinative) in fact cannot be explained on the basis of a predicational derivation. Furthermore, as evidenced by Anderson, the fact that some NP's can be analyzed on the basis of a predicational derivation is essentially irrelevant for what might be called the 'real' analysis of them. By relating these findings to the outcome of the discussion in the preceding section -- which, it will be recalled, was that a proper account of pronouns and pronominalization cannot afford to ignore level zero entities and the inter-level relationships -- and by reflecting on the implications of the following footnote from Anderson (1971a:31):

Within the dependency framework outlined here, verbs (or 'predicators') and nouns are 'basic' with regard to different aspects of the semantic representation. Verbs are central relationally: they govern the case functions contracted by nouns. Nouns are primary referentially (and perhaps selectionally - but cf. Seuren, 1969:§ 3.2.2); they terminate (non-recursive) dependency trees.

-- we establish as our main thesis to be investigated in the present work the following:

In order to give an exhaustive characterization of the functions performed by NP's in linguistic utterances it is necessary to inquire into the linguistic properties which ensure that NP's may contract inter-level relations with entities of level zero.

Since there is no a priori reason to believe that the means developed to account for intra-level relationships (between linguistic entities) should be identical to the means by which the inter-level relationships can be most profitably analyzed, there is no a priori reason to believe that what is generally called grammatical, or syntactical, analysis provides the best approach to the investigation of inter-level relationships. In fact, since the application of syntactical procedures to what must be considered to be inter-level phenomena has led to none too exhaustive and satisfactory results, there are rather reasons to believe that some essentially different approach must be taken.

1.23 Predicational analysis and explanatory adequacy.

One of the most sweeping trends in the recent developments in linguistic analysis has been the adoption of what I called the V-centred view of the sentence. Such an ap-

proach to linguistics can be compared to -- and is in many instances directly inspired by -- the predicate calculus of logistics. It has superseded the earlier, S-P -structured view held by Chomsky and many others, which bears a resemblance to classical subject-predicate logic. Even explicit followers of Chomsky, like Jackendoff (1972a) have abandoned the latter strategy in favour of the former.

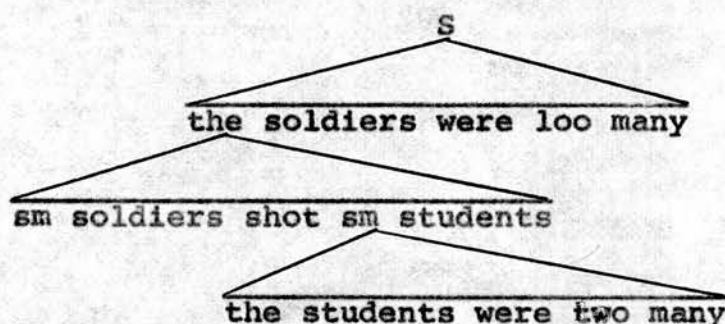
One of the reasons for the recent predominance of V -centricity is the contention that lexical selection based on primacy of the selection of nouns may have awkward consequences for the eventual choice of verb, whereas the reverse does not hold -- at least not if modification is made of Chomsky's general ideas about lexical insertion, as suggested by Seuren (1969:§ 3.2, particularly pp. 64-66). Furthermore, the abandonment of the notion of deep-structure subject -- as proposed by Fillmore (1968) and Anderson (1971a) -- solves many of the problems envisaged by Chomsky if verbs were selected independently of nouns since his arguments for independent noun-selection involve reference to the notions of subject and object (Chomsky, 1965:§ 2.3.4, esp. pp, 92 f). Cf. on this point also Chafe (1970a:95 ff).

This trend has in turn led to considerable uniformity in the analyses proposed for a number of more or less disparate syntagms: almost all linguistic data, from straightforward sentence (or clause) constructions and down to matters of quantification, negation, interrogation, etc. are

being viewed in terms of a hierarchy of predications, all of which are to be interrelated, embedded, pruned, and reduced -- indeed, even annulled -- in a great variety of ways, some of them quite arbitrary.

The catch-phrase behind this uniformity is "explanatory adequacy". The emphasis is not so much on giving a merely descriptively adequate analysis of linguistic data as on specifying a principled way in which a particular descriptively adequate analysis may be chosen against others. Consider, for example, Lakoff's underlying structure for (one interpretation of) "loo soldiers shot two students" (G. Lakoff, 1970a:179):

(1:11)



The basis for this analysis is the intuitive semantic affinity between one member of a given construction-type, BA, and one member of a different construction-type, A is B. But instead of regarding these two construction-types as equipollent, derivational directionality has been imposed on the formula BA = A is B, turning it into A is B → BA. I shall attempt to clarify the reasons for this and

enquire as to whether they are justifiable reasons.

A natural starting-point for this enquiry is an assessment of the notion of explanatory adequacy and, in particular, its relationship with analytical strategy.

The originator of the phrase "explanatory adequacy" is Chomsky (esp. 1964). There three levels of adequacy for linguistic description are introduced and discussed, observational adequacy, descriptive adequacy, and explanatory adequacy. We disregard the former here.

The level of success attained by a descriptively adequate analysis is measured by the degree to which it accounts for the native speaker's intuitions concerning observational linguistic data. A great number of different analyses are descriptively adequate in this sense.

The level of success attained by an explanatorily adequate theory is measured by the degree to which it provides a (well-motivated and) principled basis for selecting one particular descriptively adequate analytic framework against (all) others.

There is a certain amount of indeterminacy in the application of these two terms. To see this, let us operate with the following vocabulary which, I trust, does not misrepresent Chomsky's (1964) account.

- (1:12) (a) "the grammar" = "the analytic framework designed to describe (observational) linguistic data";
 (b) "the theory" = "the theoretical framework that serves as a basis for the grammar in sense (a)".

To Chomsky, "the theory" would be based on the creative aspect of language; it would not distinguish essentially between the capacity to produce and the capacity to understand linguistic utterances; and it would be an ontogenetic -- rather than phylogenetic -- theory.

"The grammar" would be transformational-generative; it would be neutral with respect to the distinction between analysis and synthesis of sentences; and it would be compartmentalized, comprising a syntactic (generative), and two interpretive (semantical and phonological) components.

The question I wish to ask is now simply this: Which of the two terms, "the grammar" and "the theory", can be inserted in place of the variables x and y in

- (1:13) (a) x is descriptively adequate
 (b) y is explanatorily adequate

Whereas the question is fairly easily and obviously answerable for (1:13 a) -- "the grammar" -- it is not for (1:13 b). Let me quote a few lines from Chomsky (1964): "... a linguistic theory that aims for explanatory adequacy ..." (p. 29); "The grammar with its associated linguistic theory would achieve the still higher level of explanatory adequacy ..." (p.32). Judging by the first quote, "the theory" can be inserted for y in (1:13 b); judging by the second quote, so can "the grammar". On the assumption that the definition of "the grammar" provided above is not mis-

representative, this means that some of the principled reasons for choosing a particular grammar are built into that grammar itself. This would not necessarily be a fault, however, if the form of the grammar was uniquely determined by the underlying theory; which in this case it is not.

In order to see that it is not -- at least not exhaustively -- we set up the Chomskyan characteristics of the theory and the grammar, respectively:

(1:14)	<u>the theory</u>	<u>the grammar</u>
	creative	transformational
	neutral	generative
	ontogenetic	compartmentalized

Quite obviously there is no logical relationship between the characteristics of the theory and the grammar's property of being compartmentalized. This is the main reason for the generative semanticist rebellion, the protagonists of which can discard Chomsky's idea of a specific compartmentalization without therefore having to abandon any of the theoretical characteristics.

However, there is a logical relationship between, in particular, "neutral" and "generative" on the one hand, and between "creative" and "transformational" on the other. More explicitly, the requirement on the grammar that it should be neutral as between analysis and synthesis of



sentences is a direct reflection of the theoretical characteristic of neutrality (between production and understanding of utterances), and this requirement is, among other things, manifest in the generative power of the grammar. Likewise, the creative principle of the theory is concerned with our ability to produce and understand utterances never heard or seen by us before. This capability is reflected by the transformational power of the grammar, in the sense that this power makes explicit the relationship between "the boy broke the window" and "the window was broken by the boy".

For our main purpose, however, we now have to look into Chomsky's discussion of this general area in Aspects (1965:24 ff). There the issue is considerably more complex, for two reasons. Firstly, the distinction between "the grammar" and "the theory" is no longer obvious ("A grammar can be regarded as a theory of a language", p. 24). Instead we get a distinction between "a (general) linguistic theory" and "a (language-specific) theory" (p. 25). Secondly, a further distinction between "formal" and "substantive" -- as distinct from "substantial" (cf. Lyons, 1968:§ 4.1.5) -- is brought to bear on the main issue in the form of a search for universals, formal and substantive, which is now seen as a pursuit of explanatory adequacy (p. 36).

In the course of his discussion, Chomsky explicitly seeks to establish the ontogenetic principle of the theory

as the basis for the TG format of the grammar, in the sense that it is supposed to reflect the language-acquisition capacity of man (pp. 25-6). Derwing (1973) may be read as a careful and comprehensive attempt to refute this view.

The crucial point for our purposes, however, is the relationship between explanatory adequacy and the form of language. The explanation involved is supposed to be an explanation of the "inner form of language" (in a Humboldtian sense), to verify a given assumption about the form of language (pp. 26-7; cf. also the passages quoted by Derwing (1973:61) from Chomsky & Halle, 'Some controversial questions in phonological theory', JL, 1,, pp. 97-138 (1965)).

It follows from this that the formal properties of the grammar is supposed to reflect, in greater or less detail, the formal structure of language. Consequently, when one of the formal properties of the grammar is to analyze certain superficially non-predicational structures in terms of underlying predications, it would seem to suggest that the inner form of language is structured more or less uniformly in terms of predications, or at least that predicational structure is basic in some sense.

This, of course, is a fallacy. The starting-point was a given assumption about linguistic form. Any demonstration of the validity of this assumption on the basis of formal properties growing out of it is therefore (malig-

nantly -- cf. Bar-Hillel, 1953) circular.

Furthermore, there is no requirement on the grammar to the effect that it should operate on the basis of predicational analysis which is imposed by the theoretical characteristics. That it should do so on a number of occasions is obvious, but the basis for the recognition of this fact lies within the scope of descriptonal (and observational) adequacy.

One more factor is relevant to the present topic. A theoretical principle of some historical standing appears both to include and also in some sense to oppose Chomsky's principle of creativity. I am thinking of Hjelmslev's principle of translatability (1943:97), Searle's principle of expressibility (1969:19 ff), and Katz' principle of effability (1972:18 ff), the origin of which is traced by Katz to Frege (Katz, 1972:19). Let me first try to show what I mean by saying that Chomsky's principle of creativity is included in (what I shall call, following Searle) the principle of expressibility:

The hypothesis that the speech act is the basic unit of communication, taken together with the principle of expressibility, suggests that there are a series of analytic connections between the notion of speech act, what the speaker means, what the sentence (or other linguistic element) uttered means, what the speaker intends, what the hearer understands, and what the rules governing the linguistic elements are.

(Searle, 1969:21)

In so far as the principle of creativity is the theor-

etical basis for the transformational capacity of the grammar, it is included among the various notions between which "a series of analytic connections" holds, in particular in the last one of those listed. Obviously, linguistic rules -- and among them transformational rules -- constitute an important factor in the availability of linguistic material for the expression of a particular meaning, and thus in the performance of a speech act. But they are -- equally obviously -- not the only deciding factor. The point is made more explicitly by Katz in his demonstration of the inadmissibility of formulating the principle of expressibility (his effability) on the basis of the principle of creativity (Katz, 1972:22), especially by reference to the fact that creativity is a feature of the (recursive nature of the) rule system which governs a language, artificial as well as natural, rather than of the language.

This observation at the same time constitutes what amounts to what I called the opposition between the two principles of expressibility and creativity. Whereas the principle of expressibility is a characteristic of natural language -- cf. in this connection Hjelmslev's (1943:97) definition of 'everyday language' as the semiotic into which all other semiotics can be translated -- the principle of creativity is a characteristic of the rules that govern language use, and only some of the rules at that.

We can illustrate this difference by reference to an example not dissimilar to the one quoted from Lakoff above:

- (1:15) (a) many soldiers will have died in vain
 (b) the soldiers who will have died in vain ? many

If it were the case that (a) and (b) are two transformationally distinct derivations of the same underlying structure, then there ought not be any problems of assigning a temporal specification to the copula in (b). It seems to me that there are such problems. Although it might possibly be argued that (a) and (b) have the same cognitive content, they do not have the same referential potential (see below, § 3.3).

What Lakoff does in his discussion of examples such as these is to avail himself of the principle of expressibility -- the fact that natural language provides a precise expression for a given content -- but pretends that it is the principle of creativity. In this way a transformational connection is posited between pairs of sentences whose cognitive similarities are due to the principle of expressibility with which the transformational component is not connected in any inferential manner. As appears from (1:15), the dissimilarities glossed over by this procedure are very often of a referential nature.

The point I have been trying to make can perhaps be

made in the following more direct manner. Due to Chomsky's demand for explanation in linguistic theory, a large amount of attention has been devoted to analyzing observable linguistic data in as uniform a way as possible; and since predicational analysis is needed anyway in a grammar that purports to be descriptively adequate it has come to play an increasingly important rôle in the analysis of syntagms that are not superficially predicational. By the interrelation between explanatory adequacy and linguistic form, the stage seems to have been reached where 'explanation' is considered to be tantamount to demonstrating a -- more or less plausible -- predicational source for non-predicational syntagms. An inferential link has been assumed between the explanatory adequacy of the theory and the predicational structure of the descriptive framework. This link is spurious on two counts. Firstly because it rests on an assumption which it cannot itself verify (or falsify); secondly because it rests on an unjustifiable equation of the two distinct principles of expressibility and creativity.

1.3 The alternative.

The disinclination to accept as valid the link between explanatory adequacy and predicational analysis which characterizes much current linguistic practice enables us to

deprive the predication of any special status it may be considered to have as a derivational source, and to disqualify predicational analysis of superficially non-predicational construction-types. Consequently we have to provide an alternative. We do this by returning to the comparison between linguistic analytic procedures and logical calculi mentioned above. The alternative I shall offer in the present thesis lends itself to comparison, not with the predicate calculus nor with traditional subject-predicate logic, but with the calculus of classes.

Two points need clearing up at this early stage. Although Logica and Grammatica are twin sisters they are not identical twins. When we describe one we do not describe the other at the same time. The one we are describing in the present work is Grammatica, and although she bears a certain resemblance to her sister, they should not be confused. But, to press the metaphor to the brink, when we describe their parental origin we are, when describing the parents of one, necessarily describing the parents of the other. Cf. § 4.2 for elucidation on this point.

The second matter is somewhat similar. There is an obvious relationship between the two calculi of functions and of classes. It is not only possible but often desirable to translate a well-formed (one-place) formula from one calculus into a well-formed formula of the other, and Reichenbach (1947:192 f), although conceding the conveni-

ence of class-calculus analysis, in fact holds that "classes can be dispensed with", since all its formulae can be expressed in predicate-calculus terms. To say that one formula of one calculus can be translated into one formula of the other, however, is not to say that it is the same formula. It is rather to express the logical equivalent of the principle of expressibility of natural language. The basic difference, of course, is that whereas a well-formed formula from the calculus of functions expresses a proposition, this is not necessarily the case of a well-formed formula from the calculus of classes.

When it comes to the analysis of natural language we find quite often, in fact, that a 'translation' is not possible for some reason or other. Not all 'class-formulae' are translatable into (one-place) predications. Witness "the silver bowl" vs. "*the bowl is silver". Instead we have "the bowl is of silver", where the function-sign "to be of silver" still retains its natural class-interpretation, morphologically marked by "of".

The main argument advanced by the present thesis is that certain linguistic data, although capable of analysis within a predicational framework -- in virtue of the principle of expressibility -- are in fact more readily available to a different kind of analysis, the nearest parallel to which outside linguistics is the calculus of classes in logic. What is presented here is an alternative analysis of certain kinds of linguistic data to the (by now almost standard) predicational analysis

that they have received. The spirit in which this alternative is presented owes much to the following formulation:

Examples that lie beyond the scope of a grammar are quite innocuous unless they show the superiority of some alternative grammar. They do not show that the grammar as already formulated is incorrect. Examples that contradict the principles formulated in some general theory show that, to at least this extent, the theory is incorrect and needs revision. Such examples become important if they can be shown to have some bearing on alternative conceptions of linguistic structure.

(Chomsky, 1964:54-5)

Chapter 2

The Philosophical Preliminaries: Referentiality

2.1 Introductory remarks.

The subject-matter here subsumed under the general term "referentiality" is highly diversified. Furthermore, discussions of it have a long historical standing. It comprises in fact some of the central problems in the tradition of Western philosophy, and for that reason alone the account in the present chapter can only be the merest sketch. It is my hope, however, firstly that even a mere sketch may be justified as an attempt to bring together certain idiosyncratic notions under a common head, secondly that, by presenting such a sketch, I shall be able to delimit the subject-matter proper of the present thesis. It is in the nature of things, therefore, that this chapter should be analytical and critical rather than inventive and constructive.

2.2 The field of referentiality.

In the Aristotelian account of the categorial system the major distinction is between *ὄυσια* and *συμβεβηκός*, between substance and accident. It is of fundamental importance to our concern that the categories of space and time should be found among the accidental categories. Before we come to that, however, it is also important to realize that the categorial system itself is referential. The categories, conceived of as forming a stable, perduring frame of reference to which entities can be ascribed, are built into language itself, for without language the (negative) proof of the law of excluded middle, this "the most certain of all principles", cannot be established:

Even in the case of this law (of excluded middle), however, we can demonstrate the impossibility by refutation, if only our opponent makes some statement.

ἂν μόνον τι λέγη ὁ ἀμφισβητῶν

(Metaphysics 1006 a 13)

Since the law of excluded middle also presupposes the categorial distinction between substance and accident, it follows that this distinction is concomitant with the making of a statement; that is, it is inherent in language (cf. Bertelsen, 1974:68-70, and for a different argumentation for the central involvement of the law of excluded middle with the notion of referentiality -- "correspondence" in his terms -- Russell, 1940:chs. 20-21).

The categorial system thus meets the requirement for a referential system. It is a system of linguistic properties relative to which non-linguistic entities are seen.

Substances are characterized as having 'being' in some sense; indeed that is what makes them substances. But substances may also be ascribed to the accidental categories of space and time, or -- differently formulated -- being at a particular place at a particular time may be predicated of (primary) substances. Although in this way there appears to be a distinction between 'existence' on the one hand, 'location' (spatio-temporal) on the other, the slogan "Whatever is, is somewhere" indicates some sort of interdependence between the two. This slogan can in fact be interpreted as a gnomic formulation of the distinction between a pseudo-referential description and a referential description (Sørensen, 1958:50).

This distinction, in barest outline, is as follows: If we have given a semantic description of a sign, x , that is to say, if we have established x as the definiendum and a phrase, zyw , as the definiens of x in a formula of the form " x " = " zyw ", then we have established the meaning (in more recent parlance, the sense) of x . The phrase zyw is ultimately constituted by semantic components, or features, or primitives, and these, in turn, can be regarded as a set of conditions which anything in the non-linguistic world must satisfy in order to be said to be properly denoted by x . Let x be "a father", zyw "a male parent". Anything in the world of non-linguistic entities

that satisfies the conditions of being male and a parent is properly denoted by "a father" (cf. also Sørensen, 1967). The procedure of establishing the denotative conditions, however, is secondary. It depends on the primary, semantic, description. Turning a semantic description into a denotative description is what Sørensen calls a pseudo-referential description.

A genuine referential description, in contrast, is a demonstrative description. It depends on egocentric particulars like "here", "there", "this", etc., some of which may, of course, be explained in terms of others.

In order to avoid identification of either of these two types of description with my cover-all term "referentiality", I shall refer to the former type as a denotative description, or analysis, to the latter as a deictic description or analysis. These two types are regarded as being mutually exclusive, and together they exhaust the field of referentiality. A problem of referentiality is consequently to be approached by and solved in terms of either a denotative or a deictic analysis, or both.

The appropriateness of bringing in the Aristotelian categories at the beginning of this chapter can now be appreciated:

A denotative analysis is centrally, if not exclusively, concerned with the ontological status of entities and with

the consequences a particular status of a particular entity will have for the language in which the entity is being talked about. This is truly the field of linguistic philosophy. Its crucial notion is "existence".

A deictic analysis is concerned with the correlation between language and (spatio-temporally) located entities. Its crucial notion is "location".

The reference to linguistic philosophy (in Vendler's sense, 1967:5) indicates that it might plausibly be argued that a denotative analysis is not a linguistic analysis. This argument would appeal to the fact that a denotative analysis is derivative, parasitic upon a semantic analysis, and the claim that only the semantic analysis is linguistic in nature. It would be pleasant to be able to leave the matter at that. Unfortunately, however, we cannot do that. Much of what has been said on these matters in the past is deficient in various respects, the most important of which is the frequent confusion of sense and denotation/reference. Yet on the other hand to dismiss, say, Russell's theory of descriptions on this count would be not a little presumptuous and arrogant, and not just because it (via Quine) has entered recent linguistic discussions (e.g. Bach, 1968; Baker, 1973).

I see it as the task of the present chapter, therefore, to look into some more or less recent treatments of the notion of referentiality with a view to establishing a

field which (predominantly) linguists should be expected to till. The way I shall go about this task is to analyze -- in greater or less detail -- works by people whose main interest seems to be (or have been):

Denotative analysis (§ 2.21)

Deictic analysis (§ 2.22)

An attempt to annihilate the distinction (§ 2.23)

An assimilation of denotative to deictic analysis
(§ 2.24)

A reconciliation of deictic and denotative analyses
(§ 2.25)

2.21 Denotative analysis.

If there is anything that could be called the basic philosophical interest it would be likely to be an interest in what there is. The twenty-four words forming the preceding sentence give some sort of indication of the scope and nature of the complexities involved in the relationship between words and things. It takes in a good deal of the mind-body problem; indeed, some philosophers regard that problem as a basically linguistic problem. (Cf. in general Cornman, 1966; in particular Ryle, 1949). Since this problem, however, is of no crucial importance to us, the present section will be limited to a brief out-

line of only two theories: the linguistic theory of the modists, and Russell's 'On Denoting'. Both the modists and Russell (in one of his aspects) represent a more linguistically biased tradition than do most of the philosophers dealt with by Cornman, with the exception of Ryle.

One of the features that sets Scholastic, and particularly modistic linguistic theory off from its predecessors is the firm tripartition of the modes of signifying, understanding, and being. These are related to the three factors which most explanatory theories of language have felt it necessary to operate with, although with varying degrees of stress and importance attached to each: language, thought, and reality.

In modistic treatises, one of the first questions to be asked is invariably from what the modes of signifying are derived or originate. The 'prooemium' is typically designed to explain the interrelations of the three basic kinds of mode. Martinus Dacus has it (1270?:4)¹:

Circa primum sciendum est quod modi significandi accepti sunt a modis intelligendi sicut a causa immediata. Quidquid enim contingit intelligere, contingit et significare. Et a modis essendi accepti sunt sicut a causa mediata, quia mediantebus modis intelligendi. Modi autem essendi sunt proprietates rei secundum quod res est extra

¹The actual date of composition is still in some doubt; cf. Pinborg (1967:63 ff).

intellectum. Modi autem intelligendi sunt eadem proprietates rei secundum quod res est in intellectu et ut eadem proprietates cum re sunt intellectae. Modi autem significandi eadem proprietates sunt in numero secundum quod res est significata per vocem.

He goes on to explain that the three kinds of mode are the same 'in depth' (penitus), but that they differ by accident in the same way as that in which Socrates is numerically one and the same although he may accidentally be in a market-place, in a house, or among a festive crowd. Although Martin's schemata were later to be expanded in various ways, notably to include a distinction between active and passive modes of signifying and understanding (see Thomas of Erfurt, 1310?:134 ff), the basis remains the same.

Martin's choice of exemplification to illustrate the 'underlying' identity of the three kinds of mode, and their different realizations, at the same time illustrates his (expected) dependency on the Aristotelian categories. The notion of 'Socrates being numerically one' is a separate notion from 'Socrates being at a particular place at a particular time'. Existence is separate from accidental location.

Since the underlying identity of the three modes is ultimately the guiding principle for our ability to speak and think about non-linguistic entities, existence itself comes to be seen as a reflex of the interrelation between

the three modes. The particular brand of idealism exemplified by modistic theory is an inductivist position explaining existence in terms of the results yielded by a particular linguistic analysis. Such an analysis is inherently denotative.

Among the puzzles that Russell envisaged his theory of descriptions as solving, the third ("How can a non-entity be the subject of a proposition?") is an ontological puzzle. In order briefly to recapitulate the position: if A and B differ we can express this fact by means of "the difference between A and B subsists". But if they do not differ, and we express this fact in similar terms, "the difference between A and B does not subsist", are we then committed to an entity like the difference between A and B?

He solves the puzzle by saying that from any proposition we can deduce a description. If the original proposition was true, then there is an entity to which the derived description refers. If it was false, on the other hand, no such entity can be assumed.

This argumentation depends on our ability to ascribe truth and falsity to proposition. If we are unable to do that we will consequently be unable to determine what entities exist (or subsist), and which do not.

Whatever the philosophical implications of such a view might be it clearly follows that we cannot depend on lang-

uage to yield a list of subsisting entities. First we need criteria by which to determine the truth and falsity of propositions. These criteria belong within the correspondence theory of meaning (cf. Russell, 1940:272 ff and passim), which is a special empiricist concept of semantics into the details of which we shall not go. Suffice it to say that it is basically concerned with the question of existence in an epistemological context.

The general strategy of 'On Denoting', consequently, which reduces descriptions to expressions containing no descriptions, depends on the acceptance of the correspondence theory of meaning, and this is an inherently denotative theory.

2.22 Deictic analysis.

Chapter VIII of Linsky (1967) develops a view on referentiality that places it within the bounds of a deictic description. His basic contention is that it is not phrases but speakers that refer, and this, combined with his insistence that context of utterance plays a part in determining what referent a given expression has on a particular occasion, is the key-factor in the deictic situation. Phrases only 'have' reference in a derivative sense. What is primary is that phrases may be used to refer. In this way, referentiality becomes a function of certain linguist-

ic items, not a property of them.

This view necessitates a considerable reduction in the number of linguistic items traditionally thought to embody referentiality: "Referring does not have the omnipresence accorded to it in the philosophical literature". (Linsky, 1967:122). The first and heaviest casualty is the existential question:

But often the examples produced in which we are supposed to do this (i.e. refer to non-existent entities) ('Hamlet was a prince of Denmark', 'Pegasus was captured by Bellerophon', 'The Golden Mountain does not exist') are such that the question "To whom (what) are you referring?" simply cannot sensibly arise in connection with them. In these cases, anyway, there is nothing to be explained.

(Linsky, 1967:122)

The "ontological anxiety" that Linsky dimly sees entering for example Russell's theory of descriptions, if I read him correctly, is a pseudo-problem in a discussion of reference. Reference-acts, and generally, speech-acts, are held to occur within the scope of special operators, like "in-the-movie-operator", "in-the-novel-operator", etc. Such a doctrine relies significantly on the prior relegation of the existential question to the realm of pseudo-problems. But even accepting a certain existential status for such 'operators', the doctrine is too easily reduced to absurdity. What 'operator' do we speak in when

speaking of in-the-movie-operator? In-the-movie-operator-operator? A possible reinterpretation of Linsky's position on which the operators are seen as variants of the 'possible-worlds' view leaves us not much better off. Substituting the existential problem by the problems of modality does not solve it, only restates it in equally problematical terms.

Linsky's account represents an extension and particularization of part of Strawson's theory presented in 'On Referring' (1950) to which we return below. But even as such it is hardly successful -- let alone as an account of the total field of referentiality.

Its lack of success as a limited account stems from an important unclarity in it which makes exhaustive evaluation difficult. It was said above that on Linsky's view phrases may be used to refer. Yet we are never informed as to precisely what kind of phrases may be so used. In effect he discusses only two construction-types, one of which is further subdivided into two sub-types:

- (a) Proper names: "Tommy Jones"
- (b) Definite descriptions
 - (i) non-capitalized: "the old man with grey hair"
 - (ii) capitalized: "The City of the Angels"

With respect to (a) he says

But surely when I say "Tommy Jones is not the king of England" I am not claiming that exactly one person of any circle is named "Tommy Jones". What is indeed necessary, if I am to make a definite assertion, is not that one person only be named "Tommy Jones"; but that I be referring to just one person, however many others there may be with the same name as his. It is a mistake to think that the 'referring expression' itself can secure and guarantee this uniqueness. This is obvious in the case of proper names, for here we cannot appeal to meaning. "Tommy Jones" does not have a meaning, and many people share it. Proper names are usually (rather) common names.

(Linsky, 1967:118; my emphasis)

With respect to (b ii) he says,

One can ask, "To what city does the phrase "The City of the Angels" refer?" The answer is "Los Angeles". Such expressions are on their way to becoming names, e.g. "The Beast of Belsen". They are what a thing or person is called often and repeatedly, and that is why one can ask to what they refer.

(op. cit., pp. 120 f; my emphasis)

There is a strange inconsistency between these two passages, hinging on the word "name". On the one hand we are told that there is no one-to-one correspondence between a proper name and whatever bears that name. On the other hand, because it is 'on its way to becoming' a name, there is apparently a one-to-one correspondence between "The City of the Angels" and Los Angeles.

To put it as directly and as paradoxically as pos-

sible: Although "Tommy Jones" is a name, we cannot sensibly ask "To whom does "Tommy Jones" refer?"; but because "The City of the Angels" is almost(?) a name, we can sensibly ask "To what does "The City of the Angels" refer?" This paradox is in need of clarification, but Linsky provides none. As for the linguistic reasons behind the different referential properties of "Tommy Jones" -- in general, proper names -- and "The City of the Angels" -- in general, pseudo-proper names -- see below, § 11.36.

The actual limitation to only two construction-types represents a further limitation of Linsky's account of referentiality. We are not told whether phrases like "a man", "some man", etc. could be used to refer under appropriate (contextual) conditions. Since the entire account is limited to the question of unique reference it would appear, however, that they could not. But even as an account of unique reference it fails because, as we have just seen, it fails to clarify the paradox of uniqueness.

2.23 Attempts to annihilate the distinction.

The task Russell considered his theory of descriptions to achieve (viz. to establish the ontologically satisfying situation in which a one-to-one correspondence held between

a linguistic entity and an existing entity) is a task whose attempted achievement has been undertaken from time to time. The first large-scale attempt (in England) is that by John Wilkins in his Essay Towards a Real Character and a Philosophical Language (1668). The interesting aspect of that work is its distinction between only two philosophically relevant word-classes, integrals (nouns, adjectives, and derived, in the main denominal, adverbs), and particles (all other traditional word-classes). This distinction is a referential one: the integrals constitute the class of words that refer to things, notions, and persons. The overall assumption behind his theory is this:

As men do generally agree in the same Principle of Reason, so do they likewise agree in the same Internal Notion or Apprehension of things.

(Wilkins, 1668:20)

Both antecedent and consequent in this statement are false, and shown in great detail to be false, the former by Lohmann (1965), the latter by Whorf (1956).

But Wilkins goes further than just to set up a list of one-to-one correspondences between signs and denotata:

But now if these Marks or Notes (i.e. signs, not 'words', for characteristics of things) could be so contrived, as to have such a dependence upon, and relation to, one another, as might be suitable to the nature of the things and notions which they represented; and so likewise, if the Names of things could be so ordered as to contain such a kind of affinity or opposition in

their letters and sounds, as might be some way answerable to the nature of the things which they signified; This would yet be a farther advantage superadded. by which, besides the best way of helping the Memory by natural Method, the Understanding likewise would be highly improved; and we should, by learning the Character and the Names of things, be instructed likewise in their Natures, the knowledge of both which ought to be conjoined.

For the accurate effecting of this, it would be necessary, that the Theory it self, upon which such a design were to be founded, should be exactly suted to the nature of things.

(Wilkins, 1668:21)

Although Wilkins in principle follows Aristotle's categorial system in setting up the ontological tables on which his theory depends (Part II), and thus in a sense continues the Scholastic tradition, the 'real character' denotes, not things directly, but indirectly via the contingent location of the genus, differentiae and specificae that make up the 'nature' of the thing as set up in the ontological tables. What we are supposed to be able to read out of the real character is the nature of things, their absolute ontological status, as determined by the tables.

Even if the 'location' conflated with existence here is not the kind of location with which we are basically concerned, Wilkins' work nevertheless represents an extension of the Scholastic position, interpreting existence in terms of absolute ontological location. It thus tends towards a position of Russell's to which we turn.

In chapter 24 of An Inquiry into Meaning and Truth (1940) Russell is concerned with the question whether propositions stating that something is a part of a whole are necessary for epistemology and should be regarded as essential propositions expressed in the primary language. His approach is indirect, and some strange consequences follow from the various steps of the analysis.

Our language (i.e. a logical language -- a 'real character' -- especially constructed for the purposes of the analysis) must, in the first place, contain proper names for all perceived objects which are perceived as units. When we perceive a Gestalt without analyzing it, we must be able to name it - e.g. to say "that is a swastika".

(Russell, 1940:312)

What Russell appears to be saying is that "(a) swastika" is a name, and that we, by ascribing the denotatum of "that" to the class which is constituted by the extension of "a swastika", 'name' that denotatum. It is clear that we, in case we have several figures three of which are of a shape similar to that of the denotatum of "that" above, and which we could call A, B, and C, could point to each of these in turn and say "that is a swastika". Since A, B, and C, in order to be three figures, must differ spatio-temporally (Strawson, 1974:16), it follows that "a swastika" alone does not denote particular spatio-temporal properties. It follows therefore that the logical language must contain a class of words that denote non

-linguistic entities irrespective of the spatio-temporal location of their denotata.

Nevertheless, if there is such a thing as a judgement of analysis, where the analysis is of the sort we have already considered, i.e. of spatio-temporal whole and part, it needs a proper name for the whole and other proper names for the parts. Suppose, for instance, you want to say, not in general, but in a particular case, that a certain face consists of its two eyes, its nose, and its mouth (ignoring other parts), you will have to proceed as follows: Let us call the face F , the eyes respectively E_1 and E_2 , the nose N , and the mouth M .

(loc. cit.)

Here we are confronted by another kind of proper name. Let us look at the example provided by Russell in some detail.

The first and very important point is that the face we perceive is not a 'general' face but a particular one. So, in the following, we are concerned with a particular face, a particular pair of eyes, a particular nose, and a particular mouth. Relative to these particular entities Russell introduces names, F is the name of the particular face, E_1 is the name of a particular eye, etc.

The point I wish to look into is that which concerns "particular" in the above. If E_1 is the name of a particular eye it means that E_1 can never be used as a name for any other eye (I assume, as did Russell, the validity of the law of excluded middle). E_1 is in one-to-one corres-

pondence with a non-linguistic entity. It is unlike "a swastika" in denoting a class that has only one member (but not in denoting a class).

How does Russell determine that there are two eyes in his percept, i.e. in the object through direct observation of which he (or his mind) forms a percept? A first answer is already given: by direct observation. But it is not as simple as that. A pair of eyes are often similar in shape and colour; so what Russell determines (in his usual terminology) is that he perceives two ocular patches of similar colour. But he can only decide that there are two patches because they differ spatially. If the physical object which we call an eye is in fact a complex of qualities (as Russell maintains) -- let us, for simplicity's sake, say of the four qualities colour, shape, space, and time -- the only way we can decide that a man has two eyes is very often only that the spatial co-ordinates are different from one to the other (this becomes even more obvious if we follow Russell a step further and regard the denotata of E_1 and E_2 as equal parts of a horizontal line).

What I am arguing, in brief, is that in order to say of an eye that it is a particular eye, one has already invoked spatio(-temporal) qualities. This implies that a statement of the sense of E_1 (and F , etc.) must involve reference to spatio-temporal qualities. This statement of sense pronounces the absolute spatial location of E_1 . What we say when we say that the denotatum of E_1 is to the left of the denotatum of E_2 (for example), is derivat-

ive. It can be inferred from the sense of E_1 .

Let us now turn more explicitly to the temporal quality. Russell assumes that one quality of a percept never recurs. He also assumes a relation of compresence, for which the non-recurrent quality is the basis. The percept of the face is compresent with a given temporal quality, t . As in the case of the spatial quality, t must be included in a statement of the sense of E_1 (and F , etc.). This we can now give (in Russell's formula, p. 313):

$$E_1 = f(\theta, \phi, t)$$

-- which can be read as " E_1 " is synonymous with "the ocular patch of colour which is located at the intersection of the horizontal axis, θ , and the vertical axis ϕ , at time t ".

The implication of this is that the logical language should contain names the sense of which depended on the accidental spatio-temporal location of the entities they denote. E_1 would no longer be an appropriate name at a different time, s , for the entity it denoted at t . For a natural language this would be an impossible situation.

Although Russell eventually decides that the concept of spatio-temporal whole and part "is too elaborate and inferential a concept to be of much importance in the foundations of theory of knowledge" (p. 321), he does not explicitly denounce the steps that led us to the above con-

clusions. It would appear, therefore, that in the chapter we have been discussing, Russell is concerned with the possibility of annihilating the distinction between existence and location (at least for those entities which are parts of wholes) as a natural extension of his theory of descriptions.

2.24 Assimilation of denotative to deictic analysis.

Searle (1969:ch. 4) begins his exposition of reference by explicitly delimiting the field to categorical, singular, definite reference. This is essentially the same area as Linsky was concerned with, but whereas Linsky did not make this clear, Searle does and states his reasons: since this field provides us with ample problems, let us try to solve these before going on to other kinds of reference. I happen to believe these are bad reasons. First of all, singular, definite, categorical reference is one of the most complex forms of reference¹. Secondly, and connected with the first point, there are structural connections within the field of referentiality, which makes it difficult to single out one type of reference and anal-

¹ In the sense that a feature-specification of an expression performing this kind of reference is more complex than the specification of expressions performing different kinds, and not in the sense of 'evolutionary' complexity (cf. Quine, 1960:ch. 3).

alyze it in isolation from other kinds; and even if it could be done it would create a false priority within the linguistic field of referentiality (though not, perhaps, in the philosophical field).

The first important point to note is that Searle recognizes referring expressions by some means other than function: "Not every occurrence of a referring expression in discourse is a referring occurrence ..." (p. 73). This allows only one interpretation. 'Referring expression' is a name given to constructions of a certain type; but for an expression to be of that type does not ensure that a given instance of it performs the function of referring. A referring expression may be used by a speaker either to refer or not to refer.

Definite referring expressions, we are told, are of four kinds:

- (a) proper names: "Socrates", "Russia".
- (b) complex noun phrases in the singular, usually, but not invariably, introduced by the definite article: "the man who called", "the highest mountain in the world", "France's present crisis".
- (c) pronouns: "this", "that", "I", "he", etc.
- (d) titles: "the prime minister", "the pope".

The common feature of these, we must assume, is the presence in them of a definite-marker -- overt in cases

like "the man who called", covert, but retrievable, in cases like "Russia" and "I". Since he is explicitly concerned with only singular definite reference we may further assume that these are also the kind of phrase he has in mind when speaking simply of 'referring expressions'.

It would appear then, that Searle continues Russell's tradition according to which "a phrase is denoting solely in virtue of its form" (Russell, 1905:103), although denoting form does not ensure denoting function, and although the relevant form may have to be found, not by direct observation, but by analysis of underlying structure (of some sort). We shall see later that to call a given expression a referring expression implies (to Searle) that it can be substituted by an identifying description (see below).

There are two axioms crucial to any theory of reference, one associated with existence, one with identity. These have been central to philosophical discussions of the topic at least since Leibniz, who is credited with the first formulation of the 'law' or 'principle (Linsky, 1967:9) of reference' which Searle states as follows:

If a predicate is true of an object it is true of anything identical with that object regardless of what expressions are used to refer to that object.

(Searle, 1969:77)

The existential axiom simply says: "Whatever is referred to must exist". (loc. cit.)

Searle does not dismiss the question of existence right away; nor does he, like Linsky, regard it as a pseudo-problem. He does, however, consider the remaining problems connected with it in relation to reference "trivial", after thanking Russell for having done away with the main problem, viz. the paradox that in order to deny the existence of something one must in fact state that it exists. The overall strategy employed by Searle in dealing with the remaining problems is similar to, if not identical with, Linsky's. He substitutes for them the problems of modality connected with the notion of 'possible worlds'. We may speak in different "modes" of discourse, such that we both refer and make a true statement in uttering

(2:1) Sherlock Holmes wore a deerstalker hat

Although this formulation is less obviously open to reductio ad absurdum than was Linsky's (to speak in a certain mode of discourse is obviously not the same sort of thing as having one's speech bound by external 'operators') there are still difficulties. There are no observable linguistic characteristics by which we may determine what mode we speak in on a given occasion. This is an unobliging feature of language which cannot, I believe, easily be dismissed since it involves one of the defining properties of language, what Hockett called "the design feature of prevarication". Even in languages with a well

-developed subjunctive system (like Latin or German) Sherlock Holmes would wear a deerstalker in the indicative, just as De Gaulle would wear a képi and MacMillan a bowler in the indicative, even though De Gaulle no longer 'exists'. Searle is himself aware of this (I think) when he says that

I should emphasize that my account of parasitic forms of discourse does not involve the view that there are any changes in the meanings of words or other linguistic elements in fictional discourse.

(Searle, 1969:79)

The issue is precisely that at no point (semantical, morphological, or syntactical) does language undergo any change in 'shifting' from one 'mode of discourse' to another. One of the cleverest exploitations of this fact in recent fictional(?) writing is Frederick Forsyth's The Day of the Jackal.

Searle follows Strawson in maintaining that non-existence of referent entails failure of reference rather than falsity of statement. Consequently, when we utter (2:1), the 'mode of discourse' which we speak in determines whether we have referred or not. If we have, the statement made is meaningful (and true); if we have not the statement made is still meaningful but neither true nor false (if we ascribe Strawson's terminology to Searle, who does not explicitly discuss this point). Since on occasion we may succeed in referring to Sherlock Holmes and

in making true statements about him it follows that he exists -- that is, he exists-in-fiction, which is said not to contradict the statement that Sherlock Holmes does not exist at all (p. 79). So all that the theory of reference requires is that we can operate with referents that have any kind of existence -- physical, fictional, logical(?), etc. (cf. Reichenbach, 1947:274 ff). This inherent ambiguity in the verb "exist" will be taken up later. Suffice it here to say that Searle accepts it, and that the existence referred to in his formulation of the existential axiom is inherently ambiguous.

In short, and to sum up, the residual problems of reference and existence, be they trivial or not, are not solved simply by changing the terminology to one of 'possible worlds' unless some clearer indication is given as to how this notion is to be explained.

The present section is concerned with views that are said to subordinate the notion of existence under the notion of location, but so far this claim remains unsubstantiated relative to Searle's account. It emerges from his reformulation of the axiom of existence, however: "There must exist one and only one object to which the speaker's utterance of the expression applies". (p. 82).

Whereas the original formulation (above, p. 83) is what we might call a pure existential statement, the revised version is not. The original version speaks of existence as an independent notion. The revised version speaks of

"one and only one object". Now, this can be generalized from various points in his discussion in such a way that the revised version is understood to speak of the existence of a particular object. And for an object to be a particular object is for that object to differ at least spatio-temporally from all other objects, as was argued above (pp. 79-80). Since the revised formulation represents a departure from the original formulation precisely to the degree to which it incorporates the notion of location, and since the revised formulation forms the basis for Searle's own account of reference, it remains to be shown that the notion of existence is subordinated to the notion of location.

It may seem inconsistent to regard 'On Denoting' as the expression of a purely denotative analysis and Searle's account as an instance of a subordination-type analysis, since -- or so it appears -- the two accounts are identical as far as their treatment of existence is concerned. The first part of Russell's formula for analyzing propositions containing definite descriptions is often given as follows:

(2:2) There is one and only one entity, x, ...

-- which seems to correspond fairly closely to the first half of Searle's revised axiom of existence, except for Searle's incorporation of necessity. The fact that Searle should incorporate necessity in his axiom is significant but before we can show that we need to look at Searle's

criticism of Russell's formula (pp. 83 ff; cf. also pp. 157-62).

The relevant point is Searle's claim that an analysis of

(2:3) the man insulted me

according to the theory of descriptions "would have to be construed as asserting the existence of only one man in the universe" (p. 83).

Although the logical formula which Searle derives from one aspect of the theory of descriptions (p. 157) is not capable of a translation by the following paraphrase, it seems to me that the 'spirit' of it is:¹

(2:4) there is one and only one entity, x , such that x both is a man and insulted me at place p at time t .

If this is accepted then (2:4) redeems Russell from the absurd view attributed to him by Searle by asserting the existence of an entity irrespective of its spatio-temporal location by predicating a complex of properties of x that identifies x uniquely.

¹ The formula in question is $(\exists x) f_x \cdot (y) (f_y \rightarrow x = y) \cdot g_x$ -- where f can be read as "is a man" and g as "was insulting (to me)". The reason why (2:4) cannot be a paraphrase of this formula is that it involves reference to different times, and thus requires expression by a formula from a higher-order tense-logic.

In contrast, the formula implied by Searle's subsequent discussion is as follows:

- (2:5) there is one and only one entity x that both is a man and is at place p at time t , such that x insulted me at place q at time u .

That this is in fact so appears from a consideration of Searle's discussion of the interrelations between the two axioms of existence and identification (pp.85 ff).

His starting-point is the splitting-up of the axiom of existence into two sub-parts:

- (2:6) (a) There must exist at least one object to which the speaker's utterance of the expression applies;
- (b) There must exist not more than one object to which the speaker's utterance of the expression applies.

It is the requirements for the satisfaction of (2:6 b) we are concerned with, and he finds ultimately that what satisfies condition (2:6 b) is in fact the ability to satisfy the axiom of identification which, in its revised form¹, appears as

- (2:7) The hearer must be given sufficient means to identify the object from the speaker's utterance of the expression.

(p. 82)

¹ The axiom of identification is Searle's third axiom of reference and it should not, of course, be confused with the axiom of identity. I have not stated the axiom of identification in its original form, in which it imposes the requirement on the speaker that he should be able to identify uniquely the object to which he refers in the utterance of a given expression. For its original formulation, see p. 79.

The business of accounting for (2:6 b) is thus converted into the business of accounting for (2:7), and to do that involves the attractive idea of a range of identifying descriptions 'underlying' (in a non-technical sense) any referring expression. Identifying descriptions may be

- (2:8) (a) purely demonstrative (deictic)
- (b) purely descriptive
- (c) a mixture of (a) and (b)

Among these, (a) is accorded a pre-eminent position:

And it is worth re-emphasizing here that a limiting case of saying is saying which involves showing; that is, a limiting case of satisfying the principle of identification and hence the principle of expressibility is indexical presentation of the object referred to.

(Searle, 1969:88)

Searle's position, it seems, can then be summed up as follows: By uttering "the man insulted me" we predicate 'delivering an insult directed at me' of a particular entity. The particularity of that entity is guaranteed by the speaker's ability to provide an identifying description of it, ultimately a description consisting of a deictic gesture accompanied by verbal material like "the one there now", and it is consequently independent of the predicate "insulted me". From the limiting status accorded to deictic descriptions it follows that the particularity of the entity is equivalent, ultimately, with

its spatio-temporal discreteness from all other entities. If we let t and s symbolize time and space, x an entity, p the original predicate, e existence, and employ a dash to divide a -- so far, unordered -- configuration of these symbols into two parts, Searle's position can be stated in the formula

(2:9) $x e t s / p$

-- whereas Russell's conforms to the formula

(2:10) $x e / t s p$

The formula attributed to Russell is compatible with his basic philosophical doctrine that objects are clusters of properties, that attributed to Searle with his criticism of that doctrine (p. 164).

For our interpretation of Searle to be justified it now only remains to show that, within the formula (2:9) ascribed to him, the symbols are not unordered, but that there holds an implicational relationship between ts and e , with ts as implicans, e as implicate. And this is precisely what the occurrence of "must" in his reformulation of the existential axiom suggests. If we read it as the sign of logical necessity, the last step in our analysis can be given thus:

Since x is at place s at time t it follows,
with logical necessity, that x exists.

I have now shown what I wanted to show, viz. that Searle's concept of referentiality is based on the theoretical assumption that existence, in so far as it is 'predicated' of anything¹, is predicated of entities which are already, and independently, located in space/time (including 'possible worlds'), and that his account of reference therefore conforms to the view that existence is subordinated to location.

2.25 Reconciliation of denotative and deictic analyses.

In this section we shall be concerned with two versions of the view that the two types of analysis can be reconciled without either fusing them in a hyponymical relationship or annihilating the distinction between them.

Such a view is held, in linguistic philosophy, by Strawson, in linguistics by Lyons as well as by Sørensen from whose account I originally established the distinction. Bierwisch (1971) is also susceptible of an interpretation that would place it in this section. We turn first to Strawson's 'On Referring' (1950).

¹ I am here trying to express a neutral stance on the philosophical-ly controversial question as to whether "exist" is a predicate. Searle says it is not (p.165); nor, he says, is existence a property (p. 78). Cf. Kneale (1936), Moore (1936), Pears (1963), Thomson (1967), and further discussion in § 2.3. Whether "exist" is a predicate or not does not affect my analysis of Searle.

By way of introduction I shall suggest that Strawson, in 'On Referring', is primarily interested in deictic analysis, though without losing sight of denotation. Our discussion will take the form of an attempt to substantiate this suggestion.

In Russell's reply to Strawson's criticism of the theory of descriptions (Russell, 1957), the first and most important point at which Russell defends himself (or attacks Strawson) is on the question of the relation between egocentric particulars and definite descriptions:

The gist of Mr Strawson's argument consists in identifying two problems which I have regarded as quite distinct - namely, the problem of descriptions and the problem of egocentricity. I have dealt with both these problems at considerable length, but as I have considered them to be different problems, I have not dealt with the one when I was considering the other. This enables Mr Strawson to pretend that I have overlooked the problem of egocentricity.

(Russell, 1973:120)

Later, and quite unequivocally, Russell says, "I think Mr Strawson completely mistaken in connecting it (i.e. the question of egocentricity) with the problem of descriptions." (id., p. 122).

Linsky (1967:85) suggests that "(w)hat at first looks like a clash of contradictory views about the same subject turns out to be a statement of compatible views about different subjects" because Russell and Strawson cover different ground. Russell, according to Linsky

(loc. cit.), is concerned with an analysis of a certain class of propositions, whereas Strawson is concerned with the study of a certain use of words.

The emphasis by Strawson on regarding reference as a special use to which expressions may be put appears to be the reason for Russell's embarkation on the egocentricity issue in his defence. Accepting Linsky's summary at this point as a fair representation of the situation, it becomes clear that the issue is our issue. Strawson criticizes the theory of descriptions for being exclusively denotative, Russell defends himself by maintaining that it is rightly so because denotation and deixis are entirely distinct and cannot be reconciled.

In view of this the situation may be re-interpreted as follows. Russell's endeavour (in 'On Denoting') is to construct a theory on which there can be predicted to be a one-to-one relationship between a (logical) subject and a non-linguistic entity, irrespective of its spatio-temporal location. It is its existential status he is after. He wants to establish an ontologist's paradise in which a correct linguistic analysis automatically results in a list of the things that are in existence. It is crucially the possibility of such a paradise Strawson rejects:

It is a part of the significance of expressions of the kind I am discussing that they can be used, in an immense variety of contexts, to make unique references. It is no part of their significance

to assert that they are being so used or that the conditions of their being so used are fulfilled.

(Strawson, 1971:15-16)

The part of the quotation which I have underlined amounts to a statement about ontology. The conditions referred to are not part of the sense of linguistic items; they are outside language. The relation between linguistic and non-linguistic entities is not one of dependency. It is formulated in the general directions Strawson speaks about (1971:9; see below). This point is of a higher order of importance than the well-known criticism of Russell, first made by Wittgenstein and later also by Strawson, that the meaning of an expression is not a physical entity. But the reason why Russell said that it was -- and he did so very consciously after first stating the advantages of Frege's distinction between sense and reference -- was that in the paradise he wanted it would be.

We can now begin to substantiate the suggestion made in the introduction to this section. Strawson assumes that language is situation-bound, that the actual performance of linguistic acts cannot be isolated from a situational context. On this assumption it is clear that the actual employment of a particular expression is dictated not only by certain features of the situation but also by the speaker's wish to talk about these features (for whatever reason). These two factors are what Strawson

calls the contextual requirement (1971:19), and they are fairly transparently spatio-temporal factors. Since his insistence on use is the single pervading feature of his argument it follows that his argument is primarily concerned with the spatio-temporal factors, in short that his main interest is deixis.

If we have to relate Strawson's concept of reference as a feature of language in use -- which, incidentally, is the part of Strawson's theory taken up and developed by Linsky (1967:ch. 8) -- to a specifically linguistic conceptual framework, it will be to the notion of performance as developed by Chomsky (1965 and elsewhere). Since on the other hand the competence/performance distinction has come under heavy fire recently (e.g. by Campbell & Wales, 1970; Derwing, 1973:ch. 8) so that its status in Chomsky's formulation as a viable concept for theoretical linguistics seems in doubt, I shall prefer to relate it to Hjelmslev's "process" as against his "system". This dichotomy is not open to the most damaging piece of criticism launched on Chomsky's pair by Derwing (or rather Harris, cf. Derwing, 1973:259 fn; 274 fn 2), which suggests that there is an inferential gap between competence (or a C-model) and performance (or a P-model), in the sense that they are logically incompatible¹. On the contrary, Hjelmslev

¹ Within the overall reason why Chomsky should be expected naturally to disagree with Ryle ('Cartesianism'; cf. Chomsky, 1965:8; 1966:ch 1), a specific reason is that Ryle regards underlying competence as manifesting itself in performance and that performance can meaningfully be investigated in order to reach an assessment of the underlying

is explicit in stating that the existence of a system is a necessary condition for the existence of a process (Hjelmslev, 1943:36; cf. also pp. 10, 16).

With this dichotomy in mind it seems clear that when Strawson says --

To give the meaning of an expression (in the sense in which I am using the word) is to give general directions for its use to refer or mention particular objects or persons; to give the meaning of a sentence is to give general directions for its use in making true or false assertions.

(Strawson, 1971:9)

-- the "general directions" are systematic rules stating the appropriate conditions for the use of expressions and sentences. Some of these rules have non-linguistic denotata. They specify part of what Derwing labels X and H in his schema of a performance-model (Derwing, 1973:273), and perhaps part of the "linguistic intuition" determined by the competence-component in the same model. But some of them necessarily have linguistic denotata, namely those that specify what type of linguistic expression or sentence (in a broad, Bloomfieldian sense) may be used to perform particular tasks on particular occasions.

Interpreted in this way, the passage quoted above from

competence. As Harris/Derwing ably demonstrate, Chomsky is highly ambiguous on this issue, although on the whole tending towards a position that denies that of Ryle.

Strawson is an embryonic expression of a truth-dependent semantics. Sørensen (1967) and more recently Kempson (1974) argue for such a semantics. In terms of Sørensen's paper (1967:1884)

The meaning of a sign S is the conditions to be satisfied by something in order that it may correctly be said to be denoted by S.

And in Kempson's (1974:32):

the meaning, or 'sense', of a symbol could be defined as a statement of the conditions necessary and sufficient for a relation of reference to hold in some state of affairs.¹

Since a statement of the denotative conditions (Sørensen's term) of a sign are specifications for non-linguistic entities to fulfill in order for them to be correctly denoted by that sign, it follows that we are concerned with denotation as well as with reference. And since the passage from Strawson is an embryonic counterpart of the positions stated more explicitly by Sørensen

¹ We might quibble about three points in this formulation: (a) meaning, or sense, can only be explained, not defined, in this way because, as a definition, it would be circular (Sørensen, 1967:1879); (b) the reference to 'some state of affairs' is a variant of the 'possible worlds' view and is, as such, superfluous in a semantics like Kempson's; (c) for the formulation to be meaningful, the "relation of reference" must be interpreted (in my terms) as a relation of referentiality, i.e. as subsuming both deictic and denotative features.

and Kempson, it follows that Strawson does not lose sight of denotation.

In chapter 7 of his forthcoming book on semantics, Lyons discusses reference, sense, and denotation. Before we go into that discussion, however, one important point concerning "sense" must be clarified. So far in the present exposition, sense has invariably been regarded as an integral part of the linguistic sign (i.e. a biplane entity consisting of an expression-component and a content-component) which could be analyzed and expressed in terms of semantic features. Although Lyons would probably agree that sense is an integral part of linguistic items, he would not agree that linguistic items are biplane signs. Nor would he agree that sense can be expressed in terms of semantic features, at least not directly. Sense, in Lyons' writings (1963, 1968, forthcoming) is expressible in terms of semantic relations, like synonymy, hyponymy, converseness, inclusion, etc.:

Sense is here defined to hold between the words or expressions of a single language independently of the relationship, if any, which holds between those words or expressions and their referents or denotata.

(Lyons, forthcoming:216¹)

What I have assumed throughout, in brief, is this:

¹ Page-references to Lyons, forthcoming, are to a preliminary, mimeographed version circulated in the Department of Linguistics, University of Edinburgh, not to the published edition, which has not yet appeared.

The sense of a given sign, x , can exhaustively be expressed in terms of semantic features, or components, derived from a semantical analysis of x which establishes the composite sign zyw with which x is synonymous. These features, in turn, may be interpreted as a set of denotative conditions such that, if a non-linguistic entity e , meets conditions $z'y'w'$, e is properly denoted by x . This assumption is behind the so-called 'dictionary' approach to semantics.

It is by no means a self-evidently true assumption. Consequently it has been challenged, and no more fiercely so than by Bar-Hillel (1967b; 1969). Bar-Hillel's criticism (of the Katz-Fodor theory of semantics in particular, of the dictionary approach in general) concludes that such a view fails in principle because it offers no way of formulating semantic relations (like those in terms of which Lyons defines sense). The implication is that there is an inferential gap between sense (in relational terms) and referentiality (in particular, denotation), which forbids the second step in the dictionary procedure of converting sense-elements into denotative conditions. The consequence of this, in turn, is that in so far as semantics and semantical statements are concerned with truth, the truth involved is analytic rather than synthetic.

There are, however, certain basic intuitions that we can appeal to in order to render this controversial and difficult distinction relatively harmless, and which are

in fact employed by Kempson (1974:32 ff) for precisely that purpose. To use one of her examples, if the conditions hold that ensure the (synthetic) truth of the statement made by an utterance of

(2:11) (a) John killed an actress last night

-- then the same conditions will ensure the (synthetic) truth of at least the following:

(b) A female person was killed last night

(c) An actress died last night

From the synthetic truth of (a) we can infer that (b) is true because it is the converse of (a) and because "actress" is a hyponym of "female person"; and we can infer that (c) is true because "x killed y" is synonymous with its converse "y was killed by x", and because "y was killed" implies "y died". (I am, of course, assuming that the context of utterance is identical for all three, in particular that they are uttered on the same day, or at least on what pragmatically counts as 'the same day').

It is important to recognize the validity of both axes, as it were, the horizontal one connecting (2:11 a-c) in an analytical relationship, the vertical one connecting (2:11 a-c) synthetically with the same set of denotative conditions. But that we have not solved the problem -- indeed have not even begun to solve it -- appears from

the fact that

(d) John committed a crime last night

-- stands in no analytical relationship with (2:11 a). That killing actresses is considered a crime in the western world, and not, say, a religious act, is purely a synthetic phenomenon. And yet, if the act of killing referred to in (2:11) (a) was premeditated, the same set of conditions ensuring the truth of (a) would (in the western world) ensure the truth of (d).

Finally, Lyons himself suggests that sense (in his usage) is somehow related with synthetic phenomena:

It is because we know the sense of 'unicorn', that we know what kind of object it would apply to, if there were anything in the world for it to apply to.

(Lyons, forthcoming:222; my emphasis)

The conclusion to this digression on sense is that, although the dictionary approach may not be exhaustive as a semantics of natural language, it has (or can be given) a place within a possibly more comprehensive semantics in which semantic relations, in particular, will need special attention.

By the denotation of a lexeme Lyons means "the relationship that holds between that lexeme and persons, things, places, properties, processes and activities external to the language system." (forthcoming:217).

Denotation, in this sense, is a permanent relation between lexemes (i.e. the semantic 'nuclei' that occur superficially as words and certain (idiomatic) collocations) and non-linguistic entities. Thus it is, if not identical with, at least closely related to the view under which semantic components are seen as denotative conditions.

Reference, on the other hand, is explained by Lyons as "an utterance-bound relation" (forthcoming:219), and "a context-dependent notion" (loc. cit.). It is not a property of lexemes; it is rather (following Linsky) a functional relation.

Reference and denotation are interrelated: "Now the reference of phrases which contain 'cow' is determined, in part, by the denotation of 'cow'." (loc. cit.).

The most important point for our present concerns, however, is the following:

In any event, it is clear that reference and denotation both depend in the same way upon what has been called the axiom of existence: Whatever is denoted by a lexeme must exist, just as "whatever is referred to must exist" (Searle, 1969:77).

(Lyons, forthcoming:220)

This generalization is later modified in such a way as to bring it directly within the basic dichotomy of existence and location which we operate with:

If we consider the applicability of a lexeme with respect to the question whether it is true of (i.e. truly predicable of) the entity to which it is applied, we are concerned with its denotation. (If we consider the applicability of an expression with respect to the question whether it is intended to identify some entity or group of entities about which some thing is being said, or some question is being asked, etc., on some particular occasion, we are concerned with its reference.)

(Lyons, forthcoming:224; my emphasis)

The main aspect of my analysis of Searle's concept of reference in the preceding section was to show that it depends on the assumption that existence is attributed to independently spatio-temporally located entities. In the last quotation but one above we find Lyons stating that denotation, like reference, depends on the axiom of existence, and that they do so in the same way.

Whereas I would naturally go along with the suggestion that denotation depends on existence (which is one of the two basic, equipollent assumptions of the present account), I would challenge the suggestion that it depends on existence "in the same way" as reference. Such a view would refute our second assumption, that reference depends on location. However, to argue against Lyons' phrase "in the same way" here would amount to a repetition of the major part of the preceding section. I shall therefore assume that I have argued against it, and then go on to show why Lyons' account, despite the phrase "in the same way", is different from Searle's. Cf., however, § 10.31.

There is nothing in Searle's account that corresponds to Lyons' denotation; and since denotation and reference, according to Lyons, both depend on the axiom of existence it would seem that these two notions together are isomorphic with Searle's notion of reference. However, denotation is considered to be a permanent relation between lexemes and 'things' (in a wide sense). Hence it must be a relation between lexemes and things which holds irrespective of the spatio-temporal location of things. 'Cow' denotes a particular kind of thing, but it does not denote, or otherwise indicate, where those things are. This point is emphasized by Lyons' concept of denotation as being neutral as between extension and intension (forthcoming: 218). And since denotation depends on existence it follows that Lyons does not subsume existence under location. In so far as existence is a property of entities it is a property of them irrespective of where they are. (Nothing hinges on considering existence a property of entities here; it is just a matter of convenient formulation.)

The fact that Lyons considers reference and denotation to be interrelated in the sense that the reference of a given expression is determined, in part, by the denotation of the lexemes underlying (some of) the words in the expression suggests that he holds rather the opposite view, that location is 'predicated' of previously existentially determined entities. In any event, it is clear from his discussion that he considers existence and location to be

mutually independent, though interrelated notions. That denotation goes with the former has just been argued for; and that reference goes with the latter appears from a remark in the closing passage of chapter 12, "Deixis, space and time" (forthcoming:506), where he says, "It is arguable, therefore, that reference depends ultimately upon deixis." For a more detailed account of the implications of this statement, cf. Lyons (1973).

2.3 Reconsideration.

There are many points raised in the course of the preceding sections which would require infinitely more detailed analysis for us to be justified in claiming that they had been even adequately discussed, let alone solved. Yet at the same time it is clear that not all of these points would be crucial to linguistics. Over the next few pages I shall therefore attempt to limit the scope of the discussion to what appears to be linguistically relevant matters. Even so, it would clearly be presumptuous to say that the problems to be discussed further here will be solved. My aim is to indicate a particular view which will provide a fairly simple and, I trust, common sensical basis for our further investigations into the referential functions of English noun phrases.

2.31 Existence and denotation.

One of the points touched upon in the previous paragraphs was the question as to whether "exist" is a predicate, or, equivalently, whether existence is a property of non-linguistic entities.

Intricately connected with the determination of this question is another point mentioned above, namely the fact that the verb "exist" is inherently ambiguous. Moore (1936) and, following him, Pears (1963), though admitting that "exist" behaves differently from e.g. "growl" in identical surroundings ("some tame tigers exist" vs. "some tame tigers growl"), avails himself of this fact in order to point out that

(2:12) some tame tigers do not exist

-- both is and is not meaningful. If it is meaningful it is equivalent to "some tame tigers are fictitious tigers".

This inherent ambiguity is of importance to us since it reflects the basic distinction between existence and location, in the following sense. What Moore's meaningful interpretation of (2:12) implies is that some entities cannot be spatio-temporally located despite the fact that they can be called tigers, and that some entities can both be spatio-temporally located and called tigers.

I shall now say that "tiger" establishes a category, and further that entities may be ascribed to or located in

a category. What Moore's meaningful interpretation of (2:12) implies in these terms is this:

There are entities which are locatable in the category "tiger", some of which are further locatable in space/time.

The point I am making can perhaps be better illustrated if we choose (2:13) as an example:

(2:13) unicorns do not exist

Employing the terminology just established, (2:13) states:

There are entities which are locatable in the category "unicorn", none of which are further locatable in space/time.

In other words, "exist" can -- at least in everyday language -- be used to indicate that the entity denoted by the (lexeme underlying the) subject term in sentences like "x exists" is further locatable in space/time. Let us call this use of "exist" the predicational use, at least for the moment (cf. § 10.32).

We are then left with the 'non-predicational' use. This is also embodied in (2:12-13) where it underlies the first half of the paraphrases provided. It is this usage which Sørensen (1959b) subjects to analysis. His conclusion is that "A exists" is synonymous with "A denotes", and that is, as he points out, both a non-startling

conclusion, a simple one, and one that has common sense on its side. It is also a conclusion that has nothing to do with determining what there is. If the linguist can rest content with stating that "to be is to denote", the ontologist would have to begin from "to be is to be denoted", and this statement gives him no clue as to what is denoted. Cf. Quine's slogan "to be is to be the value of a variable", and in particular his reasons for discarding this slogan as a valid starting-point for determining what is a value of a variable (Quine, 1953:15).

Furthermore, Sørensen's catch-phrase has the awkward consequence that A in "A exists" has to be changed into "A" in "'A' denotes". This change from use to mention may be innocuous as long as we are concerned with the relationship between the two sentences. But it certainly does not follow that "exist" and "denote" are synonyms. What "exist" is 'synonymous' with is "'__' denotes", and that is altogether a different story.

"Denotes" in the preceding paragraph is -- presumably -- to be interpreted as "denotes actually". Signs may denote potentially. This is the case with "unicorn". So the distinction between existence and non-existence is reflected by the linguistic distinction between actual and potential denotation. In addition we can speak of essential and contingent non-denotation. It is an essential fact about (the sense of) "a round square", "a married bachelor", etc. that they cannot denote, even potentially. The same thing

is expressed by saying that round squares and married bachelors do not have logical existence. On the other hand, it is a contingent fact (about English) that "quasp" does not denote anything. It might denote, for it conforms to the rules that determine the phonological 'shape' of English signs.

The relevant consequence to be drawn from this is that there is a relationship between "exist" and "denote" which has nothing to do with spatio-temporal location and which can be exploited advantageously, provided due notice is given to the use/mention distinction. On the other hand, there is a relationship also between existence and location, in the sense that existence may be seen as categorial location.

2.32 Existence as categorial location.

The acceptance of existence as categorial location has certain consequences for the deixis/ denotative distinction. We have isolated the two conflicting senses of "exist" which are manifested in the predicational vs. the non-predicational use of the verb, bringing the former into contact with location, and hence with deixis, whereas the latter remains in contact with denotation. This distinction can be made apparent by means of the following:

- (2:14) (a) To say of an entity x that it is a tiger is to locate x categorially;
- (b) to say of an entity x that it is black is to locate x categorially;
- (c) to say of an entity x that it is on a roof is to locate x spatio-temporally.

The formulations (2:14 a-b) depend on the validity of (2:15):

- (2:15) (a) "tiger" denotes
- (b) "black" denotes

That this must be so follows from the possibility of saying

- (2:16) (a) To say of an entity x that it is a round square is to locate x categorially;
- (b) to say of an entity x that it is a quasp is to locate x categorially.

(2:16) cannot be disqualified directly; they must be disqualified indirectly, by disqualifying (2:17):

- (2:17) (a) "round square" denotes
- (b) "quasp" denotes

Since both of (2:17) are false -- (a) necessarily, (b) contingently -- (2:16) are disqualified in the sense that no categories are established in which x may be located.

What about (2:14 c)? Do we want to say that "on a roof" denotes? No. I want to say that "roof" denotes, but that

"on a roof" indicates. I want to do this because "on a roof" is a composite sign; it depends itself upon the validity of "roof" denotes', and also upon internal well-formedness: cf. "*in a roof", "*between a roof", etc.

The situation can be expressed in the following two formulae, which indicate the similarity as well as the dissimilarity between spatio-temporal and categorial location:

If "___" denotes, then it establishes a categorial location;

if "___" indicates, then it establishes a spatio-temporal location.

The similarity is exploited in English in innumerable pairs like "to be angry" vs. "to be in anger", "to be in business" vs. "to be a businessman", etc., some of which are synonymous.

In the light of this discussion we shall redefine deictic and denotative analyses:

"A deictic analysis" = "an analysis which accounts for the linguistic ascription of entities to locations, categorial and spatio-temporal";

"a denotative analysis" = "an analysis that accounts for the linguistic establishment of locations, categorial and spatio-temporal".

From these definitions it follows that we have dismissed all decisions as to what does exist from the linguistic

description. The denotative analysis is concerned with the structure of linguistic entities which denote and indicate, i.e. with the structure of acceptable signs. Whether or not they actually do denote is not the linguist's concern -- or rather, is not primarily the linguist's concern. The present study is not intended as a study of actual denotation; it is intended as a study of denotation (and deixis).

PART II: The Theory

Chapter 3

Fundamental Notions

3.1 The relationship between predication and referentiality.

The two general areas surveyed in part I, the predication and the notion of referentiality, are linked together in a long historical relationship. Thus, of the twenty-eight criteria on which are based the 140 sentence-definitions in Ries (1931), the third largest -- in the sense of being invoked in the third-largest number of definitions -- is the criterion of referentiality. Ries' own definition may serve as an example:

Ein Satz ist ein grammatisch geformte kleinste Redeeinheit, die ihren Inhalt im Hinblick auf sein Verhältnis zur Wirklichkeit zum Ausdruck bringt.

(Ries, 1931:99; my emphasis)

In so far as the notion of referentiality is developed in linguistic discussions since Ries, it is associated with a logical approach to linguistics, in the

sense that it is seen as a property of the propositional content of a sentence: "A fact" can simply be defined as "the denotatum of a sentence" (Sørensen, 1958:13). If we wish to develop the notion of referentiality further we must do so, consequently, within a framework which enables us to distinguish the propositional content from the modality content of a sentence (cf. Sundén, 1941), as the frameworks of Fillmore (1968), Seuren (1969), or Anderson (1971a) allow for¹.

On the other hand, the property of referentiality is only a potential property of language. There is no dependency relation between words and things, or between propositions and truth. We are here talking about one of the defining characteristics of language, Hockett's design feature of prevarication. This feature can be seen as a coin, the reverse of which makes language suitable as a vehicle of lies (cf. Weinreich, 1966), the obverse of which equips language as the medium of literature ('a-factual writing'; cf. in particular Frye, 1957:73 ff).

It is the potentiality inherent in the referential function of language which is the overall principle that

¹ The framework I shall develop is more or less a referential counterpart to the localistic case-grammar of Anderson (1971a). The reliance of that theory on spatio-temporal location invites certain parallels to be drawn with any referential theory. However, I consider a referential theory along the lines to be proposed capable of incorporation into any syntactical theory that is (a) verb-centred; (b) transformational-generative; (c) relational.

determines individual acts of reference (in the sense of Linsky and Searle). This being so, whatever categories and other theoretical entities we introduce in connection with referentiality are clearly distinct from the categories in terms of which the propositional content is analyzed by Fillmore, Seuren, and Anderson.

3.2 Syntactico-semantic and referential-semantic analyses.

The point made at the end of the last paragraph is not only a difficult one; it is also extremely important. In this section we shall discuss it more fully on the basis of the distinction between entities of different levels (above, § 1.21) in connection with Frege's ontological terminology. Non-linguistic entities, it will be recalled, are held to be level zero entities, whereas linguistic entities are entities of level one. Applying this distinction to the terms in Frege's overall ontological system -- which comprises the term-pairs "object"/"concept", "argument"/"function", and "proper name"/"predicate" -- we find that objects, concepts, arguments, and functions are entities of level zero, whereas proper names and predicates are entities of level one (Frege, 1891; 1892a; 1892b). What is of interest here is the difference (if any) between objects and arguments, and between concepts

and functions. He does not give any explicit answer to this question himself, but by tracing his usage a precise distinction can be drawn.

This distinction is a functional one. In the three papers most central to the issue (referred to above), Frege invariably associates the pair "object"/"concept" with reference (his "Bedeutung"), whereas arguments and functions are never spoken of as being references of anything. These two latter terms are rather used whenever he wishes to speak about the relations holding between different kinds of entities of level ~~zero~~. Drawing on the distinction between inter- and intra-level relations, the situation can be formulated as follows:

Whenever a level-zero entity is considered to be a term of an intra-relation, it is said to be either an argument or a function;

whenever a level-zero entity is considered to be a term of an inter-relation, it is said to be either an object or a concept.

The assymetry inherent in Frege's terminology -- created by the fact that only one pair of terms denotes level one entities against two pairs that denote level zero entities -- has no damaging consequences for his theories because, to Frege, signs of level one were mathematical symbols and because mathematical operations were incompre-

hensible if they were considered operations with signs dissociated from the objects symbolized by those signs (1891:22). Therefore he could (and did) regard mathematical operations as performed with objects, and hence there was no need to introduce terms for level one entities corresponding to "argument" and "function".

When it comes to the analysis of language signs, however, such a pair of terms is called for, as recognized, for example, by Reichenbach (1947:80-81), who speaks of "argument-names" and "function-names" in addition to "subject" and "predicate", if only for the following reason:

- (3:1) (a) Caesar Gallos vicit
 (b) Galli a Caesare victi sunt

Since there obtains a converse relationship between (a) and (b) in (3:1), the cognitive content in both sentences is the same: the same relation between the level zero entities Caesar and the Gauls is expressed by both sentences. The same converse relationship obtains, for example, between multiplication and division:

- (3:2) (a) $3 \cdot 6 = 18$
 (b) $18 : 6 = 3$

But whereas the converseness between the multiplication sign and the division sign is reflected by the active/passive relationship of the verb in (3:1), something 'more' has happened to the other signs in (3:1) as compared with

(3:2) for which there is no non-linguistic reason.

To account for the relationships between the elements which constitute (3:1) (a) and (b) separately, and for the relationship between them generally is the traditional task of syntax and morphology, but two distinct aspects are involved:

(3:3) (a) A cognitive aspect which is essentially concerned with the distribution of argument-names in relation to a function-name, in terms of which (3:1) (a) and (b) are identical;

(b) a formal aspect which is essentially concerned with the superficial appearance of the argument-names and function-name.

It is immediately clear from (3:1), however, that there is no simple one-to-one relationship between these two aspects of the linguistic analysis. In particular, the superficial form of the linguistic items does not follow from the cognitive aspect of the analysis since, in that case, (3:1) (a) and (b) should have been cognitively as well as formally identical (though not positionally identical).

Let us now return to Frege's terminology. So far we have disregarded the pair "proper name"/"predicate". These terms correlate with objects and concepts at level zero in much the same way as post-Fregean "argument-name" and "function-name" correlate with his arguments and

functions. As is by now obvious, the main distinction between Frege's object and his argument is that whereas an object can be considered in splendid isolation (relative to other level zero entities), an argument only acquires existence by being considered in relation to a function. Indeed, I believe we would represent Frege honestly by saying that an argument is an object seen in relation to a concept. In this way, what has hitherto been treated as two distinct entities (of level zero) becomes the same entity, only seen under two different viewpoints.

If we now apply this technique to entities of level one we see that, for example, "Caesar" in (3:1 a) performs a dual rôle. From one viewpoint the word "Caesar" is an argument-name, partaking in the syntactic structure of (3:1 a); from another it is a proper name -- what Frege called an actual proper name (1892b:58 fn), designating a particular object. On the basis of these considerations we can now add another aspect of linguistic analysis to those already listed in (3:3):

- (3:3) (c) a referential aspect which is essentially concerned with an analysis of those properties of linguistic entities which reflect the conditions under which a given linguistic entity can be said to correlate, actually or potentially, with a given non-linguistic entity.

I shall refer to a linguistic analysis which is concerned with aspect (a) as a syntactico-semantic analysis (SS-analysis), and to a linguistic analysis which is concerned with aspect (c) as a referential-semantic analysis (RS-analysis). Furthermore, I shall argue that, in order to deal satisfactorily with aspect (b) -- the formal aspect -- one must in fact take account of the results of the SS-analysis as well as of the RS-analysis.

It is clear that Fillmore, Seuren, and Anderson in the works referred to in the last section are predominantly, not to say exclusively, concerned with establishing a framework and a grammatical metalanguage which will handle SS-phenomena alone. This is of course not intended as a criticism, but rather as an explicit statement of what I take to be conscious limitations imposed on the frameworks developed, comparable to the explicit limitation imposed on his framework by McCawley (1971:223): "... with perhaps some additional terms to cover the meaning of the, which I have ignored."

However, despite notable exceptions like Lyons (1973), Perlmutter (1969), Sampson (1969), Thorne (1972), these limitations are symptomatic of a large body of linguistic writing, and it would probably be fair to say that the main stream of current linguistic practice runs within the confines of SS-analysis. This is made even more clear by the fact that when linguists approach matters of a clearly referential nature, they tend to approach them through the

framework and the metalanguage established to deal with SS-phenomena, in particular in regarding them as susceptible of some form of predicational analysis. Cf. in this connection Anderson's (1969:309) misgivings as to the possibility of incorporating in a natural way into his SS-framework matters which are connected with the categories of tense and determiner.

My recognition of two equipollent, though distinct, types of linguistic analysis is due to the analysis of Frege's terminology outlined above, which leads to the conclusion drawn. It is therefore gratifying to see it supported by Jackendoff's (1971; 1972a:§ 1.2) compartmentalization of the traditional Chomskyan semantic component into a four-layered hierarchical system. If we leave out of account his "table of co-reference" -- which, I shall hope to show, is redundant -- we are left with two internally hierarchical structures, the functional structure and the modal structure, plus a (non-structured) compartment referred to as the focus and presupposition. His definitatorial explanations of these three compartments make it clear that they correspond quite closely to the three aspects set up in (3:3), or, respectively, to the SS-analysis, the RS-analysis, and the formal aspect.

However, the phenomena handled by Jackendoff's modal structure almost exclusively concern referential opacity and transparency, with only a few pages devoted to quant-

ifiers and generics, all analyzed within a predicational structure. As will appear presently, a totally different approach will be taken here, so we leave Jackendoff aside.

3.3 Referential functions and referential potential.

The design feature of prevarication is considered to be the defining characteristic of language which entails that the inter-level relation between entities of levels one and zero is a potential relation which may on occasion be actualized.

This being so, we can meaningfully speak of referential functions and the potentiality of referentiality. A referential function is a function performed by a given linguistic entity on a particular occasion when it is employed by a speaker to denote, indicate, or refer to particular things. In other words, when a speaker performs a speech act of reference (in Searle's sense), he employs linguistic entities in particular referential functions.

This formulation is intended to establish a distinction between the properties of linguistic entities and the use a speaker may make of these properties. Such a distinction, it seems to me, is necessary. As was argued in chapter 2, the main defect of Linsky's treatment of referentiality stems from his unwillingness to draw this distinc-

tion. For example. A noun phrase of a given form, say, "the man in the brown jacket", may on occasion be used by a speaker to refer to a particular man ('refer' in the sense of Linsky and Searle). To say this is to say that this noun phrase may be used as a singular, definite, categorical referring expression. In contrast, a noun phrase like "some ten men in brown jackets" cannot be used to refer to a particular man on a given occasion, at least not without violation of one or more of Grice's principles for communicative interaction. A natural way in which to formulate these facts is to say that a noun phrase of a given form has a certain referential potential. Consider now a noun phrase like "the beaver". It can not only be used to refer to a particular beaver on a particular occasion, but has also a so-called generic sense, in which it may be used to refer to the genus "beaver".

It is the task of the referential theory to account for the referential potential of linguistic entities. Since the referential potential of a linguistic entity is (or can be considered to be) a property of that entity, and since linguistics is the science that accounts for the properties of linguistic entities, it follows that the referential theory is a linguistic theory.

It is not an integral part of the referential theory to account for the actual referential function performed by a given expression on a given occasion. This area is an

area of converging interests, shared by pragmatics, stylistics, general semantics, etc. However, in order to test the results of the analysis of referential potential, appeal to referential functions must be made. Hence the title of the present thesis.

Chapter 4

The Basis of RS-analysis

4.1 Form and function.

The strategy most often followed in dealing with the relationship between form and referential function is laid down by Russell: "Thus a phrase is denoting solely in virtue of its form" (Russell, 1905:103). As the analyses have been refined, special names have been given to the various functions subsumed by Russell under the general term "denoting", but always starting from the form. Thus Donnellan's original contribution (1966) can be seen as substantiating a claim that a particular form, which had hitherto been regarded as performing a single rôle, in fact performs two (but cf. Heringer, 1969; Partee, 1970; Bell, 1972). In a more recent, and linguistically based, study, Givón (1972) also starts from the form of the nominal prefixes in ChiBemba, arguing in favour of a morphological distinction between referring phrases in transparent and opaque contexts.

A different, Popperian, strategy can be envisaged which tries to predict what referential functions there are, and then attempts to associate particular linguistic forms with each function. If we then also adopt the principle of recent SS-analysis of expressing functional categories in terms of extrapolation from subcategorization-features (Anderson, 1971a), we would have a framework which at the same time is empirically verifiable (or falsifiable) and meets the requirement of precise formulation.

4.2 Primary features.

4.21 The metaphysical basis of primary features.

The starting-point for the attempt to predict referential functions is capable of formulation in the traditional language of subject/predicate analysis (cf. in particular Sandmann, 1954), in that it will have to be based on the discussion in § 3.2, and in particular on the status of object and concept. We would have to speak about objects, and we would have to say something about objects.

On this very general basis the following predictions can be made:

(4:1) On some occasion, somebody will want to say something about --

- (a) -- all objects
- (b) -- some objects
- (c) -- (a) kind(s) of object
- (d) -- (a) section(s) of objects
- (e) -- (an) individual object(s)

This is the metaphysical basis of the theory. However, since we are concerned with language rather than with metaphysics, we convert (4:1) into a set of RS-features which are considered to be properties of linguistic entities:

- (4:2)
- (a) universal
 - (b) selective
 - (c) elective
 - (d) restrictive
 - (e) individuating

These are the primary RS-features of the theory. I submit that (4:2) is exhaustive since such possibilities as saying something about no object, about two (ten, many, few, ...) objects all rely on (4:2) plus one or more secondary features.

4.22 The nature of primary features.

Linguistic features are often, but not always, regarded

as binary; and the notion of binarism is often, but not always, associated with the notion of markedness. There are well-known problems connected with the binary feature, often referred to as the problems ensuing from the 'Boolean conditions' on binarism (cf. e.g. Lyons, 1973:76). In a nutshell, if we were to operate with, say, (\pm universal), where a plusvalue was 'marked', a minusvalue 'unmarked', we would imply that the 'archifeature' (α universal) was present no matter which value was chosen. In case the 'archifeature' was not relevant for the description of the item in question, a further (\pm)-specification would be required, thus giving ($\pm(\pm$ universal)), where the first (\pm) indicated whether or not (α universal) was present¹.

It will appear later that secondary features are best described as binary, despite the concomitant problems just mentioned. In the meantime there seems to be no reason to suppose that primary features are. They are either present or not present, and this situation can be captured simply by writing the name of the feature in question when it is present and by not writing it when it is absent.

¹ See Fudge (1967), Contreras (1969), Chafe (1970b) for various criticisms of binarism in phonology; and -- on binarism in general -- Bazell (1953:3-5; 107-12), Sørensen (1958:95-6), Bar-Hillel (1970:242-44). For a position similar to that adopted for primary features here, cf. Chafe (1970a:90-1), Lehrer (1974:59-61).

4.23 Disjunctivity: the hierarchy of primary features.

I assumed without comment that our capability to speak about things in the various modes set up in (4:1) is the metaphysical basis for the set of primary RS-features in (4:2), which, it was said, are considered to be properties of linguistic entities. In other words, I assumed that certain aspects of linguistic structure can be characterized by the features in (4:2), and that these aspects of linguistic structure reflect the modes in which we speak about things. I shall now justify this assumption. Moreover, I shall show that the order in which (4:1) and (4:2) are stated is not fortuitous.

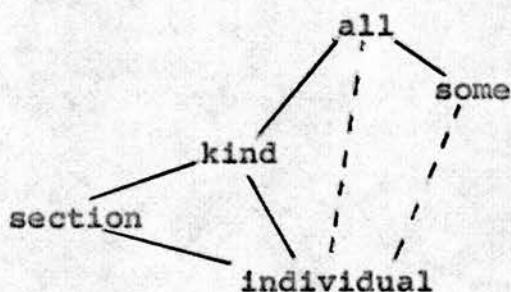
I begin by referring to the correlation between grammar and logical calculi commented on in § 1.3, and in particular to the correlation between the calculus of classes and the analytical framework to be developed.

The basic relation of the calculus of classes is what we could call a relation of disjunctivity, drawing on the etymological meaning of "dis-jungo". When we analyze in class-calculus terms the proposition expressed by the sentence "some men are wise", we take from the class of all men an unspecified number and put them in the class of wise things; or -- alternatively -- we establish, within the class of all men, a subclass the members of which are not only men but also wise. But by this very process

we in fact also establish the class of all men. The recognition of the class of all men depends on the recognition of the complement of the class of all men. These two classes, the class of men plus its complement, constitute the universal class. Therefore we cannot operate in class-calculus terms without implicit reference to the universal class, or the class of all things. And therefore a relation of disjunctivity is the basic relation in the calculus of classes. It follows that whichever 'level' in (4:1) we are concerned with, at least the notion of "all" is implicit.

There are other dependencies relevant to class-calculus analysis among the members of (4:1); they can be shown schematically as follows:

(4:3)



Whereas to speak about some things is not necessarily to speak about a kind of thing, the converse holds. Therefore "some" and "kind" are not at the same level. Furthermore, it is a condition upon speaking about a section of things that a kind has been specified. The same is generally, but not necessarily, true about speaking of an individual. Hence the broken lines between "all"/"some"

and "individual". Lastly, it is not only possible to speak about an individual of a section of given kind of thing; we can also speak about a section of an individual. Recognition of this fact is tantamount to recognizing the part : whole relationship, the complexities of which are discussed by Russell, in precisely our context, in chapter 24 of An Inquiry into Meaning and Truth (cf. above, § 2.23). Although this relationship is of importance to the SS-analysis (cf. Fillmore, 1968:61 ff; Anderson, 1971a:114-5; Lyons, forthcoming:342 ff), it is not obviously relevant to RS-analysis. An arm, a branch, and a roof can be singled out for discourse in the same ways as can a policeman, a tree, or a house. This point is borne out by the treatment of "member" in Webster's Dictionary of Synonyms. It is considered to be semantically related to words denoting sections (e.g. "part", "portion", "division", and "section" itself), individuals (e.g. "element", "constituent"), and parts of wholes (e.g. "branch", "limb"), all at the same time. I therefore leave out the possibility of letting "section" depend on "individual" in (4:3). More generally, I leave out of the present account the part : whole relationship.

It is clear from these considerations that (4:1) could in fact have been set up in any alternative order. There is no intrinsic ordering in (4:1) as long as we adhere strictly to what it expresses about our capabilities of speaking about things. It is only when the network of disjunctive relationships has been imposed upon it that a

hierarchy emerges among its elements. When the network of disjunctive relationships is imposed on (4:1), what emerges is the basic structure of the calculus of classes.

Consider now a question like "What kind of car is that?" Such a question can only be appropriately answered by any one of a number of phrases like "a convertible", "a Rolls Royce", etc., but not by a phrase like "our new neighbour's". On the other hand, a question like "What car is that?" can be appropriately answered by each one of the phrases above. The fact that the only appropriate type of answer to an explicit 'kind'-question can also be used appropriately in reply to a question of the second type, reflects the fact that we speak about kinds of things by means of nouns. This is a structural property of language (English), which reflects our ability to talk about things. (Cf. in this connection Strawson's 'sortal' universals, which are, roughly speaking, introduced by nouns; Strawson, 1959:167 ff et passim).

Another example of a structural property of English which reflects aspects, not only of (4:1) but also, and more significantly, of (4:3), is the occurrence in what we might call the register of angry English of utterances like the following:

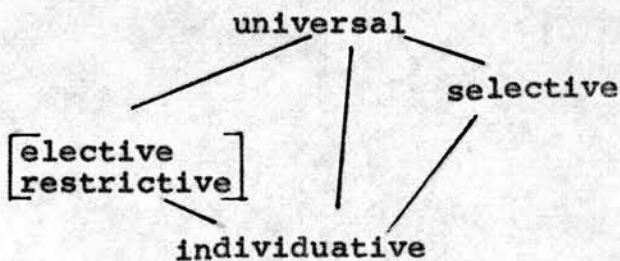
(4:4) And what do you think Charles gave me? He gave me a spanner of all things!

Considerations such as these justify the assumption

that there are aspects of linguistic structure that reflect (4:1), and, furthermore, that there are aspects of linguistic structure that rely on the same kind of disjunctivity as the calculus of classes.

However, I said in § 1.3 that grammar and logic are similar though not identical. The similarity is captured by recognizing a hierarchical structure among the linguistic features in (4:2) comparable to, and in the main identical to, that recognized in (4:3). The dissimilarity is primarily that, due to a number of phenomena related to the notion of countability, there is no direct dependency between (elective) and (individuative), so that [elective restrictive] form a pair contrasting with (selective). Furthermore, there is perhaps a more direct link between (universal)/ (selective) and (individuative) than between "all"/"some" and "individual" -- cf. § 11.31 for a discussion of this possibility. Thus the hierarchy of primary features is

(4:5)



The grounds for this particular shape of the hierarchy of primary features shall occupy us at various stages in what follows. In the meantime I shall need to make clear my terminology pertaining to nouns and noun phrases.

4.3 Nominals, nouns, and noun phrases.

The grammatical category with which we are centrally concerned is NP, or, to put it slightly more correctly, the analytical framework to be developed is designed to account for the linguistic material that may occur under the node NP in a standard Chomskyan phrase marker.

However, I shall avail myself of three different terms, N(ominal), N(oun) P(hrase), and (lexical) noun.

Consider a phrase like "the girl upstairs". This is subject to constituency (phrase-structure rule) analysis, the result of which is a labelled bracketing:

(4:6) (((the) (girl)) (upstairs))
 x y z z v vyu u x

(4:6) is made up of two quite distinct types of category, namely three 'words' on the one hand, and a sequence of parentheses, each pair of which is the bearer of a particular name, on the other. It is the labelled bracketing without the 'words' that I refer to as a N. What actual brackets occur depends on the primary subcategorization -- i.e. subcategorization by primary features -- of N.

A labelled bracketing plus the 'words' is a NP. We can speak of NP's of various depths of derivation, deep NP, shallow NP, surface NP. In contrast, we can speak only of N. N is the category symbol under which NP is generated.

NP's are strings of lexical material with some order imposed on them by N. We return to the N/NP distinction in § 5.5.

It is clear that my employment of N differs from the standard (Chomskyan) usage. What is dominated by N in a Chomskyan phrase marker is what I shall refer to as a (lexical) noun. In other words, a noun is a lexeme (in Lyons' sense), which is distributionally defined with reference to its occurrence under a particular node in the tree-structure underlying NP's. See further §§ 5.322 and 5.5 below.

With respect to these terminological distinctions it is clear that it is N that is subcategorized in terms of the primary features established in the preceding section. We can now set up the following primary subcategorization-rules (1 SR):

- (4:7) 1 SR
- | | | | |
|------|------------------------------------|---|--|
| i. | N | → | universal |
| ii. | universal | → | {
elective
selective
individuating
} |
| iii. | elective | → | restrictive |
| iv. | {
selective
restrictive
} | → | individuating |

-- in which the arrow should be read as "is obligatorily¹ subcategorized as", and where the braces indicate an ex-

¹ It is possible that some optionality should be allowed for, in particular that N should be capable of subcategorization by (universal, elective) alone. Some phenomena that might indicate this are discussed in § 10.41.

clusive disjunction.

Application of these rules will yield three different primary subcategorizations of N:

(4:8) (a) [N]
 universal
 individuative

(b) [N]
 universal
 selective
 individuative

(c) [N]
 universal
 elective
 restrictive
 individuative

Associated with, in the sense of being extrapolated from, these initial subcategorization-specifications are two different types of category, to which we now turn.

4.4 Referential phrases.

4.41 Functional and lexical categories: DC and L.

It is an essential fact about language that linguistic elements (lexemes, morphemes, etc.), although capable of being isolated for analytical attention, cannot occur in discourse (excepting metalinguistic discourse) independently of certain functions being associated with them. Consequently, if we want to give an account of language as it

occurs (or could occur) in natural discourse, attention must be given to the functions a given item is (capable of) performing. The functions of linguistic items we are interested in (primarily) are the referential-semantic functions.

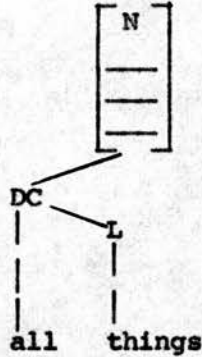
It was assumed above (chapter 2) that a RS-analysis is exhaustive if it accounts for both the deictic and the denotative characteristics of NP (or, generally, linguistic entities). This distinction is now relevant since a NP embodies both deictic and denotative characteristics. We reflect the distinction by recognizing two types of relevant category: DC and L. DC is the cover-term for any functional category, and L is the cover-term for any lexical category. It will emerge that DC dominates deictic elements, whereas L dominates denotative or indicating elements.

It is clear, however, that the status of the two types of category is not the same. Whereas L presupposes DC, the reverse does not hold. In other (Hjelmslev's) words, DC is a constant, L on the other hand a variable, and the relation holding between a constant and a variable is determination. I shall say that DC determines L and that L is determined by DC¹. Thus, to illustrate, the NP

¹ A parallel, and in many ways supporting, analysis of the relationship between DC and L is provided by Bierwisch (1971) in an interesting, though complex and exploratory article, the complexities of which stem mainly from his attempt to apply predicate calculus analysis to these phenomena, and the exploratory (rather than conclusive) nature of which in the main stems from the complexities unnecessarily introduced in this way. The for

"all things" can be given the following -- simplified and incomplete -- representation:

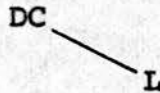
(4:9)



4.42 The referential phrase.

I shall call a configuration like (4:10) a referential phrase:

(4:10)



our purposes main points are these: He distinguishes between delimiting and predicating semantic features (p. 417). The delimiting features correspond to (the features dominated here by) DC, the predicating features to (those dominated here by) L. Both types of feature are originally seen as predicates of a referential variable, X_1 , but their status is not the same. In particular, a variable, Q -- which ranges over (clusters of) delimiting features -- combines with X_1 to form an operator of the form QX_1 which binds the referential variable X_1 when this enters a propositional function with a predicating feature (pp. 422; 425-6). In other words, the delimiting features are in some sense heuristically prior to predicating features. This, in brief, is Bierwisch's way of expressing what I express by saying that DC determines L, at least if I have read him correctly.

Since the 'head' in a referential phrase is the functional category, the number of possible referential phrases is decided by the number of functional categories. The functional categories are extrapolations of the primary features established in § 4.21, but although there are five primary features it seems that we need only recognize four different functional categories. The reasons for this will be explained below, § 5.322.

The four functional categories with which we shall operate are

- (4:11) (a) pres(entative)
- (b) gen(eric)
- (c) part(itive)
- (d) ind(ividuating)

A natural starting-point for a discussion of these categories is offered by the status of (universal) in (4:7). Any NP derives from a N which is invariably subcategorized as (universal), and (universal) invariably occurs at the same place in the complex symbol. This in turn suggests that the category extrapolated from (universal) is the most basic, indeed the referentially most neutral category. The name I give to this category, pres(entative), has a certain standing as a more or less clearly defined term in discussions of referentiality¹.

¹ "Presentative" is one of the terms employed by Carnoy (1927) in his discussion of the psychological functions of the Greek articles. Collinson (1937:37) reports on Kalepky's distinction between "apper-

The rules which insert the functional categories will be referred to as determination rules (DR). Thus we have a determination rule that inserts pres as a functional category to the left of N whenever N is subcategorized as (universal), i.e. always:

(4:12) DR i. a. universal + pres//___N

The rule that inserts L in the referential phrase is of the same kind although it differs from DR i. a. in having a functional category -- rather than a primary feature -- as a trigger:

(4:12) DR i. b. pres + L//pres___

This latter rule should be read "when pres occurs in a configuration, insert L to the right of it".

The obvious similarity between the formal framework under development here and that of John Anderson's Grammar of Case breaks down, however, when we come to the introduction of the three remaining categories. Whereas Anderson's categories (the cases) all depend directly on V, the basic hierarchical principle of the RS-analysis forbids the other DC's to be determined by N. N is not

ceptive" and "presentative" expressions, of which the latter is said to be an expression of "indication" (Collinson's term for deixis) more 'objective' than mere zero-indication, which is a characteristic of "apperceptive" expressions.

the 'centre' of the NP in the same way as V is the centre of the predication. What we need instead is a set of rules that will allow us to maintain and formally represent the hierarchical principle. Without for the moment committing ourselves to the nature of the relation that holds between two referential phrases, we should like to give a formal representation in which a given referential phrase is connected -- in a non-technical sense -- with hierarchically higher as well as with hierarchically lower referential phrases. The set of rules we need, therefore, is something like the following:

(4:12) (continued)

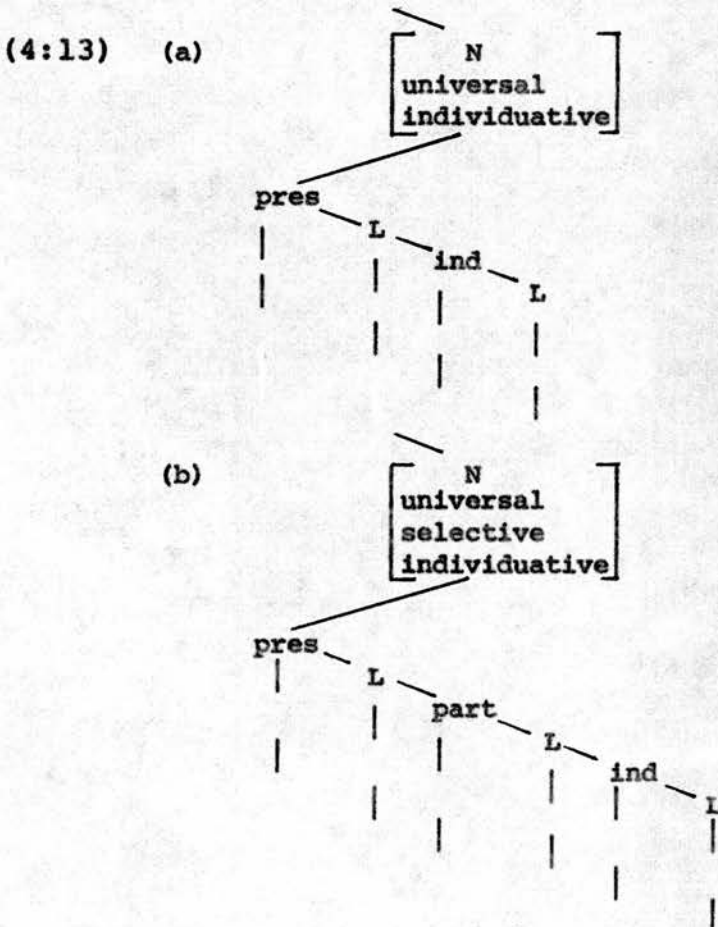
DR ii. a. elective	→ gen//L _{pres} __
b. gen	→ L//gen__
iii. a. selective	→ part//L _{pres} __
b. restrictive	→ part//L _{gen} __
c. part	→ L//part__

iv. a. individuating	→ ind//	$\left. \begin{array}{l} \left\{ \begin{array}{l} L_{pres} _ \\ L_{part} _ \end{array} \right\} / \left[\begin{array}{c} N \\ \text{universal} \\ \text{individuating} \end{array} \right] \end{array} \right\}$
b. ind	→ L//ind__	

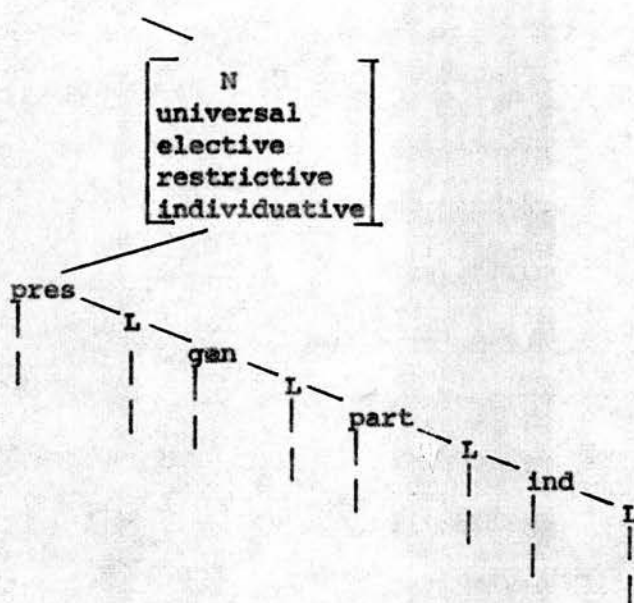
It appears from DR iii. that both selective and restrictive introduce part, so that, as mentioned, only four categories need be reckoned with -- cf. § 5.322.

The notation to the right of the single stroke in DR iv. a. expresses the condition that ind is attached to L_{pres} only if the N is subcategorized as (universal, individualive), i.e. if $part$ is not introduced (in virtue of N being specified neither as (selective) nor as (elective, restrictive)). Lastly, I have introduced the convention that if we want to speak about a particular L , e.g. the L determined by $part$, this is indicated by subscribing to L the name of the category in question, thus: L_{part} . In contrast, when we want to speak about a particular referential phrase, this is indicated in the following manner: $part-L$.

Application of the rules (1 SR and DR) so far developed gives rise to formal representations like (4:13):



(c)



Such structures are what I call N(ominals), as will be clear from the discussion in § 4.3. The hierarchy of referential phrases supplies the names for the brackets in terms of which NP can be analyzed.

However, we shall need to be able to refer to the hierarchy of referential phrases in isolation from the primarily subcategorized N. The term I shall employ for this purpose is "referential branch". The need for the notion of referential branch will be made clear in connection with the necessary expansion of the framework to embrace recursive structures. In contrast, I shall refer to a Nominal as a referential tree when I consider its formal properties associated with the hierarchy of referential phrases, rather than its properties of providing labelled brackets. These two properties are, of course, closely related to each other, and it is only a marginally shifted viewpoint that is behind the choice of term on a given oc-

casation. Thus a referential tree is a subcategorized N plus at least one referential branch.

By recognizing the fact that the referential branch is made up, not of a finite number of single nodes, but by a finite number of ordered pairs of nodes (i.e. the referential phrases), we can now expand the terminology developed to account for the relationship within the referential phrase to cover pairs of referential phrases as well. I shall say that a given referential phrase determines any lower referential phrase, and is determined by any higher referential phrase in the referential branch. Furthermore, I shall say that for example pres-L in (4: 13 a) determines directly ind-L, whereas, in (b), it determines part-L directly, ind-L indirectly. In general, contiguous referential phrases are said to stand in a direct relationship of determination, non-contiguous referential phrases in an indirect one.

4.43 Nominal apposition.

4.431 A critical discussion of the term "apposition".

In § 1.22 some doubts were raised about the proper status of the term "apposition" relative to the other members of the sets of terms in (1:7), and in particular

as to whether it could be levelled with "coordination" in (1:8) in a fashion similar to that in which "attribution" was levelled with "subordination", and "predication" with "exocentricity".

Investigation¹ into the traditional treatment of apposition reveals three facts.

Firstly, it is not a precisely defined or delimited notion. Of the two elements involved in a construction called appositive -- assuming for the moment that only two elements are involved -- it seems to be the case that one is a noun or noun phrase, whereas the other may be a noun (phrase), an adjective, or a participle, but even these restrictions are not always met. Cf. in particular Diderichsen's (1952:91 fn 4) report of Hammerich's usage according to which der Scherz/gestern and da/singt es display apposition.

Secondly, a distinction is usually drawn between two kinds of apposition, 'loose' and 'close', reflecting the usual distinction in noun phrases containing adjectival modifiers between non-restrictive and restrictive modification. The example of 'close' apposition that holds the same place in a discussion of these phenomena as do examples involving beavers in discussions of genericness is "the poet Burns". Examples of 'loose' apposition would

¹ Based on Callaway (1901), Curme (1931:30 ff; 88 ff), Jespersen (1913:386 ff; 1937:13 ff; 35 ff), Lee (1952), Haugen (1953), Hockett (1955), Sopher (1971), Quirk et al. (1972:ch 9). Also Thrane (1967:61-94).

-- traditionally, but cf. (4:16) -- be "Smith, a farmer", and "Smith, the farmer".

The third fact seems to be general adherence to the intuition that apposition is associated with subordination in some way, although Jespersen (1937:113) 'feels' that -- at least some instances of -- appositive constructions are coordinate. Note also that Quirk et al. (1972) treat coordination and apposition in the same chapter, though without actually going into the implications of regarding the two types as variants of each other. They simply state that "apposition resembles co-ordination in that typically the two or more units in apposition are constituents of the same level" (§ 9.130). The variety of phenomena surveyed by them under this head is a good indication of the vagueness of the term.

However, if distributional properties alone decide types of constructions -- as they are generally said to do -- then clearly apposition is a subtype of coordination. The only difference between a 'clear' instance of coordination (phrasal conjunction of definite NP's) and a 'clear' instance of apposition (involving two definite NP's) is a difference in the number of referents involved.

The classical TG-approach to apposition is represented, and most thoroughly stated, by Motsch (1965) -- cf. also Lees (1960:92). An appositive NP is held to be the superficial reflex of an underlying copulative relative clause, of which either the subject-NP or the predicative NP may

emerge as the appositive element. In this way apposition is associated with subordination (the appeal to a copulative source), though he (Motsch) has to concede that not all instances of apposition can be derived in this way. In the cases where it cannot be so derived he says that "eine Art Ko-ordination (vorliegt)" (Motsch, 1965:117). Thus the vacillation between subordination and coordination as the proper characterization of apposition continues.

In the course of his argumentation against the Conjunction Reduction Hypothesis, and in favour of what he calls a Phrase Structure Rule analysis of coordination, Dougherty (1970) sets up the following rule for NP:

$$(4:14) \quad \text{NP} \rightarrow (\text{Q}) \text{NP}^n (\text{ADV})$$

(Dougherty, 1970:864)

-- where Q is a (optional) distributive quantifier, like each, and ADV a (optional) distributive adverbial, like at once.

Dougherty also happens to be one of the co-authors of one of the two alternative TG-accounts of nominal apposition (Delorme & Dougherty, 1972). In the latter work we find a rule of the following form:

$$(4:15) \quad \text{NP} \rightarrow \text{NP} (\text{NP})$$

(Delorme & Dougherty, 1972:9)

It is strange that the obvious similarity between these two rules has not induced Dougherty to comment on

the possible connection between apposition and coordination. Instead the rule quoted in (4:15) remains arbitrary, and the work in which it appears carries no more substantial information than that Delorme and Dougherty do not think that Postal's (1966) analysis of "we", etc., as a variant of the definite article is correct.

The second alternative to the classical TG-position (Burton-Roberts, 1975) is of considerably more penetration. After first attempting to tighten the application of the term -- which end he(?) achieves, more or less by definition, by excluding from its denotata all constructions that may derive from an embedded copulative structure -- he is left with a number of constructions which he calls appositive. They fall into three categories:

(4:16) Apposition

NP1 NP2

Def Def (Manchester United, the Champions)

Indef Def (An upholsterer, Mr. Pontefract)

Indef Indef (A soldier, a man in uniform)

-- where Def and Indef reflect the surface distribution of the definite and indefinite articles (if I may be allowed to speak about proper names informally in such terms).

He goes to much trouble to give distinct derivational histories for coordinated NP's and appositive NP's, the most crucial difference being that whereas coordinated NP's are co-constituents (daughters) of a superordinate

NP, this is not the case with appositive NP's. The main argument for this difference is based on the notion of co-reference.

As for the reason why he should want to distinguish so strictly between coordination and apposition, it appears that he would like to be able to argue that apposition is a grammatical (SS) relation between NP's, distinct from yet on a par with coordination.

The notion of co-reference cannot -- at least not at the present state of affairs -- bear so much weight. Furthermore, it is not at all clear that (phrasal) coordination embodies a SS-relation (as opposed to a RS-relation). Of the traditional syntactic relations, coordination is the one least obviously syntactical.

4.432 Serialization-types: appositive and delimitative.

The impetus to the undertaking of the critical investigation reported on in the last section was Lyons' recent (1973:68 ff) employment of a process of 'appositivalization' in the derivational account of such NP's as "that dog", possibly in conjunction with some form of adjectivization process. As will have appeared, certain positive, though far from clear-cut, results emerge in connection with the notion of apposition which have a bearing on ref-

erentiality, especially via the notion of co-reference.

However, since the notion of apposition remains vague, at least in the sense in which it has been most often used (viz. as the name of some linguistic relationship reputedly obtaining between a NP and some other linguistic item), I shall in the present section suggest a different approach to the question which at least has the advantage of somewhat more precise stateability than previous approaches.

English NP's can be classified on the basis of a great many different characteristics, like definiteness, quantification, restriction, etc. The characteristic I shall employ has to do with the way in which the members of a NP are connected, or, as I shall say, serialized. Consider

- (4:17) (a) the best man
 (b) the best of men

(4:17 a) is an instance of what I shall call appositive serialization, whereas (b) is an instance of delimitative serialization. In general, a NP which overtly displays a preposition (most often "of", but frequently also locative prepositions like "at", "in", "on", etc., less frequently directional prepositions like "towards", "against", etc.) will be considered an instance of delimitative serialization, whereas NP's without a preposition in their internal structure will be regarded as instances of appositive serialization.

This is a simple classification which relies entirely on observational data. Consequently, a NP like "the boy's mother" will be considered an instance of appositive serialization despite the obvious possibility of relating the genitive with the preposition "of".

The distinction between appositive and delimitative serialization provides an important heuristic principle for the referential theory. Accepting the view that prepositions are -- or at least may be regarded as -- superficial realizations of underlying cases, it turns out that the presence of a preposition in the surface structure of a NP is an indication of recursive derivation of that NP. The reverse inference does not hold, however. We cannot conclude from the fact that a given surface NP displays appositive serialization that it derives from a non-recursive structure.

Furthermore, the distinction between the two types of serialization provides a basis for the subclassifications of referential functives -- see below, Introduction to Part III.

Chapter 5

Lexical Insertion

5.1 The Strategy.

In his critical evaluation of the standard procedure of lexical insertion in a Chomskyan grammar, Seuren (1969: § 3.2) demonstrates that the reason why a large number (possibly the majority) of terminal strings generated by the base component are disqualified as surface structures, is that lexical insertion under a given formative, X, takes place independently of what lexical material is inserted under another formative, Y, thereby greatly reducing the probability that the condition of lexical identity -- required by a number of transformations -- can be met. In a recent paper, Miller (1975) has supported Seuren while at the same time presenting evidence from the general area of relativization in corroboration of Seuren's misgivings about the standard procedure.

An alternative developed by Seuren is that lexical insertion is guided by the operation of what he calls an algorithm that introduces into the base component a form-

ula. The task of this formula, in particular, is to ensure that the condition of lexical identity is met in places where it matters (for relativization, Equi-NP-deletion, etc.). The details are quite complex but we need not go into them in order to grasp the basic principle which is what interests us.

The complexities of incorporating such an algorithm and its associated formula into a standard Chomskyan grammar are shown to depend on the fact that lexical insertion takes place at the end of the operation of the base component. If on the other hand lexical insertion is seen as taking place from top to bottom instead, most difficulties will be overcome.

This principle of lexical insertion 'from top to bottom' is particularly attractive here since we operate with a fairly simple hierarchical system, where a 'top' and 'bottom' are in clear evidence (in contrast to a Chomskyan phrase marker, in which more than one dimension is relevant).

The process of lexical insertion is regarded here to be the result of what I shall call secondary subcategorization.

Primary subcategorization, it will be recalled, is the process by which N is subcategorized in terms of the features developed in § 4.2. Its effect is the extrapolation of functional and lexical categories, resulting in a referential branch.

Secondary subcategorization concerns the categories DC and L. It is a specification of each category node in terms of secondary RS-features. These are of two kinds, reflecting Bierwisch's distinction (1971:417) between delimiting and predicating features (cf. above, p. 138 fn).

Finally, by Seuren's strategy for lexical insertion, the process of secondary subcategorization occurs from the top in the referential branch, beginning with pres.

It will be clear that secondary subcategorization of L depends on prior acceptance of the possibility of expressing sense in terms of a set of denotative features, for which I argued in chapter 2.

5.2 'Grammatical' and 'lexical' words.

Apart from the parallelism with Bierwisch's two types of semantic feature, the two basic category symbols DC and L may be considered reflexes of the traditional distinction between 'grammatical' (formal) and 'lexical' (material) meaning (cf. Lyons, 1968:§ 9.5). It is assumed that DC dominates linguistic material that would (or at least could) be interpreted as having 'grammatical' -- or, since we are speaking about referentiality, perhaps

rather 'functional' -- meaning, such as the articles, (other) determinatives, quantifiers, and classifiers, whereas the denotative categories (L) dominate linguistic material that would be interpreted as having lexical meaning.

5.3 The secondary features.

It was decided above (§ 4.22) to regard the primary features as unary: they were either there or not. In contrast, and despite the Boolean problems, the secondary features are multi-valued: either binary or scalar (for the latter notion, cf. Bierwisch, 1967). The question of 'markedness' is much more prominent for the phenomena which the secondary features account for.

5.31 Functional features.

There are four basic categories associated with NP in the Indo-European languages, viz. case, gender, countability and number. Of these, countability is not usually considered to be of the same basic nature as the three others, the reason for which might be that whereas the three others have quite obvious morphological consequences -- at

least in the classical languages if not in modern English -- countability leaves no traces which cannot be associated with the category of number. However, if either of the two categories of number and countability were to be accorded primacy relative to the other, it must surely be the latter. The category of number makes little sense unless it is related, explicitly or implicitly, to the category of countability. Another reason might be that countability is the clearest referentially based category among the four. One quite often hears about grammatical number, and it would not be unreasonable to explain gender -- in certain languages -- as 'grammatical sex'. Thus these two categories, which might have been considered to be referentially based, are brought in line with the safely grammatical category of case. On the other hand it would be highly unlikely, I think, to find countability explained as 'grammatical enumerability' or the like.

Yet countability is a linguistic -- rather than metaphysical -- category, as attested by such opposing pairs as Danish and English:

- (5:1) (a) et stykke legetøj vs. a toy
 (b) et møbel vs. a piece of furniture

Even so, the very terms 'mass-words' and 'count-words' with which countability is often associated, suggest the referential basis of the linguistic category.

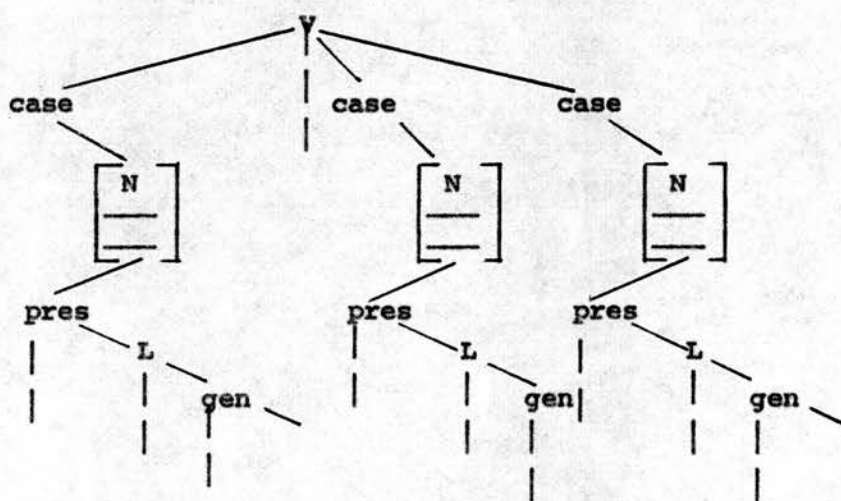
These four basic categories are realized as secondary

features on the functional nodes pres, part, gen, and ind. We shall now look into the question as to which is associated with which.

5.311 Features on DC.

The referential tree developed in § 4.42 is only a subpart of the formal representation of the deep-structural properties of sentences (or clauses). Since I have chosen Anderson's grammar as the SS-framework in conjunction with which to develop the RS-analysis, this means that N is governed by a case which in turn is governed by V:

(5:2)



Now, it was mentioned above (§ 4.42) that pres is the referentially most neutral category; and it was mentioned just now that, of the four categories case, gender, count-

ability, and number, case was the one least obviously referentially based. These points, in combination with the fact that pres will always be there and, moreover, will always be the referential category 'closest' to the case that governs N, suggest that pres is the referential node which carries the information within the nominal as to which case it is being governed by, nom(inative), erg(ative), loc(ative), or abl(ative)¹.

Let us turn to number next. Though a basic category it was said to rely on countability. The natural way in which to represent this relationship is to have the node subcategorized for number determined by the node subcategorized for countability, such that (+plural) depends on (+count). Furthermore, the (productive) application of the number morpheme relies on the recognition of one vs. more than one referent; and this recognition in turn relies on individuation (cf. Strawson, 1974:16). It follows

¹ These cases are the four cases recognized by Anderson's localistic version of case-grammar. Whether or not they are exhaustive is of minor importance to us. However, some support for the claim that they are exhaustive is provided by reflecting on the cognitive similarities there are between the cases (SS functional categories) and the RS functional categories considered here to be exhaustive in the referential compartment of the grammar. Thus, part and abl, ind and loc share some fundamental characteristics, as will be clear later on. Nom shares with gen certain cognitive similarities, while sharing with pres the status as the neutral, omnipresent category within their respective compartments. This leaves erg as a typical SS-category with no RS counterpart -- hardly surprising since it accounts for transitivity, the SS arrangement par excellence.

that the node subcategorized for number is ind.

In order to establish which of the remaining two categories, countability and gender, subcategorizes gen and which part, consideration must be taken of the nature of the L determined by each of them. Anticipating matters somewhat we need to consider the nature of the relationship between a lexical noun and each of the two categories of gender and countability.

Consider a German NP like "der Frau". Anyone who knows German will know that this NP must be either in the genitive or in the dative (in the traditional case-terms used for German). They know this because they know that "Frau" is of the feminine gender. Equivalently, anyone who knows that "bei" governs the dative in German will from "bei der Frau" be able to predict that "Frau" is feminine. That is to say, a noun is of a particular gender, invariably.

All this is, of course, fairly elementary; but the implication is of some importance. It is equivalent to saying (in my terms) that a gender determines a noun. Of the four categories under consideration it is only of gender that we can say that it is invariable for a given noun. The same noun may occur in any one of a number of cases, and in one of two numbers. As is clear from such English nouns as "cake", "wood", etc., the same noun may also be either countable or uncountable. It follows, therefore, that the lexical node which dominates nouns is the var-

iable in a referential phrase in which the constant (DC) is subcategorized for gender.

A similar train of thought leads us to recognize gen-L as the referential phrase which dominates nouns, and, consequently, to recognize gen as the functional category that is subcategorized for gender. Consider

(5:3) I don't want any dog, thank you very much.

The underlined NP is ambiguous between a countable and an uncountable reading. To say this is to say that "dog" is not inherently specified for countability. But it is also to say that the node dominating "dog" cannot be determined, directly or indirectly, by the node subcategorized for countability. Consequently that node must be lower in the hierarchy than the L that dominates "dog". Since there are only two functional nodes to consider, it follows that it is part which is subcategorized by the feature (\pm count), and that gen is subcategorized by (n gend), which -- like (n case) on pres -- is one of the scalar features¹. A different line of argument concerning the

¹ Quite possibly the scalar features could be resolved into a number of binary features. Thus (n gend) is (for German) equivalent to (\pm mask, \pm fem), where a choice of (+mask) precludes the choice of (+fem), and vice versa, but where an unmarked specification (-mask -fem) is allowed. Such a system is implied by a scalar feature where, say, (1 gend) = (-mask -fem), (2 gend) = (+mask -fem), and (3 gend) = (-mask +fem). The same applies to (n case). However, since it is more convenient to use a scalar feature notation even for these fairly simple instances, and since the notion of scalar feature is required anyway for the analysis of the sense of adjectives and adverbs (of degree) within a componential framework, I shall retain the notion of scalar feature.

status of the various lexical categories (§ 5.322) will lead to the same result.

The four categories case, gender, countability, and number provide the basic secondary functional features. In addition we shall have to recognize (\pm negative) and (\pm question) on pres, and (\pm specified) (NB! Not equal to the feature (\pm specific) sometimes found applied to the indefinite article) introduced by (+plural) and (\pm conditional) introduced by (-plural), on ind. The feature (\pm specified) is simply considered to indicate whether (+plural) refers to a specific number greater than "one", or just to "more than one". The two features (\pm negative) and (\pm question) on pres are in a sense contextual in that they are related to the illocutionary force indicators (Searle, 1969:30 ff) of the utterance containing the NP the structure of which is under analysis.

Furthermore, it is possible to accommodate the distinction between first, second, and third order entities¹ by positing a scalar feature (n^0 entity) on gen, introduced by a positive value of the basic denotative feature (\pm entity) on L_{pres} -- cf. § 5.321. Such a distinction allows a more refined treatment than the usual distinction in terms of (\pm abstract). Yet it also introduces a considerable number of complications stemming, in the main, from

¹ See Lyons (1968:§ 8.1.10) for first and second order nominals; third order entities, essentially, are denotata of propositions, etc., i.e. facts, etc.

the fact that these orders have rather blurred edges. I shall therefore not attempt to incorporate the distinction in the formal framework although I shall, on occasion, make use of the terms "first-", "second-", and "third-order entity".

The secondary subcategorization rules (2 SR) growing out of the discussion in the present section are stated in

(5:4) 2 SR

i.	pres	+	$\left[\begin{array}{l} (n \text{ case}) / \left[\frac{(n \text{ case})}{\quad} \right] \\ (\pm \text{quest}) \\ (\pm \text{neg}) \end{array} \right]$
iii.	gen	+	(n gend)
v.	part	+	(±count)
vii. a.	ind	+	(±plur) / $\left[\frac{+\text{count}}{\quad} \right]$
	b. -plur	+	(±cond)
	c. +plur	+	(±spec)

The notation to the right of the single stroke in 2 SR i. expresses the condition that the choice of case on pres is predetermined by the case governing N; and that in 2 SR vii. a. that part must have been specified as (+count) for (±plur) to be available on ind.

5.312 Lexical reflexes of DC.

The secondary features on DC leave their trace on the lexical string only after subjunction (chapter 6) has applied. However, the DC's themselves have lexical reflexes which are associated with their metaphysical origin, viz. "all" (pres), "kind" (gen), "some" (part), and "one" (ind). I shall regard these as primitives. This is against the common (logical) view of them. "Kind" is not accorded operational status in logical systems, and "one" is generally subsumed under "some". Of the remaining two, "all" and "some", one is usually taken as primitive, the other as derived (from the one taken as primitive plus negation) -- cf. e.g. Reichenbach (1947:91 ff). The fact that it cannot be decided which of them is the primitive, however, might suggest that they are equally basic in some sense. It is in this sense that I take "all", "some", "kind" and "one" as primitives in the linguistic system. One consequence of such a view is that it makes us less dependent upon negation. (Cf. Anderson, 1973b; 1974a; 1975b for an analysis of the linguistic quantifiers in terms of negation). More specific justification for the position taken here will be given below (§ 6.3 and chapter 8).

5.32 Denotative features.

The denotative features are, I suppose, the nearest

By saying that the rules in (5:5) are the only rules applicable to L_{pres} I am in fact saying that these rules are enough to specify the possible range of lexicalization for L_{pres} . The lexical rules (LR) to which (5:5) gives rise are

- (5:6) LR ii. a. $\left[\begin{array}{l} +entity \\ +person \end{array} \right] \rightarrow$ 'people'
 b. $\left[\begin{array}{l} +entity \\ -person \end{array} \right] \rightarrow$ 'thing'
 c. $-entity \rightarrow$ 'place'

This, I shall argue, is the possible range for lexicalization of L_{pres} in English. L_{pres} is, in English and, generally, in Indo-European, usually empty. The features in terms of which it is subcategorized (i.e. (5:5)) are carried downwards in the hierarchy to L_{gen} which is the node under which lexical nouns are generated. It seems, therefore, that we have a clear instance of multiplication of entities beyond the call of necessity. This is not so. What is implied is a special status for these three lexemes in English. If we can show that they in fact have a special status we have gone some way towards justifying the presence of L_{pres} .

First of all, if they do have a special status it would correlate with the basic metaphysical distinction between entities (things and people) and places (cf. Strawson, 1959:36 ff).

Secondly, such a status would explain the availability

of these three lexemes against all others ("today of all days" is a reduplication which is not relevant in the present respect) for the register of angry and surprised English in exclamations like

- (5:7) (a) he gave me a spanner of all things?
 (b) I heard that joke from a priest of all people!
 (c) the teapot was in the catbox of all places!

Thirdly, it is the feature-specifications in (5:5) which are realized as the second component of the pronominal forms "somebody", "something", "somewhere", etc., though not "sometime(s)", "someone", and "somehow", which all involve L_{ind} , and -- for "sometimes" -- possibly a recursion. Notice, incidentally, that the 'pronominal' form of "at all time(s)" involves an etymologically spatial lexeme, "always".

Furthermore, expressions like "that pencil-thing you gave me" are explicable on the assumption that $\left[\begin{array}{l} +entity \\ -person \end{array} \right]$ leaves behind a trace on L_{pres} which can be lexicalized optionally (cf. § 7.1).

These various facts have led to the conclusion that the three lexemes 'people', 'thing', and 'place' not only cognitively are the most superordinate lexical nouns in English, but that this superordinate status is in fact reflected in their referential (and syntactic) potential; and this in turn has led to the conclusion that their greater referential potential can be accounted for on the

basis of a derivationally special status, viz. as deriving from L_{pres} .

Notice finally that possible lexicalizations of L_{pres} occur in French (tout-le-monde), and Danish (allandsens: a slightly archaic phrase found almost exclusively in the fixed collocation "maa allandsens ulykker ramme dig" (= "may all possible misfortunes befall thee"); a transliteration would be "all-the-country's misfortunes"; and alverdens: less archaic and more productive, it may be transliterated as "all-the-world's___").

The noteworthy thing about these expressions is their obvious correlation with 'place', and their setting of bounds, as it were, for the occurrence of the things denoted by the headnoun. They may quite easily be seen as establishing a spatial universe of discourse (cf. (5:9) below). Tout-le-monde has the peculiarity that it 'refers' to people although it 'lexicalizes' (-entity).

Both the English, the French, and the Danish expressions are idiomatic. This correlates well with the suggestion (mentioned in passing and to be gone into more specifically in § 7.12) that pres-L, though an integral part of the referential structure of language, is not systematically exploited in Indo-European to the extent to which it is exploited by languages with numeral classifiers.

5.322 on L_{gen} and L_{part}.

Although a provisional account of the distinction between the two primary features (elective) and (selective) was given before (§ 4.23), the main distinction between them has had to await the general discussion of lexical insertion for its clarification. Let us approach this question by explaining the considerations behind the choice of the term "elective" itself. It has a slight but indubitable historical link with the problems we are investigating:

sometimes he (i.e. George Boole) calls the letters x, y, z, &c., elective symbols, thinking of them as symbols which elect (i.e. select) certain things for attention.

(Kneale & Kneale, 1962:407)

Immediately before this quoted passage they comment on Boole's propensity not to distinguish sharply between adjectives and class-symbols, and on the fact that his notation for intersecting classes, xy, in terms of simple concatenation was influenced by "the way in which we string adjectives together when we are trying to specify some narrowly defined class" (Kneale & Kneale, 1962:407).

Although Boole apparently -- i.e. if the report by Kneale & Kneale is exhaustive -- begs certain questions, especially concerning the nature of word-classes and the functional distinction between restrictive and non-restrict-

ive uses of adjectives, the parallelism between adjectives and class-symbols is an important one. By interpreting Boole's propensity as an embryonic development of Bach's (1968) derivation of nouns from underlying predicates we can turn it to our advantage in a natural way, especially if we can avoid the implicit commitment to predicational analysis.

Let us therefore follow Bach's hypothesis of noun derivation a step further to the refinement given to it by Anderson (1973a:75). Although the viewpoint is still predicational, Anderson provides a specification that allows us to disregard the predicational basis. He distinguishes the three major traditional word-classes from each other by means of the two features (\pm substantive) and (\pm stative) in the following way:

(5:8)	nouns	adjectives	verbs
subst(antive)	+	-	-
stat(ive)	+	+	-

Adjectives are further subdivided as either essential or contingent (loc. cit.).

Disregarding the feature-specification for verbs I shall say that L is inherently specified by one of Anderson's feature-notations, so that whatever comes to be dominated by L inherently specified as (\pm subst \pm stat) is a noun and whatever comes to be dominated by L inherently specified as (\pm subst \pm stat) is an adjective. As for the

status of what is coming to be dominated by L at all, see below, § 5.5.

The immediate problem is now to determine which L is specified as what and, in particular, whether a given specification is permanently associated with a particular L. Among the considerations necessary to solve this problem some are of a grammatical nature since some of the problems are related to the constituent structure of surface NP. Disregarding determinatives, quantifiers, and classifiers -- which are all held to be dominated by DC -- the three traditional parts of speech considered to participate in NP structure are nouns, adjectives, and adverbs, or, in Jespersen's terminology, primaries, secondaries, and tertiaries, which are the names given to the traditional word-classes as syntactic functors.

The mention of Jespersen here is not fortuitous. In his explanation of "junction" and "adjuncts" (1924:108) he speaks in metaphorical terms, and although what he says is somewhat general and intuitive it is certainly true. What is more, it has a direct bearing on the problem:

the method of attaining a high degree of specialization is analogous to that of reaching the roof of a building by means of ladders: if one ladder will not do, you first take the tallest ladder you have and tie the second tallest to the top of it, and if that is not enough, you tie on the next in length, etc. In the same way, if widow is not special enough, you add poor, which is less special than widow, and yet, if it is added, enables you to reach farther in specialization; if that does not suffice you add the subjunct very, which

in itself is much more general than poor.
Widow is special, poor widow more special
 and very poor widow still more special,
 but very is less special than poor, and
 that again than widow.

(Jespersen, 1924:108)

Although Jespersen is supposedly concerned with giving a grammatical account of the mechanisms of subordination, junction and adjuncts, he is in fact quite clearly giving a referential account in the quoted passage. The appeal to 'specialization' is only intelligible if he is thinking of the relative sizes of the classes whose members constitute the extension of the words widow, poor widow, and very poor widow.

Such a progressive specialization is essentially what is expressed in the hierarchical structure with which we operate. Viewing the referential branch from this angle we can interpret the referential phrases which constitute it in the following way:

(5:9) the extension of pres-L = the universe of discourse;

the extension of gen-L = the class of things whose members belong to the kind of thing spoken about in the universe of discourse;

the extension of part-L = the class of things whose members belong to a given subclass of the class whose members belong to the kind of thing spoken about in the universe of discourse;

the extension of ind-L = the class of things whose members are the individuals belonging to (a particular subclass of) the kind of thing spoken about in the universe of discourse.

Taking these things into consideration, the simplest hypothesis we can formulate is the following:

- (5:10) L_{gen} is inherently specified as (+subst +stat) so that what is dominated by L_{gen} appears as a surface noun; L_{part} is inherently specified as (-subst +stat), so that what is dominated by L_{part} appears as a surface adjective.

L_{pres} , in so far as it is directly lexicalized, dominates either 'thing', 'people', or 'place', and is therefore (presumably) also inherently specified as (+subst +stat). L_{ind} as will appear later, is considered to dominate what appears as superficial adverbials, in particular adverbs of space, time, and degree.

The denotative feature-specification under L_{gen} will thus be lexicalized by what was called a lexical noun (cf. § 4.3), whereas the denotative feature-specification under L_{part} will be lexicalized, per analogiam, by a lexical adjective.

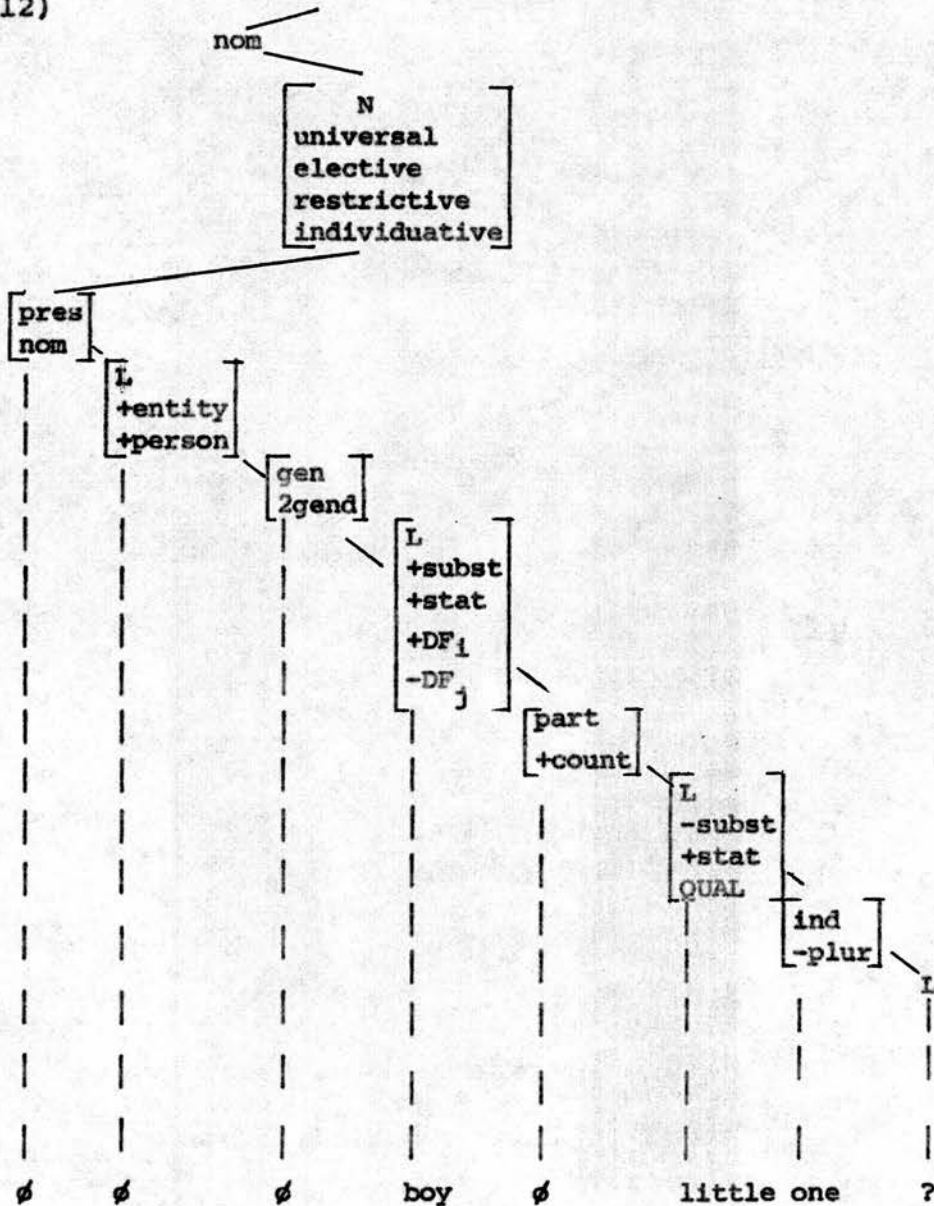
The strategy for lexical insertion now implies that we can interpret what is generally known as selection restrictions between nouns and adjectives in terms of det-

ermination between clusters of denotative features, so that the feature-specification under L_{gen} determines the feature-specification under L_{part} and is itself determined by the specification on L_{pres} . Consider by way of example

(5:11) the little boy was quiet

The underlying representation of this, in all relevant respects, is (5:12):

(5:12)



I leave out for the moment the question of lexicalization of L_{ind} -- cf. § 5.323. "DF" is an abbreviation for "denotative feature". I shall employ this as a variable rather than attempt to set up a system of actual denotative features, like (+adult), which might have been relevant in the specification of L_{gen} in (5:12). QUAL is also a variable which ranges over a number of denotative features which in some way or other are connected with qualities. I shall not go into detail over these in the present work, but a few remarks concerning them will be made in the last chapter.

To return to the point at issue. In (5:12) 'boy' is seen to lexicalize the feature-specification under L_{gen} . What actual features occur under L_{gen} , however, is determined by the occurrence of (+entity +person) on L_{pres} . This specification would prevent a feature-specification on L_{gen} which would be lexicalized, for example, by 'house'. Going further down, the specification of L_{gen} determines the specification on L_{part} . The actual features which subcategorize L_{part} -- and which are lexicalizable by 'little' -- are compatible with the actual features occurring on L_{gen} . A different specification on L_{part} -- say, one that was lexicalizable by 'rancid' -- will be precluded by the actual features occurring on L_{gen} in (5:12). That it is in fact the specification for nouns that determines the specification for adjectives is clear from the fact that "rancid" is understood to apply to butter (and perhaps a very restricted range of edibles besides). This can only

be explained on the assumption that the specification for 'butter' is implicit in, or, in my terms, is higher in the hierarchy than the specification for 'rancid'.

It could perhaps be argued that not only the denotative features, but also the functional features were involved in this determination, and so it could well be for gender. However, it cannot be so for case. Cf. with (5:11),

(5:13) the little house was quiet

Apart from the actual denotative features, the underlying representation of (5:13) differs from (5:12) only on one point. Instead of L_{pres} being specified as (+entity +person) as in (5:12), it is specified as (-entity) in the structure underlying (5:13). It is this difference that is behind the different ranges of paraphrasability allowed by (5:11) and (5:13):

- (5:14) (a) it was quiet in the little house
 (b) *it was quiet in the little boy

Unless some radical reorganization of the SS-component is contemplated, both "the little boy" and "the little house" are governed by nom, nom being the only obligatory case (Anderson, 1971a:37). In order to account for the asymmetric paraphrases in (5:14) we cannot, therefore, simply let "the little house" be governed by loc in the SS-component. Anderson's solution (1971a:96-7) is to consider a (tentative) notion of 'reflexive locative clause'

where loc is imposed on nom.

The two different specifications for L_{pres} suggested here, however, not only account neatly for the paraphrases in (5:14) but also highlight an important point in the distinction between entities and places.

If the choice between (+entity) and (-entity) was determined by the case on pres, so that (-entity) depended on loc (and perhaps abl), whereas (+entity) depended on nom (and erg), we could not account for the fact that language exploits the possibility of regarding entities as locations (and perhaps vice versa: cf. Scotland beat England). What is needed, and what the present analysis supplies, is a distinction between an 'extra-nominal' and an 'intra-nominal' source for locative. The former is characterized by the presence of loc in the SS-structure, the latter by (-entity) on L_{pres} in the RS-structure.

Let me finally point out that not all nominals in which L_{gen} is lexicalized by 'house' have L_{pres} specified as (-entity). It would be specified as (+entity -person) in e.g. "the little house collapsed".

5.323 and on L_{ind} .

So far we have been concerned with denotative features on L_{pres} , L_{gen} , and L_{part} , or, in line with the suggestions

towards the end of chapter 2, with features which establish categorial locations. We shall now look into the features on L_{ind} , which establish spatio-temporal locations.

However, since the justification for the position adopted here presupposes a number of points not yet raised, I shall only give a general outline here and postpone the more detailed discussion to the chapter on determinatives, with which L_{ind} is intimately connected (see § 10.3).

The two central features on L_{ind} are (\pm space) and (\pm time). In addition to these, a scalar feature, (n degree), is required, which, however, may possibly be a scalar variant of (\pm space). At least a case could be made for regarding degree as some sort of abstract spatial ordering along a vertical axis. For the time being, however, I leave (n degree) out of account.

The rule that introduces the two basic features on L_{ind} is:

$$(5:15) \quad 2 \text{ SR} \quad \text{viii. a.} \quad L_{ind} \rightarrow \begin{bmatrix} (\pm\text{space}) \\ (\pm\text{time}) \end{bmatrix}$$

Introduced by either (+space) or (+time) is a feature (\pm proximate) -- cf. Lyons (1973:73 ff)¹:

¹ It is immediately obvious that this paper by Lyons is the main source of inspiration for my treatment of these and a good many other phenomena. As for my reasons for occasionally departing from Lyons' exposition (e.g. by introducing (\pm space) and (\pm time) as features in addition to Lyons' (\pm entity)), cf. § 10.3.

(5:16) 2 SR viii. b. $\begin{bmatrix} +\text{space} \\ +\text{time} \end{bmatrix} \rightarrow (\pm\text{proximate})$

The various combinations allowed by these two rules give rise to the following lexicalizations:

- (5:17) LR viii.
- | | | | |
|----|---|---------------|---------------------------------------|
| a. | $\begin{bmatrix} +\text{space} \\ +\text{proximate} \\ +\text{time} \\ +\text{proximate} \end{bmatrix}$ | \rightarrow | here-now |
| b. | $\begin{bmatrix} +\text{space} \\ +\text{proximate} \\ +\text{time} \\ -\text{proximate} \end{bmatrix}$ | \rightarrow | here-then ₂ |
| c. | $\begin{bmatrix} +\text{space} \\ +\text{proximate} \\ -\text{time} \end{bmatrix}$ | \rightarrow | here-then ₁ |
| d. | $\begin{bmatrix} +\text{space} \\ -\text{proximate} \\ +\text{time} \\ +\text{proximate} \end{bmatrix}$ | \rightarrow | there ₂ -now |
| e. | $\begin{bmatrix} +\text{space} \\ -\text{proximate} \\ +\text{time} \\ -\text{proximate} \end{bmatrix}$ | \rightarrow | there ₂ -then ₂ |
| f. | $\begin{bmatrix} +\text{space} \\ -\text{proximate} \\ -\text{time} \end{bmatrix}$ | \rightarrow | there ₂ -then ₁ |
| g. | $\begin{bmatrix} -\text{space} \\ +\text{time} \\ +\text{proximate} \end{bmatrix}$ | \rightarrow | there ₁ -now |
| h. | $\begin{bmatrix} -\text{space} \\ +\text{time} \\ -\text{proximate} \end{bmatrix}$ | \rightarrow | there ₁ -then ₂ |
| i. | $\begin{bmatrix} -\text{space} \\ -\text{time} \end{bmatrix}$ | \rightarrow | there ₁ -then ₁ |

The numerals subscripted to "there" and "then" are employed by Lyons (1973) (though for "there" only; he does

not consider the temporal adverbs) -- following Allan (1971) who in turn interprets Jespersen's (1949:§ 3.1₁) distinction between existential "there" and local "there" in these terms -- to distinguish a weak (1) from a strong (2) non-proximate deictic adverb. I interpret Lyons' distinction as a synchronic parallel to the diachronic distinction established by Pilch (1968:176; 1970:22 and § 29) in the Old English deictic system between "swache Deixis" and "starke Deixis" over and above the proximity system "Jenerdeixis" and "Dieserdeixis". Lyons' and Pilch's analyses thus support each other -- in a manner similar to that in which Christophersen's / Jespersen's diachronic analysis of "a" is supported by, and supports, Perlmutter's synchronic analysis of "a" -- so as to highlight the appropriateness of working with two deictic axes in the description of (modern) English.

I shall exploit the possibility which in this way offers itself as a basis for my account of the two ways in which individuation may take place (Searle, 1969:86; cf. above, p. 90): by description or by ostension. Since in both cases individuation takes place, ind-L must be present in the underlying structure of both kinds of individuating phrase. The difference between them -- as yet stated only in barest outline -- is that purely descriptive identifying phrases involve lexicalization of L_{ind} which do not contain a strong deictic (spatial or temporal). In effect this means that only LR viii.a. is involved in purely

descriptive identifying phrases, whereas the rest of the LR's displayed in (5:17) are involved either in the derivation of purely ostensive identifying phrases, or in 'mixed' (i.e. subsuming both descriptive and ostensive elements) identifying phrases.

It is clear that purely descriptive identifying phrases rely on categorial location, whereas ostensive phrases rely on spatio-temporal location. And since categorial locations are established by L_{gen} and L_{part} (and, sometimes, L_{pres}), it follows that the weak deictics indicate that the entity being talked about 'exists' in the sense that they guarantee that the categorial locations established under L_{gen} and L_{part} may have entities of level zero assigned to them. The weak deictics indicate that the feature-specifications which determine them are 'correct', i.e. that they specify a meaning that can be lexicalized.

This is also inherent in the strong deictics. The strong deictics may therefore be interpreted as encapsulating the weak deictics plus an element of proximity.

5.4 Summary, statement of rules, and sample derivation.

The basic distinction in the referential theory is between deixis and denotation. This distinction is reflected by the recognition of two types of operational category,

functional categories (DC) and lexical categories (L). These occur in ordered pairs, called referential phrases, with DC determining L. The referential phrases are extrapolations from a set of five primary subcategorization features on N, and are themselves further specified for lexical insertion by a process of secondary subcategorization. The basic secondary features on DC account for the four traditional categories of case, gender, countability, and number, and the lexical reflexes of DC are "all", "kind", "some", and "one".

The secondary features on L are the equivalents of the 'classical' semantic features (or components). These are regarded as being lexicalized (by a lexeme, but cf. § 5.5). In addition, each L is inherently specified for syntactic function, so that what occurs under L_{gen} comes out as a noun, whereas that which occurs under L_{part} comes out as an adjective and that under L_{ind} as an adverb.

I recognize three distinct kinds of rule, one of which is further subdivided into a set of primary and a set of secondary rules: primary (1 SR) and secondary (2 SR) subcategorization rules, determination rules (DR), and lexical rules (LR). The rules we have been considering in the preceding pages are displayed in (5:18).

(5:18)

- 1 SR i. N → universal
- ii. universal → { elective
selective
individuative }
- iii. elective → restrictive
- iv. { selective
restrictive } → individuative

- DR i. a. universal → pres//__N
b. pres → L//pres__
- ii. a. elective → gen//L_{pres}__
b. gen → L//gen__
- iii. a. selective → part//L_{pres}__
b. restrictive → part//L_{gen}__
c. part → L//part__

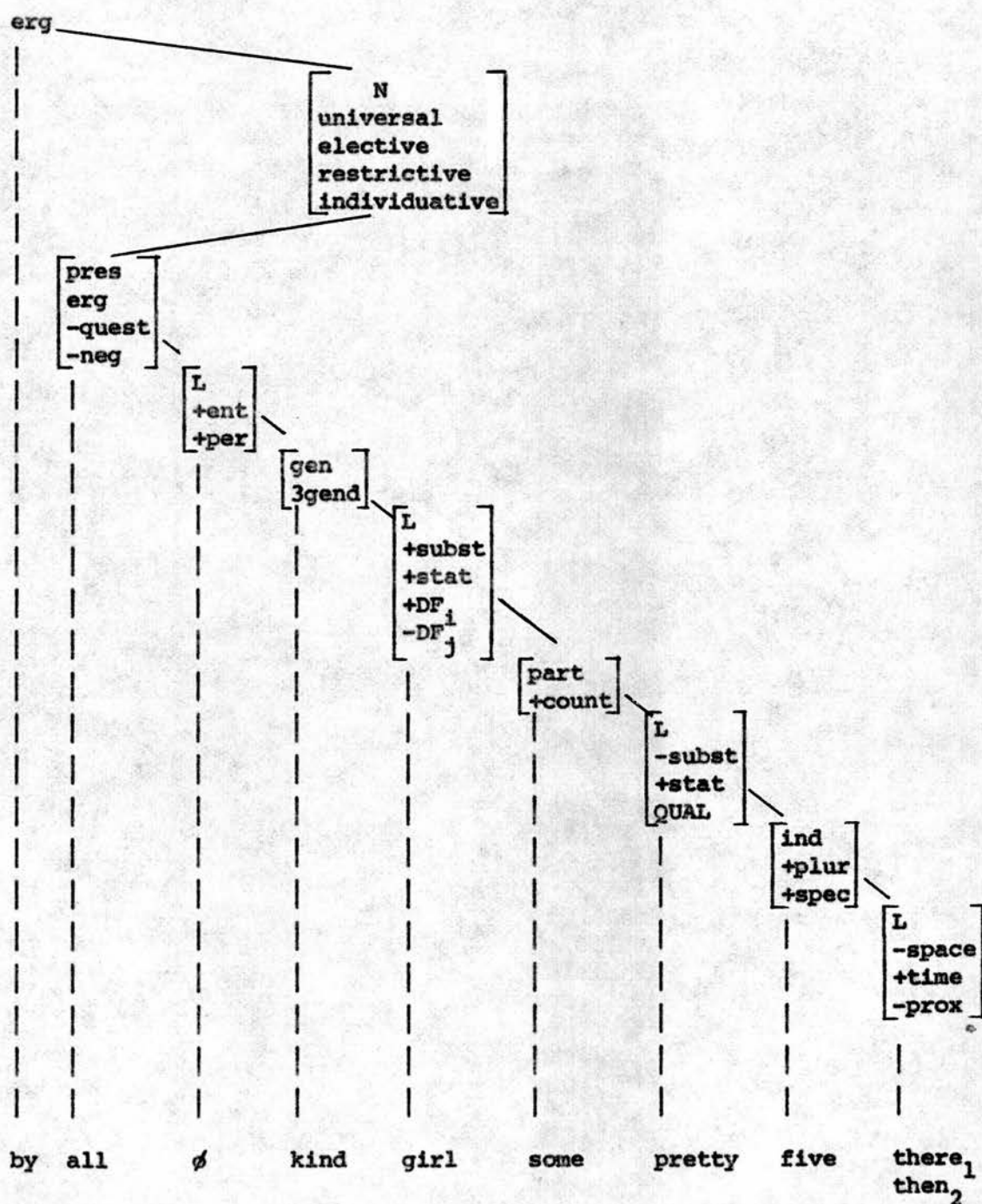
- iv. a. individuative → ind// { L_{pres}__ / N
universal
individuative }
b. ind → L//ind__

2 SR	i.	pres	→	$\left[\begin{array}{l} (n \text{ case}) / \left[\begin{array}{l} (n \text{ case}) \\ \hline \end{array} \right] \\ (\pm \text{quest}) \\ (\pm \text{neg}) \end{array} \right]$
	ii. a.	L_{pres}	→	(±entity)
		b. +entity	→	(±person)
	iii.	gen	→	(n gend)
	iv. a.	L_{gen}	→	$(\pm DF_1) / \left[\begin{array}{l} (\pm \text{entity}) \\ (\pm \text{person}) \\ \hline \end{array} \right]$
		b. +DF ₁	→	(±DF _j)
		c. -DF _j	→	(±DF _k)
		d.		
	v.	part	→	(±count)
	vi. a.	L_{part}	→	(QUAL) / $\left[\begin{array}{l} +DF_1 \\ -DF_j \\ \hline \end{array} \right]$
		b. QUAL	→	(±DF _x)
		c. +DF _x	→	(±DF _y)
		d.		
	vii. a.	ind	→	(±plural) / $\left[\begin{array}{l} (+\text{count}) \\ \hline \end{array} \right]$
		b. -plural	→	(±conditional)
		c. +plural	→	(±specified)
	viii. a.	L_{ind}	→	$\left[\begin{array}{l} (\pm \text{space}) \\ (\pm \text{time}) \\ \hline \end{array} \right]$
		b. $\left\{ \begin{array}{l} +\text{space} \\ +\text{time} \end{array} \right\}$	→	(±proximate)

LR	i.	pres	→	'all'
	ii. a.	$\begin{bmatrix} +\text{entity} \\ +\text{person} \end{bmatrix}$	→	'people'
	b.	$\begin{bmatrix} +\text{entity} \\ -\text{person} \end{bmatrix}$	→	'thing'
	c.	-entity	→	'place'
	iii.	gen	→	'kind'
	iv. a.	$\begin{bmatrix} +\text{DF}_i \\ -\text{DF}_j \end{bmatrix}$	→	LEXEME
	b.	$\begin{bmatrix} -\text{DF}_j \\ +\text{DF}_k \end{bmatrix}$	→	LEXEME
	c.		
	v.	part	→	'some'
	vi. a.	$\begin{bmatrix} \text{QUAL} \\ +\text{DF}_x \\ -\text{DF}_y \end{bmatrix}$	→	LEXEME
	b.		
	vii. a.	-plural	→	'one'
	b.	$\begin{bmatrix} +\text{plural} \\ -\text{specified} \end{bmatrix}$	→	∅
	c.	$\begin{bmatrix} +\text{plural} \\ +\text{specified} \end{bmatrix}$	→	'two' 'three' 'four'
	viii.	(= (5:17)).		

On the basis of these rules we can now give a sample derivation: "John was jilted by all those five pretty girls".

(5:19)



5.5 N and NP reconsidered.

We shall return to the subsequent history of (5:19) in the next chapter, which is concerned with the transformational part of the theory. In the meantime we shall reconsider N and NP on the basis of (5:19). A NP, it was said (§ 4.3), is a N plus 'the words' inserted under the nodes which constitute N. I can now be somewhat more explicit as to the precise meaning of "'the words'" in this connection.

The point at issue is in fact the theoretical status (if any) of the broken lines connecting subcategorized category symbols and what is inserted under them. So far I have simply said that this material is dominated by a category symbol without any indication as to what this term might cover.

I want to suggest that (5:19) in its entirety is a formal representation of a sign; more specifically, of a Saussuro-Hjelmslevian (biplane) sign, in which the broken lines represent the sign-function (in Hjelmslev's terms), i.e. the relation between content-plane and expression-plane. This relation is said (by Hjelmslev, 1943:45) to be solidarity (i.e. interdependence between functives (terms) in the language system). On this interpretation of (5:19) what is at the lower end of the broken lines should be regarded as the expression-plane, whereas that which is at the top is the content-plane.

We see then that the term N(ominal) as employed here is a semantic term. It is the term for the part of the content-form which structures the amorphous nébuleuse into the content-substance of a NP (for these terms, see Hjelmslev, 1943:§ 13). NP, on the other hand, is the term for a sign which is capable of performing specific syntactic functions.

It is clear that I to some degree contravene the tenet of solidarity between expression and content, but this is a situation that is foreseen by Hjelmslev:

It follows that -- except by artificial isolation
-- there cannot be a content without an expression
or an expression without content

(Hjelmslev, 1943:45; my transl. and emphasis).

In order to arrive at a precise characterization of the referential properties of NP's I have artificially isolated their content: the symbol of this artificial isolation is N.

I can now also be a little more specific about the status of the material inserted under L. Since L in a sense is the category that structures the content-plane, we expect that what is inserted under it structures the expression-plane, and this, in fact, is the case. I suggest that what appears under L is a root (in Matthews' sense -- cf. Matthews, 1970, esp. p. 109; also 1974:40), and that L (plus the secondary features on L) enters a

function (contracts a relation) with the root under it. This function constitutes a lexeme (in Lyons' and Matthews' sense) or a semanteme (in Hjelmslev's (1928:198 ff) sense). A lexeme is a word endowed not only with meaning but also with the potentiality of syntactic function.

With respect to the formulation of rules in (5:18) we now see that those LR's which introduce LEXEME are in fact simplifications. It is the combination of a feature-specification and a root that yields a lexeme. However, this simplification is innocuous since we are mainly interested in the semantic properties of NP's. I shall therefore say that it is lexemes that occur under L.

Chapter 6

Subjunction and Adjunction

6.1 Serialization.

If (5:19) is a reasonable means for determining the deep structural properties of "(by) all those five pretty girls", obviously we need a set of rules that will ensure that the items constituting the terminal string appear in correct surface order. Whereas conventional transformational rules may not only change the order of the categories referred to in the structural analysis of a given T-rule, but may also add and delete material (not) generated by the phrase structure rules, the question of sequentiality for our purposes seems to have top priority, although obviously some form of deletion is required to account for "kind" and "some" in (5:19). This matter, however, is linked with the question of serialization. We recognize this priority by developing what I shall refer to as a system of serialization rules.

The surface order of the elements in an English NP allows a certain amount of fluctuation within a stable, basic scheme, a fluctuation which to a large extent is due to the possibility of a number of adjectival modifiers occurring with the same noun (cf. e.g. Goyvaerts, 1968; Sussex, 1974), and also to a number of idiosyncratic properties of certain quantifiers, notably "all".

However, the rules we need in order to transform a terminal string like that in (5:19) into an acceptable surface string all conform to the basic principle of subjunction, which is motivated on independent grounds in other compartments of the grammar¹. In addition to the serialization rules a number of morphophonemic rules

¹ Anderson (1971c). Cf. also Hjelmslev's (1943:§ 18) account of syncretism with which subjunction is at least closely related if not identical. In particular, whereas the special case of syncretism which Hjelmslev calls "sammenfald" ("coalescence") -- in which all or none of the functives entering the syncretism are superficially manifest -- seems to correlate with subjunction, the special case called "implikation" ("implication") -- where one or more members are manifest -- correlates with adjunction. However, in adjunction all functives involved may be superficially realized, entering an appositive serialization. Furthermore, it is not clear (to me) how Hjelmslev's distinction between "resoluble" and "irresoluble" syncretisms should be handled at the content-plane for more complex cases of syncretism than the fairly simple case of nominative/accusative in Latin which he adduces as an example. We shall need to operate with such more complex cases of subjunction -- in particular involving the quantifier-'functives'. I therefore restrict myself to pointing out that subjunction and syncretism are two closely related, though hardly isomorphic, processes.

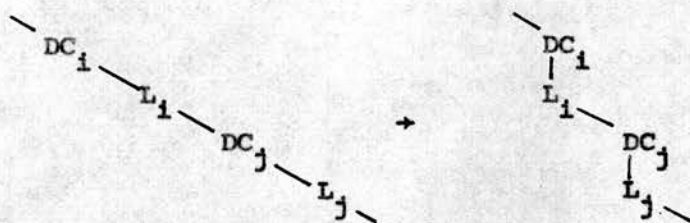
Cf. also Siertsema (1955:ch. X) who, like me, finds difficulties in clearly establishing the importance of syncretism at the content-plane. She concludes that "Syncretism is only an expression-phenomenon" (p. 191).

are required; we come to those presently.

6.2 Lexical and RP-subjunction.

Subjunction may affect the referential branch in one of two ways. Either an L may be subjoined to a DC, or a DC may be subjoined to a higher DC; in both cases the subjoined element carries its dependents with it. I shall refer to the first type as lexical subjunction, to the second as R(eferential) P(hrase)-subjunction. Each type may be illustrated as follows:

(6:1)



(6:2)



Both types of subjunction may be involved in the derivation of a given NP. In that case lexical subjunction precedes RP-subjunction, possibly with one exception (cf. § 10.22).

We shall go into the two types of subjunction in some detail during the discussion in the next part, but in the meantime a few general points should be made.

The main task for lexical subjunction is pronominalization. Its effect -- to subjoin L under DC -- is to convert a 'lexical' word into a 'functional' word.

Lexical subjunction may be regarded partly as a diachronic, partly as a synchronic process. It is diachronic in the sense that a number of present day English functional items can be explained on the basis of a conflation of DC and L which has occurred in time. Consider for example modern English "each" and "every". The usual etymology of these is (for "each") a West Germanic phrase, **aiwō 3alīkaz*, meaning "ever alike" (Onions, Etym.; NED, art. each). This phrase becomes Old English (West Saxon) "ǣlç" by a number of historical phonological rules. Then, in Old English, the process repeats itself. "ǣlç" is modified by "ǣfre" (= "ever"), and the resultant phrase, "ǣfre ǣlç", develops phonologically into modern English "every".

However, what is of interest in these developments from the point of view of subjunction is that in each case a temporal element is involved, especially when compared to the in many ways parallel development of Latin "quidam" (dum > -dam, with temporal meaning; cf. Ernout & Meillet, Etym., artt. dum, quidam, and quis). I have already indicated that the place of origin in the referential branch

for such temporal deictic adverbs is L_{ind} . On this assumption, therefore, the historical development of "each", "every", and "quidam" can be regarded as the result of a lexical subjunction involving L_{ind} plus one or more of the functional categories, at least from a semantical viewpoint.

However, although such considerations can have a certain amount of interest for a synchronic assessment of, in this case "each" and "every" (cf. Vendler, 1967:77), they cannot alone serve as a synchronic account of these items. Yet it so happens that, from a purely synchronic viewpoint, the differences between "each" and "every" can be accounted for on the basis of (lexical) subjunction (cf. chs. 9 and 10).

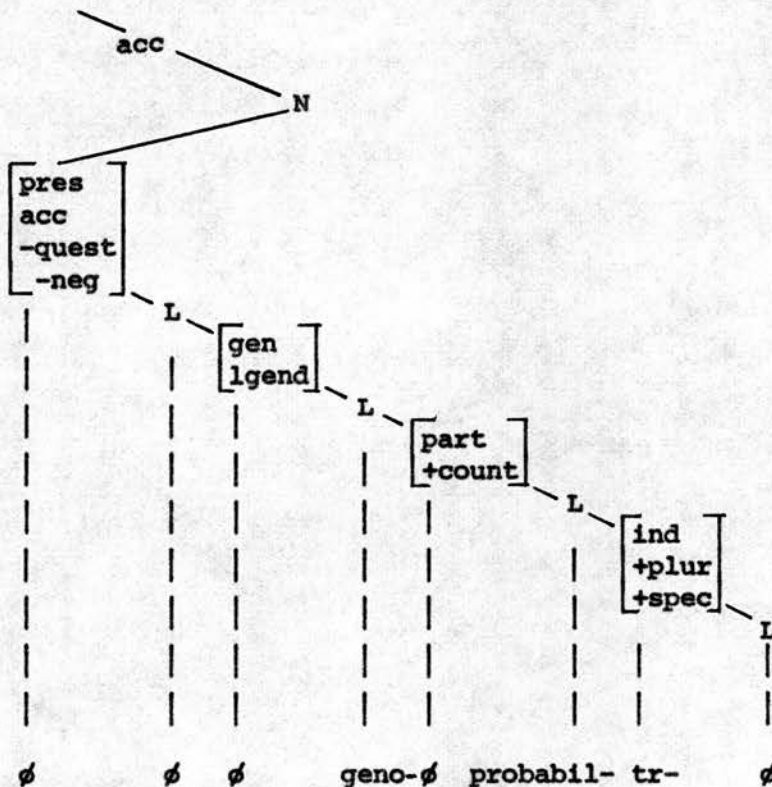
RP-subjunction is a natural consequence of the secondary subcategorization-specification on DC. It was argued above that *pres* is the node that 'preserves' the case which governs N, that *gen* is subcategorized for gender, *part* for countability, and *ind* for number. Now it is obvious that, in the Indo-European languages at least, these categories are not only relevant for the L that they determine or which determines them -- for arguments in favour of regarding adjectives as countable and uncountable, cf. Plank (1976:26) -- but for the NP in general. This is of course especially apparent in case languages like German and Latin, and in gender languages like German, French, Danish, and Latin. Consider by way of illustration the NP

in a Ciceronean sentence like

(6:3) Primum enim numero definieram genera ciuitatum
tria probabilia, ... (De Re Publica II xxxix 65)

Disregarding for the moment the adnominal genitive ("ciuitatum"), the derivation of this NP is considered to occur in the following stages (employing the traditional case labels for Latin):

(6:4) (a)

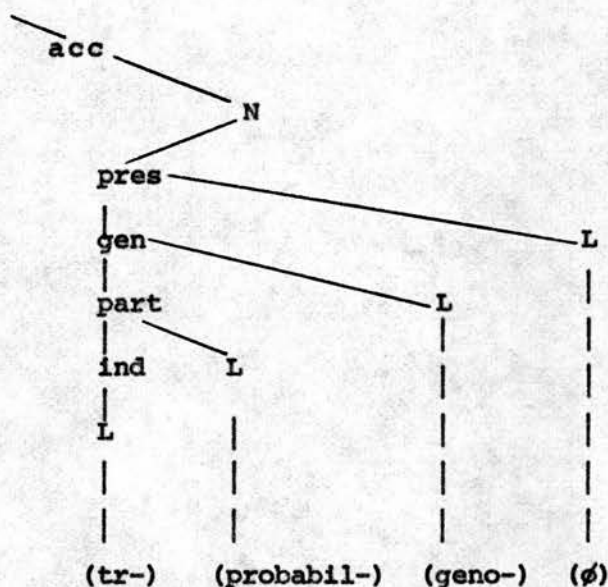


(I have simplified the representation in a number of respects not central to the issue).

There is contextual evidence to suggest that the NP at hand is definite. How the question of definiteness is to be solved for Latin I do not know; for English, however, definiteness depends on lexical subjunction of ind-L (i.e.

within the referential phrase ind-L, L is subjoined to ind). I shall therefore assume that the same applies to Latin. No other pronominalizations are involved, so no further lexical subjunctions apply. The outcome of RP-subjunction then yields

(6:4) (b)



The form given to the lexical reflexes is a -- possibly misguided -- attempt to capture the ablaut-peculiarities of the roots involved; thus a diachronic element is introduced into what should perhaps rather be regarded as a strictly synchronic representation. This point, however, is of minor importance to us, but cf. Matthews (1970:104 f).

6.3 The morphophonemic carriage.

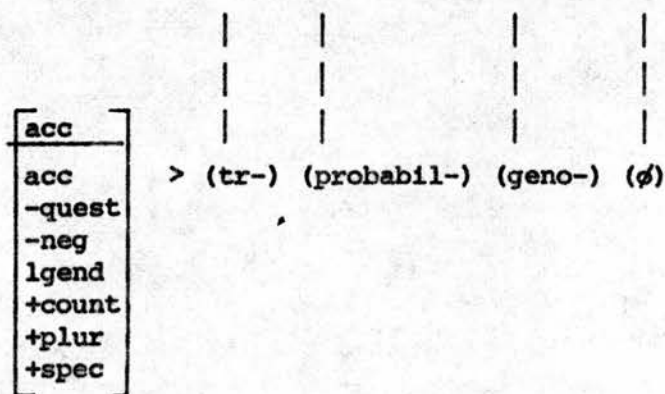
The derived string in (6:4 b) can be regarded as a

string of lexemes inserted in a string of brackets labelled by the category-nodes that dominate them, as indicated. These labelled brackets are part of the nominal structure.

However, they are associated with what I shall refer to as a morphophonemic carriage. This is a compartment into which the secondary functional features are inserted during RP-subjunction. Furthermore, this compartment is bipartite. It contains two case-entries, one inserted directly from the case-node that governs N, and one from pres. Initially these will be the same, of course, but subsequent developments will make it clear that the entry from the case-node is constant (positionally), whereas the case-entry from pres may be moved, due to subjunctions of subordinate structures. That is to say, due to subjunction, what starts out as a superordinate may, from a case-viewpoint, end up as a subordinate, and vice versa. We return to this and related points throughout part III.

The morphophonemic carriage may be represented as a complex symbol, that is -- relative to the NP at hand -- in the following manner:

(6:4) (c)



The morphophonemic rules can now be seen as instructions to move the morphophonemic carriage through the lexical string, imposing the subcategorial features contained in it on the lexical items as appropriate. With the distinction between roots and lexemes in mind we then see that the function of the morphophonemic carriage is to convert lexemes into word-forms, i.e. to convert the expression of a potential syntactic functor into an actual syntactic functor.

All the information contained in the morphophonemic carriage in (6:4 c) is relevant for each of the roots of the NP under discussion. The internal order of elements in a Latin NP is therefore governed by subsequent -- presumably stylistically and rhetorically determined -- rules.

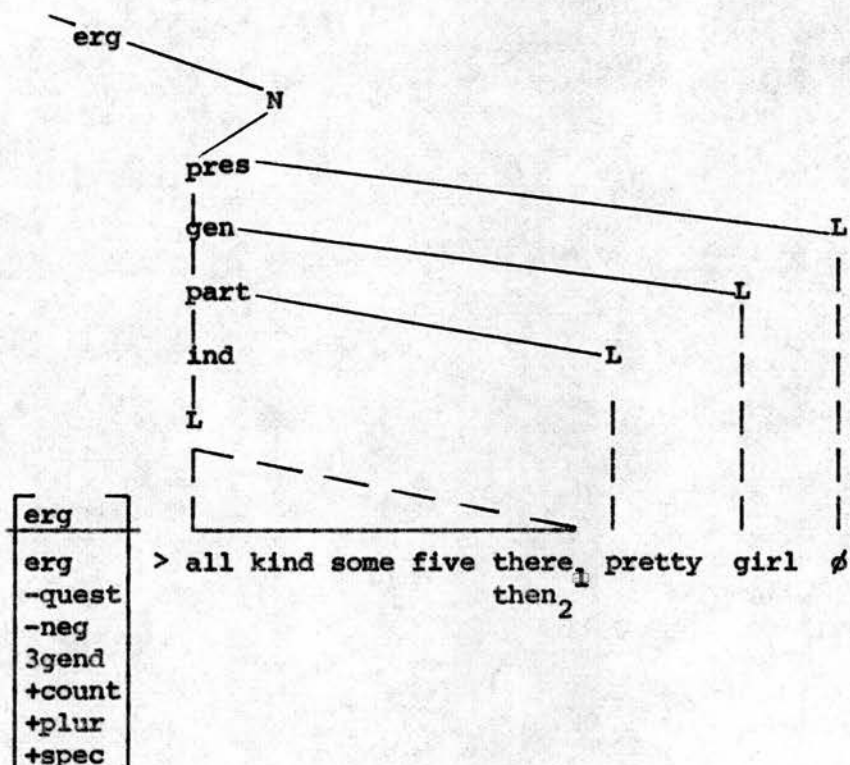
Let us now return to (5:19) to see what effect the two subjunction processes have on that. The first noteworthy point is that "(by) all those five pretty girls" -- of which (5:19) purports to be the underlying representation -- contains an element of definiteness: "those" is a definite determinative (or demonstrative).

There are two opposing views on the status of definiteness (at least), one -- represented by Robbins (1968:86-7) and Thorne (1972) -- according to which definiteness is a non-basic notion; the definite article is transformationally derived. And one -- represented by Perlmutter (1969), Postal (1966), Sørensen (1963:97) -- according

to which definiteness is a primitive notion; the definite article cannot be analyzed away.

It has already been implied that I consider definiteness to be non-primitive. It derives -- in the present framework -- from a lexical subjunction of ind-L (see §§ 10.3-4 for more detailed discussion and justification). Therefore the first step in the subjunction process is a lexical subjunction of ind-L. No further lexical subjunctions apply, and RP-subjunction yields the following structure:

(6:5)



Relative to this structure -- which is already better than (5:19) from the point of view of serialization -- it should be noticed that the contents correlated with the expressions 'all', 'kind', 'some', 'five', 'there₁', and 'then₂'

have been conflated into one complex node. There is a tendency towards what we might call -- borrowing a term from Pilch (1968:166) -- 'monomorphemic' structure of the expression, especially of functional signs (I remind the reader of the reconsideration of N and NP in § 5.5). That is to say, meaning-elements often and consistently conflated will -- in time -- be expressed by morphologically less and less complex forms, the limiting case being a form consisting of only one morpheme (cf. the diachronic development of "each" and "every" outlined above). The essence of subjunction is precisely to account for this fact. Consider in this connection the discussion of the semantic representations of "John gave me (his) help" vs. "John helped me", where the latter displays subjunction of a case-phrase, nom-N, under V, in Anderson (1971c: 1-4). Furthermore, it is one of the principles behind Porzig's (1934) theory of syntagmatic sense relations.

With this in mind we can rearrange the string under the subjoined DC's in (6:5) as indicated in (6:6):

(6:6)

	kind				
	some				
all	there ₁	five	+	all	those five
	then ₂				

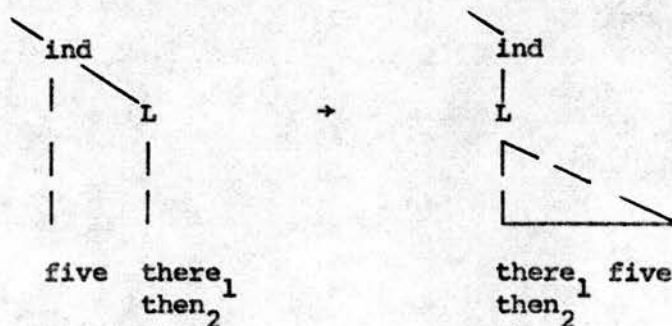
-- where 'those' is the expression-element that is correlated with the meaning of "kind", "some", "there₁" and "then₂".

6.4 The Mirror-Image Convention.

As it stands, (6:6) is completely arbitrary. We need to show that some principles are involved in the serialization of expression elements when they come to be dominated by the same (complex) node. The principle involved is -- with a term borrowed from Leech (1969) -- the Mirror-Image (MI)- convention.

Note first that 'five' is required superficially. That is, the meaning carried by ind is formally expressed in the NP under discussion. Notice secondly that this need not be the case. The NP "all those pretty girls" can in appropriate circumstances be understood to mean "all those five pretty girls". The requirement of formal expression of ind will eventually run counter to the tendency towards monomorphemic expression of complex nodes. What happens, then, is this: the two expressions involved in the subjunction change places:

(6:7)

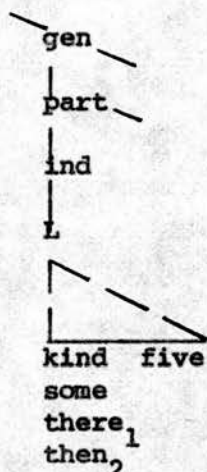


This is the parallel within the functional compartment

to the effect of subjunction on the lexical compartment, which is to reverse the order of L's.

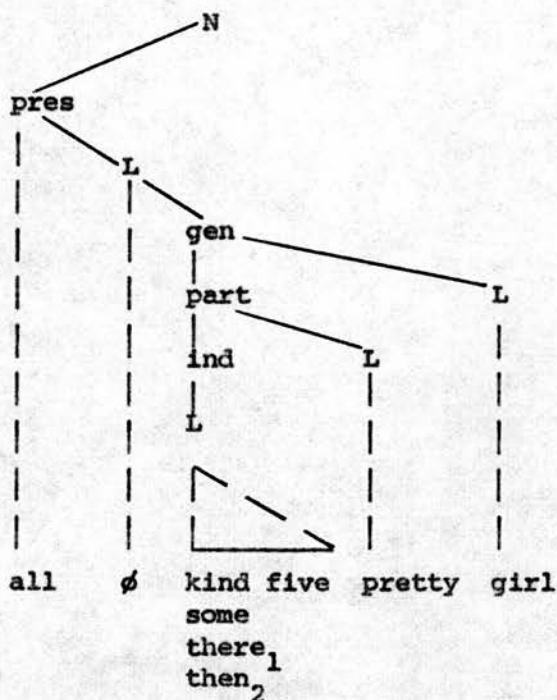
The two next steps in the RP-subjunction -- which applies cyclically, from the bottom upwards -- will not contravene the tendency to monomorphemic expression, thus giving:

(6:8)



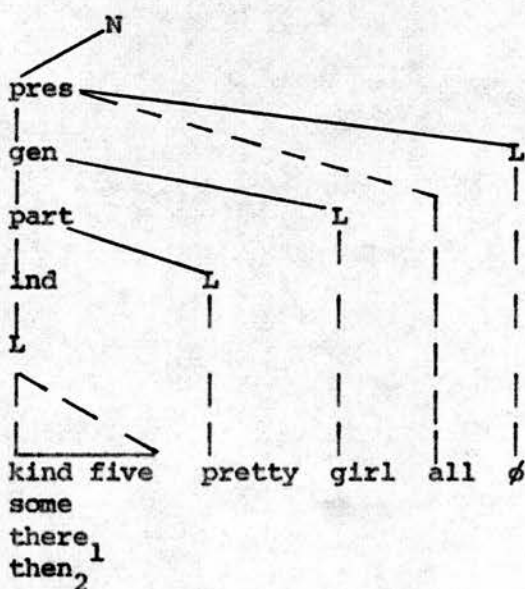
We then come to the last step, that involving pres-L. If the MI-convention is correctly stated, then clearly it is not in operation here, since 'all' appears to the left of the other expression elements associated with the functional nodes in the surface string. The situation before the last step in the subjunction cycle can be represented as in (6:9):

(6:9)



That is to say, the issue is between pres-L on the one hand and the rest of the structure on the other. Observation of the MI-convention relative to this structure will therefore give (6:10):

(6:10)



This structure, it will be appreciated, is precisely the

structure underlying the variant of our NP, (6:11);

(6:11) those five pretty girls all (jilted John)

But how are we to account for our original NP, the one that does not observe the MI-convention? An approach to this question is offered by an (in this connection) extremely interesting footnote in Carden (1973:92 fn 2). There Carden says that David Perlmutter has informed him (by word of mouth) that there are dialects of (American) English in which only (6:12 a) is acceptable, not (6:12 b):

(6:12) (a) the guests all began to arrive

(b) all the guests began to arrive

Carden therefore tentatively queries the basic status normally accorded to structures like (6:12 b) in discussions of quantifier serialization.

What Carden's footnote implies (in my terms) is that certain dialects of (American) English have obligatory application of the full cycle of RP-subjunctions. Since there is no monomorphemic functional item in English that is analyzable into "all" + "the", the MI-convention applies at the last step, yielding (6:12 a). The corollary of this is that in most dialects of English -- at least all of those with which I am familiar -- subjunction of a structure under pres is optional. If it applies, the sense of "all" is either embodied in a monomorphemic expression, or it is moved behind the subjoined structure

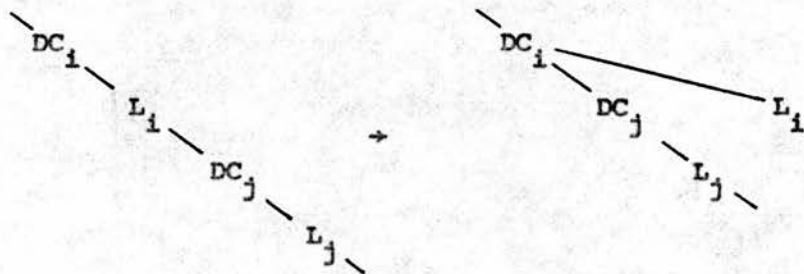
by the MI-convention. If it does not apply, 'all' remains at the front of the NP.

6.5 Adjunction.

However, the representation (6:10) suggests that we have missed out a step in the process of RP-subjunction, a step which turns out to be required for the proper analysis of a large variety of phenomena.

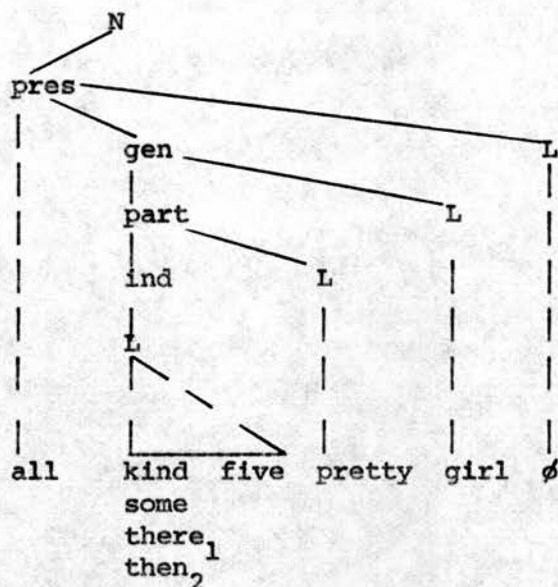
From a certain viewpoint the L in a referential phrase can be said to be adjoined to DC, and the referential branch is itself a string of nodes, each one adjoined to the one above it. Consequently, lexical subjunction is a process by which an adjoined node, L, is moved from adjunct position to subjunct position. It is this concept of adjunction which we have missed out from the account of RP-subjunction. We therefore revise that account by saying that RP-subjunction is the last step in a two-step process in which the first step adjoins a DC (plus its dependents) to another, higher, DC:

(6:13)



Applied to (6:9), adjunction yields:

(6:9')



The standard English dialects that allow "all the guests" do not apply the second -- subjoining -- step to this structure, whereas the dialects allowing only "the guests all" must apply subjunction.

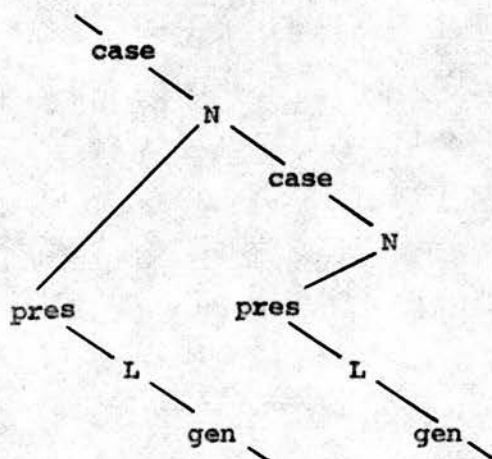
Although we in this way accommodate Carden's footnote in a quite satisfactory manner, certain problems are still manifest. Notice that the subjoining step applied to (6:9') in combination with the MI-convention will generate a derived string in which 'all' precedes the (usually zero) reflex of L_{pres} . This implies that a NP like "those five pencil all things" should be acceptable, which it obviously is not. In contrast, "those five pencil-things all disappeared", although odd, does not violate the structure of English NP's in the same way. We shall therefore explore a possible alternative to the MI-convention as a source for "the guests all" in § 8.42.

6.6 Preliminary comments on recursion.

The Ciceronean NP employed to illustrate the operations of subjunction and the associated morphophonemic rules in (6:3) contains an adnominal case-phrase, superficially realized as "ciuitatum". That is to say, "ciuitatum" realizes a N which is subordinate to another N. The whole NP in (6:3) is the realization of a referential tree with two branches. These are what I shall call complex structures. The derivation of complex structures involves recursion of the rules established throughout part II.

The basic, schematic representation of complex structures is (6:14):

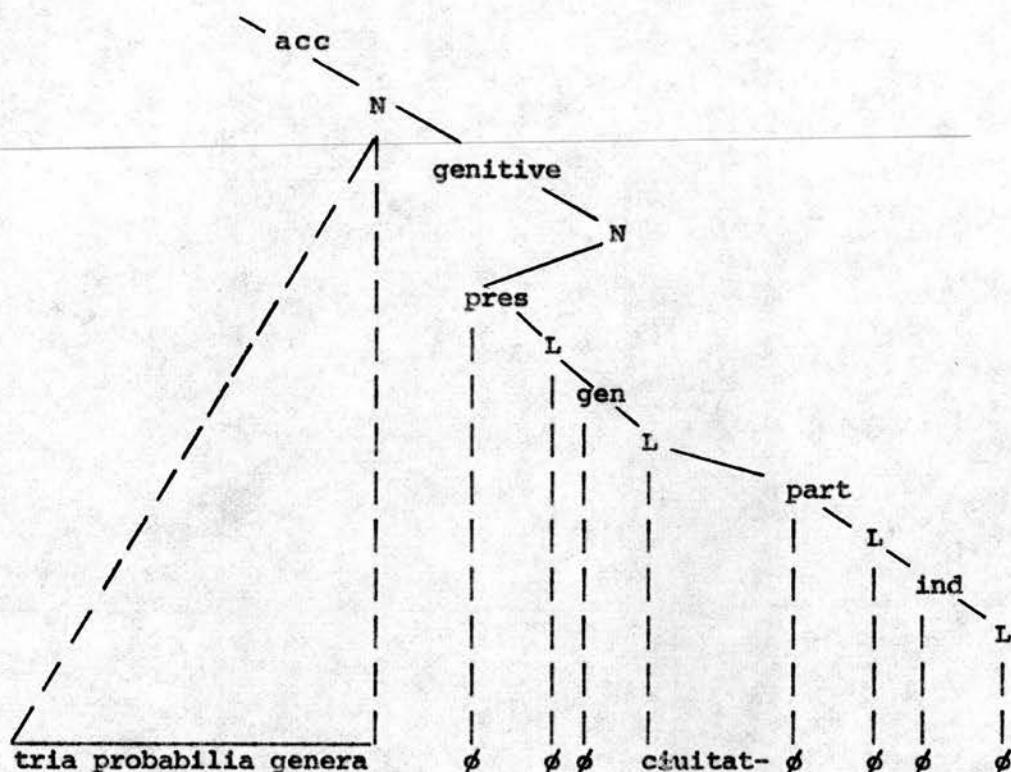
(6:14)



For the example at hand, the representation will be

(6:15):

(6:15)



Again I have simplified the structure in many respects.

Both types of subjunction apply to (6:15) and structures like it, recursively and from the bottom up. However, a number of niceties are involved in the derivation of complex structures in English, mainly stemming from the fact that the subordinate branch may be adjoined and subjoined to a particular DC or L in the superordinate, thus generating a string that is not necessarily delimitative. Moreover, two different types of subordinate branch need to be recognized. These points are too intricate to go into at the present stage. They will be fully discussed at appropriate junctures in part III, which is devoted to the application of the theory.

Chapter 7

Relevant Data from Other Languages

7.1 Languages with numeral classifiers.

Perhaps one of the most serious objections that can be raised against the framework developed in the preceding sections concerns the status of the uppermost referential phrase $pres-L$, even though there are phenomena of English that are explicable on the assumption that it is there (cf. § 5.321). What unnaturalness inheres in the phrases whose analysis relies on lexicalization of L_{pres} stems from the fact that English usually leaves this node empty, at least if L_{gen} is lexicalized.

However, if we leave English -- and Indo-European in general -- and turn to languages which incorporate numeral classifiers we will find ample support for $pres-L^1$.

¹ As a matter of historical fact I should like to point out that it was not until after the framework above had been developed to account for English NP's that I became aware of its applicability to classifier-languages. My awareness of this point -- as of innumerable others -- was awakened during a discussion with professor John Lyons on the basic framework.

7.11 The nature and functions of numeral classifiers.

A large number of languages¹ display formally what are generally called numeral classifiers, or simply classifiers, for example Thai², Burmese, Vietnamese, Tzeltal, and Tarascan, from all of which examples will be drawn in the following account.

Classifiers indicate to what semantic domain -- in the sense developed by Berlin (1968) -- a given noun belongs. Yet there is no one-to-one correlation between a noun and a given classifier. The employment of a particular classifier with a particular noun indicates rather the 'denotative viewpoint' -- to coin a hopefully intelligible phrase -- the denotatum of that noun is seen under on a particular occasion, and all manner of stylistic, moral, ironic and other delicacies may result from various degrees of 'abnormal' use of a given classifier with a given noun (apart from the downright unacceptable uses).

The use of classifiers is in some languages restricted to instances of specific and non-specific enumeration, e.g. in Burmese (cf. Burling, 1970:58; Okell, 1969:73) and Tzeltal (Berlin, 1968:22-3), but not in Vietnamese and Thai, where classifiers are also used with nouns modified

¹ For good surveys cf. Friedrich (1970:400 ff) and Greenberg (1972:2 fn 5).

² I am indebted to Miss Napha Bhodtipaksa (a native speaker of Thai) and Mr A. G. Smith for the Thai data.

by 'indefinite determinatives' corresponding to English "some", and demonstrative particles, or 'numerators', corresponding to English "this", "that", etc. (cf., for Vietnamese, Emeneau, 1951:84; for Thai, Haas, 1942). The examples in (7:1) instantiate paradigm cases of classified NP's in their respective languages:

- (7:1) Burmese: kwêi hna káun (Burling, 1970:59)
 'dog' 'two' C
- Vietnamese: một con chó (Thompson, 1965:193)
 'one' C 'dog'
- Thai: maa song tua (informant)
 'dog' 'two' C
- Tzeltal: /ʔoʃ - koht ʔ'i2/ (Berlin, 1968:23)
 'three' C 'dog'

The element 'glossed' as C is in each case the normal classifier for animals in the four languages, sometimes given the more explicit gloss 'animal-class'. The normal English equivalent of these four phrases would be "one (two, three) dog(s)".

Two matters are of immediate interest to us relative to (7:1), viz. the question of number in connection with (what I shall refer to as) the head noun (HN), i.e. kwêi, chó, maa, and /ʔ'i2/, and the question of order.

We approach the first question by stating the hypothesis formulated by Mary Sanches:

- (7:2) If a language includes in its basic mode of forming quantitative expressions numeral classifiers, then it will also have facultative expressions of the plural. In other words it will not have obligatory marking of the plural of nouns.

(Quoted from Greenberg, 1972:9)

Greenberg himself (loc. cit.) suggests a natural and plausible alteration of a further point made by Sanches -- viz. that the classified noun is singular -- according to which classified nouns (head nouns) are rather unmarked for the number distinction.

The head nouns involved in (7:1) all comply with this hypothesis¹. On the basis of Sanches' hypothesis and

¹ Unfortunately, Berlin (1968) is not very explicit on this question. Furthermore, his paraphrases are somewhat conflicting; cf. e.g. pp. 110-1, where he gives these two examples with translations:

a. /hk'am laso/ 'one coiled rope'

b. /ča2čahp laso/ 'two ropes in coiled position'

/laso/ is the head noun, and it is obviously(?) the same form that occurs in both a. and b. To make matters worse, there is apparently at least one plural morpheme in Tzeltal, /-ik/ (cf. p.176), which is applicable not only to head nouns (e.g. p. 56 /winiketik/ 'men') but also to what he calls an 'attributivized temporary state classifier', like /k'asemik/ 'broken objects' (< trans. vb. /k'as/ 'to break by hand' + /-em/ (attributive suffix) + /-ik/ (plural)) (p. 176).

It is in fact interesting that temporary state classifiers should involve the number morpheme (it is not seen applied to any of the classifiers which he calls 'inherent state classifiers') since this correlates with the state of affairs in Tarascan (cf. (7:8)) in the sense that the three Tarascan classifiers appear to denote contingent -- rather than essential -- properties of the denotata of their head nouns and the head noun there is 'counted' (i.e. morphologically specified as plural).

However, as a. and b. above suggest, the head noun in Tzeltal is not morphologically specified as plural, not even after 'temporary state classifiers' like those involved in the quoted phrases. The situation is therefore not entirely the same in the two languages.

Greenberg's modification I set up the following, somewhat more general thesis:

- (7:3) If a construction x in language L is a true classifying construction, then there is no construction y in L that contrasts semantically with x only by displaying the opposite value of the feature (\pm plural) on the head noun to that displayed by x.

Two slightly different situations are pertinent to an evaluation of (7:3). It may be the case that a language allows as grammatical the same classifying construction with either a formally singular or formally plural head noun. Then (7:3) predicts that the two constructions are synonymous or, at least, referentially identical.

On this criterion we might then suggest that the English NP's in (7:4) are 'true' classifying constructions:

- (7:4) (a) a shoal of herrings
 (b) a shoal of herring

It may also be the case that a given classifying construction allows only one number-specification on the head noun. In that case there is no opposition. On this criterion I then suggest that (7:5) contains a 'true' classifying construction:

- (7:5) (a) a kind of rose
 (b) *a kind of roses

Also on the first criterion will "kind of"-constructions be 'true' classifying constructions. There is no semantic opposition between

- (7:6) (a) some kinds of rose
 (b) some kinds of roses

The point at issue is this. If a numeral is inserted in a true classifying construction, what is being counted is the denotata of the classifying element. If a numeral is inserted in a construction which is not a true classifying construction, what is being counted is the denotata of the head noun. Thus there is a semantic (referential) opposition between the pairs in (7:7)

- (7:7) (i) (a) one shoal of herring
 (b) two shoals of herring
 (ii) (a) one kind of rose
 (b) four kinds of rose

But these oppositions concern "shoal" and "kind" rather than "herring" and "rose".

If (7:3) is true as it stands then we note an interesting point relative to Tarascan. Friedrich (1970:382) provides the following example and transliteration:

- (7:8) *ɕimá-ni ica - ku hiwé-e - ca - ni*
 two 'longish' NOM 'coyote' plural objective
 MORPH case

Here we have what is described by Friedrich as a numeral classifier (ica-ku), consisting of the root ica- and the nominalizing morpheme -ku. Yet we have the head noun morphologically marked for plural as well, and his discussion suggests that (7:8) is in genuine opposition to the same example with hiwá (the lexeme meaning "coyote") marked for singular and the numeral for "one" inserted instead of ǵimá-ni. Cf. in particular his Table 1 (p. 384) and his explanatory remarks to it. What is being counted is the denotata of the head noun.

In consequence of this we have two options. We can either regard Sanches' hypothesis as too strong, or we can -- in view of (7:3) -- consider what possibilities there are for not counting (7:8) among the true classifying constructions. One such possibility will be raised -- tentatively -- in the next section.

Greenberg (1972:14 f) is also relevant for the discussion of the question of order in the classified NP. He has found that of the six possible orders of Num(eral) -- Greenberg's Quantifier -- C(lassifier) and H(ead) N(oun), only four are actually realized in the languages he has investigated. If we regard HN as the 'centre' of the classified NP the various arrangements may be shown as in table 2:

Thai ¹				HN HN	(C)	Num 'one'	C (C)
Burmese ²				HN		Num	C
Malay ³				HN HN		Num	C
Tzeltal ⁴	Num	C		HN			
Bodo ⁵	Num	C		HN			
		C	Num	HN			

Table 2

Surface order in classified NP.

- ¹ The second line indicates that the numeral "one" ("nyng") may either precede or succeed the classifier in Thai. Haas (1942:204) relates this option to the quantifier/article distinction (which I also apply to English -- cf. ch. 10), so that "maa nyng tua" = "one dog", whereas "maa tua nyng" = "a dog".
- ² This order is due to Burling (1970:59) and Okell (1969:209); Greenberg (1963a:108) gives for Burmese Num-C-HN.
- ³ According to Greenberg (1963a:108).
- ⁴ Berlin (1968:23)
- ⁵ Greenberg (1972:14); the specification given may, in fact, be incorrect since Greenberg does not state the order of HN relative to the two possible orders of Num-C. Of these, the upper one is due to influence from Assamese, again according to Greenberg.

It is implicit in my attempt to derive support for the structure developed to account for the referential properties of English NP's by appealing to genetically unrelated languages like Thai and Vietnamese that I suggest that this structure has some sort of universal applicability. I would like to be able to show that the structure accounts for the referential properties of language, rather than of a language.

If this is at all a justifiable ambition, at least one condition has to be met. I must be able to show that the underlying order of the referential phrases is not fortuitous. Now it could be asked why a universal base should be ordered sequentially. My answer to this question is that at least this 'universal base' has to be ordered sequentially. The reason is this. Although the structure developed to account for referential properties of NP's is a theoretical, abstract construct, it is not an isolated abstract construct. Its form and structure grows out of the metaphysical basis which reflects the ways in which we see things and speak about them. The order in which the referential phrases occur in the referential branch is imposed on them in a principled way by the metaphysical basis¹. Rather than being open to criticisms of

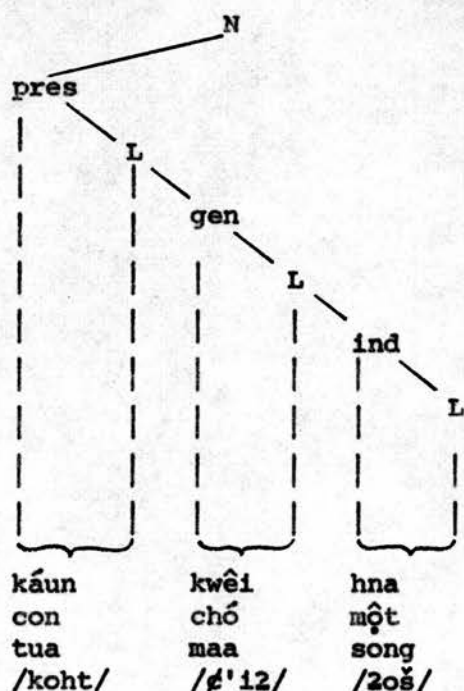
¹ The order which I have stated is one of two possible orders: the mirror-image order would also be possible, provided we took the possibility to speak about individuals as the superordinate notion. However, such an order would have to account for the implicit presence of "all" as the ultimate background group whether we speak about individuals, sections, or kinds of things, in what to me seems necessarily to be an ad hoc fashion.

conceptualism -- as is for example Hjelmslev's referential theory (1943:§ 13) -- the present theory lays itself open to criticisms of perceptualism. It relies on the assumption -- as yet not falsified, as far as I am aware -- that we can all perceive spatio-temporally discrete objects against backgrounds: entities and places. Even Whorf (1956:161-2) concedes this.

There is, however, no known way in which we can glean a basic order from the variety of serializations displayed in Table 2. On the other hand, we can let the theory decide the question of underlying order and then confront it with the empirical data in Table 2. Therefore we now have to specify what the theory states concerning classified structures.

I shall argue that all of (7:1) are accommodated by the referential branch in the following manner:

(7:9)



In other words, I shall argue that the numeral classifiers in the examples in (7:1) are lexicalizations of pres-L, that the head nouns are lexicalizations of gen-L, and that the numerals are lexicalizations of ind-L, drawing attention to the fact that I deliberately gloss over what deictic/denotative distinctions these items may embody; this is a harmless simplification for our present purposes.

It is immediately apparent that the underlying order predicted by this approach is in stark contrast to Table 2. It establishes the order C-HN-Num, which is one of the two orders never realized superficially in any language, according to Greenberg¹.

However, Greenberg's account of surface order is not exhaustive. Whereas it may be the case that only four orders are realized when the element Num is a true numeral ("one", "two", etc.), it is not the case that the order predicted by the theory does not occur when Num is a demonstrative element. It appears in Vietnamese; and, what is more, if the head noun is modified by an attributive element -- corresponding to an English adjective-- the surface order of the elements in a demonstrative NP in Vietnamese reflects precisely the order of the phrases

¹ The other, non-occurring order is Num-HN-C, and Greenberg suggests by way of explanation of this that HN cannot intervene between the members of what Okell (1969:209) calls the 'numeral compound' because the relation between these two elements (i.e. Num and C) is 'stronger' than that between HN and either of them.

One of the notions to which most importance is attached in discussions of numeral classifiers is the notion of individuation (thus, e.g. Greenberg, 1972). I said above that there are two ways in which to achieve individuation, one which involves lexicalization of L_{ind} by at least one strong deictic -- what we might call spatio-temporal individuation -- and one involving lexicalization of L_{ind} only by weak deictics plus lexicalization of L_{gen} and L_{part} -- what we could call categorial individuation. Often the two ways are interrelated in a given phrase.

Relative to this distinction there seems to be no reason to assume that the numeral classifiers are in any way specifically concerned with spatio-temporal individuation. From my -- rather limited -- knowledge of classifier languages it seems rather to be the case that, if a language employs a numeral classifier in demonstrative phrases, it also employs a classifier in simple enumerative phrases, whereas the reverse does not necessarily hold (Vietnamese and Thai vs. Burmese and Tzeltal). Since only demonstratives, and not only numerals, presuppose lexicalization of L_{ind} by a strong deictic, it seems to be the case that it is the presence of ind-L in a referential branch that is of relevance for an evaluation of the function of numeral classifiers. To this extent Greenberg's (and others') appeal to individuation is borne out by the present analysis.

7.12 Case vs. classifier.

The few points made in the preceding section concern the most directly relevant traits of numeral classifiers for the referential theory. In this section, on the other hand, I shall present the rudiment of a speculative hypothesis into the details of which time has not permitted me to go. It is, however, a sound hypothesis in the sense that it is easily falsifiable by anyone who has greater knowledge of the general structure of classifier languages than I.

It is generally accepted, I think, that there are (at least) two distinct kinds of classifier, semantically. For example, Okell (1969:209-10) recognizes for Burmese four subclasses within the class of classifiers (his numeratives):

- (7:11) (a) measuring
- (b) grouping
- (c) classifying
- (d) repeating

Of these four subclasses, (c) and (d) can be collapsed. Furthermore, (a) and (b) may be regarded as variants of each other, (a) presupposing (-count), (b) presupposing (+count) on part. The class into which (a) and (b) fall may be called partitive, that into which (c) and (d) fall, generic. Examples (from Okell, 1969:210-13) are:

One more observation is pertinent. Again from a semantical viewpoint, the relationship between head noun and classifier in (7:12 a and b) is syntagmatic (Porzig) whereas in (c) and (d) it is paradigmatic (Trier¹). Apparently an equation has occurred by which the syntactic (appositive serialization) pattern corresponding to the paradigmatic semantic pattern in (7:13 b) has been generalized so that it also covers semantically syntagmatic collocations, represented by (7:13 a).

Consider now English. Those items that are frequently compared to numeral classifiers ("shoal", "piece", "kilo", etc.) all stand in a syntagmatic semantic relation with HN. Even such a fairly restricted 'classifier' as "herd" has no place in the hyponymical system which includes "cattle". And the syntactic pattern for these is invariably delimitative, involving "of".

The question now arises: Are there generic 'classifiers' in English? The answer is yes. There are four (basic) ones, viz. "thing", "people", "place" and "kind". The phrases in (5:7) are instances of classifier use of "thing", "people", and "place", but as we saw, this usage is restricted to certain emotional registers of English. What is more, they can only occur in delimitative serialization, as can of course also "kind".

¹ Joost Trier, Der deutsche Wortschatz im Sinnbezirk des Verstandes (Heidelberg, 1931) has not been available to me. I rely on Lyons' exposition of Trier's contribution (Lyons, 1963:44 ff; forthcoming: ch. 8).

The situation emerging is now clear. English has generalized the syntactic pattern associated with a syntagmatic semantic relationship. In modern English this pattern is delimitative.

If we now turn to the classical Indo-European languages we note that the partitive pattern was associated with a particular case, usually the genitive. When we confront this fact with the fact (?) that languages with numeral classifiers do not involve cases, a potentially interesting question presents itself about language genetics: Is it true that languages involving case-distinctions do not contain numeral classifiers, and vice versa?

The few languages which I have looked at bear out this hypothesis, with one exception. Tarascan apparently has a morphological reflex of what Friedrich (1970:382) calls the objective case (cf. (7:8)). It is then interesting that Tarascan also on the question of number distinction displays phenomena that do not square with Sanches' hypothesis about the relationship between classifiers and marking of the head noun for number (cf. (7:2)).

However, I must stress once more the purely speculative character of this discussion. I cannot say that it is so. All I can say is that if it is so, then there are genetically significant distinctions to be drawn from RS-phenomena.

7.2 Danish "nogen", "noget", and "nogle".

In § 5.312 I decided to regard as linguistically basic "all", "some", and "one" as the lexical reflexes of the functional nodes *pres*, *part*, and *ind*, respectively. Whereas the question of basicness is a matter of definition -- or decision -- the question of the origin of the three basic expressions may require some justification. Consider in this connection (7:14):

- | | |
|----------------|-------------------|
| (7:14) (i) (a) | all the whisky |
| (b) | all the house |
| (c) | all the houses |
| (ii) (a) | *some the whisky |
| (b) | *some the house |
| (c) | *some the houses |
| (iii) (a) | *one the whisky |
| (b) | *one the house |
| (c) | *three the houses |
| II. (i) (a) | *the all whisky |
| (b) | *the all house |
| (c) | *the all houses |
| (ii) (a) | *the some whisky |
| (b) | *the some house |
| (c) | *the some houses |
| (iii) (a) | the one whisky |
| (b) | the one house |
| (c) | the three houses |

The uncompromising nature of the distribution of acceptability displayed by these systems is an indication of very decisive properties of the underlying strings. Since there is no reason to believe that the point of origin should differ for "the" and the nouns involved from one set of phrases to the next, the most decisive difference we can come up with is that it is in fact the point of origin of the quantifiers which differs from one set to the next. And since we have independent -- metaphysical -- reasons for deriving "all" from *pres*, and also independent -- logical -- reasons for deriving "one" from *ind*, this thesis is confirmed if we can show that it is consonant with the facts to derive "some" from *part*. I exclude *gen* as a possible source for quantifiers on the grounds that it is -- intuitively, at least -- rather the source of the 'generic classifier' mentioned in the last section. This point still needs confirmation, though; we return to it in chapter 9.

Apart from the distributional evidence provided by (7:14), English offers only intuitive reasons for deriving "some" from *part*. In particular, English offers no hard and fast morphological and/or syntactic evidence that "some" cannot be derived from *ind*. In fact, diachronic evidence pertaining to the syntax of Old English *ān* and *sum* might even suggest that the decline of *sum* in many syntagms was due to the working of an economy principle indicating a common (positional) source for the two quantifiers (cf. Mustanoja, 1960:259 ff).

However, Danish offers a few points of interest in this connection. Even if they cannot be conclusive for English, they support the specifically English evidence provided by (7:14).

There is no pair in Danish which reflects the distinction between "some" and "any"; both correspond to Danish "noget" and "nogen". These two forms are both singular. They have a common plural form, "nogle"¹. The two singular forms reflect the basic gender distinction between neuter (-t) and non-neuter (-n) which characterizes the Danish nominal system. Cf.:

(7:15)	han har ikke he has not	}	nogen bil (cf. <u>en</u> bil - <u>bilen</u>)
			any car a car car-the
			noget hus (cf. <u>et</u> hus - <u>huset</u>)
			any house a house house-the
			nogle biler
			any cars
			nogle huse
			any houses

Both "bil" (non-neuter) and "hus" (neuter) are countables ("en" and "et", respectively); yet despite the gender distinction the same form of the quantifier is used with both in the plural.

¹ The plural form "nogle" is in fact rarely used, and is hardly ever heard outside classes on Danish grammar. Instead, the non-neuter singular form is used. "Nogle" occurs in (formal, or at least careful) writing. I shall use all three forms, mainly to have a clear graphic distinction between singular and plural. The reason for the formal confusion will be clear from a consideration of the oppositions actually embodied in the three forms to be explained presently.

This is the basis for the recognition of a different distinction, now between "nogle" and "noget": "nogle" is the form of the quantifier when it occurs within a countable plural nominal, irrespective of gender. So "noget" becomes the form of the quantifier within an uncountable nominal, irrespective of gender. Cf:

(7:16)	$\left\{ \begin{array}{l} \text{noget smør} \\ \text{any butter} \\ \text{noget kaffe} \\ \text{any coffee} \end{array} \right.$	(cf. smørret)
han har ikke		butter-the
he has not		(cf. kaffen)
		coffee-the

A crucial part of the argument in favour of the point to be made is now the behaviour in Standard Danish of the noun "penge" (= "money"), and the behaviour in certain major dialects of Danish of the nouns "kaffe", "smør", "grød" (= "porridge"), etc. In Standard Danish (and in the pertinent dialects) we have as perfectly well-formed the following:

(7:17)	$\left\{ \begin{array}{l} \text{nogle penge} \\ \text{any money} \\ \text{nogle smør} \\ \text{any butter} \\ \text{nogle kaffe} \\ \text{any coffee} \end{array} \right.$
han har ikke	
he has not	

"Penge" is usually described as a countable plural noun (in contrast to "money"), a description which correlates with the form of the quantifier. Yet it cannot be counted. Barring child-language, we cannot have:

- (7:18) (a) *en penge
 (b) *fire penge
 four

Instead we get

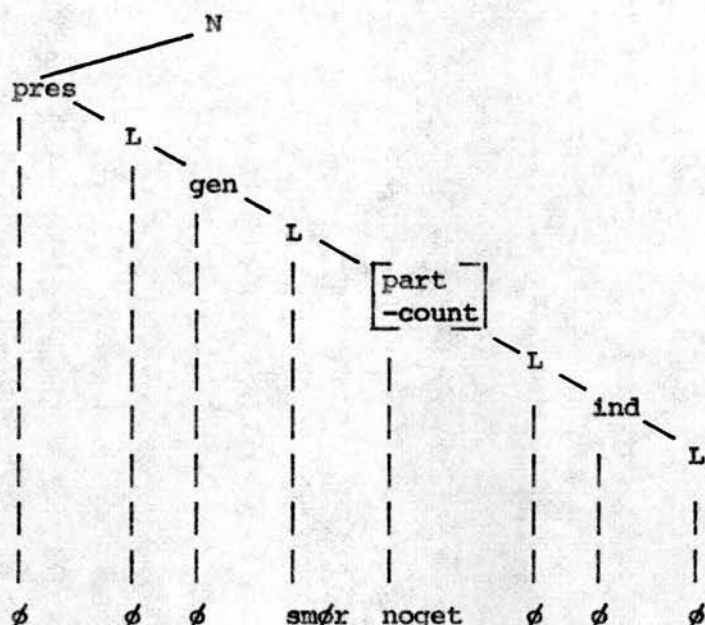
- (c) et pengestykke
 a moneypiece

The usual interpretation of these facts is that "penge" is a countable plural noun which lacks a singular. Incidentally, it is interesting that children quite consistently use (7:18 a and b). They have grasped the relationship between countability and the quantifier-form "nogle", but not that "penge" is anomalous with respect to countability.

The situation is similar for the dialectal variants with "smør", etc. Though formally countable plurals they cannot be counted.

The only analysis that accounts for these facts as well as for the normal use of the quantifier-pairs in Danish has implications for the reference-based analysis of partitive quantifiers in general. The structure underlying Standard Danish "noget smør" is (7:19) (only relevant aspects of the formal representation are given):

(7:19)



This is an instance of a simple uncountable nominal. On the basis of that I shall show that none of the uses of "noget", "nogle", and "nogen" can derive from ind.

Consider again the English phrase "any dog". This was said above to be ambiguous with respect to countability. This ambiguity is resolved morphologically in Danish -- provided the noun is non-neuter -- so that we have, corresponding to the two readings of the English phrase:

- (7:20) (a) nogen hund (countable)
 (b) noget hund (uncountable)

If the noun is neuter the ambiguity remains:

- (7:21) noget træ (countable: = "any tree")
 (uncountable: = "some/any wood")

Relative to the structure (7:19) it would now be possible to argue that "nogen" in (7:20 a) and the uncountable reading of "noget" in (7:21) derive from ind, whereas

the uncountable "noget" derives from part (as in (7:19)), and that this would account for the disambiguation of "any dog" in (7:20). This would imply, however, that "nogen" and countable "noget" should behave in the same way as the indefinite articles "en" and "et", which they do not:

(7:22) (i) (a) han købte en hund
he bought a dog

(b) *han købte nogen hund
he bought some dog

(ii) (a) hunden ledte efter et træ
dog-the was looking for a tree

(b) *hunden ledte efter noget træ
dog-the was looking for some tree

(ii b is, of course, acceptable on an uncountable reading).

It is only in negative declaratives and questions -- and not generally in opaque contexts, cf. (ii) -- that "nogen" and "noget" can be used in the same environment as "en" and "et".

It could then be said that all instances of "nogen", "noget", and "nogle" derive from ind, and that some further rules not taken into account would deal with distributional and other idiosyncracies on their part. It was in order to counter precisely this objection that appeal was made to the behaviour of "penge", etc. Only if "nogle" does not derive from ind can we explain the fact that these nouns may appear in countable nominals without the capability of

actually being counted. The reason for this can now be stated in formal terms. Although part is specified as (+count) in nominals containing the denotative features which are expressed by 'penge', etc., restrictions are imposed on the normally free choice between (+) and (-) plural on ind following (+count); (+plur) must be chosen, and that must furthermore be (-specified).

I have now shown that the Danish quantifier-pair "noget" and "nogen", and their common plural form "nogle" are compatible with an analysis that derives them from part always, and incompatible with an analysis that derives them from ind, always or only sometimes. This holds for their use as gender-markers, as well as for their use as countability-markers. I venture to regard this as corroborative evidence for the derivation of English "some", which is already implied by distributional criteria in (7:14).

PART III: The Application

Introduction

Referential Functives

In this the final part we shall apply the theoretical framework developed in part II to selected areas of English nominal composition.

From the very first inception of the research reported on in the present work my focus of attention was on pronouns, and it was my original plan 'simply' to account for pronominalization in English, essentially on the basis of a substitution model à la Harweg (1968) and Crymes (1968); several -- abortive -- attempts were made to come to grips with what Hjelmslev calls "la nature du pronom" in this way. The preceding sections may be read as the testament of my disillusionment with such an approach. From being traditionally a comparatively clearly delimited, closed class with a rather small membership -- at least to a naive observer -- the class soon became invaded from all sides, by modal verbs (Crymes), by definite NP's (Harweg) and by determinatives (Sørensen, 1958; Sommerstein, 1972;

Lyons, 1973). The result was that 'the pronoun' gradually receded to the point of vanishing (Postal, 1966), hiding behind all manner of phenomena which all seemed to have one thing in common: referentiality. From being a major class within -- apparently -- easy access for investigation, it became a minor class virtually inaccessible.

The shift in viewpoint from 'pronouns' to 'referentiality' as the basic notion thus shifted the approach in the direction of Collinson (1937) with its basic appeal to "indicators". Although this is in many respects an interesting work I think it is fair to say that it is somewhat impressionistic and too intuitive to constitute a principled basis for a general theory of linguistic reference. The framework developed in part II of the present work purports to provide such a basis.

This framework restores autonomy to the class of pronouns -- or rather to a class of pronouns; but it does not restore it as a major class. The class of pronouns constitutes itself naturally within the major class of referential functives.

This term is the name of a class of functional items the defining characteristic of which is that -- at some stage in their derivation -- they are dominated ultimately by a DC. The class of referential functives is a large, heterogenous, but closed class (though for a qualification of this latter claim, cf. § 9.1). A priori I submit that the traditional classes of determinatives (determiners),

quantifiers (indefinite pronouns), and pronouns (demonstrative, personal, possessive, interrogative, relative) are referential functives in the present sense, and that we further have to incorporate a class not generally considered in this connection -- at least in descriptions of English -- viz. the class of what I shall call E-classifiers.

The distinction between the two referentially significant serialization-types -- the appositive and the delimitative -- is the basis for a subclassification within the major class of referential functives which leads to a recognition of four subclasses, three of which are more or less isomorphic with the traditional classes of determinatives, pronouns, and quantifiers. Consider

- (8:1) (i) (a) some men
 (b) *some these men
 (ii) (a) some of these men
 (b) *some of men

(i) and (ii) are manifestations of the appositive and the delimitative serialization-type, respectively. In general we can set up the following two formulae:

- (8:2) (a) x Noun
 (b) x of $\left\{ \begin{array}{l} \text{these} \\ \text{this} \\ \emptyset \end{array} \right\}$ Noun

-- where x is a referential functive, and where Noun may

be either uncountable, countable singular, or countable plural.

These two environments are referentially diagnostic, and on the basis of them we define:

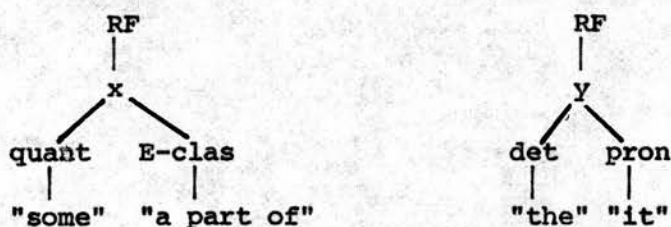
- (8:I) (a) "a quantifier" = "a referential functive that may occur in place of x in both (8:2 a) and (b)";
- (b) "a determinative" = "a referential functive that may occur in place of x in (8:2 a) but not in (b)";
- (c) "an E-classifier" = "a referential functive that may occur in place of x in (8:2 b) but not in (a)";
- (d) "a pronoun" = "a referential functive that may occur in place of x neither in (8:2 a) nor (b)".

A brief glance at these definitions is enough to show that terminological distinctions will now separate items usually considered to belong to the same class. For example, "each" will be a quantifier, "every" a determinative; interrogative "which?" will be a quantifier, "what?" a determinative; "I" a pronoun, "we" a determinative, etc.

This may at first look rather unattractive, but in fact it is not. First of all, these phenomena stress the high degree of interrelation that there is between the subclasses, an interrelation which is due to the fact that the important class-membership for these items is membership of the major class of referential functive. We highlight the debate between Postal (1966) and Sommerstein

(1972) as to whether personal pronouns are articles (Postal) or vice versa (Sommerstein) as essentially vacuous. They are similar in that they both belong to the major class of referential functives (cf. also Lyons, 1973). Furthermore there are quite good reasons for these anisomorphisms, which are explicable on the basis of the general principle of suppletion. This principle is of crucial importance to the class of referential functives. Thus, the subclass constituted by E-classifiers is the suppletive counterpart to the class of quantifiers. They fill the gap which is created by the inability of quantifiers to occur in delimitative serializations unless the head noun is definite. Quantifiers conform to the pattern x of these Noun. E-classifiers conform to the pattern x of Noun, with some of them (the partitive E-classifiers) also conforming to x of these Noun.

In this way we could -- at least in principle -- claim that the 'word-class' of referential functives is constituted by abstract, underlying entities which are often realized superficially by a suppletive pair, as suggested in



However, the meaning of these abstract entities (RF)

would largely correlate with (the inherent meaning of) the functional categories, so to establish an abstract class would only complicate matters without yielding any great profit in return in terms of descriptive adequacy.

Chapter 8Quantifiers8.1 The class of quantifiers.

Application of the distribution test established in the preceding section to the items which I have a priori singled out for attention yields the following list of quantifiers in English:

(8:3)	all	(n)either	more	one	first
	any	(a) little	less	two	second
	some	(a) few	most	three
	each	much	least	four	last
	both	many	half	next
	which?	former	latter	(an)other

However, although all of these conform to (8:2) in the same way, they do not behave alike in all respects. In particular, they are sensitive to a preceding definite article. Thus, on the basis of the pattern (8:4) we can establish two subclasses within the class of

quantifiers:

(8:4) the x of these Noun

I shall say that quantifiers which are incompatible with (8:4) are the central quantifiers, whereas those that are compatible with it are the peripheral quantifiers:

(8:5)	<u>central</u>	<u>peripheral</u>
	all	(a) little
	any	(a) few
	some	more
	each	less
	both	most
	much	least
	(n)either	(an)other
	many	half ¹
	which?	former
	one	latter
	two	first
	three	second

		last
		next

¹ "Half" is a special case. Its applicability is certainly greater than that of most other quantifiers, but it is quite possible that it is in fact incompatible with (8:4). However, due to its availability for noun-status -- which suggests affinity with E-classifiers -- I have decided to leave it out from the group of central quantifiers. Moreover, if we included it, we would have to go into a more detailed discussion of the part:whole relation than we have.

I shall (arbitrarily) restrict the discussion to the central quantifiers. As for the peripheral quantifiers, the most important point seems to be that they involve a number of diachronic lexical subjunctions in combination with the synchronic subjunctions on which the central quantifiers depend. The diachronic subjunctions all appear as fossilized representations within the synchronic representations (cf. § 8.45).

8.2 The central quantifiers.

Three of the four functional items which I take as primitives -- "all", "some", and "one" -- are central quantifiers. The implication of this is that I not only commit myself to deriving the other (central) quantifiers from various subjunctions involving these three, but also to deriving some of the other referential functives, E-classifiers and determinatives in particular, from them. I do not commit myself to deriving all referential functives from these three. Some of them involve reference to "kind" as well.

8.3 Primitive quantifier phrases.

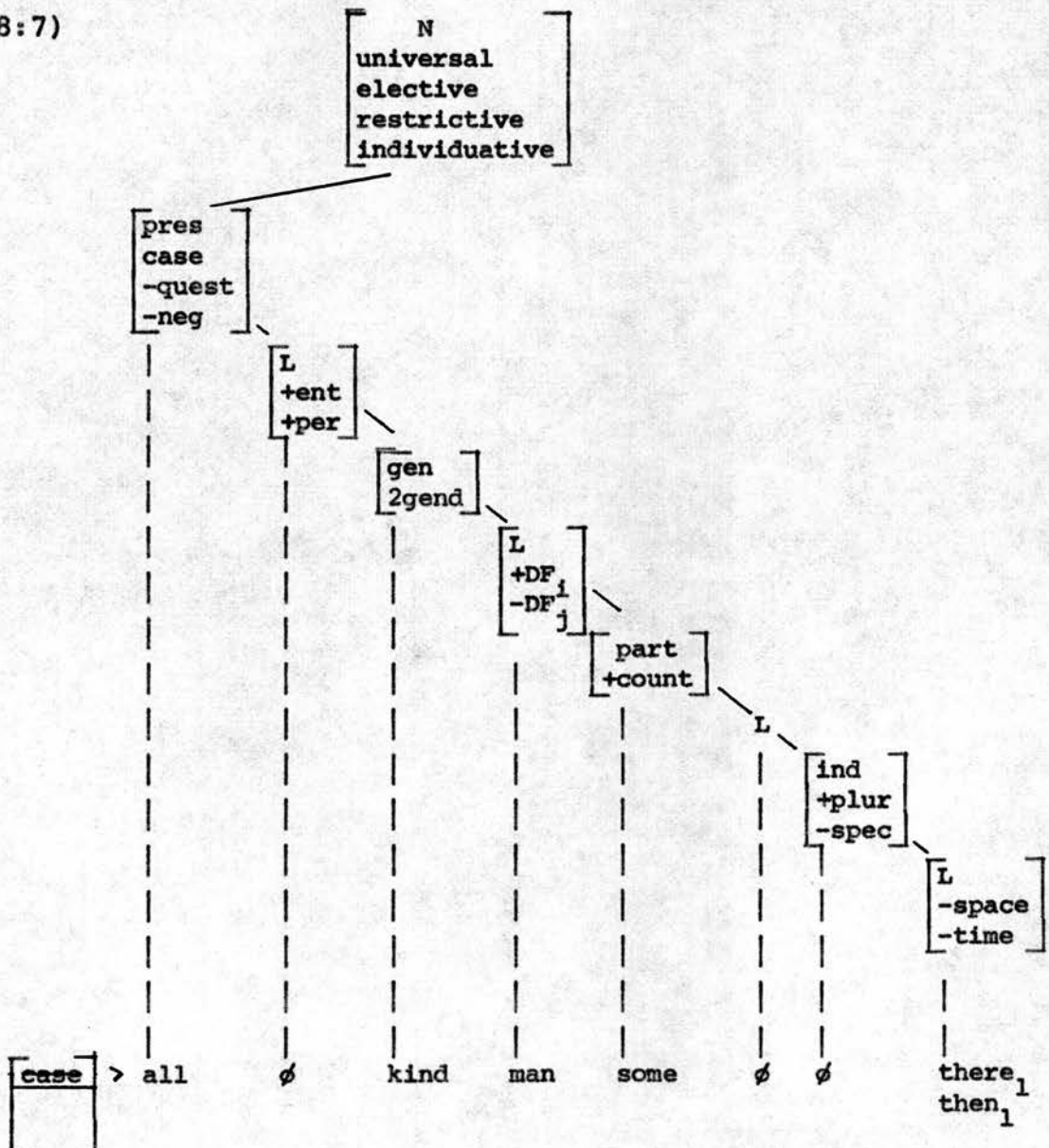
A primitive quantifier phrase is a NP which displays

superficially one of the primitive quantifiers. Let us begin by considering such simple phrases as

- (8:6) (a) all men
- (b) some men
- (c) one man

The common underlying structure for (8:6) is (8:7), with (c) differing from (a) and (b) on the secondary specification of ind:

(8:7)

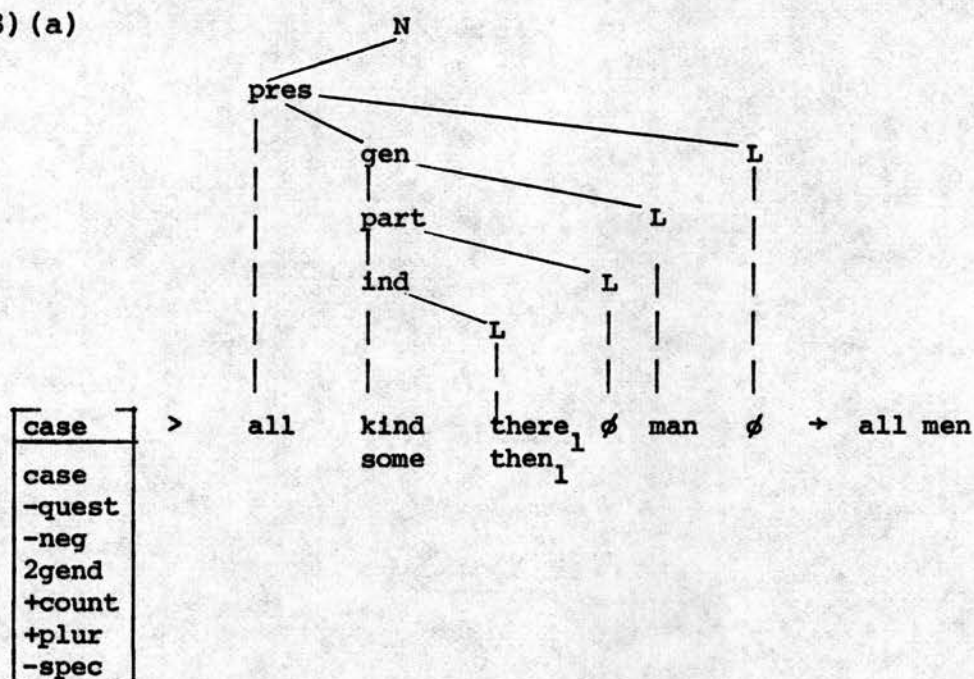


The specification on ind for (c) would be (-plur -cond), and it would be expressed by 'one'.

No lexical subjunctions are relevant for the derivation of any of (8:6). RP-subjunction occurs relative to gen-L, part-L, and ind-L, this structure being adjoined to pres for (8:6 a), subjoined to it for (b) and (c).

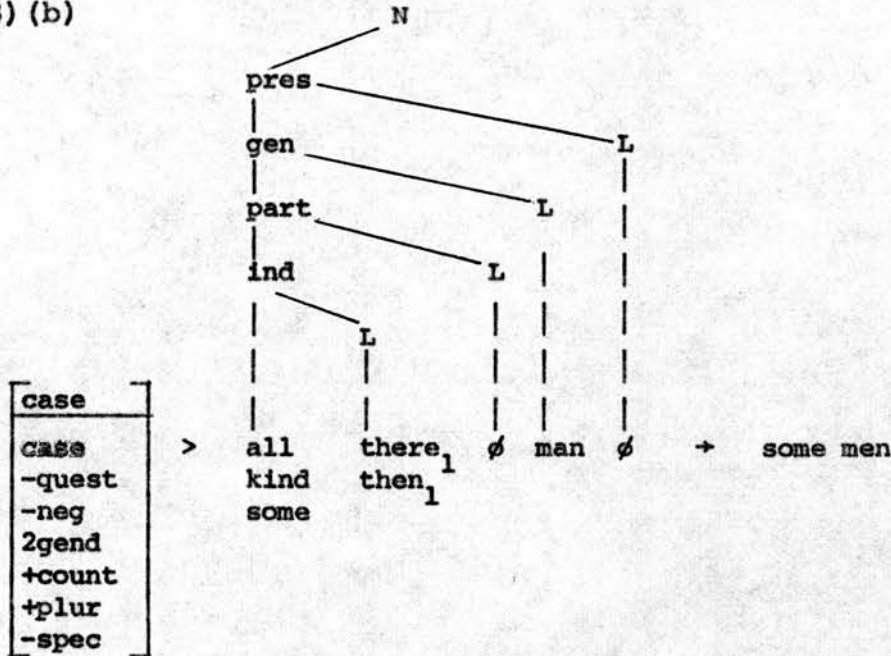
Thus the three derived structures pertinent to (8:6) are

(8:8) (a)



The superficial non-expression of "some" here is the linguistic parallel to the positive subaltern relationship in the traditional square of oppositions in logic (cf. Reichenbach, 1947:93; 95).

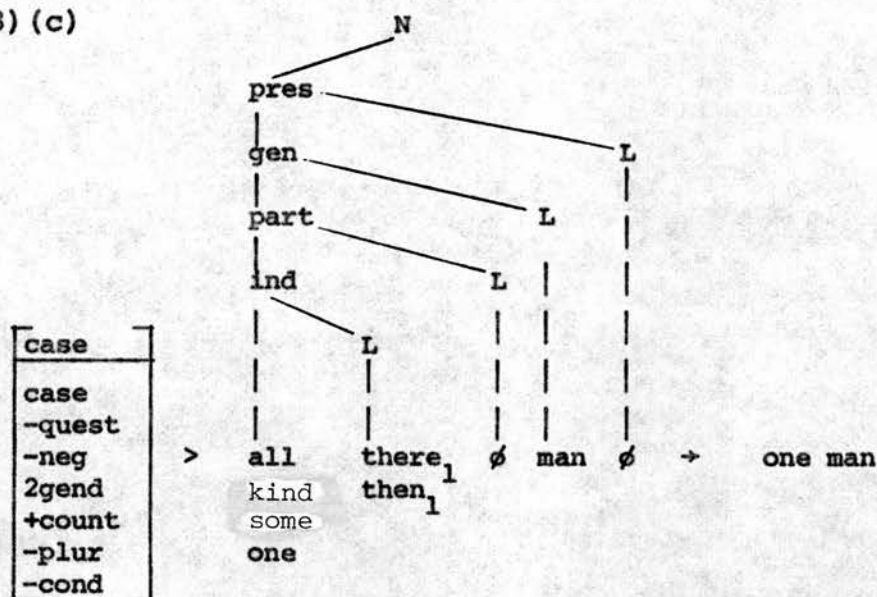
(8:8) (b)



The non-expression of "all" in (b) has no logical equivalent -- as far as I am aware -- but notice the implicit presence of "all" in "some" in expressions like "some men came who (all) ...". In such a relationship, "all" expresses universality within the section delimited by "some".

In (8:8) (c) below, the non-expression of "all" relative to "some" is as in (b); the relationship between "some" and "one" is the linguistic parallel to the logical interpretation of the existential quantifier, "some x" implies "at least one x".

(8:8) (c)



Consider now (8:9):

- (8:9) (a) all the men
- (b) *some the men
- (c) *one the man/men

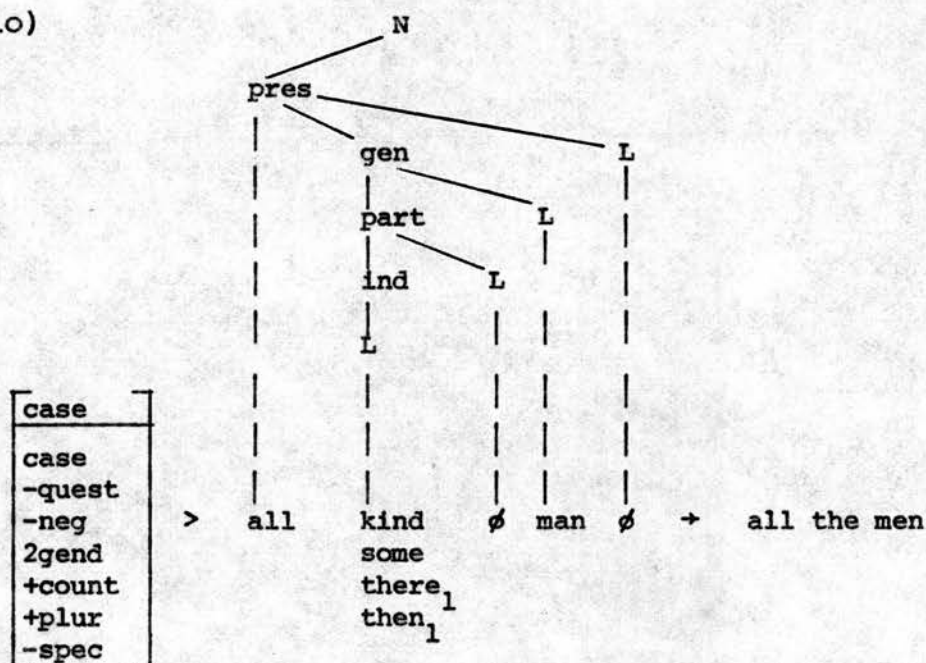
In § 7.2 this pattern was considered to provide distributional justification for deriving "all" from *pres*, in contrast to "some" and "one". We need to show that this is justifiable also on referential-semantic grounds.

First of all we note that (8:9 a) is not referentially isomorphic with (8:6 a). "All men are mortal" is a well-formed (and famous) sentence; "all the men are mortal" is certainly not famous, and it is well-formed only on a model-theoretical interpretation in which the universe of discourse is artificially restricted so as to correlate with a 'possible world' with a limited number not only of individuals but also of species, one of which is of necessity immortal.

In contrast, "all the men were sick" is well-formed, "all men were sick" is not, where "well-formed" has to be understood in relation to a universe of discourse correlating with the 'actual world'.

The underlying representation (prior to subjunction) of (8:9 a) is identical to (8:7). In contrast to the subsequent derivation of (8:6), however, (8:9 a) involves lexical subjunction of ind-L; otherwise it follows the lines of (8:8 a):

(8:10)



In other words, "all the men" is referentially identical to "all the some men". We now clearly see why (8:9) (b) and (c) cannot be well-formed: in each case the lexical subjunction of ind-L conflates the two quantifiers "some" and "one" with the spatio-temporal (weak) deictics.

Consequently, the well-formed versions of (8:9) (b) and (c) are, respectively:

- (8:11) (a) the men
 (b) the man

The derivation of (8:11) is the same as (8:8) (b) and (c), only with lexical subjunction of ind-L.

Notice finally that (optional) application of the last step in the subjunction cycle to (8:10) brings the MI-convention into operation, yielding "the men all". If RP-subjunction applies without the MI-convention, the result is (8:11 a). We should expect, therefore, that

- (8:12) (a) all the men
 (b) the men all
 (c) the men

are referentially identical, which, as a matter of fact they are, with one modification. The referential potential of (c) is greater than that of (a) and (b). Wherever (a) or (b) can be used, (c) can be used, but not vice versa. The reason for this is that "the men" can be used to refer to two men, which (a) and (b) cannot. They enter a suppletive relationship with "both (the) men" and "the men both", such that these four phrases together exhaust the referential potential of "the men". (For "both", see below).

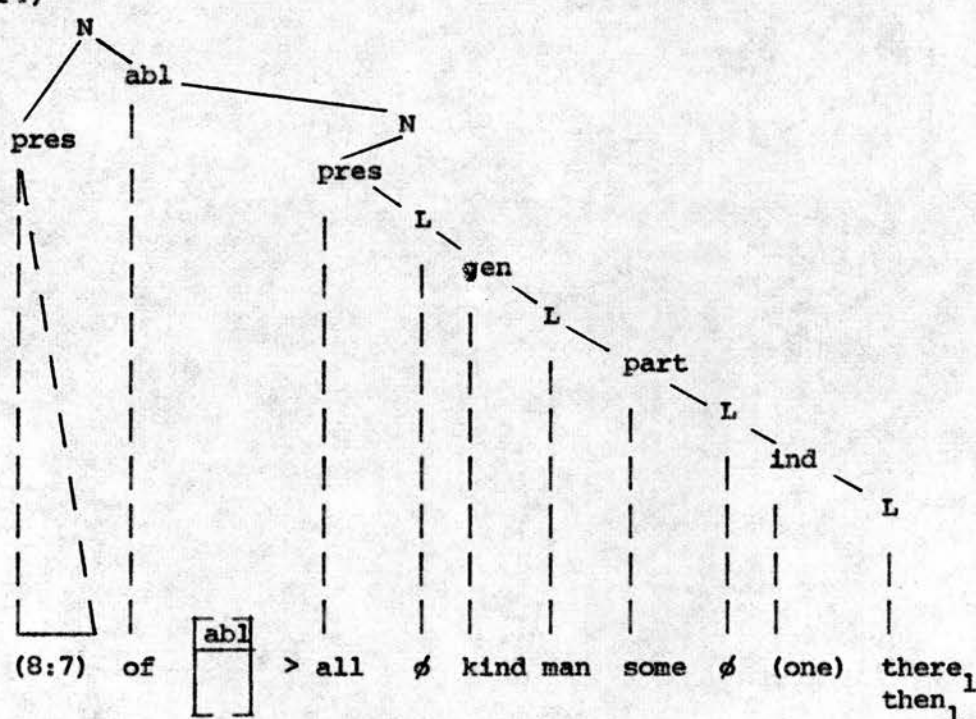
We now turn to the derivation of primitive quantifier

phrases displaying delimitative serialization. Consider

- (8:13) (a) all of the men
 (b) some of the men
 (c) one of the men

We have just established that "the men" in itself derives from a single-branch structure involving lexical subjunction of ind-L. Furthermore, it has been suggested (§ 4.432) that the superficial presence of "of" is an indication of an underlying recursive structure, of which the superordinate is similar -- in this case -- to (8:7):

(8:14)

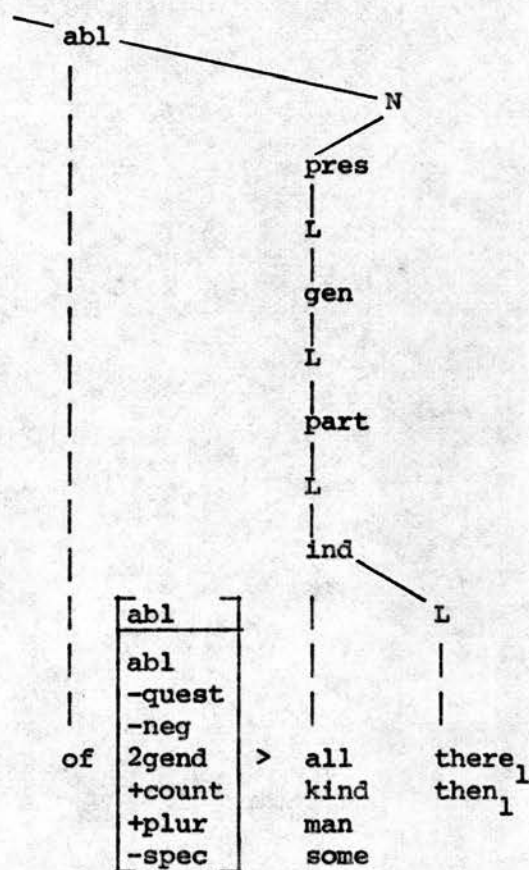


Whether "one" is expressed in the subordinate or not depends, of course, on the secondary feature-specification, which is identical to that in (8:7) in all respects.

On the principle that subjunction and adjunction are

recursive, cyclical processes, they apply first to the subordinate. Since on the other hand the generation of the complex structure has taken place 'from above', the generation of the subordinate to some degree involves a measure of reduplication, in particular with respect to the denotative features¹. I exploit this fact by suggesting that the subordinate is characterized by a high degree of lexical subjunction; in fact all referential phrases except ind-L are lexically subjoined, which yields a structure like (8:15) (assuming that we are deriving (8:13 b), i.e. the subordinate ind is (+plur -spec)):

(8:15)



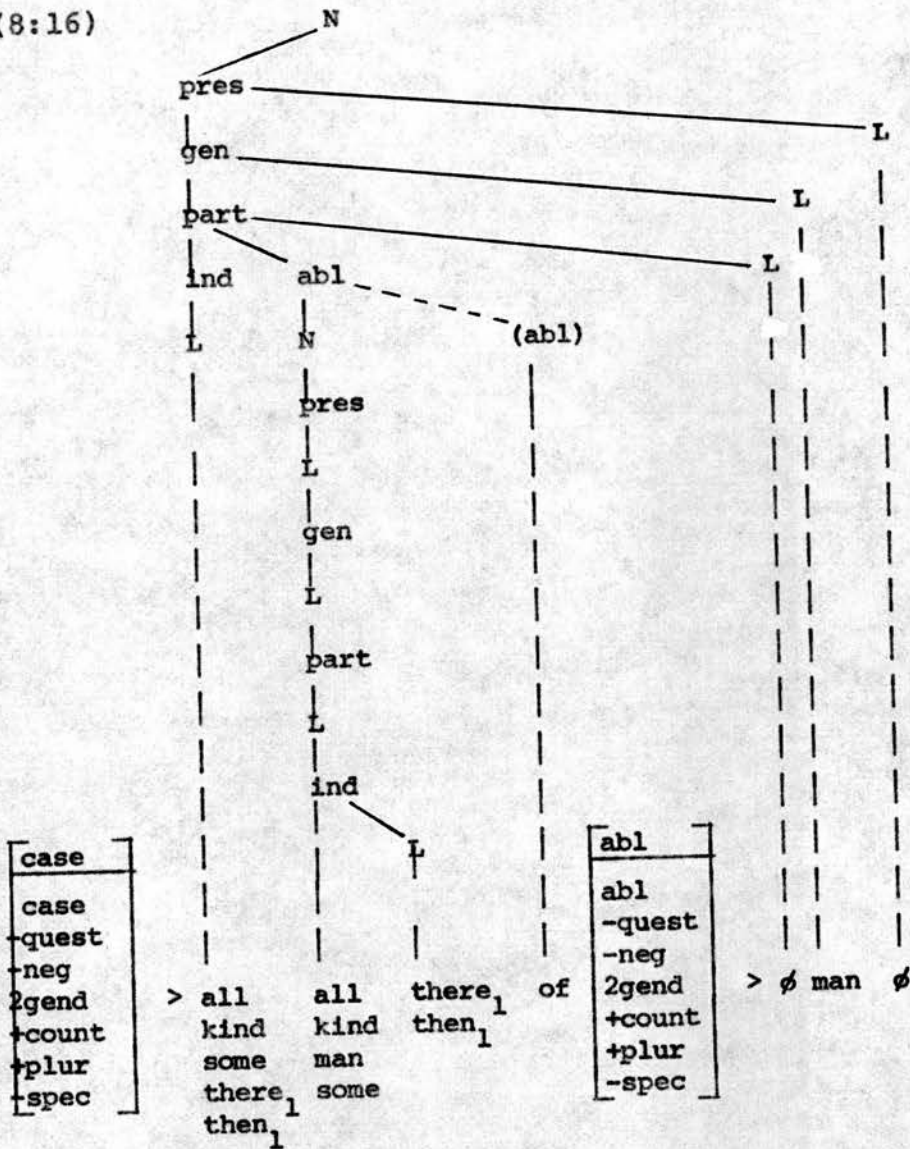
¹ This formulation is deliberately vague, but it suffices for our present purposes. Later (in § 10.43; 11.42-3) I shall discuss in more detail the issues involved.

Like all adjoined structures, (8:15) is potentially subject to subjunction, viz. with respect to abl and the rest of the structure under pres; and as with all instances of subjunction, the result is either absorption of the sense of the node under which subjunction takes place, or a string which reflects the workings of the MI-convention. It is the latter result we get by subjoining N to abl, resulting in a string with the order 'some-there₁-of'.
 then₁

Above (p. 159 fn) attention was drawn to the cognitive similarities between the syntactical and the referential categories. I now exploit these similarities by saying that a syntactic category node (like abl) may be adjoined to the referential category with which it shares such cognitive characteristics. Abl is the case-grammatical category associated with the notion of partition, just as part is the referential category associated with partition. The structure (8:15) may therefore be adjoined to part in the superordinate. The question as to whether or not this adjunction occurs will be taken up in § 8.42. The conclusion there will be that in this case it must apply.

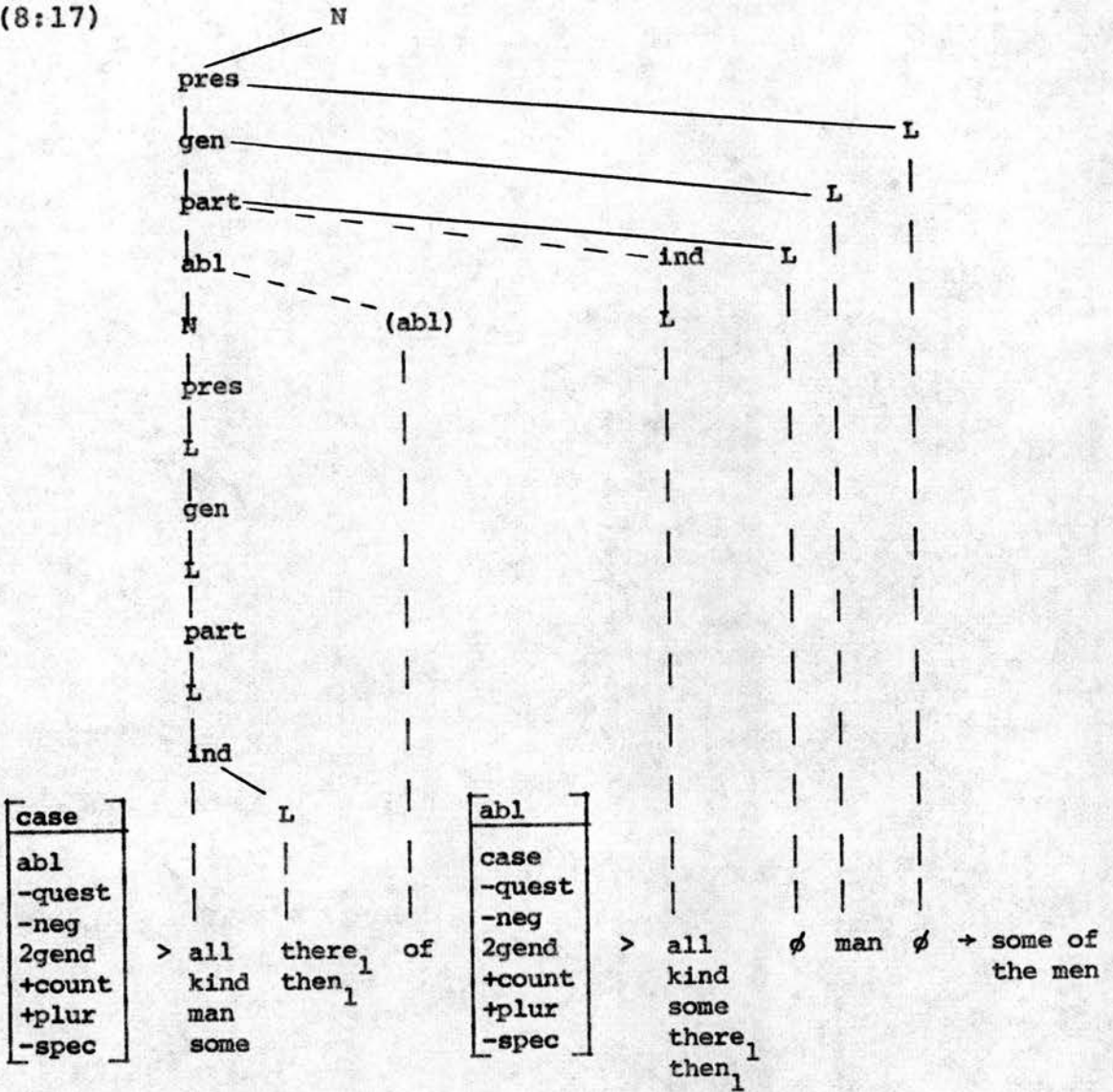
The derived structure which these considerations give rise to is (8:16):

(8:16)



Finally, the abl branch is subjoined under part; since the content of the superordinate RP-subjunction must be expressed, the MI-convention applies:

(8:17)



The most noteworthy feature of (8:17) is that it is the first instance we have of the subfunctional shift between originally subordinate and superordinate, reflected by the case-specifications in the morphophonemic carriages. The real significance of this, however, will not be fully appreciated until we come to discuss E-classifiers and, later, the relationship between the genitive (-'s) and the delimitative serialization-type.

8.4 Non-primitive quantifier phrases.

The remaining members of the class of central quantifiers are all non-primitive; that is to say, phrases containing non-primitive quantifiers do not display superficial "all", "some", or "one". Nevertheless, their meaning involves reference to the meanings expressed by 'all', 'some', and 'one'.

8.41 "Two" and "both".

I shall not here attempt to explore the possibilities of analyzing the natural numbers -- and thus the numerals -- in terms of "one", ("zero"), and "plus". I assume that such an analysis is possible, and consequently that "two" is non-primitive. I am more interested in the relationship which holds between "two" and "both" (and "(n)either"; cf. § 8.42).

"Both" shows many distributional characteristics also shown by "all"; cf:

- | | |
|----------------|------------------|
| (8:18) (i) (a) | all the men |
| | (b) both the men |
| (ii) (a) | the men all |
| | (b) the men both |
| (iii) (a) | all men |
| | (b) both men |

- (iv) (a) all the ten men
- (b) both the two men

Yet there are some dissimilarities:

- (8:19) (i) (a) *all Tom, Dick, and Harry left
- (b) both Tom and Dick left
- (These exx. from Carden, 1973:94)
- (ii) (a) all ten men
- (b) *both two men

Cf., relative to (8:19 ii b), Danish:

- (8:20) (a) begge drenge (kom)
both boys (came)
- (b) begge drengene (kom)
both boys-the (came)
- (c) *begge to drenge (kom)
*both two boys (came)
- (d) (de var) begge to drenge
*(they were) both two boys (= "they were
both of them boys")
- (e) (de var) drenge begge to
*(they were) boys both two (= "they were
boys both of them")

For similar (pleonastic) uses of "both two" in Old- and Middle English, cf. Campbell (1958:§ 693) and Mustanoja (1960:214).

A certain amount of ambiguity is rife in Danish in phrases like (8:20 d), stemming from the fact that "begge" may also be an independent 'pronoun'. Thus, for example:

(8:21) de havde begge to sønner
 they had both two sons

-- may mean either "both of them had two sons", just like the English transliteration, or "*both two of them had sons", or even "each of them had a son", where "them" is understood to refer to two persons.¹

If such is needed, these data are meant to suggest that "both" and "two" are semantically related to such an extent that an analysis of "both" that does not somehow involve reference to "two" is doomed to failure.

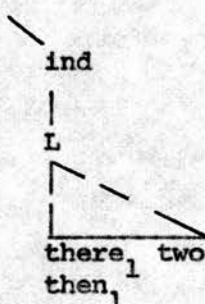
At the same time, (8:18) suggest that "both" and "all" should be analyzed in more or less the same terms, perhaps with minor differences, allowing for (8:19). Carden (1973:92 ff) therefore tries both to analyze "both" as a universal quantifier and not to analyze it as a universal quantifier, the latter mainly because of sentences like the one immediately preceding this one. In his non-quantifier analysis he relies on Lakoff & Peters (1966:115), who derive "both" from sentence conjunction. However, we restrict the discussion to quantifier "both".

We begin by noting a feature of (8:18 i) vs. (iii). Whereas (i b) and (iii b) are referentially identical -- i.e. have the same referential potential -- this is not true of (i a) and (iii a). The definite article in

¹ As often with such ambiguities they are only ambiguous on paper. There are quite clear suprasegmental features to disambiguate (8:21) in the spoken language, "to" bearing heavy stress after a sharp juncture if "two sons" is meant.

However, this will not account for (8:18) (i), (ii), and (iv) (b). They all rely on a structure similar to (8:22), but whereas (8:22) displays absorption of "two" by the weak deictics after lexical subjunction has applied, the remaining three display the MI-convention. That is, the lower part of (8:22) is, for the three phrases in question, rather:

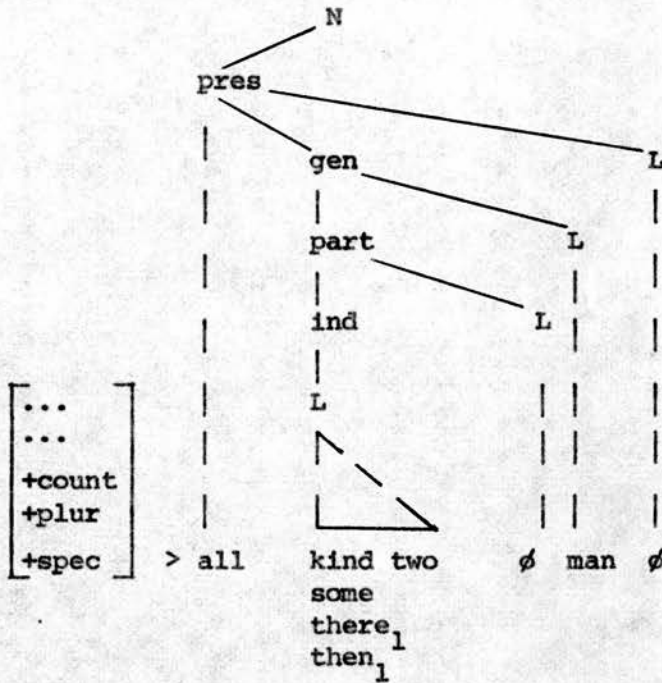
(8:23)



If (8:22) is fully subjoined with (8:23) as its lower configuration, the MI-convention will apply on the last cycle, yielding "the men both".¹ If on the other hand (8:22) is not fully subjoined, but the subjoined string under gen is rather adjoined to pres, we get a configuration like (8:24):

¹ Here the ability of the MI-convention begins to look suspect, however, as indeed suggested already in § 6.5, as a viable source for such phrases as "the men both", since it implies that the already conflated branch is moved by it. In the next paragraph we shall therefore look into a possible alternative.

(8:24)



-- which underlies 'all the two men'. This is normalized in accordance with the basic absorption of "all" + "two" to "both", with "two" leaving a trace behind for optional (and redundant) lexicalization in "both the two men". These latter processes are presumably of a diachronic rather than of a synchronic nature.

8.42 "Each" and "either".

"Each", like "all" and "both", is usually considered a universal quantifier, "either" -- in so far as it is considered a quantifier at all -- rather an existential quantifier (for the purpose of this discussion I restrict myself to "either", assuming that it differs from "neither"

only with respect to (\pm neg) on pres in the branch under which it is generated). A point often made with respect to the distinction between universal and existential quantifiers (in logic, and -- latterly -- also in linguistics, e.g. McCawley (1972) and Anderson (1974b)) is the affinity of the former with conjunction, of the latter with disjunction (cf. e.g. Reichenbach, 1947:92). These affinities will serve as a basis for a reexamination of the special serialization possibilities which characterize "all" and "both" -- which were handled by the MI-convention in preceding sections -- and which are also shared by "each"; for although the MI-convention quite neatly accounted for "the men all", and -- somewhat less neatly -- for "the men both", it can hardly account for "the men each". The reason for this lies in certain properties which "each" shares with "either" (and "which?", which has other rather special properties also; cf. § 8.44):

- | | |
|----------------|-----------------------|
| (8:25) (i) (a) | each man |
| | (b) either man |
| (ii) (a) | each of the men |
| | (b) either of the men |
| (iii) (a) | the men each |
| | (b) *the men either |

"Each", "either" (and "which?") share with "both" the characteristic against all other quantifiers¹ that they

¹ "All" may also have a definite background group in apposition

require reference (explicit or implicit) to a definite background group when they enter appositive serializations as well as delimitative serializations (which latter situation is the normal state of affairs for quantifiers). But they differ from "both" (and "all") in that different number morphemes characterize the head noun in the two serializations; thus:

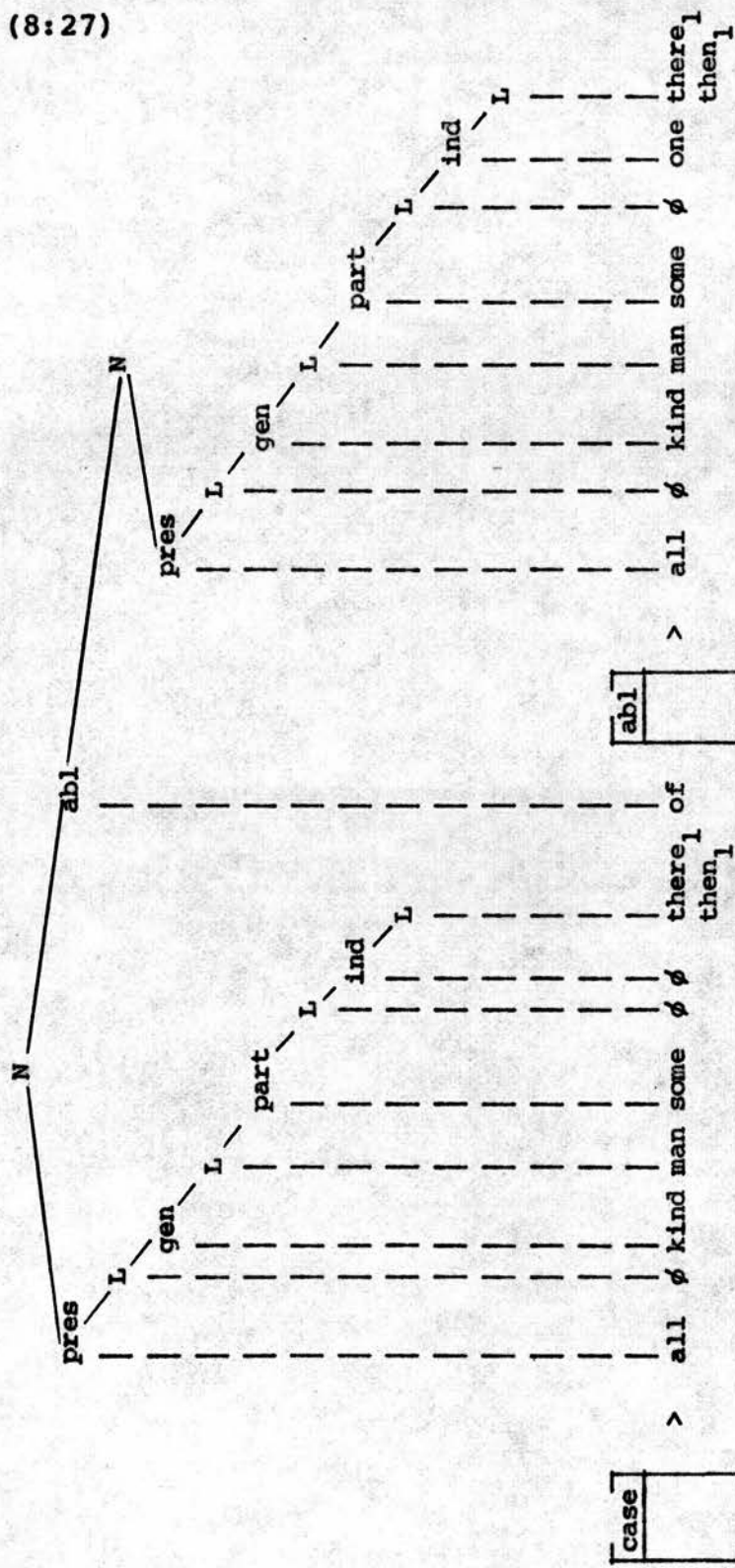
- (8:26) (i) (a) each man vs. each of the men
 (b) either man vs. either of the men
 (ii) (a) both men vs. both of the men
 (b) all the men vs. all of the men

Whereas "both men" and "all the men" can be accounted for satisfactorily on the basis of a single-branch tree, this is not the case with "each man" and "either man". In the derivation of these latter two, two different number-specifications are required, one accounting for the plurality of the (implicit) background group, and one accounting for the superficial appearance of singular "man". Since number is a feature on ind, and since we have no means for developing two inds (or two number-specifications on the same ind) within a single referential branch, it follows that there must be two. Of these, the branch generating the background group is the superordinate, that generating "each" and "either" the subordinate.

The structure underlying (8:25) (a) is (8:27):

serialization, but then only "all the men".

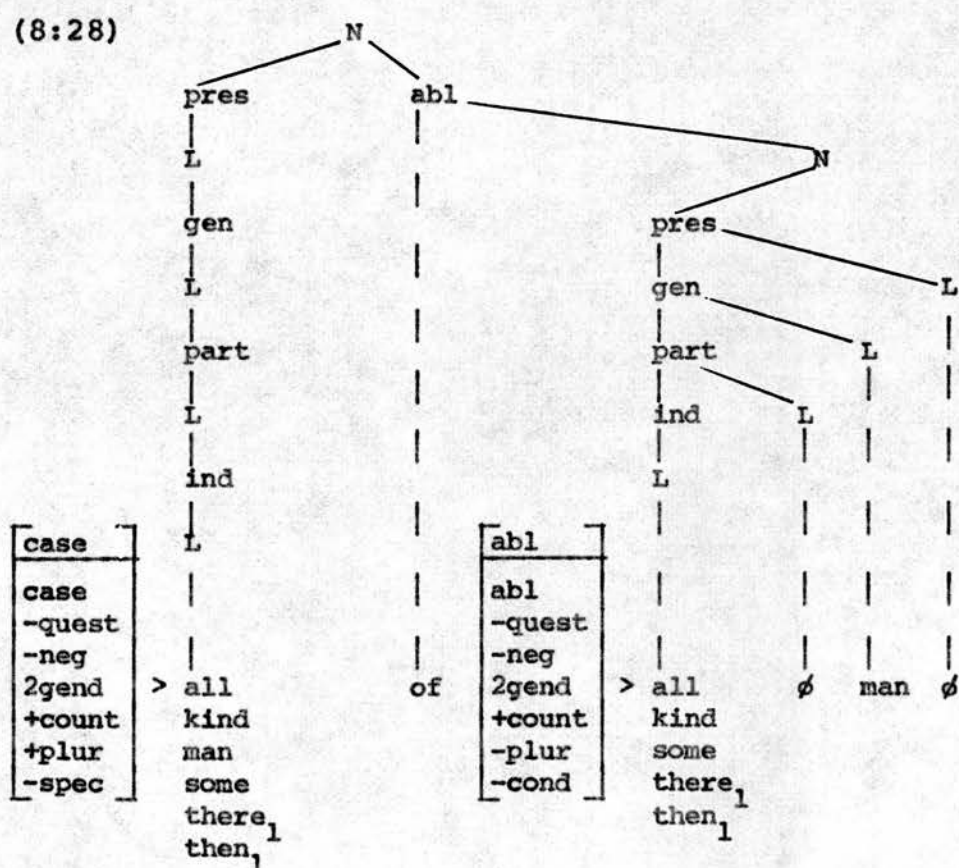
(8:27)



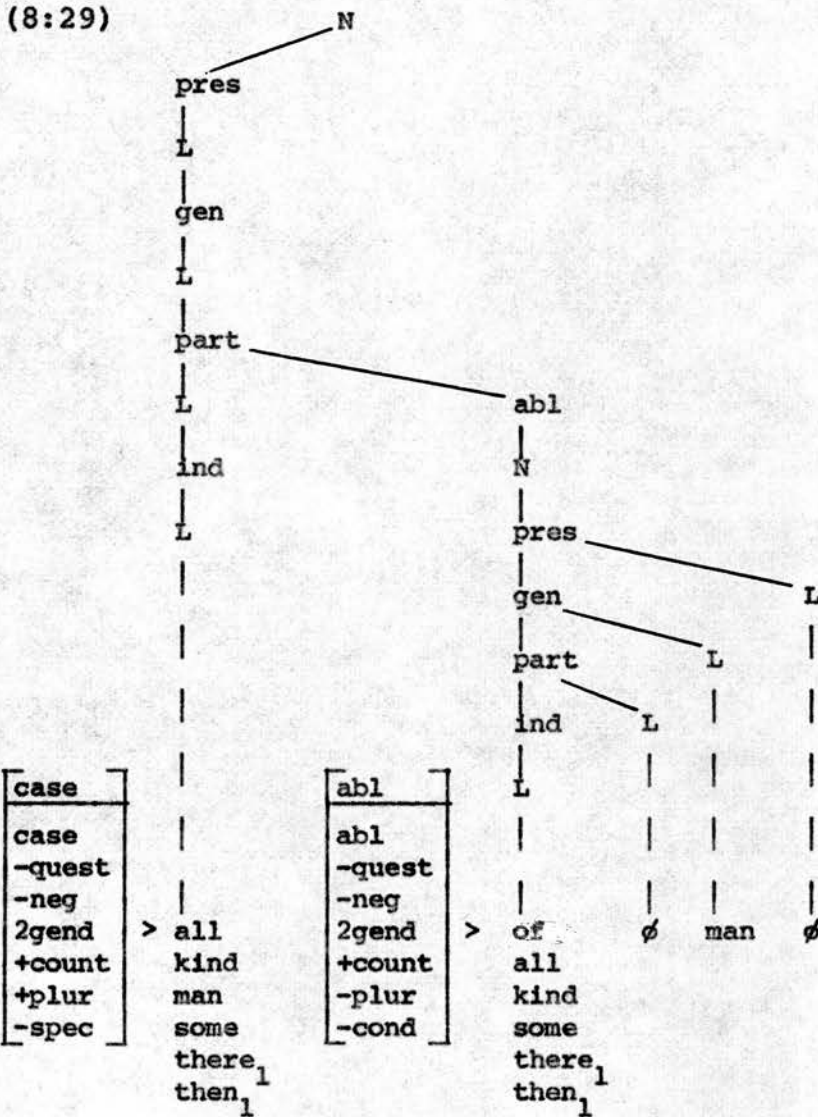
Relative to the structure (8:27) I shall suggest that there are three possible subjunctions, one for each of (8:25) (a). (The secondary features -- excluded from (8:27) -- will be included in the morphophonemic carriages).

The basic difference is that either the subordinate or the superordinate may be lexically subjoined. If the subordinate is, there are two options. Either abl is adjoined to part in the superordinate, or it is not. Let us explore these three possibilities in turn.

With lexical subjunction of the superordinate we get a derived string like (8:28):



Next the subordinate N is subjoined to abl, and "of" is absorbed by the subjoined functional nodes; then, in virtue of the cognitive similarities between abl and part, abl is adjoined to part in the superordinate, giving a structure like (8:29):

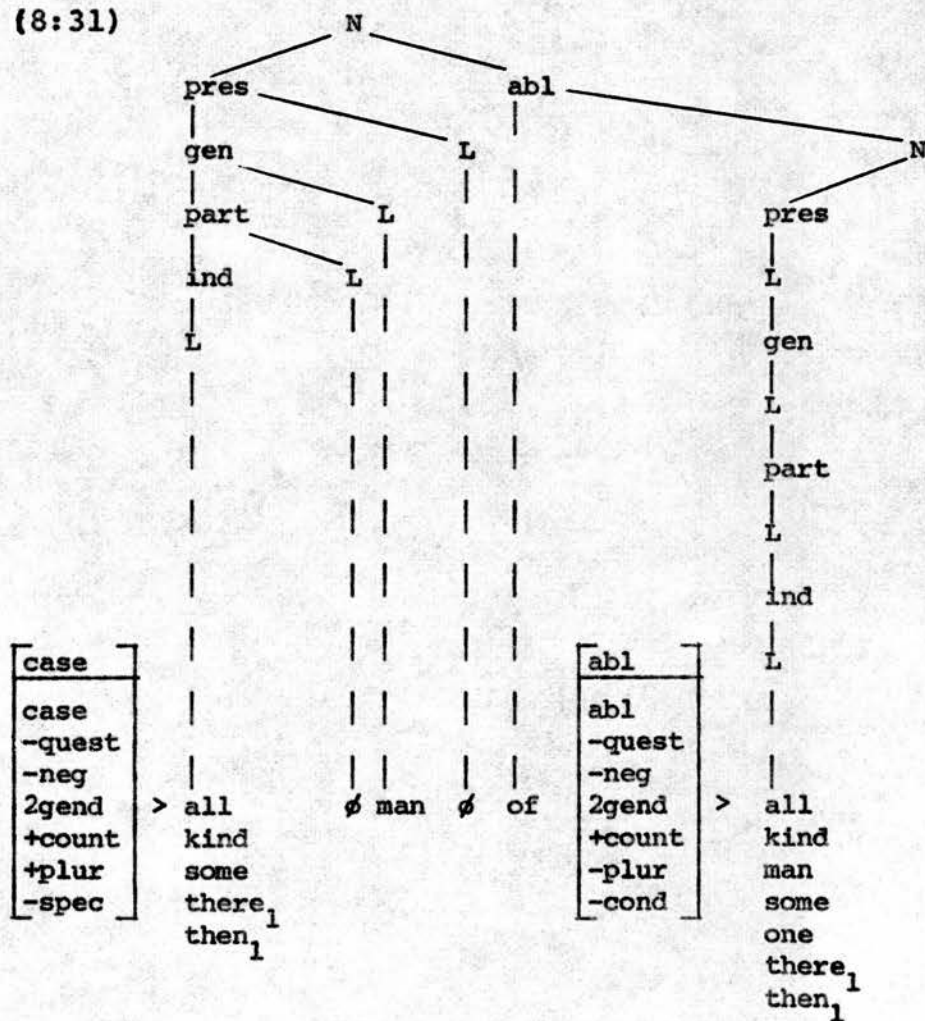


Finally, abl is subjoined to part, the whole superordinate being absorbed by the subjoined category-nodes in the subordinate, and with the subordinate morphophonemic

There is a problem of a practical nature inherent in this representation. The subjunction of abl to part implies that the subordinate is superimposed on -L-ind-L in the superordinate. I have inserted them at the end of the functional string, mainly to emphasize that the sense they contain -- at least which ind-L contain -- is still expressed by "each".

The second and third alternatives develop initially along the same lines; but instead of the superordinate being lexically subjoined the subordinate is:

(8:31)



Next the subordinate is subjoined to abl. If the derivation stops at this stage, we have the structure immediately underlying "the men each". That is, "of" is absorbed by the lexically subjoined string, and the morphonemic carriage of the superordinate determines the surface occurrence of "men". Furthermore, the whole phrase is marked for plural, requiring a plural verb.

What I consider to be the normal derivation for delimitatively serialized quantifier phrases precedes from the stage superficially realized as "the men each". Abl is adjoined to part in the superordinate, and eventually subjoined to it under observation of the MI-convention, which it enters with superordinate ind-L. The resultant structure is (8:32):

requires a singular verb -- whereas the originally superordinate morphophonemic carriage determines the plural morpheme on "men".

The derivations outlined for "each"-phrases here reveals that the sense-components into which "each" can be analyzed are:

(8:33)	<u>case</u> abl -quest -neg +count -plur -cond	all [kind +subst +stat +DF _i -DF _j] some [one αspace αtime]	:	'each'
--------	--	--	---	--------

The left-hand column specifies the subcategorial features, and the right-hand column the categorial features which are correlated with the expression 'each'. Furthermore, the complex symbols within the right-hand column signify that two lexical subjunctions are involved in the sense-specification of "each", one of which indicates that "each" may have independent noun (or pronoun) status, whereas the other indicates that "each" is 'definite'.

It is clear from the derivations that the definiteness of the background group is a presupposition on "each", rather than part of its sense. On occasion, however, the presupposition may be incorporated in the sense-specification, as in (8:30); but it is no integral part of the meaning of "each".

I shall not give such a detailed account of "either", but only comment on one or two important points. First, the derivation of "either" involves a superordinate ind specified as (+plur +spec) -- or, again, (+dual), if we can be permitted to incorporate such a diachronic feature in a synchronic account of modern English. Secondly, and more importantly, since "*the men either" is ruled out, the second option for subjunction in the derivation of "each" is ruled out for "either". More specifically, "either" demands that the lexically subjoined lower branch is subjoined to part in the higher. (With lexical subjunction of the higher branch we get, of course, "either man" along the lines of (8:28, 29, and 30). Why should this be, if the derivations of "each" and "either" otherwise follow the same lines, as they seem to do?

As mentioned at the beginning of this paragraph, conjunction and disjunction have been associated with universal and existential quantifiers, respectively. Now it so happens that only the (linguistic) universal quantifiers "all", "both", and "each" have the possibility of post-noun position, and only when the head noun is preceded by the definite article (or another definite determinative).

I showed in § 8.3 that the primitive quantifiers in delimitative serialization derive from a double-branch tree, and the same holds for "both of the men". That is to say, "all" and "both" are also involved in derivations like the one required for "each". In consequence of this

we might suggest that quantifier phrases displaying surface serialization 'the Noun x^r' all derive from a double-branch tree, and then associate optional -- though syntactically restricted, cf. Anderson (1975b); Dougherty (1970) -- adjunction to part in the upper branch with the fact that such constructions all involve universal quantifiers; or, to put it more precisely, with the fact that the quantifiers allowing such serializations are associated with conjunction. Negatively, this means that the quantifiers associated with disjunction require explicit morphological marking of this fact. This end is achieved by adjoining the subordinate ablative phrase to part in the superordinate because "of" will be brought out superficially by the MI-convention during the subsequent step of subjunction.

However, it should be noted that this will not account for Perlmutter/Carden's dialects which only allow "the guests all" (as opposed to "all the guests"), unless "all the guests" is also considered to derive from a double-branch tree, for which there is no decisive evidence. Furthermore, it would be difficult to account for Danish, which allows

- | | |
|----------------|---------------------------------|
| (8:34) (1) (a) | alle drengene
all boys-the |
| (b) | begge drengene
both boys-the |
| (c) | *hver drengene
each boys-the |

- (ii) (a) drengene alle
boys-the all
- (b) drengene begge
boys-the both
- (c) drengene hver
boys-the each
- (iii) (a) *alle af drengene
all of boys-the
- (b) *begge af drengene
both of boys-the
- (c) hver af drengene
each of boys-the

-- disregarding the fact that other distribution-tests would have to be devised for classifying referential functives in Danish than in English.

The tidiest analysis of these Danish data is a one-branch structure for "alle" and "begge" -- along the lines proposed for English "all" and "both" -- and a double-branch structure for "hver" -- again like English.

Pending further evidence, the tentative conclusion to this is that English quantifier phrases displaying post-noun position of the quantifier can all be accounted for on the basis of a complex structure. In addition, such phrases involving "all" -- and perhaps "both" -- can also be explained on the basis of the MI-convention working on a non-complex structure. This convention is highly productive in all the compartments of referential structure, and it accounts for aspects of post-noun "all"-phrases which

cannot be accounted for on the basis of the double-branch derivation.

The preceding discussion is of course incomplete in an important respect. Both "all", "both", and "each" may appear in post-noun position, separated from the noun by a (auxiliary) verb, notably "be" and "have", but also e.g. "seem". The modifications which these possibilities require will not be gone into, although one or two points will be raised in chapter 10 about the superficial realization of (\pm time) on L_{ind} which have a bearing on this point. Its further elucidation must await the attempt to integrate the SS- and RS-analyses, in particular with respect to serialization.

8.43 "Any".

Consider first

(8:35) (1) (a)	a man	(can lift that stone)
(b)	one man	-----
(c)	any man	-----
(d)	*some man	-----
(11) (a)	-	
(b)	two men	-----
(c)	*any men	-----
(d)	some men	-----

There are many and intricate problems involved in precisely characterizing the semantic properties of (8:35), most of them stemming from the intricacies of "can". Since we are mainly interested in the subject NP's and their characterization, I shall not even begin to go into detail over the modal. Suffice it to say that the epistemic sense of "can" -- associated with possibility -- is prominent in (i), whereas the pragmatic sense -- associated with capability -- is prominent in (ii). For the terminological distinctions, cf. Fillmore (1975:5), who applies them to "may". There is also involved, especially in (ii), the element of permission, which is the modality to which Fillmore applies the term 'pragmatic'.

What interests us, however, is the incapability of "any" to occur with a plural head noun in non-negative declaratives like (ii c), and the -- somewhat less clear-cut -- inadmissibility of "some" with a singular head noun in an epistemic context.

Notice further that the distinction between (i a) and (b) involves a shift in perspective of the modal. Whereas (i a) is most likely with an epistemic interpretation of "can", (i b) is rather more likely on a pragmatic reading. This is correlated with the paradigmatic gap in (ii).

Yet all difficulties do not stem from the range of interpretations of the modal. The restrictions in the paradigms in (8:35) can be interpreted as superficial evidence of selection restrictions between features on the subject NP and the various readings of "can". It is

our task to find those features.

We approach this task by way of the following observation by Donnellan (1966:102):

In the attributive use (viz. of definite descriptions), the attribute of being so-and-so is all-important, while it is not in the referential use.

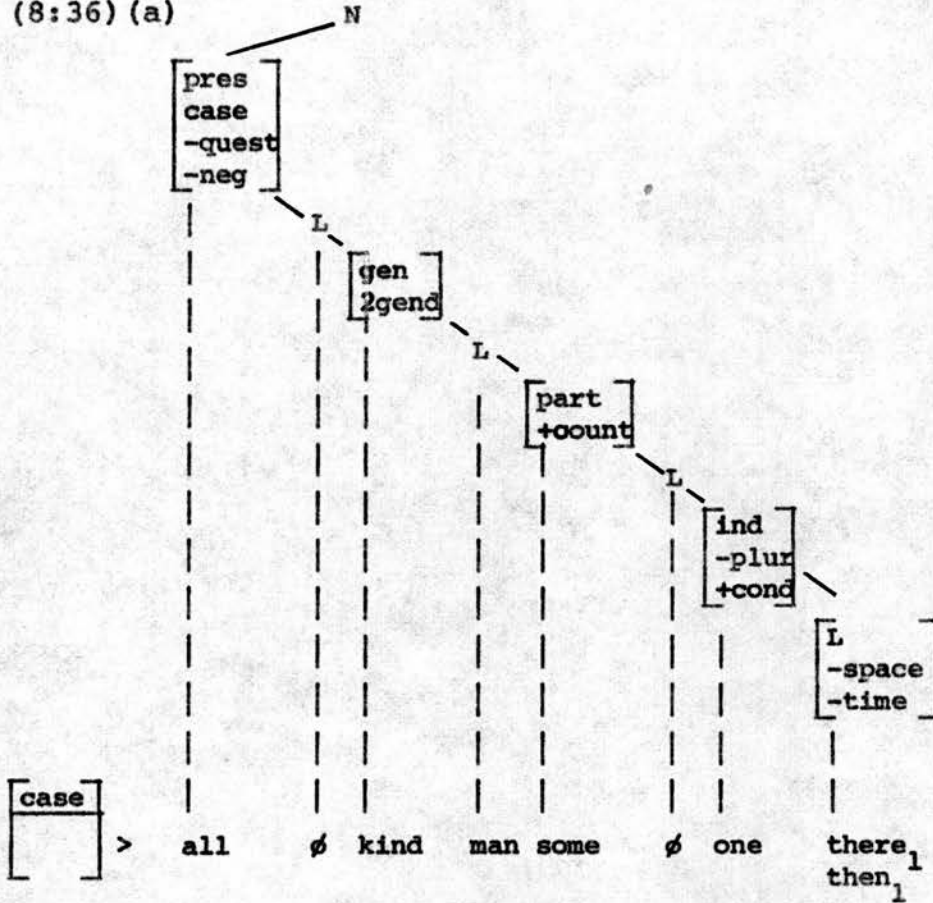
It has been shown (by Bell, 1972; Partee, 1970) that Donnellan's restriction to definite descriptions is hardly warranted, and I fully agree. It is precisely the attribute of being -- in this case, a man -- that is all-important for the analysis of the phenomena in (8:35) in which we are interested. (8:35 i a and c) can be explicitly (and clumsily) paraphrased as "that stone can be lifted by anything, provided it satisfies the condition of being a man". No such condition of being a man is implied by (i b). In so far as a condition is involved, it is rather a condition on the number of men. The same holds for (ii b).

It is now clear that we are concerned with the secondary functional feature (\pm conditional) on ind. Furthermore, it is now clear why this feature is introduced by (-plur). It imposes a condition on the denotative features under the higher L-nodes. It is concerned with the establishment of categorial locations, or 'predicational properties', or universals; and these, it will be appreciated, are only there or not, they are not there in numbers.

With these preliminaries over, we can suggest as the

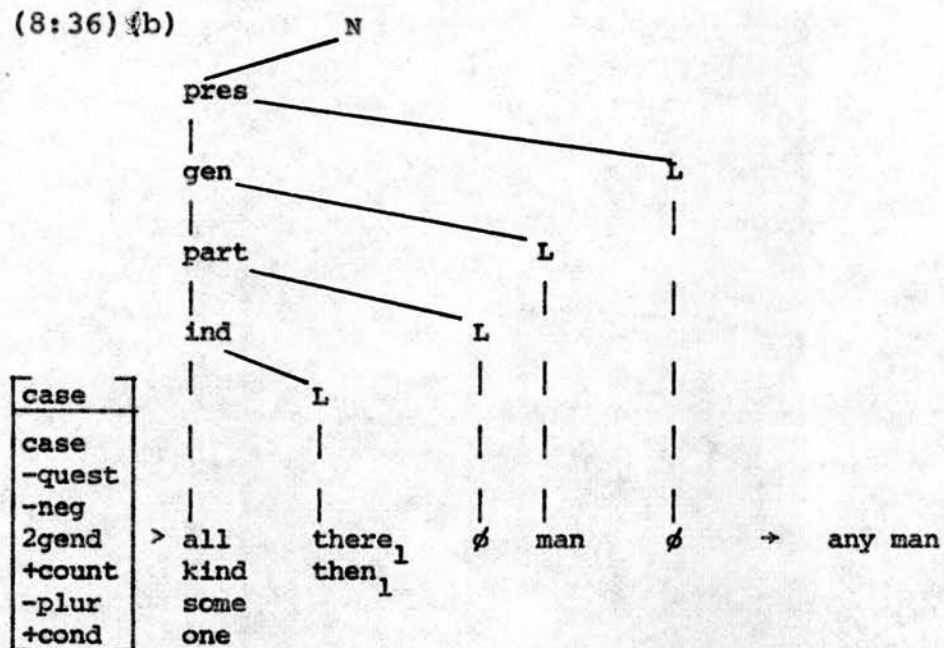
appropriate underlying structure for (8:35 i a and c):

(8:36) (a)

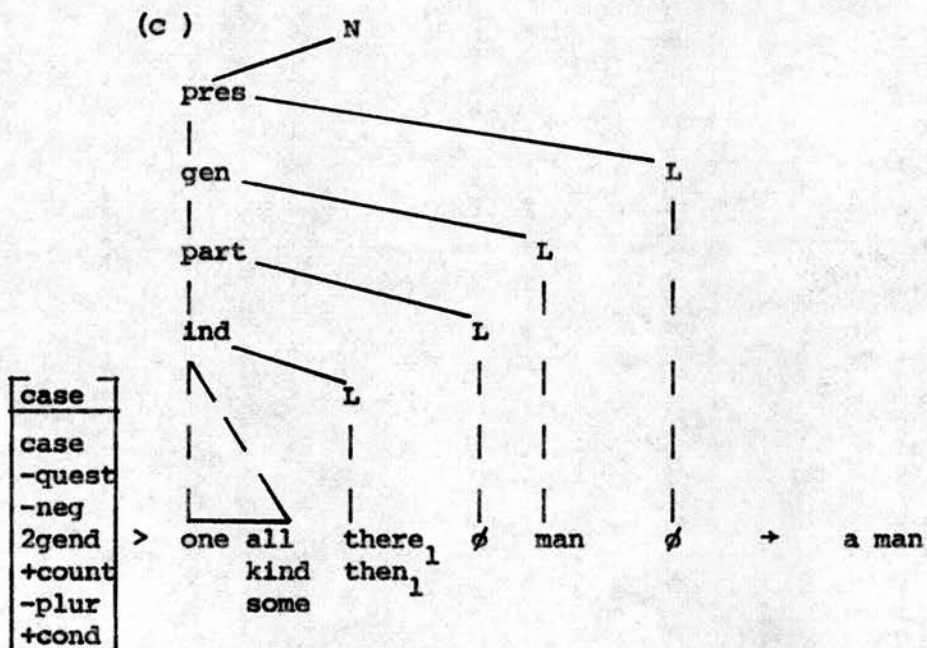


No lexical subjunctions apply, but there are two possibilities during the RP-subjunction cycle: "some" is either absorbed by "one", or they enter the MI-convention. Thus the two derived structures will look like this:

(8:36) (b)



(c)



In this way we bring out the affinity between, on the one hand, "a" and "any" (Perlmutter, 1969:fn 10), on the other the implicit recognition of universality (by sub-

junction to pres) with which "any" is often associated -- but cf. Vendler (1967:79 ff); Jackendoff (1972b). That is, I equate semantically the so-called 'generic' use of the indefinite article with "any", distinguishing between them transformationally (or subjunctionally). As we shall see in chapter 10, precisely the same subjunctional distinction can be invoked as the distinction between non-'generic' "a" and "one", the (synchronic) affinity between which is also established by Perlmutter.

However, it is clear that not all instances of "any" are derived from a conditional source. In particular, "any" appears in appositive serialization with a plural noun in negative and interrogative contexts. Such occurrences are often considered to be suppletive with "some" in positive declarative contexts; cf.:

- (8:37) (a) I don't have any apples
 (b) Do you have any apples?
 (c) I have some apples

The fact that this is not a hard and fast rule has led R. Lakoff (1969) to the conclusion that the choice between "some" and "any" is determined by mechanisms involving presuppositions on the part of the speaker, but only at the cost of a new -- and somewhat vague -- concept of synonymy.

The implication (to me) seems rather to be that there are features on the nominal that determine the occurrence

of "some" and "any", and that those features may, but need not, correlate with the contextual features of negation and interrogation.

We are led by considerations of other phenomena to postulate the occurrence on pres of a feature (\pm negative) and a feature (\pm question). Like (\pm conditional) these features will be included in the morphophonemic carriage during subjunction, and will thus come to influence the superficial appearance of the string.

Apart from certain -- non-factive (Kiparsky & Kiparsky, 1971) -- predicates, the three features (\pm negative), (\pm question), and (\pm conditional) are the main source of opaque contexts (cf. also Givón, 1972), and since (\pm conditional) may influence the superficial occurrence of "any", it is at least not unreasonable to inquire into the possibility that the two other features may do the same.

However, there is a notable difference between (\pm conditional) on the one hand and (\pm negative) / (\pm question) on the other. Whereas the nominal subcategorization feature (\pm conditional) is relatively easy to keep apart from the corresponding illocutionary force indicator, this is not the case with (\pm negative) and (\pm question). In virtue of our equation of existence with categorial location (§ 2.32), (\pm conditional) can be seen as imposing a condition on the categorial locations established higher in

the hierarchy under L_{gen} and L_{part} . The interpretation of (+conditional), consequently, is

If there is a categorial location, x , then
anything that is located in x is ...

The two other features under consideration cannot be associated with categorial location in the same way. "No horses on this path" does not negate the categorial location ("horse"), it assumes it; the same holds for (\pm question).

This means that it is much more difficult to draw a clear distinction between the nominal subcategorization features of negation and interrogation and the status of these as linguistic operators with predicational -- or propositional -- scope. Yet that such a distinction is called for seems clear (cf. Searle, 1969:31 ff), although its nature remains mysterious (to me).

Taking these various points into consideration, I shall not attempt to exhaust the analytical possibilities. I shall rather present an analysis of "which?", which is in keeping with the general approach, and then suggest a tentative analysis of "any" on this basis. Passing comments will be made on "no" in the following section as well. Then later, in § 10.22, we shall go further into the relationship between (+negative) and (+conditional) in particular.

8.44 "Which?" -- "any" and "some".

Like "each" and "either", "which?" requires reference to a definite background group. In contrast to "each" and "either" it may collocate with a plural head noun in both appositive and delimitative serialization, though it need not. That is, all of (8:38) are acceptable:

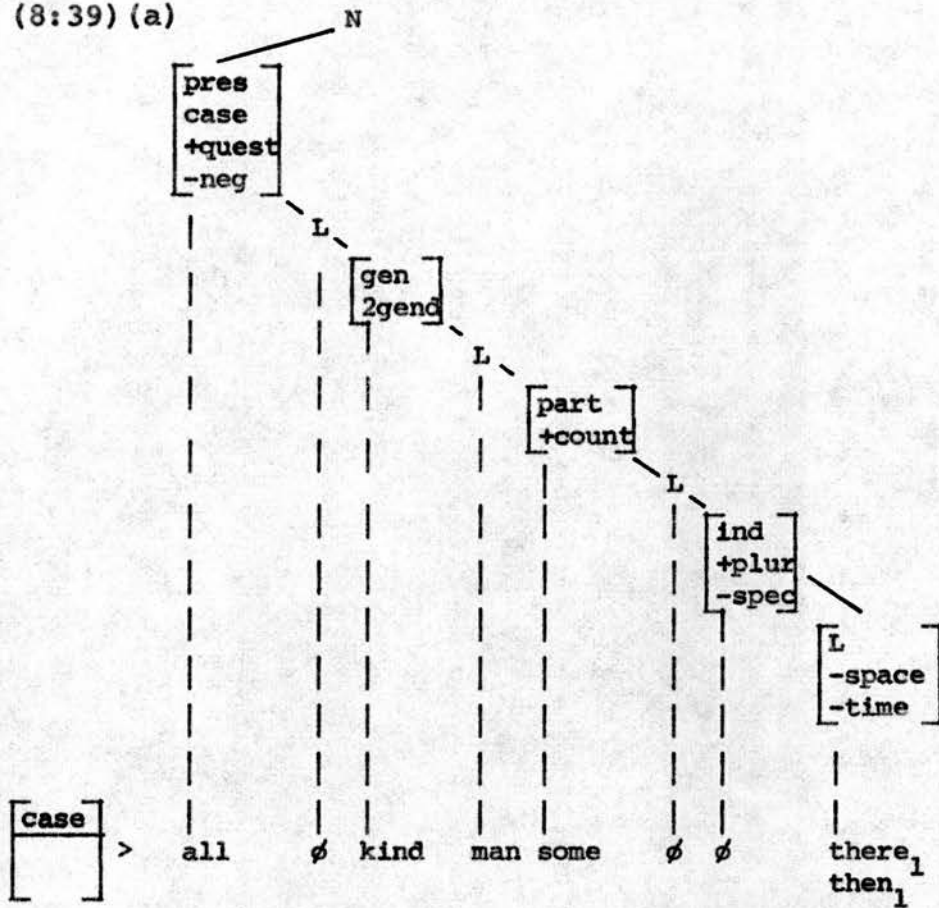
- (8:38) (a) which man?
 (b) which men?
 (c) which of the men?

-- but not, of course, "which of the man?".

The conclusion to be drawn from this is that "which?" does not -- unlike "each" and "either" -- invariably require a derivation based on a complex structure. In particular, both (8:38 a and b) may be derived from single-branch trees. Notice that (a) always requires a singular verb, (b) invariably a plural verb, whereas (c) may take either, although "which one of the men?" will probably occur with disambiguating function instead of (c) on occasion.

We shall not go into the derivation of (8:38 c), which follows the lines of (8:27 ff) with "which?" originating in the (lexically subjoined) subordinate. Let us instead look at (a) and (b).

(8:39) (a)



The specification on ind implies that this is the structure underlying (8:38 b); (a) differs only on the features (-plur -cond).

The definiteness of the background group is, as always in single-branch quantifier derivations, ensured by lexical subjunction of ind-L, and application of the full cycle of RP-subjunctions yields a structure like (8:39 b):

pression of pres. If "no men" involves "all", and if "not any men" is synonymous with "no men", then "not any men" involves "all". Pres in (8:42) can consequently be regarded as carrying the negative morpheme superficially, "all" being implicit between "not" and "some". Cf. the referential identity of

- (8:43) (a) there were (not-some) men there
 (b) (all-men) were not there
 (c) of all men, not one was there

Furthermore, dialects allowing double negatives like "there weren't no men there", on this analysis, now simply allow full subjunction in (8:42), with "n't" as obligatory part of the lexical reflex of pres when marked (+neg).

Lastly, a diachronic point which may reflect this derivation is the Old- and Middle English forms "nānig" and "nany", and it may also account for the fact that "any" on the whole is more resistant to substitution by "some" in negative contexts than in interrogative contexts (cf. on this point R. Lakoff, 1969:613).

By analogy, pres in (8:40) should then be regarded as the carrier of the question morpheme. This is not lexicalized in English, but it is in various other languages including Latin ("num", "nonne" -- which are both also related to the negative morpheme diachronically) and Danish ("mon"). It is then interesting to note the serialization

possibilities in Danish questions involving "mon" (which is not obligatory; questions may also be characterized by inversion; likewise, "mon" may occur in the Danish equivalents of wh-questions).

There are a great number of possibilities for the placement of "mon" in Danish, but we are especially interested in one impossibility. Cf.:

- (8:44) (i) (a) hvilke piger mon kommer?
 which girls ? come (= "I wonder which girls are coming")
- (b) *mon hvilke piger kommer
- (ii) (a) *nogle piger mon kommer?
- (b) mon nogle piger kommer?
 ? any girls come (= "I wonder if any girls are coming")

The starred examples are definitely out in any register or dialect of Danish with which I am familiar. The unstarred ones are acceptable, although they would hardly be used in the spoken language. Instead of (i a) we would get "hvilke piger mon der kommer?" (which girls ? there come), and instead of (ii b), "mon der kommer nogle piger?" (? there come any girls), i.e. with inversion.

However, the implications for my argument are clear. (i a) -- with full subjunction under pres -- allows only "mon" by courtesy of the MI-convention; (ii b), on the other hand, allows only "mon" in pre-quantifier position, thus indicating that the node dominating "nogle" is only

adjoined to pres. This correlates precisely with my analysis of the English phenomena.

Although we thus may draw support for the proposed analysis -- according to which "any" is the superficial reflex of "some" marked by a positive value of either (negative) or (question) -- problems remain, notably with respect to the distinction between "?" as a nominal subcategorization-feature and as an illocutionary force indicator. Comparable problems adhere to the determination of the scope of the negative feature.

Furthermore, although the proposed analysis gives rise to a tidy equation pattern:

(8:45) no men : neg any men :: which men : ? any men

-- which brings out the often observed affinity between negation and interrogation, there are no immediately obvious semantic grounds for such a pattern, except perhaps the common feature of opacity.

Lastly, this analysis does not bring out a number of points concerning question-formation in a great many languages; cf. Danielsen (1972) for a valuable survey.

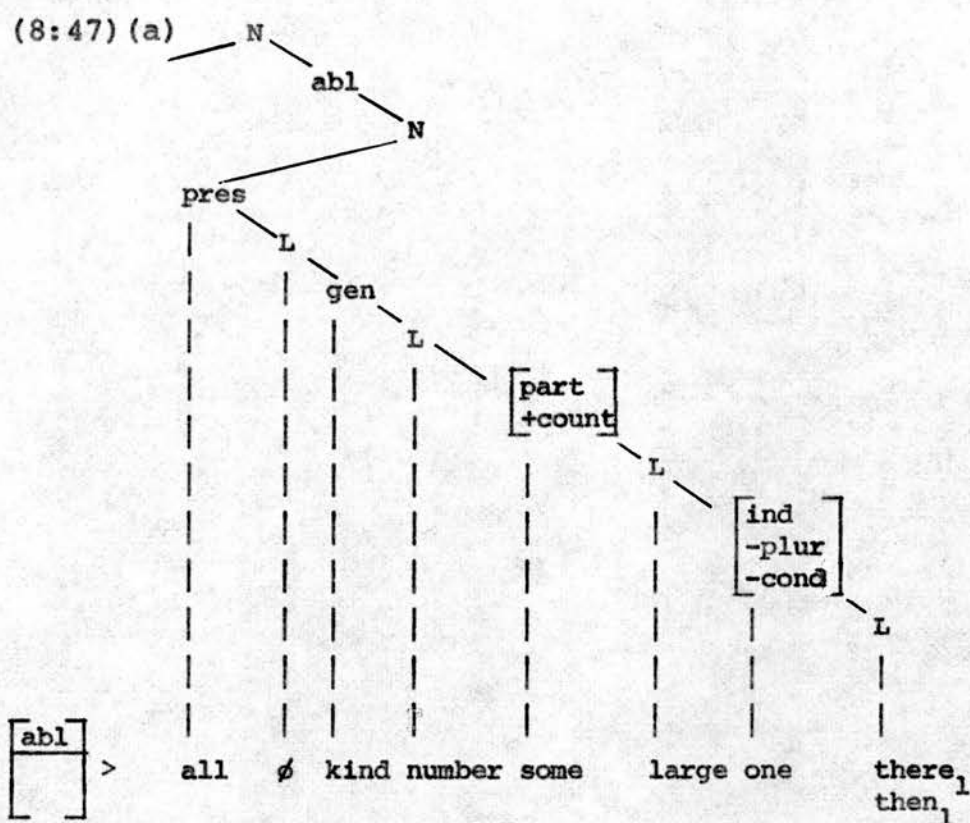
In the light of these problems the proposed analysis remains tentative.

8.45 "Many" and "much".

In his critical discussion of Lakoff's quantifier analysis, Anderson (1974a:4) proposes a distinction between "some" and "many" which might account for the paradigmatic gaps in (8:46):

- (8:46) (i) (a) some men read books
 (b) many men read books
 (ii) (a) -
 (b) the men who read books are many
 (iii) (a) a number of men read books
 (b) a large number of men read books
 (iv) (a) -
 (b) the number of men who read books is large

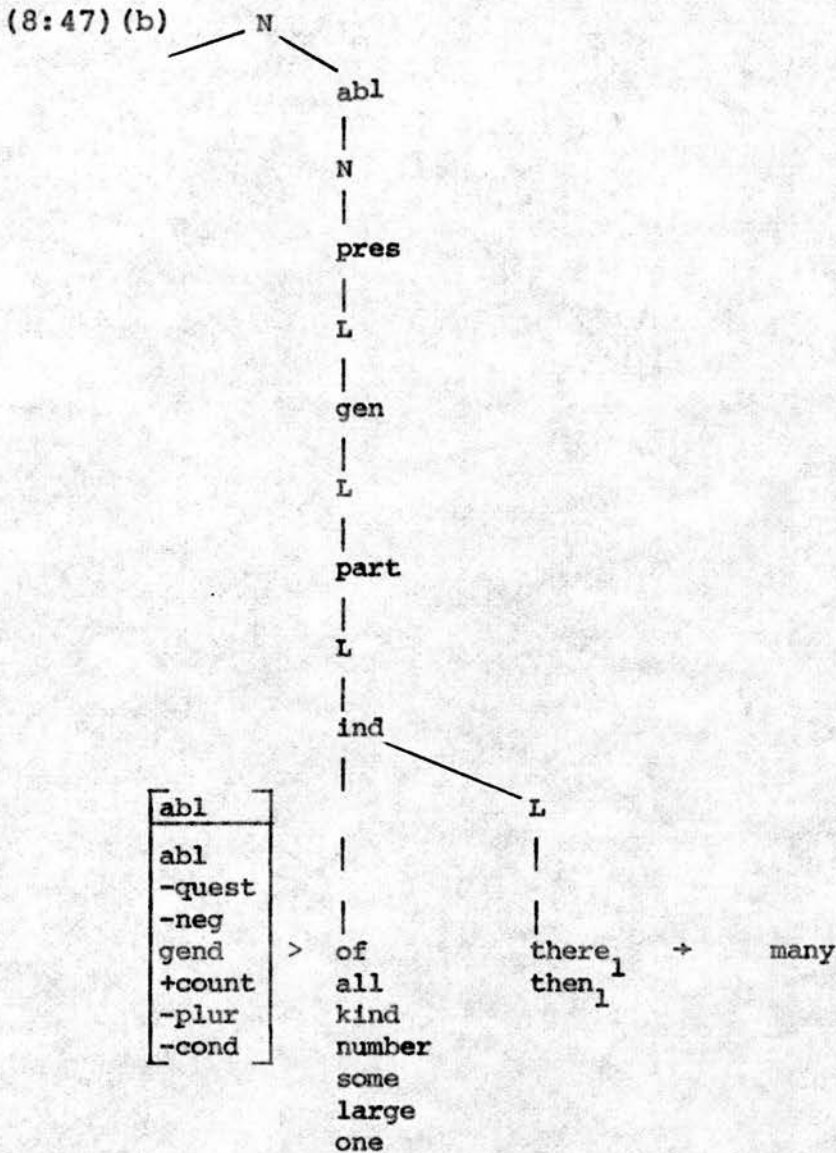
To put the difference in my terms, "many" involves a lexical subjunction of part-L in the E-classifier paradigm which suppletes the quantifier-paradigm to which "some" and "many" belong, whereas "some" does not. I want in fact to argue that "many" is the lexicalization of a diachronic lexical subjunction of the form (8:47):



"Many" is not definite; therefore ind-L is not lexically subjoined. Otherwise all referential phrases in this branch are. Subsequent RP-subjunction and subjunction of the whole branch to abl yield a derived structure like (8:47 b) (see the next page).

I want furthermore to suggest that "much" is derived in the same manner, only involving "amount" instead of "number".

If the lexeme under L_{part} in these derivations were "small" instead of "large", we get "(a) few" and "(a) little", respectively, which still show traces of the subordinate ind in "a". The tripartitions which these systems show are well described by Jespersen (1924:324 f).



This structure is essentially a partitive E-classifier structure (cf. ch. 9). As such it is -- possibly diachronically -- subjoined to part in the superordinate. The same applies to the structures underlying "much", "(a) few", and "(a) little". I shall, however, concentrate on "many", which in several respects shows 'abnormal' behaviour for a quantifier, all of which can be satisfactorily accounted for on the assumption that it derives from a partitive E-classifier structure.

Consider

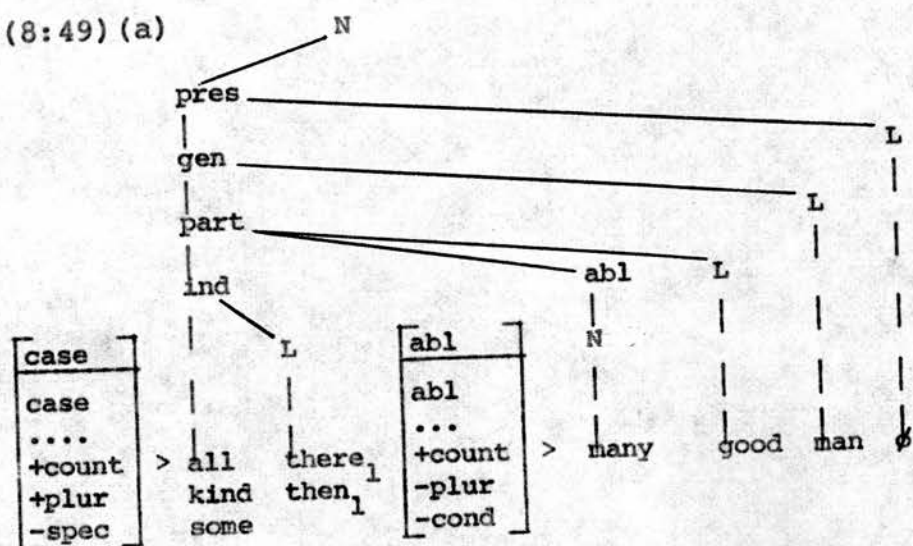
- (8:48) (a) many a good man (died in vain)
 (b) the many men (who died in vain)

(a) is well attested, though generally considered an idiomatic expression, and this may well be the case. At least it appears to be the case that when "many a" was first introduced in Middle English, it was associated with a plural head noun (cf. Mustanoja, 1960:304 fn 1: barons and kny₃tes and helemen moni on).

Let us now assume that structures like (8:47 b) in the simplest cases are just subjoined to part in superordinate structures like (8:7), yielding, by normal RP-subjunction, "many men". That is, the subordinate "many"-structure simply takes the place of 'some' in a structure that is specified as (+plur) on ind.

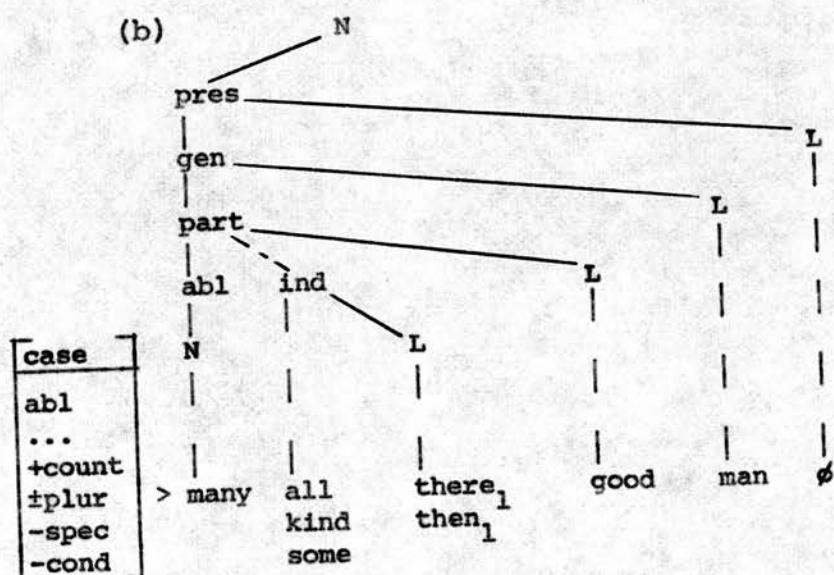
It has been argued that subjunction does not occur directly, but passes through a stage of adjunction. If this is the case we should expect phrases involving "many" to show traces of the intermediate stage of adjunction, for even diachronic processes have a claim to being regarded as synchronic at some point in time. Such a trace is (8:48 a), for which I take (8:49) to be the underlying representation:

(8:49) (a)



When abl is subjoined to part it either absorbs the superordinate RP-subjunction, or it enters the MI-convention with it. The latter possibility gives us a structure like

(b)



As it stands, (8:49 b) is redundant. However, it is the possibility of exploiting the 'slot' under ind which

is the structural basis for the occurrence of "a" after "many". The subcategorical basis for "a" is the conflict between (+plur) and (-plur) in the two originally distinct morphophonemic carriages when they are conflated.

The derivation of (8:48 b) depends on lexical subjunction of ind-L in (8:47 b). Since no monomorphemic expression is correlated with the ensuing sense-configuration, the MI-convention applies, eventually yielding "the many".

The last peculiarity we shall look at is exemplified by "a great many men". Jespersen (1913:§ 4.971) puts this usage down to the 'noun-like' nature of "many", on this ground querying the disinclination by the NED to derive "many" from the Old English noun "menigeo" ("multitude"). However, the oldest examples Jespersen can muster are from 1690 and 1776 (both from the NED), which makes the hypothesis of a direct historical link with an OE noun appear somewhat weak.

A rather different source for the 'noun-like' status of "many" is within easy reach if we take into account that "many" itself derives from a partitive E-classifier branch. Partitive E-classifiers are usually nouns in that they lexicalize L_{gen} . Thus the comparatively late first occurrences of this type go in favour of a 'normalization' of "many" along the lines of the E-classifiers, to which we now turn.

Chapter 9

E-classifiers

9.1 The class of E-classifiers.

The class of referential functives was said above to be a closed class, with one modification. The modification concerns the class of E-classifiers.¹

E-classifiers are defined by their inability to occur in appositive serialization with their head noun, and among them we find such typical examples as "kind", "sort", "pair", "group", etc. Yet we also find a great many 'normal' nouns which have this characteristic, e.g. "cup", "school", "glass", "bucket", etc.

There are, however, clear selection restrictions between such 'normal' nouns when they are used as E-classi-

¹ I disregard the question as to whether the natural numbers actually form a closed class. I avoid this question by simply noting that a new number cannot be introduced, only a further number. The numerals constitute an open-ended class, not an open class.

fiers and the range of adjectives with which they may co-occur in their non-classifying use; cf.:

- (9:1) (a) a broken glass vs. a broken glass of milk
 (b) a comprehensive school vs. a comprehensive school of whales
 (b) an embroidered bag vs. an embroidered bag of pheasant
etc.

This might invite the view that there are in fact two nouns "glass", "school", "bag", etc. It could also be taken to imply that a number of nouns are capable of a duplicity of function, and that specific selection restrictions apply to the function which the noun performs on a given occasion. Whichever of the two views we take, however, we are forced to recognize that some nouns display syntactic peculiarities which can be explained on the assumption that they may function as E-classifiers. Consider in this connection the noun "hộp" ("can") in Vietnamese, which occurs at least in the following two environments:

- (9:2) (a) hai cái hộp sữa
 two thing can milk = "two milk cans"
 (b) hai hộp sữa
 two can milk = "two cans of milk"

In (a), "hộp" is the head noun, classified by the general classifier, "cái", and with "sữa" as an attributive noun. In (b), "hộp" is itself a (partitive) classifier,

classifying the head noun "sua". It is a situation which is precisely comparable to the situation for which I am arguing in English with respect to e. g. "bag"; cf. also the Burmese exx. (7:12 a and d) above (p. 223). The Vietnamese exx are quoted from Thompson (1965:197) -- though without the tone-indicators.

Relative to the distinction between closed and open sets it is now the case that only some English nouns can be used as E-classifiers. Innovations in this system are rare but do occur. Thus I have recently heard

(9:3) a giggle of girls
 an asylum of prime ministers
 a jam of tarts

-- the latter in relation to a giggle of girls of dubious morals. Yet even such innovations lead to comparison with the 'true' classifiers, one major stylistic function of which is precisely to give a humorous and/or ironic twist to the discourse about familiar things.

9.2 Generic and partitive E-classifiers.

Languages with numeral classifiers, like Thai and Vietnamese, are characterized by a high proportion of what I called generic classifiers (§ 7.12), and by having generalized the appositive serialization pattern associated with

a paradigmatic semantic relationship between head noun and classifier -- which defines a classifier as generic -- to partitive classifier structures. English is characterized by a low proportion of generic E-classifiers and a high proportion of partitive E-classifiers, and also by having generalized the delimitative serialization pattern associated with a syntagmatic semantic relationship between head noun and classifier to generic classifier-structures. Apart from "thing", "people", and "place", which in a certain respect can be seen as generic E-classifiers, there are, in English, only "kind", "sort", and a number of less general terms like "type", "category", "make", "brand", etc.

It is perhaps questionable whether these can be said to stand in a paradigmatic semantic relationship with their head nouns, but there is a distributional test that will separate generic from partitive E-classifiers; cf.:

- (9:4) (i) (a) that kind of car
- (b) a car of that kind
- (ii) (a) that cluster of trees
- (b) a tree of that cluster

The two phrases in (i) are referentially identical, those in (ii) are not. A related test is provided by:

- (9:5) (i) (a) that type of car
- (b) that car-type
- (ii) (a) that cup of coffee
- (b) that coffee-cup

-- where again the phrases in (i) are referentially identical as opposed to those in (ii).

In (9:4) the head nouns are "car" and "tree"; in (9:5) the head nouns in the (a) examples are "car" and "coffee", in the (b) examples "type" and "cup". If we now apply the number-criteria discussed in § 7.11 to the phrases at hand it will be clear that only the (a) examples in both (9:4) and (9:5) will be 'true' classifying constructions. If the numeral "two" is inserted throughout, its scope will be the head noun in all the (b) examples, whereas it will be the E-classifier in all the (a) examples. Cf. this with the superficially similar phrases in

- (9:6) (a) a wall of stone
 (b) a stone wall

I consider "wall" the head noun in both (a) and (b); that is, the denotatum of "wall" is the referentially most significant denotatum. In each case a special kind of wall is being denoted. Insertion of "two" for "a" will have "wall" within its scope in both (a) and (b). Hence neither is a classifying construction.¹

¹ The question as to which element is the head noun and which the classifying element is not quite straightforward, and it is somewhat intuitive. Consider, however, the following equations:

- (i) (a) two walls of stone : two stone walls
 (b) two types of car : two car-types
 (c) two kinds of car : *two car-kinds
- (ii) (a) two walls of stone : two walls of the stone kind
 (b) two types of car : *two cars of the \emptyset kind

There is an implicit hierarchy in these equations:

All classifier structures are double branched. The head noun originates in the superordinate, the classifying element in the subordinate. The distributional characteristics of generic and partitive E-classifiers are due to different adjunctions of the subordinate to the superordinate. A subordinate structure containing a generic E-classifier is adjoined to gen in the superordinate, whereas one containing a partitive E-classifier is adjoined to part. These different properties of E-classifier structures again reflect the adnominal cases that govern them. Generic E-classifier structures are governed by nom, partitive structures by abl.

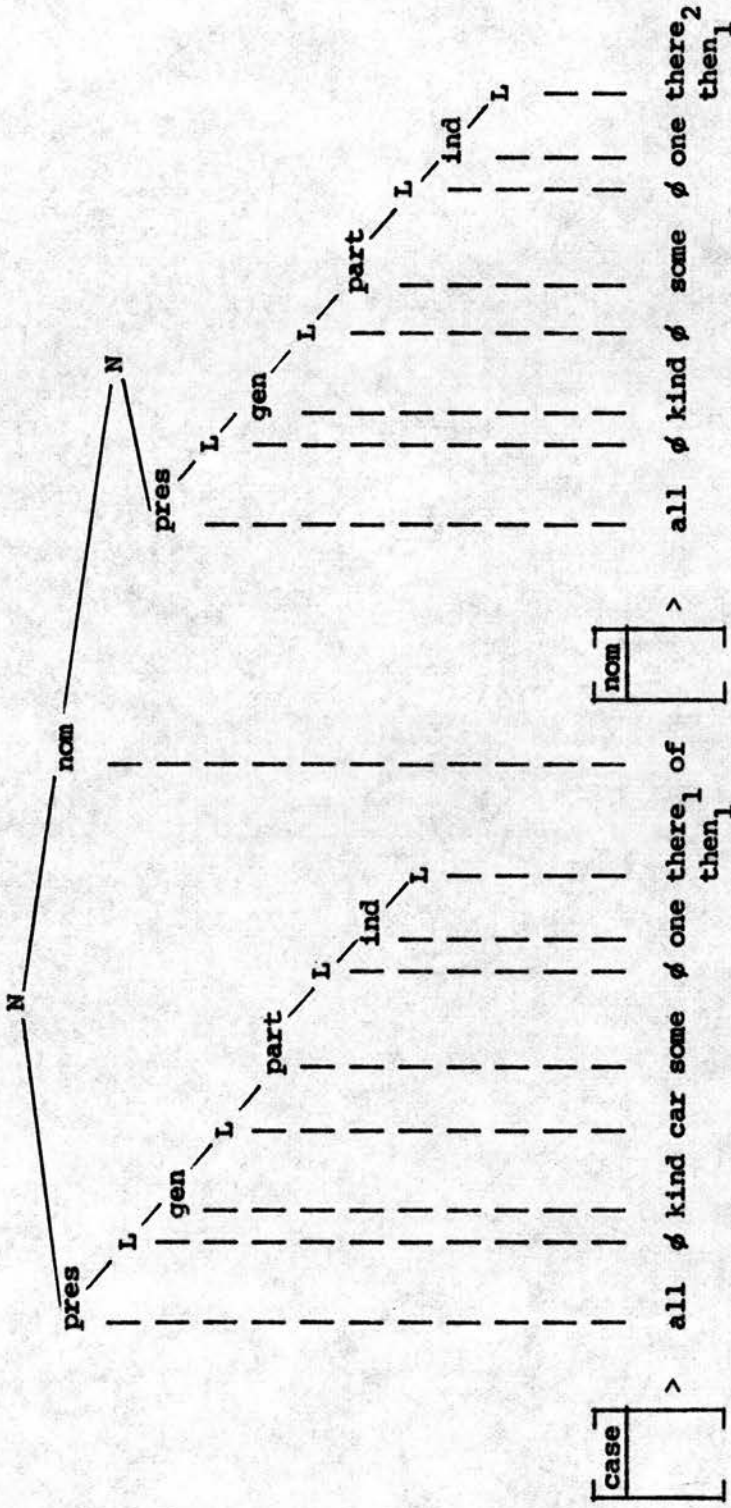
9.21 The derivation of generic E-classifiers.

The underlying representation of (9:4 i) is a complex structure of the form (9:7) (a):

-
1. "wall" : never E-classifier
 2. "type" : sometimes E-classifier
 3. "kind" : always E-classifier

The structural similarities between all of these delimitative serializations will be commented on later in the present chapter, where I shall argue that it is "stone" (i a) that can be called a classifying element, though not an E-classifier.

(9:7) (a)



E-classifiers are characterized derivationally by lexical subjunction of gen-L^1 , the effect of which is to superimpose the denotative features on L_{gen} on the inherent semantic content of "kind" in gen . When L_{gen} is not specified by any denotative features, the superficial reflex of this subjunction is "kind" or "sort", the two 'neutral' generic E-classifiers. Notice that I consider not only generic but also partitive E-classifiers to partake in this subjunction, taking this as the source of the selection restrictions on (partitive) E-classifiers commented on above.

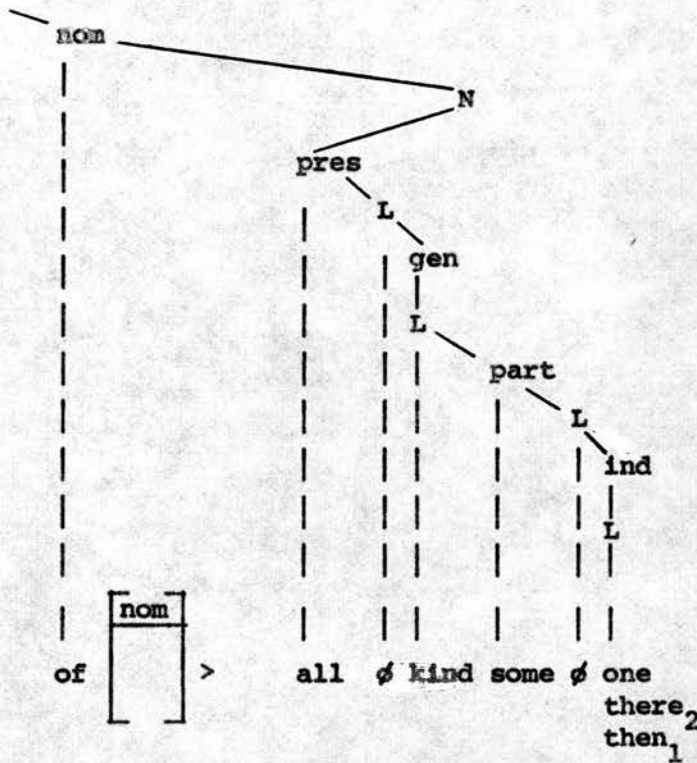
A concomitant effect of this lexical subjunction is to ensure that E-classifiers appear superficially as nouns, since L_{gen} -- the node carrying the inherent specification (+subst +stat) for nouns -- is now subjoined to gen , and thus specifies the lexical material under gen as a noun.

The subordinate structure of (9:7 a) thus develops into

¹ It is possible -- though difficult to substantiate and even more difficult to falsify -- that E-classifiers also involve lexical subjunction of pres-L , and that this is the reason why they can be compared to the 'true' classifiers (which, as we saw in ch. 7, can be regarded as lexicalizations of pres-L). Such an account would explain the impossibility of "that kind-thing of a car", since L_{pres} is the node dominating "thing" in the few expressions in English that incorporate "thing" after a noun, as in "that pencil-thing". Since I have been unable to find other (non-intuitive) reasons for it, however, and since E-classifiers can --apparently -- be analyzed without it, I merely mention it as a possibility for further inquiry.

(9:7 b), which also incorporates the lexical subjunction of ind-L that is the source for "that" in surface structure:

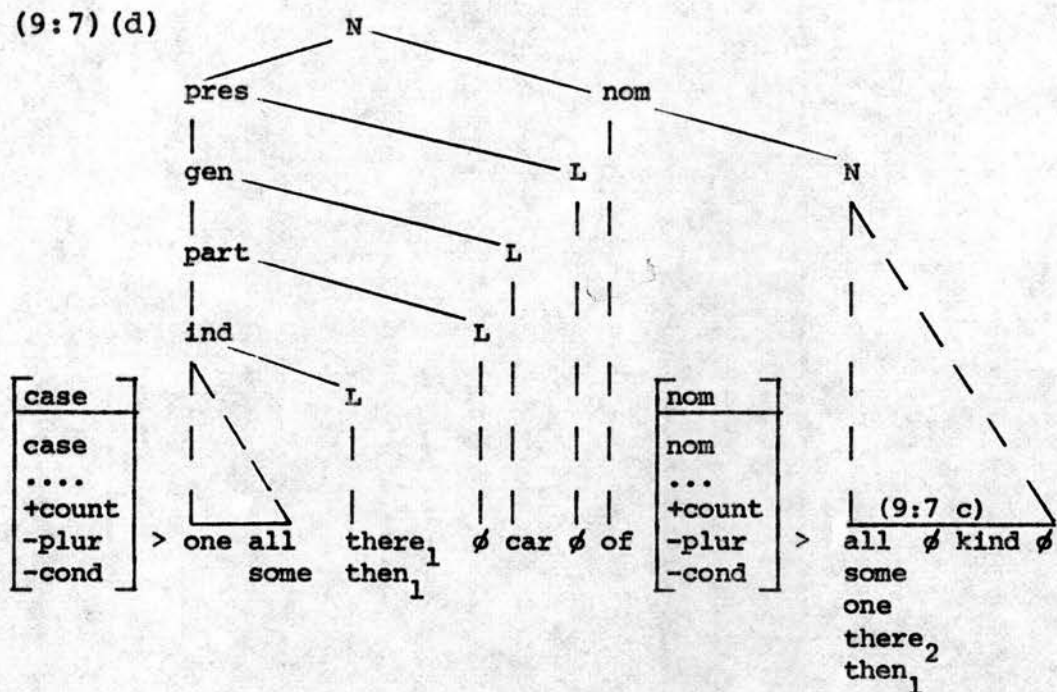
(9:7) (b)



The reader is reminded that lexical subjunction precedes RP-subjunction.

The full cycle of RP-subjunctions yields a derived string like (9:7 c), where the workings of the MI-convention (as usual) are indicated by broken determination lines:

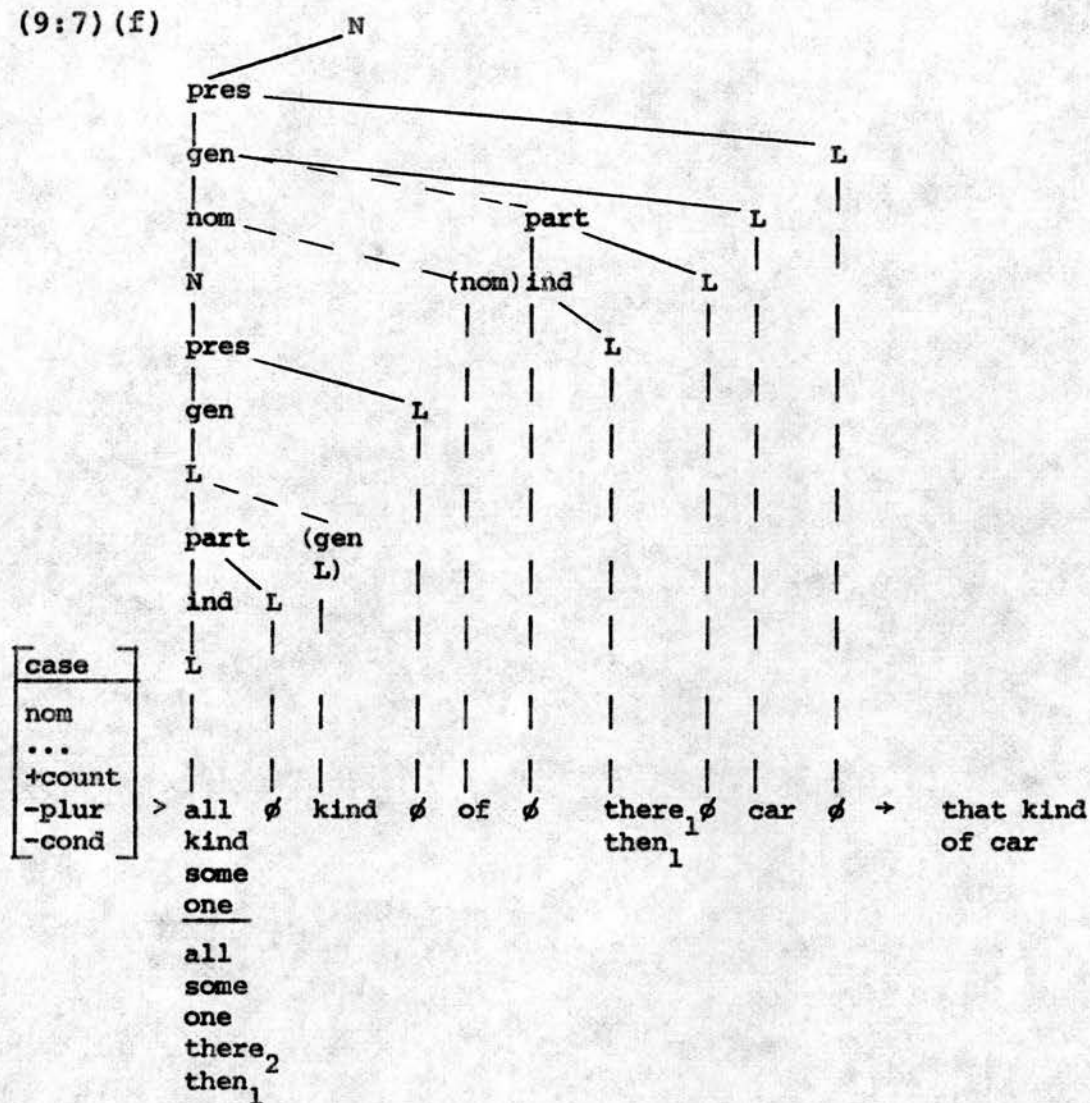
(9:7) (d)



The Mirror-Image Convention is the source of the indefinite article (cf. § 10.21). The application of the morphophonemic rules to (9:7 d) eventually gives "a car of that kind".

However, as was pointed out above, this is not a classifying construction in that a numeral in the superordinate will have "car" as its scope. The classifying construction is the one that involves adjunction of the subordinate to gen in the superordinate, i.e. (9:7 e), again with broken determination lines to indicate the effect of the MI-convention between nom and the structure subjoined to it:

(9:7) (f)



The main piece of empirical evidence in favour of the conflation of the morphophonemic carriages is provided by generic E-classifier structures like this. The variety of number specifications available to the combination of classifying element and head noun defies conventional accounts of the category of number in English; indeed, a case could probably be made for the claim that the head noun in such constructions is outside the scope of the category of countability. Since on the other hand such structures

display referential identity with non-classifying structures like (9:7 d) in which clearly two number specifications are needed, the natural consequence is to derive the classifying structure from the non-classifying one (as I have done). And this entails a transformational 'conflation' of the compartments that account for number in the two partial structures involved in (9:7 d). It may be, however, that it is an unjustifiable simplification not to incorporate the (originally superordinate) carriage in (9:7 f). In languages other than English some of the features included in it are clearly relevant to the head noun.

The generic E-classifier structure is a marked feature of colloquial (British and American) English, where it manifests itself in the frequent use of "sort of" and "kind of" as 'downtoners' (cf. Quirk et al., 1972:§§ 5.51 note; 5.58). The examples quoted in the latter of these paragraphs show the MI-convention at work, even without the subordinate having been marked (+quest), as in "he gave sort of a laugh". However, the alternative to this, "he gave a sort of laugh", is an indication that the subordinate ("sort of") structure has become a fossilized subjunction in the same way as the "many"-structure commented on above. It would appear that it can be inserted directly in a single-branch tree, either adjoined or subjoined to gen, the former possibility accounting for "he gave sort of a laugh", the latter for "he gave a sort of

laugh". This, too, will account for the use of "sort of" and "kind of" as modifiers of adjectives, since if the "kind of"-subjunction is inserted in a branch with lexicalized L_{part} , we will get either "he gave a sort of strange smile" or "he gave a strange sort of smile", again depending on whether "sort of" is adjoined or subjoined. (The latter of these examples should not, of course, be equated semantically with "he gave a strange kind of smile" -- stressed "kind" -- in which the adjective derives from L_{part} in the subordinate "kind of"-branch).

The last point I want to comment on relative to generic E-classifiers is their relationship with such non-classifying constructions as "a wall of stone" and "a stone wall". As mentioned above, "wall" is considered to be the head noun in both cases, thus originating under L_{gen} in some structure. The question then is whether "stone" originates in the same branch, or whether a complex structure is required. Put in different words, we are interested in the old problem whether "stone" is a 'noun' or an 'adjective' in "a stone wall". If it is an 'adjective' then we can derive it from L_{part} in the same branch that develops "wall"; if it is a 'noun' it must be derived from L_{gen} , and consequently from a different branch from that which generates "wall".

Since the two phrases are referentially identical, and since one of them is a delimitative serialization, the best prospects are offered by considering both to derive from complex structures. Whereas delimitative serializa-

bird's nest".

We now also see why "a red stone wall" is the correct serialization, and not "*a stone red wall". As a modifier on "wall", "red" will lexicalize L_{part} in the superordinate and thus come to precede "stone" in the final derived string. It is interesting in connection with my hypothesis that the lexical subjunction of gen-L should account for the selection restrictions on E-classifiers to notice that if "stone" was modified by "red" in the subordinate, subjunction cannot take place in English; there is no phrase "*a red-stone wall". Instead we get "a wall of red stones" (or "... of red stone"). The implication is that only when L_{part} is empty -- or perhaps lexicalized by an item from a restricted set of items -- does the lexical subjunction of gen-L occur. Cf. this with the Danish phrases

- (9:9) (a) en st \bar{e} nmur (cf. *en st \bar{e} ns \bar{m} ur)
 a stonewall
- (b) en r \bar{o} dst \bar{e} ns \bar{m} ur (cf. *en r \bar{o} dst \bar{e} nmur)
 a redstone'swall

See further Bauer (1975) for an admirable account of Danish (and English and French) compounds -- although he, too, is puzzled by the distributional properties of the three 'compounding morphemes' in Danish, i.e. "ø" (zero), "s" and "e". Investigation of the lexicalizations in the subordinate structure along the lines suggested here might lead to further insights into this problem.

9.22 The derivation of partitive E-classifiers.

Essentially the same derivation applies to the partitive E-classifiers as the one treated in some detail for generic E-classifiers. The main difference is that the partitive structure is governed by abl -- rather than nom -- and that consequently it is adjoined to part in the superordinate. This difference in case government is postulated on the basis of the irreversibility which characterizes partitive E-classifier structures as opposed to generic structures (cf. (9:4)); and this, in its turn is linked with the obligatory adjunction of subordinate structures generating referential functives associated with disjunction.

Partitive E-classifiers fall into the same two groups as those recognized for Burmese by Okell (cf. § 7.12); that is, we have both grouping E-classifiers ("cluster", "group", "class", "team", etc.), and measuring E-classifiers ("ton", "yard", "lump", "glass", "bucket", etc.). These two subgroups are fairly consistently associated with countability vs. uncountability, although a measure of overlap is in evidence (e.g. "a bucket of bricks"). The decisive factor in counting even these overlapping instances among the classifying constructions is then the lack of a phrase "a bucket of brick" which is in referential contrast with the former.

This intimate relationship with the feature (\pm count) is further evidence for the adjunction of partitive E-classifier structures to part -- assuming, of course, that my placement of that feature (on part) is correct. In contrast, the generic E-classifiers rather cancel out the countability distinction.

Chapter 10Determinatives10.1 The class of determinatives.

The class of determinatives that can be established on the basis of the distribution test in (8:2) comprises the following items:

(10:1)	(a)	(b)	(c)	(d)
	that	the	a	no
	this		what?	such
	those	my	every	
	these	your		
		her		
	we	our		
	us	their		
	you			
	them	which(R)		
	his			
	its			
	same			

The layout of the determinatives in this manner is meant

to suggest that I consider a certain amount of subclassification relevant within the class. These subclassifications are related to what I have called the suppletive nature of the referential functives.

In one sense the determinatives form a hybrid class. That is, each determinative has a suppletive counterpart in one of the other subclasses of referential functives, whereas not all quantifiers, E-classifiers, and pronouns have a suppletive counterpart in one of the other subclasses. This viewpoint is behind the organization of (10:1), which is based purely on formal and distributional criteria. In this way (a) and (b) are suppletive with pronouns, (c) with quantifiers, and (d) with E-classifiers. The distinction between (a) and (b) is of a formal nature: the members of (a) are suppletive with formally identical pronouns, the members of (b) with formally non-identical pronouns. This view, of course, depends on multiplication of entities. It recognizes two kinds of "this", "that", etc. on the basis of a pattern like

- (10:2) (a) her : hers :: his : x; x = his
 (b) the : it :: that : x; x = that

Although such a view is stringently in accord with distributional analysis it gives rise to a certain uneasiness. First, and not very seriously, it cuts across traditional classifications. Secondly, it multiplies entities apparently beyond necessity. Thirdly, and most seriously, it is not

even clear that it is semantically (or referentially) tenable. In particular, whereas determinative "we" (etc.) -- at least intuitively -- is parasitic upon pronominal "we", pronominal "that" (etc.) conversely encroaches on determinative "that". A formal/distributional analysis cannot account for this intuition. Furthermore, it cannot account for the fact that only the plural forms "we" and "them" are suppletive, not the singular forms "I", "he", "she". "One"-deletion along the lines of Postal (1966) accounts for it -- superficially, at least. Yet Postal neglects to explore the possibilities of "one"-insertion instead, which, as Sommerstein (1972:198 ff) points out, is not only more economical but also far more plausible.

If we want to take heed of this intuition about group (a) and at the same time do not want to reduplicate from one class to the other, "that", "this", etc. come out as determinatives with no suppletive counterparts, but with occasional pronominal function. The same applies, mutatis mutandis, to "we", "you", etc., whereas the question is indeterminable for "his" and "its". We have ended up in a deadlock.

This discussion might appear rather whimsical. Yet the issue lurking behind it is a real and important one. I believe it is fair to say that when linguists have spoken about determinatives (or determiners) it has on the whole been tacitly assumed that "the" and "a" in some sense are the basic determinatives on the behaviour of which all

other determinatives had to be explained or described. This view, as will have appeared, is a natural and justifiable one as long as the determinatives are considered in isolation. These two can only behave like determinatives, as can the other members of groups (b), (c) and (d) with the exception of relative "which(R)" (which is suppletive with itself as a pronoun, and with "who(R)" and "that(R)"). However, when the immanent suppletive structure in the system of referential functives is taken into consideration, it emerges that "this", "that", "these", "those", and "same" -- the latter not generally taken to be a determinative because it co-occurs with "the"¹ -- have an equal, if not greater claim on being taken as basic, since it can be argued that they have no suppletive counterparts except themselves. To this might be added the historical evidence of the development both of "a" and "the" (cf. Christophersen, 1939:ch. V; Heltveit, 1953:99 ff) from a numeral and a demonstrative, respectively.

Thus, in his recent (1973) paper, Lyons takes "that" as basic with "this", deriving "the" from the weak non-proximate deictic (i.e. "that₁") in the synchronic description. Although he only discusses a limited number of determinatives, the implication is that they should all be

¹ Just as a verb may have two tenses, in the sense of two time-references -- cf. "John has been here" with reference to both past and present -- a noun might be thought capable of having a composite determinative. "The same" and "such a" are such composite determinatives.

dealt with in terms of the system which generates "that" and "this" as basic.

The difficulty of deciding in a principled way which determinative is basic is a consequence of the fact that none of the determinatives are basic qua referential functions. They all derive from (various combinations of) "all", "kind", "some", and "one" by different transformational processes, notably lexical subjunction and the MI-convention. Whether or not a given determinative can be established as basic relative to the other determinatives is a question on which I suspend judgment.

10.2 The suppletive determinatives.

In view of the discussion in the last paragraph I shall regard the members of groups (10:1) (c) and (d) as the suppletive determinatives, whereas those in (a) and (b) will be referred to collectively as the definite determinatives.

10.21 "A", "every", and "what?".

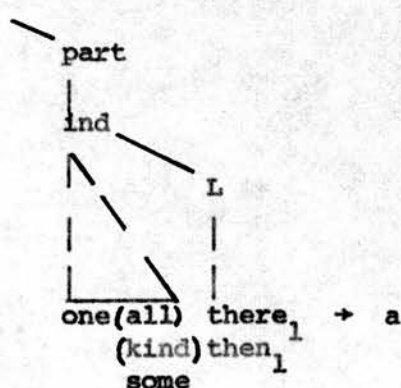
The suppletive pattern appropriate for the three determinatives to be dealt with here is (10:3):

(10:3) a : one :: every : each :: what? : which?

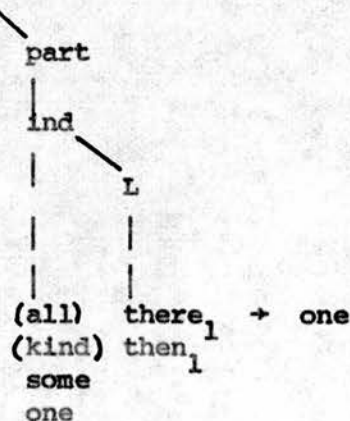
To say this is to say that it is the same kind of process that, applied to the same area in the referential branch, will account for the differences between "a" and "one", "every" and "each", "what" and "which". The area involved is ind-L, and the process is different exploitations of adjunction, subjunction, and the MI-convention during the first step of the RP-subjunction cycle.

The common feature of "a", "every", and "what?" is that none of them derive from a structure with lexical subjunction of ind-L. This also applies to "one", but not to "each" and "which?", as we have seen (§§ 8.3; 8.42; 8.44). The (synchronic) distinction between "a" and "one" is that, whereas "one" is conflated with "all", "kind", and "some" during subjunction, "a" derives from a structure in which "one" has entered the MI-convention with "some" on the first step of RP-subjunction. The partial representation which shows the difference is (10:4):

(10:4) (a)



(b)

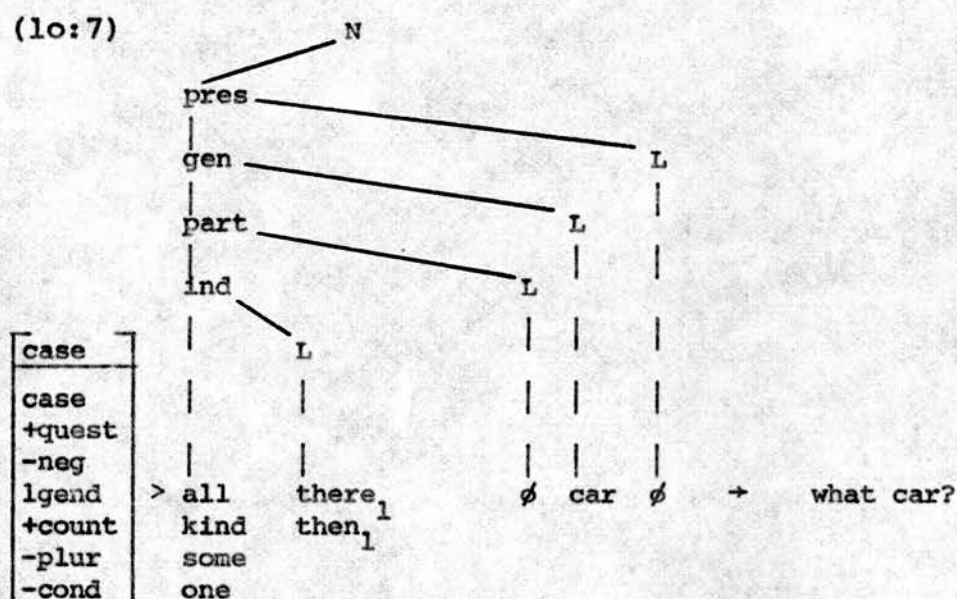


- (d) *a of the men
- (e) *every of the men
- (ii) (a) -
- (b) any one of the men
- (c) each one of the men
- (d) -
- (e) every one of the men

The common characteristic of (i a-c) is subjunction and absorption of ind under part; (i d) is characterized by subjunction and the MI-convention; and (i e) by adjunction of ind to part. Since (i b) may take a singular verb, and since (i e) is ill-formed, these two must differ in their treatment of ind -- though not necessarily in the way I have suggested. Since on the other hand (i a and c) are well-formed, and are best analyzed on the absorption-theory¹, it is natural to analyze (b) on the same basis. Finally, from the -- self-explanatory -- paradigmatic gaps in (ii) it follows that (i e) cannot be analyzed on the basis of (i d). (ii b and c) then presumably represent the intermediate stage of adjunction of ind to part which forms the analytical basis for the description of "every". Whereas they -- i.e. "each" and "any" -- allow subjunction, "every" does not.

¹ That the absorption-hypothesis is the best analysis follows from the necessity of subjoining ind to part for the analysis of "all the men" and "both the men" (cf. (8:10) and (8:22)).

Appositive serializations involving "what?", like "every", originate in a single-branch tree. It depends on application of the full cycle of RP-subjunctions, and of course on (+quest) on pres. The directly underlying structure of "what car (is that)?", then, is



Notice that this phrase is ambiguous. It can be understood as either (10:8) (a) or (b):

- (10:8) (a) what (kind of) car (is that)?
 (b) what (specimen) car (is that)?

This is naturally to be expected since both gen and ind are involved in the subjunction of functional categories. Explicit disambiguation in favour of (a) involves a complex (generic E-classifier) structure in which "what?" and "kind" originate in the subordinate.

10.22 "No" and "such".

"No" is the determinative that suppletes the E-classifier "none" -- which latter may, of course, have independent pronominal function as well. "No" can only appear in appositive serializations, "none" only in delimitative serializations. In this way "no" and "none" probably constitute the most symmetric suppletive pair of referential functives, although the same relationship holds between "such" (determinative) and "kind" (E-classifier).

Noun phrases introduced by "no" look deceptively simple, and it might be tempting to say that the meaning of "no" embodies "all" and (+neg) and leave matters at that. Although such an analysis might not be wrong, it certainly would not be exhaustive.

We note first that a NP containing "no" may be either uncountable, countable singular, or countable plural. NP's introduced by "all" have only the first and the third of these options, barring such predicative NP's as "she was all woman", the analysis of which is somewhat special and might indeed constitute grounds for allowing primary subcategorization of N in terms of (universal elective) alone, thus rather making the countability distinction inapplicable (in excluding part) than actually containing a singular countable noun. We shall touch upon this question again in the discussion of so-called 'generic' NP's introduced by "the".

The second noteworthy point is that there are in fact restrictions on the availability of singular and plural countables after "no" which can be related to contextual features; cf.:

- (10:10) (i) (a) no dogs are allowed in the park
 (b) ?no dog is allowed in the park
 (ii) (a) *no horses could jump that fence
 (b) no horse could jump that fence

A third interesting point is the paraphrasability of (10:10). The marking of (ii a) as unacceptable should be taken to mean that it is likely to be substituted by

- (10:10) (ii) (a') none of the horses could jump that fence

A comparable paraphrase -- or substitution -- is not possible for (i a), which is the expression of a 'law-like' proposition. In contrast, (ii a') is spatio-temporally bound.

(ii b) is also -- perhaps more precisely, could also be used as -- an expression of a law-like proposition, but one of a different sort from that expressed by (i a). A valid paraphrase of (ii b) would be

- (10:10) (ii) (b') there is/was no horse that could jump
 that fence

A comparable paraphrase of (i a) would be meaningless, and the comparable paraphrase of (ii a) would, if it is feasible at all, incorporate an expression like "on that

occasion". Taking note of the interpretation of the feature (+conditional) (p. 280), we can paraphrase (10:10 ii b) as (10:10) (ii) (b") if there is a categorial location "horse" then nothing that is located in it can jump that fence

A number of interesting points can be made in connection with this paraphrase.

Although (10:10) (ii) (a) might be given a paraphrase similar to (10:10 ii b') if some space/time indication is provided, it cannot be given a paraphrase similar to (10:10 ii b"), and it is clear why not. (+cond) sets a condition on the categorial location -- rather than on the level zero entities that may be located in it -- and therefore the notions of countability and number are irrelevant.

Further points are connected with the epistemic/pragmatic distinction in the modals in the original sentence and the paraphrases, and connected with this again are the various relationships with the original example displayed by the set of sentences in (10:11):

- | | |
|------------------|---------------------------------------|
| (10:10) (ii) (b) | no horse could jump that fence |
| (10:11) (a) | not any horse could jump that fence |
| (b) | not all horses could jump that fence |
| (c) | not every horse could jump that fence |
| (d) | not one horse could jump that fence |
| (e) | some horses could not jump that fence |

In view of the fact that "no men" and "not any men" can be regarded as referentially identical (cf. § 8.44), the relationship between (10:10 ii b) and (10:11 a) is especially suggestive. Whereas the former is arguably marked (+cond) always -- or only in epistemic contexts? -- the latter is many-ways ambiguous as between (10:11 b-e). If it can also be used instead of (10:10 ii b) the implication is that "any" is not invariably (+cond) when quantifying singular countables. That is, it may be (-cond) in negative contexts.

It emerges that although NP's introduced by "no" and marked (+plur) or (-count) follow the derivation of appositively serialized, non-definite NP's introduced by "all", the availability of a singular marking on such phrases must be explained along different lines. Here (+cond) becomes indispensable. The historical explanation of this, I believe, is the disappearance of the OE and ME negative forms "nænig" and "nany", the function of which has been taken over by modern English "no", not by "not any" + singular.

The relationship between "kind" and "such" is often recognized in grammars of English (e.g. Quirk et al., 1972:§ 10.67); yet the status of "such" as a determinative is far from generally accepted (cf. again Quirk et al., 1972:§ 13.68 where it is classified as a pronoun). Here it is -- by definition -- a determinative since it has the distributional pattern on the basis of which

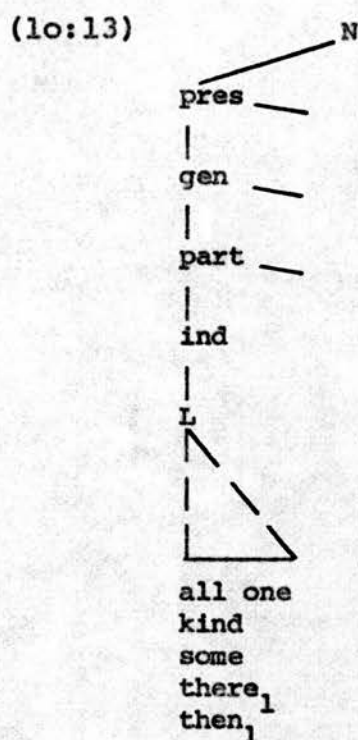
determinatives are classified:

- (10:12) (a) such men
 (b) *such of these men

-- disregarding the relative constructions "such of these Noun as", which derive from complex structures.

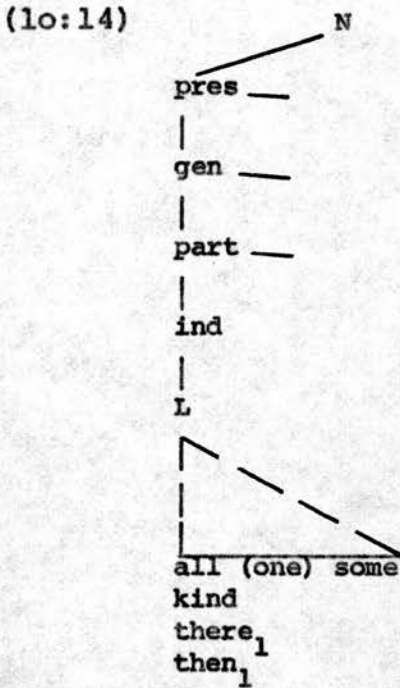
Another factor which might count against regarding it as a determinative is its co-occurrence with "a". The noteworthy feature in this connection, however, is its incapability of co-occurring with "the" -- or any definite determinative. This suggests that "such" in itself in some sense is "definite". Since definiteness depends on lexical subjunction of L_{ind} to a functional node, and since "such" is the determinative that suppletes "kind", it suggests, in fact, that "such" derives from a structure in which L_{ind} is lexically subjoined to gen. A first approximation to the analysis of "such" is therefore to note under what conditions L_{ind} may come to be subjoined to gen.

There is only one way in which this is achieved by the rules we have employed so far: by lexical subjunction of L_{ind} to ind under observation of the MI-convention. This gives us a partial, derived structure like (10:13):



This could be a plausible representation of "such a ..". In particular, it accounts nicely for the order between "such" and "a", 'a' being the usual, morphophonemically weakened reflex of 'one' when it has undergone the MI-convention. However, if this is the representation of "such a (man)", then the representation of "such (men)" should naturally be expected to be (10:13) marked (+plur) (-spec), i.e. the same representation without "one". But this, as will be recalled, is the representation held to underlie "the men" (cf. (8:10)).

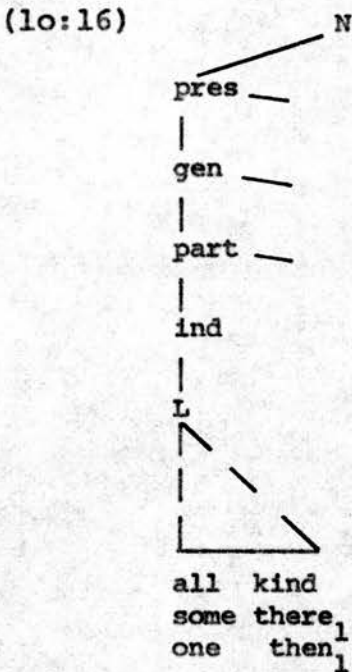
The derivation that will solve this problem -- viz. to prevent "some" from intervening between "kind" and "there₁" -- is double application of the MI-convention during the first two steps of RP-subjunction. This gives us a structure like (10:14):



This will account satisfactorily for both "such a (man)" and "such (men)". As usual in Standard English, subjunction under *pres* is optional. If it does not apply we get "all such men", and, with *pres* marked (+neg), "no such man/men".

However, phrases like (10:15) will then require treatment which the framework so far developed will not cope with. They require a final derived string of the form (10:16).

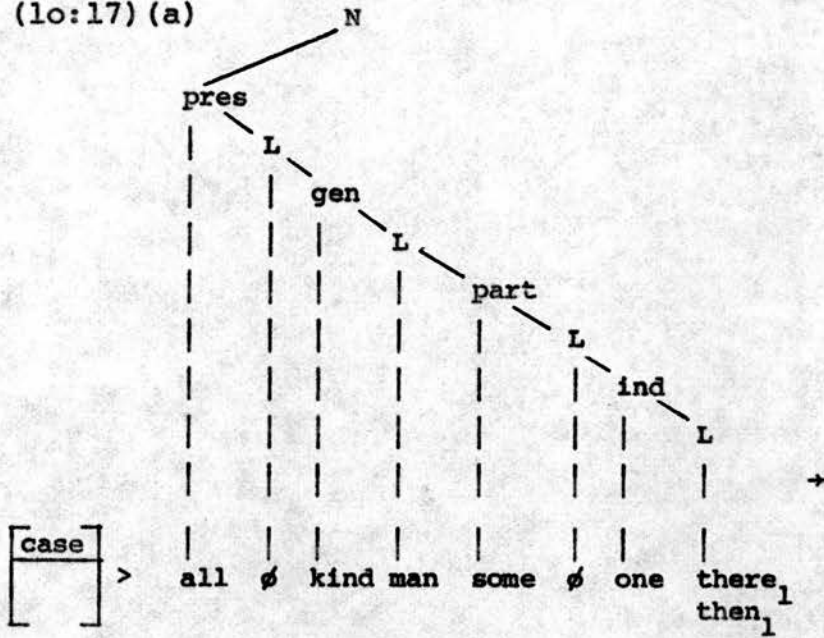
- (10:15) (a) one such man (is Charlie Brown)
 (b) two such men
 (c) any such measure (will be met with anger)



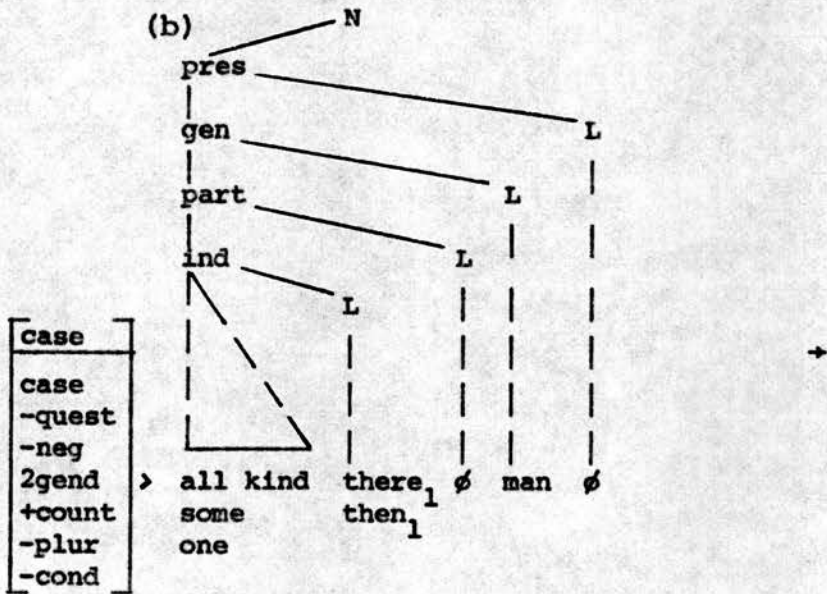
One readjustment of the scheme is all that is needed to enable us to generate strings like (10:16), however. If we allow lexical subjunction of L_{ind} to apply after RP-subjunction as well as before, provided that the MI-convention has applied during subjunction of part to gen, we can produce a configuration like (10:16) and thus account for (10:15). And not only that. We can also give a satisfactory account of 'generic' NP's introduced by "the" and other special properties of definite NP's.

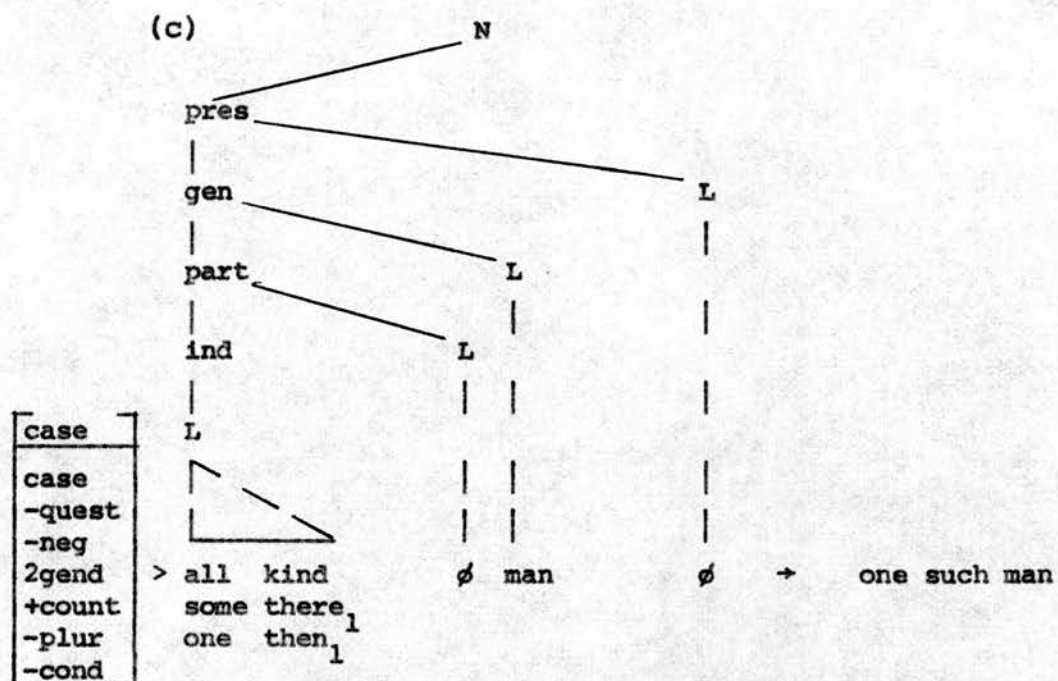
In addition to the unmarked derivation of "such a .." outlined above, we then also allow a marked derivation along the lines of (10:17):

(10:17) (a)



(b)





If ind is (+cond) we get from this "any such man", and if ind remains adjoined to part, "?every such man".

10.3 The influence of L_{ind} .

In § 5.323 a preliminary and rather superficial account was given of the indicating features -- realized as deictic adverbs -- on L_{ind} so that we could avail ourselves of these features during the discussion of quantifiers and E-classifiers. Their real significance, however, lies in the rôle they play in the derivation of determinatives and pronouns.

Although the treatment of these phenomena here owes much to Lyons' (1973) paper 'Deixis as a source of reference', some departures from the exposition there have been in evidence. Let me therefore begin this section by defending and justifying these departures and additions.

10.31 Justification for (\pm space) and (\pm time).

First of all, Lyons operates with a feature (\pm entity). So do I. But whereas Lyons has it as one of the features eventually realized by a demonstrative determinative ("that", "this", "these", "those", or "the"), I have it as the basic denotative feature on L_{pres} . Lyons' approach leads naturally to the appositive analysis he proposes for such phrases as "that dog", which can be underlyingly represented by an appositive structure like "that entity"- "that dog" (or a number of other possibilities due to varying applications of appositivalization and adjectivalization which need not concern us).

For a variety of reasons -- some of which were discussed in §§ 1.22 and 4.431-2 -- the traditional concept of apposition was found wanting in clarity. Instead the notion of appositive serialization was introduced. The consequence of this which interests us in this connection is that there is then no longer any need to incorporate (\pm entity) in the demonstratives. We can see it rather as the

feature which indicates what sort of thing (entity or place) is being introduced into the universe of discourse which is the extension of pres-L (cf. (5:9)).

Secondly, Lyons does not operate with a feature (\pm space). In fact, his feature (\pm entity) in a certain sense covers not only my feature (\pm entity) but also (\pm space). That this is so will be clear from a closer look at Lyons' need for introducing a feature (\pm distal) in addition to (\pm proximate). Lyons relates this need to the Boolean conditions on binarism; I think the need arises from something else.

The feature (\pm distal) is introduced by (-proximate) (p. 76)¹. Its introduction is designed to account for the distinction between the strong and the weak non-proximate deictics, of which the weak adverb (there₁) is later (p. 80) associated with existence. Next Lyons states,

Just as the meaning of the weak demonstrative pronoun that₁ is derived by abstraction from the gesture of pointing, so the weak demonstrative there₁ is derived by abstraction from the notion of location in the deictic context.

(p. 80)

The phrase "the deictic context", it seems, must mean "the physical, spatio(-temporal) context"; cf. p. 79:
"We begin by introducing the notion of deictic existence:

¹ Unless otherwise stated, all page-references in the present section are to the edition of Lyons' paper printed in Keenan (1975) pp. 61-83. An earlier version appeared (1973) in LAUT.

location in a physical space, whose co-ordinates are established by the utterance of sentences of a given language-system."

The feature-specification lexicalized as there₁ is

(10:18) $\left[\begin{array}{l} +D \\ -entity \\ -proximate \\ -distal \end{array} \right]$: there₁

-- where (+D) is the deixis-indicator (p. 76).

Now, if we re-interpret Lyons' appeal to "the deictic context" in terms of the feature (\pm space), and incorporate this in Lyons' original specification for there₁ in (10:18) we get

(10:19) $\left[\begin{array}{l} +D \\ +space \\ -entity \\ -proximate \\ -distal \end{array} \right]$: there₁

-- at least if I have interpreted correctly the phrase "by abstraction from the notion of location in the deictic context" from the passage quoted above (my emphasis). To abstract from something is to imply that it is there.

This feature-specification -- i.e. (10:19) -- is in conflict with the view attributed to Lyons on the relationship between location and existence in § 2.25. It commits its proponents to the view attributed to Searle, according to which existence is dependent upon location, or 'abstracted from' it; cf. § 2.24.

This conflict, it will have appeared, stems from Lyons'

use of (-entity) to specify the deictic adverbs. Put in different terms, Lyons' feature-specification, it seems to me, cannot account for the fact that entities may be seen as places and vice versa (cf. § 5.322, in particular (5:12) and discussion).

These considerations constitute the justification for introducing the feature (+space). It enables us to give a specification of the 'existential' deictic adverb which is unmarked for physical, spatial location, viz. (-space), which may be part of a nominal subcategorization which involves, in addition, either (+entity) or (-entity). In this way we maintain the fundamental equivalence between existence and location.

The third and last point I shall comment on relative to Lyons' paper concerns my introduction of (+time) as a parallel to (+space). Lyons does not discuss the temporal deictics, but it is natural to try to accommodate them in the same way as the spatial deictics, especially in view of the fact that the feature (+proximate) is equally relevant to both. However, by introducing such a feature I commit myself to demonstrating the validity of a set of temporal deictic adverbs corresponding to the spatial adverbs; in particular, I commit myself to demonstrating the presence of a weak and a strong non-proximate temporal adverb, then₁ and then₂. The justification of (+time), therefore, will take the form of justifying the presence of these two adverbs.

It has been mentioned several times throughout part III that I consider definiteness to be a non-basic notion, depending on lexical subjunction of L_{ind} to ind or -- latterly -- to gen. In other words, I consider the sense of the definite article (and other definite determinatives) to incorporate the sense of the deictic adverbs generated under L_{ind} plus the sense of one or more of the functional categories ind, part, and gen.

I shall now argue that the sense of the temporal deictics is usually unexpressed, and that the dental phonological feature common to the definite determinatives¹ is the expression of the archi-feature (α space) which is involved in every lexical subjunction of L_{ind} . This opens the possibility of analyzing the weak spatial deictic into (α space + \emptyset) and the strong spatial deictic into (α space + α proximate), where " \emptyset " is the existential component, (α proximate) the locative component, and (α space) the component which is common to (+space) and (-space). We return to the implications of such an analysis later, where I shall refer to the common component as the α -component.

On the other hand, the sense of the temporal deictics may be expressed. Consider

¹ Synchronically this feature is manifest initially ("the", "that", etc.), infixes ("either"), or suffixes ("both"); perhaps it is also assimilated ("such", "same"). It is not manifest in the pronouns.

- (10:20) (a) the Prime Minister
 (b) the present Prime Minister

The referential potential of (b) is included in that of (a), which is tantamount to saying that whatever accounts for the superficial appearance of "present" may be left unexpressed, yet is retrievable.

The feature that quite naturally could be regarded as the central feature of "present" is (+time). Furthermore, it expresses proximity in the temporal sense. Thus an appropriate if possibly incomplete, feature-specification of "present" would be

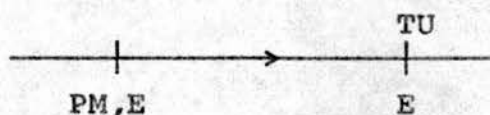
- (10:21) [+time
 +proximate]

Let us now see whether any candidates offer themselves as possible lexicalizations of (+time -proximate). In fact, several do:

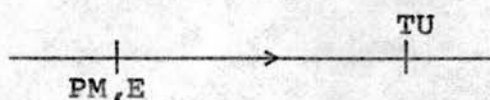
- (10:22) (a) the former Prime Minister
 (b) the then Prime Minister
 (c) the late Prime Minister

The salient points for our discussion in respect of these three -- and there are others, e.g. "previous", "recent", "past", etc. -- can be expressed by means of a time-line. Let PM stand for the predicate "be Prime Minister", E for the physical existence of the person who is the carrier of PM, and TU for "time of utterance":

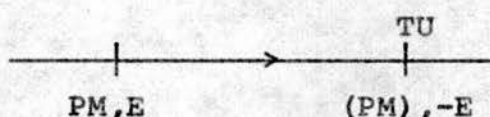
(10:23) (a)



(b)



(c)



Rough paraphrases of (10:22) corresponding to these time-lines would be

- (10:24) (a) the x who has been Prime Minister
 (b) the x who was Prime Minister at time t
 (where t is prior to TU)
 (c) the x, who was Prime Minister at (or before)
 the time of his death

Whereas (a) and (b) carry only positive existential presuppositions or implications, (c) carries both a positive and a negative one: (c) implies (or presupposes) that someone who was (recently) alive and a Prime Minister, is now dead. But this, in fact, is the overriding implication. The reference to time is only concomitant with that. In contrast, (a) and (b) are primarily time-indicators. I suggest that both "former" and "then" realize the temporal deictic features (+time -prox) -- i.e. then₂ -- whereas "late" realizes the temporal deictic feature (-time) -- i.e. then₁. Then₁ is a temporal existential.

In addition to (-time), "late" embodies a number of other (denotative) features at least one of which is negative in some sense. As for the possibility of expressing the temporal existential in its naked -- or at least in a positive -- form, cf. the next paragraph.

The distinction between "former" and "then" correlates with the distinction in the aspect-system of English between non-perfective and perfective. A similar distinction is embodied in the Danish equivalents of "former" and "then"; note also the Danish equivalent (nearly) of "late":

(10:25) (a)	forhenværende earlierbeing	"former"
(b)	daværende thenbeing	"then"
(c)	afdøde offdead	"late", but with weaker association of "recently".

I shall not go into a more detailed discussion of these phenomena here. Suffice it to say that the distinction between three orders of entities is relevant to an assessment of the semantic properties of these and other lexemes that embody (+time), probably supplemented by considerations of the distinction between essential and contingent qualities.

Notice finally that by associating the adjectives "former", "then", "late", etc. with L_{ind} -- rather than

The superficial expression of (10:26), I suggest, is "there are tigers", i.e. an 'absolute' existential sentence. "Be" as an existential verb is arguably non-tensed, neutral, as it were, to the question of temporal proximity; it realizes the temporal existential in its naked form. This derivation goes some way towards showing, on linguistic grounds, that existence is not a property: "there are tigers" is derived from a non-predicational structure. Moreover, it accounts naturally for the special properties of number-concord displayed by such sentences.

However, we are left, as indicated, with the question of deciding whether or not a case-specification is relevant, and if so, which. This question is no more difficult to decide -- in principle -- than the comparable question within a predicational derivation of existential sentences. As long as pres is the case-preserving node within the referential structure we can say that, unless N is governed by a case, the potential of pres to carry a case is actualized by the most neutral case-category, i.e. nom.

From the basic configuration (10:26) we can derive other 'absolute' existential sentences like "tigers exist" by appeal to a subordinate locative branch which generates "in existence". By subjunction to L_{ind} and normalization of the surface order of the ensuing string on the pattern of the serialization of English predicational structures we eventually get "tigers exist". (For a different -- predicational -- derivation of such existential

sentences which also invokes the concept of (lexical) subjunction, see Anderson, 1974a; cf. also Allan, 1971).

As pointed out by Lyons (1968:§ 8.4.3; 1973:80) sentences introduced by "there is ..." more often than not involve an explicit locative phrase as well, in contrast to what I called 'absolute' existential sentences. Exploiting the timeless derivation and its possible extension by a subordinate locative branch, we might suggest a parallel derivation for nominals marked (-plur) and (+time). Thus, "there is a fly in my eye" will derive from a double -- actually triple, because of "my"; cf. § 10.42 -- branched tree, in which the superordinate generates "there is a fly" along the lines of (10:26), the intermediate locative branch "in ... eye", which remains unsubjuncted (cf. "in"), and the lowest one "my", also from a locative branch which, however, is subjuncted to L_{ind} in the intermediate. The tense of "be" in such sentences will then reflect the feature (\pm proximate).

Whether or not such an analysis is justifiable and plausible, the fact remains that it arises naturally from the framework we have been developing. In particular, of course, it focuses attention on (\pm time). Yet it should be noted that the proposed derivation of existential sentences in this way is not the reason for postulating (\pm time). It is rather the other way round.

10.4 The definite determinatives.

The remaining determinatives in (10:1) are all definite in a sense to be precisely characterized below, as was "such". However, due to derivational requirements we can recognize two subtypes of definite determinative, one that can be derived from a single-branch tree, and one that can be derived from a double-branch tree. The determinatives belonging to the former type are -- besides "such", which we have already looked at -- "the", "this", "that", "these", and "those".

The sense in which these determinatives are definite can be stated as follows:

- (10:27) A referential functive is definite if and only if it derives from a referential structure in which L_{ind} is lexically subjoined to, and absorbed with, one or more of the functional categories.

Not until I had shown the possibility of generating existential sentences from a simple nominal structure have I been able to state this, because the derivation of such sentences involves lexical subjunction but not absorption of L_{ind} . Hence there are no existential sentences of the form "there is the ..." (although there are 'functional' sentences of this form; Atkinson & Griffiths, 1973:51 ff).

10.41 "The" vs. "that"/"this".

There seems to be nothing referentially odious in saying that "these" and "those" differ from "this" and "that" with respect to the feature (+plur) and nothing else. The fact that the plural forms may be used independently to refer to people, in contrast to the singular forms, is not capable of formulation within the bounds of the referential theory, at least as far as I have been able to determine. Furthermore, it seems not to be a common phenomenon of the Germanic languages; cf. Danish

(10:28) Den der ager med stude kommer ogsaa med
 that who drives with oxen comes also with
 (proverbial: "slow and steady wins the race")

Such usage is restricted to proverbial expressions in Danish but not in German.

I shall therefore concentrate on the singular forms while assuming that the derivational histories of these will be the derivational histories of the plural forms, except for the feature (\pm plural) and the features introduced by its two values, i.e. (\pm conditional) and (\pm specified).

It has already been suggested that "the" is the reflex of a feature-specification involving the two weak deictics and, conversely, that "this" and "that" lexicalize specifications containing at least one strong deictic (§ 5.323).

I want in this way to suggest that "the" primarily is the definite determinative that is associated with categorial location, whereas "that" and "this" are primarily associated with spatio-temporal location. Consider now:

- (10:29) (i) (a) the house
 (b) the house on the hill
 (c) the house there
- (ii) (a) that house
 (b) that house on the hill
 (c) that house there

The phrase of immediate interest is (i c). In contrast to (ii c) it does not contain a tautologous element; in contrast to (i a) it contains an indicating element.

There are two possibilities for deriving (i c), whereas there is only one possibility for deriving each of the other phrases in (10:29). The (a)-phrases both derive from single-branch trees which differ in the secondary feature-specification of L_{ind} (two weak vs. at least one strong deictic). The (b)-phrases and (ii c) all derive from double-branch trees with "on the hill" originating in the lower (locative) branch. "There" in (ii c) is the result of full lexical subjunction of that branch and subjunction of it to loc, with absorption of "on".

Obviously we could give the same interpretation to "there" in (i c). Yet another possibility merits exploration as well. Instead of assuming that (i b) and

(1 c) derive from the same underlying structure I want to suggest that (1 c) could in fact also derive from the structure underlying (11 a). That is, I want to exploit the possibility offered by analyzing the deictics into two components (above, p. 336) in such a way that the locative (proximity) component in the strong deictics is 'left behind' during lexical subjunction, so that only the α -component is realized in the determinative. Notice that this derivation will be the marked one. Its serialization will have to be shaped on that ensuing from the unmarked, two-branch derivation; there is no phrase "*the there house" in English. It is therefore not the same process that yields the dialectal variants mentioned by Lyons (1973:71 fn 2):

(10:30) that there dog

-- with enclitic stress-pattern on "there". Cf. with this the Standard Colloquial Danish phrases

(10:31) (a) den der hund
 that there dog
 (b) denne her hund
 this here dog

In both (10:30) and (10:31) the features realized in the demonstrative determinatives are, presumably, lexicalized directly as well.

Except for the problem constituted by the serialization of such phrases as (10:29 1 c) on the one-branch analysis,

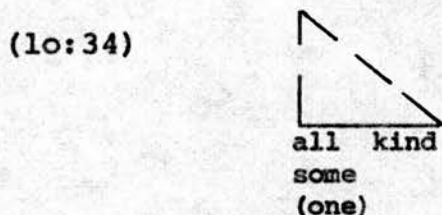
there is no reason not to include such a derivation in addition to the unmarked one; on the contrary, there are reasons to believe that both derivations are productive. The one-branch derivation appears to be what is needed for relativization, where the locative component left behind after lexical subjunction serves as the point of contact with the structure underlying the relative pronoun, thus contributing to accounting for the fact that the unmarked determinative on the antecedent of a relative pronoun in English is "the", rather than "that" or "this". We shall touch upon relativization in the next chapter; cf. also (10:46) and the subsequent discussion.

Apart from the point just mentioned concerning relativization, I assume that there are no differences of subjunction and adjunction which are due to different feature-specifications on L_{ind} . That is, all subjunctions of L_{ind} specified by weak deictics also apply to it when specified by strong deictics. If this assumption is true I shall need to show that there are no derivations that produce "the" which could not also produce "this" or "that", provided that the feature-specification on L_{ind} is changed.

Two general areas are of interest in this connection, one concerning uncountable numerals, and one concerning so-called 'generic' NP's like the one in "the lion is a dangerous animal". Furthermore, we shall also look at what influence the choice of (+cond) may have on definite NP's.

expressed by "that" (or "this"). If only weak deictics are involved the quantity will only be categorially locatable: the quantity of something which falls within the categorial location "whisky". But, as we see, there are no derivational differences involved.

In § 10.22 I suggested that lexical subjunction of L_{ind} may in fact occur after RP-subjunction just in case the result of RP-subjunction is a configuration like



-- that is, if the MI-convention has applied at the stage at which part is subjoined to gen. Such a readjustment of the scheme was needed to account for "one such..." etc.

However, also other definite determinatives can be analyzed appropriately on the basis of this readjustment, and only on the basis of this readjustment. Consider

- (10:35) (a) those houses are built in France, too
(b) you can get that camera cheaper in Japan
(c) he has her eyes
(cf. *he got a fly in her eye)

In each case we clearly have a marked derivation. There are contextual indications to the effect that it cannot -- synthetically -- be individuals that are being referred

to. What is being referred to is one or more individuals as representatives of the kind to which the individual(s) belong(s) -- and in (c) perhaps even qualities like colour, size, shape, clarity, etc. are involved as well. The relationship between "kind" and QUAL -- which latter is a cover term for the features available to L_{part} -- is quite complex and we shall not go into it in the present work although it is clearly relevant to RS-analysis. Suffice it to say that qualities may be interpreted as indicating "kind", as in "the blue whale", "the great cats", "the little finger", etc. We may therefore look at (10:35 c) as being of the same referential structure as (a) and (b) although its exhaustive analysis would probably differ from those of (a) and (b) in a number of respects which I leave out of account. Apart from this, (c) involves one of the definite determinatives which require analysis on the basis of a double-branch tree, to which we come presently. In the meantime we note that all of (10:35) can be accounted for by letting L_{ind} be subjoined to "kind" in a configuration like (10:34).

It will have been noticed, however, that no examples are given in (10:35) of a NP introduced by "the". Unless we can find such examples, the hypothesis of uniform derivational possibilities for "the" and "that" is wrong.

Such examples abound. They are the so-called 'generic' NP's like

(10:36) (a) the lion is dangerous

- (b) the beaver builds dams
- (c) the family-unit is the corner-stone of
society
etc.

It is by now commonplace to point out that true 'generic' sentences involve not only a generic NP but also a 'generic' tense (Sørensen, 1958:144; Anderson, 1973c:481; Burton-Roberts, 1975:412; Dahl, 1975:99). The 'generic' tense is the contextual element which ensures the feasibility of the marked derivation of "the", but other contextual factors may play a part as well; cf.:

- (10:37) (a) the castle is a prominent feature of
Welsh scenery
- (b) the castle is a prominent feature of
Edinburgh's scenery

In so far as these are both well-formed, (a) is likely to be interpreted generically, (b) individually.

The difference between these generic NP's and phrases like "one such ..." is then that the quantifier subjunction is left unexpressed in the generic NP's, whereas it is expressed in "one such ...". This latter kind of phrase in a sense combines an individual with a generic interpretation. Generic NP's, on the other hand, quite naturally invite an analysis in terms of universal and existential quantification, as in Lawler (1973). Both the universal and the existential quantifier is there, in the unexpressed

quantifier subjunction.

Support for this analysis of traditionally generic, definite NP's presents itself from a rather unexpected quarter, the expression of 'genericness' in uncountable structures and plural countable structures. Both types lack "the". Cf.:

(10:38) (i) (a) love is a many-splendoured thing

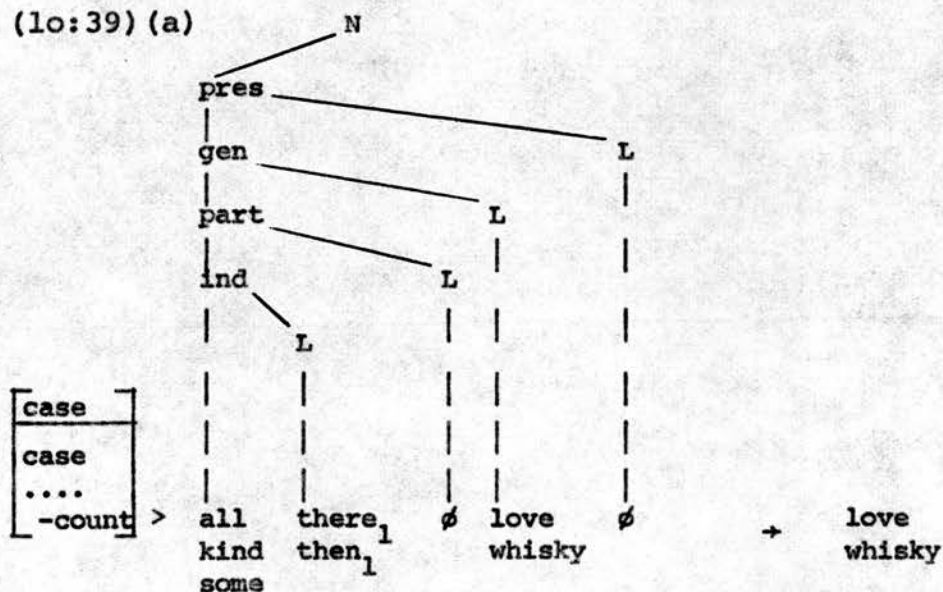
(b) whisky is nice

(ii) (a) cats hear well

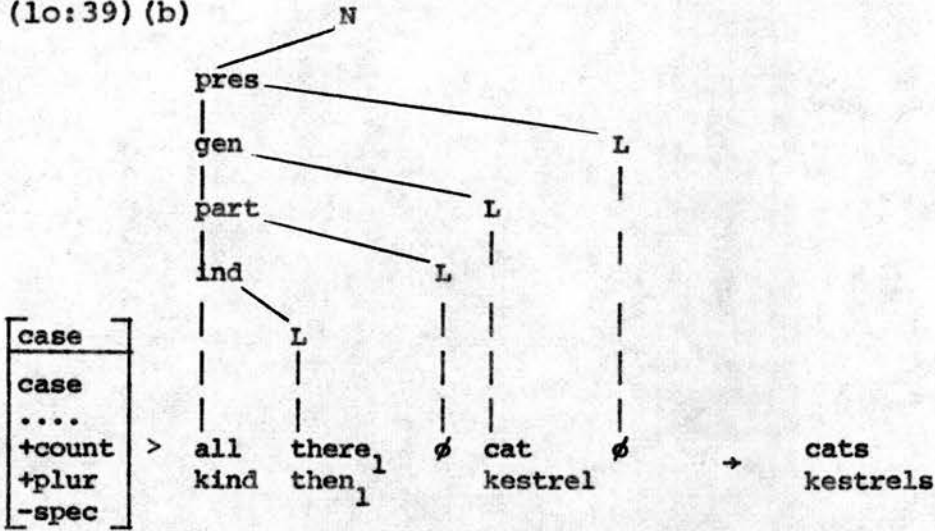
(b) kestrels are for knaves

I relate the non-occurrence of "the" to lack of lexical subjunction of ind-L in the structures underlying (10:38), which in their derived forms are (10:39):

(10:39) (a)



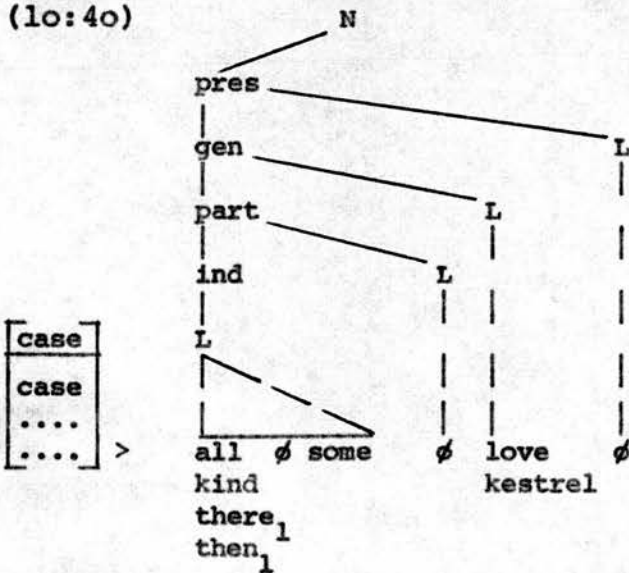
(10:39) (b)



We see that the basic principle is the same: the quantifier subjunction remains unexpressed. What interests us is therefore why, in particular, uncountable and plural countable structures cannot be 'generic' when they are preceded by "the". In order to answer this question we must look at the derivation of the phrases "such love" and "such kestrels".

In both types of structure we end up with a -- unmarked; cf. (10:14) -- derived structure like (10:40):

(10:40)



-- which develops into "such love (she had never known)", and "such kestrels (are not even fit for knaves)", parallel to the unmarked derivation of "such a ...".

Notice now that these have no marked counterparts; there are no phrases in English that stand to "such love" and "such kestrels" in the same way as "one such knave" stands to "such a knave". Notice in particular that "some such ..." requires a singular head noun and thus is the non-specific counterpart to "such a ...". The implication is that the marked derivation is not available to structures specified as either (+count +plur) or (-count). And since it is the marked derivation which is the source of generic NP's introduced by "the", it follows that "the whisky", "the love", "the cats", and "the kestrels" cannot be interpreted generically.

This leads to another comment on 'genericness'. As Collinson (1937:40) remarks, "The most appropriate way of indicating the generic would appear to be zero-indication, i.e. the omission of the indicator."

I believe English contains a very few expressions that fulfil Collinson's criteria on genericness, notably "man", "woman", and "mankind". Within the present framework "mankind" can be regarded as the result of a lexical subjunction of gen-L, involving the MI-convention and expression of the sense of gen; and "man" as the result of lexical subjunction of gen-L with absorption of "kind". As mentioned above (p. 322), such phrases as "(she was) all woman" might be taken to indicate that we should allow

N to be primarily subcategorized by only (universal elective). "Man" and "mankind" are yet other indications of the same.

However, such a step would, I think, have to be diachronically motivated. In a synchronic description these expressions must be accommodated -- possibly as the result of derivations deviating to varying degrees from the norm -- within a system that accommodates expressions the analysis of which requires reference to the underlying presence of individuality despite their apparent universal reference, as in "the wickedness of it all".

After this digression let us turn to structures in which *ind* is specified as (-plur +cond). If in such structures L_{ind} is lexically subjoined, the resultant NP will be one that performs what Donnellan (1966) has called attributive function. The subject NP in

(10:41) the holder of ticket no. 23456 has won a Fiat

-- can be significantly paraphrased by

(10:42) if there is a categorial location "holder of ticket no. 23456", then the entity which is located in it (has won a Fiat).

It is clear that it is the categorial location that is being conditioned: ticket no.23456 may not have been sold, it may have been lost, etc., etc. Therefore it is by no means certain that there is such a categorial location. Incidentally, something more than merely "holding" the

ticket is involved. A seller of tickets with the unsold no. 23456 would not (pragmatically) qualify as being located in the categorial location "holder of ticket no. 23456". The transaction of buying the ticket is implicit, even though someone who happened to have stolen or found it might attempt to posture as one falling within the category.

Donnellan discusses only NP's introduced by "the" and one (central) example introduced by a genitive ("Smith's murderer"). It is not certain that NP's introduced by "that" can be conditional, although Lyons (1973:69) takes the subject NP in "that fool won't do it" to be an example of a demonstrative NP with attributive function. It is not surprising if demonstrative NP's cannot be conditional. Such NP's are primarily concerned with spatio-temporal location, whereas the feature (\pm conditional) has for its scope categorial location.

However, a NP like "that fool" in Lyons' example may be analyzed as embodying primarily a causal relation over and above a conditional. A paraphrase such as (10:43) seems to me to do justice to Lyons' example:

(10:43) if there is a categorial location "fool", then
that entity is in it because he (or it) won't
do it

Thus structures marked (+cond) may constitute an ex-

ception to the claim that strong and weak deictics on L_{ind} may undergo precisely the same transformational processes, or, in the light of (10:43), may differ in their semantic interpretation in ways that are not solely accountable for by reference to the difference in the deictics.

10.42 The possessive determinatives.

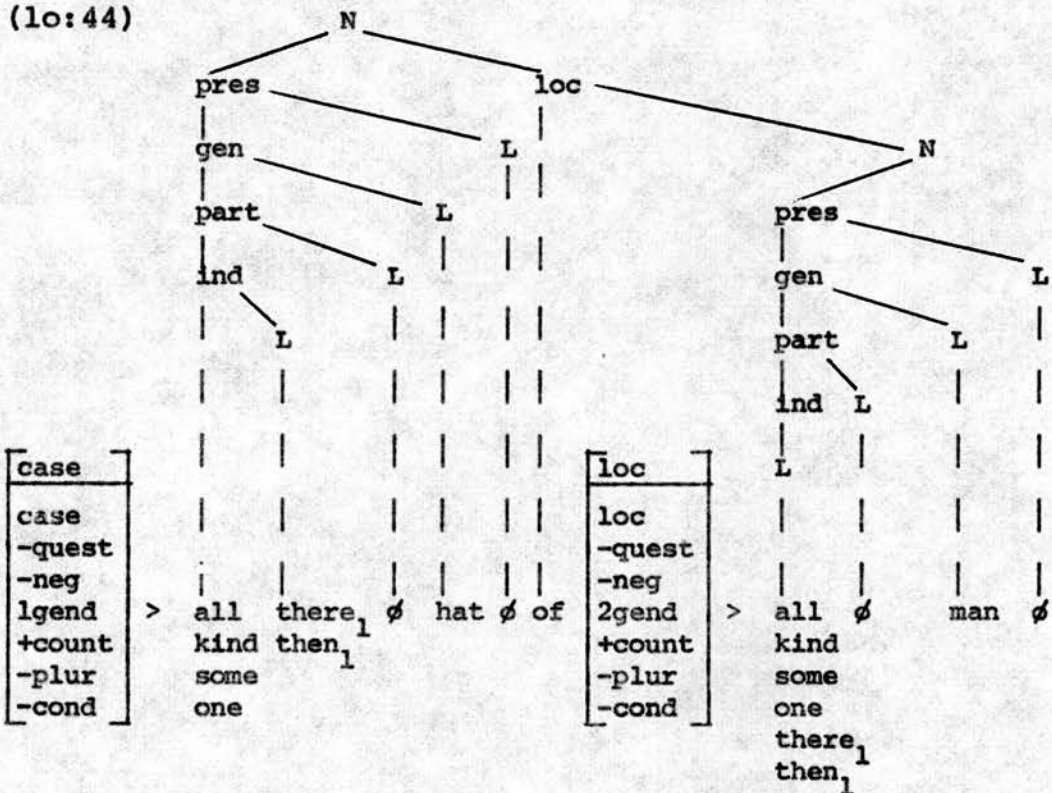
Items like "my", "your", "her", etc. -- usually referred to as possessive pronouns -- are definite determinatives on the definitions of determinatives and definiteness employed here. They differ from "the", "that", etc., in requiring a double-branch derivational structure. The lower branch is governed by loc (cf. Anderson, 1971a:107 and references there for the relationship between possessive and locative); furthermore, it is subject to full lexical subjunction, which accounts for the 'pronominal' status of these items (cf. chapter 11 for the derivation of pronouns).

The 'determinative' character of genitives like "the man's" in "the man's hat" stems from the fact that such phrases are derived from the same kind of two-branch structure, only without full lexical subjunction of the subordinate (locative) branch. We can therefore inquire

into the 'determinative' aspect of "my", "your", etc. by investigating genitive constructions, while postponing discussion of the 'pronominal' aspect of them to the next chapter.

The -- derived, but non-final -- structure underlying "the man's hat" is (10:44):

(10:44)



Loc may be adjoined and eventually subjoined to the node in the superordinate with which it shares the cognitive content of "location", i.e. L_{ind} . Thus a genitive construction is formally distinct from a classifier construction in that it involves adjunction of a subordinate to a superordinate L rather than to a superordinate DC. In this respect it is like the derivation of "a stone wall"

commented on in § 9.21. Whether or not this adjunction takes place depends in modern English on the denotative feature specification on the lower L_{pres} . If it is (+entity +person), adjunction takes place as a rule; lack of adjunction in this instance is the marked derivation. If it is subcategorized as (+entity -person) adjunction may take place, but is in this case the marked derivation. If it is subcategorized as (-entity), adjunction may likewise take place. Such derivations, however, are highly marked: cf. "in London's fair city". In contrast, "the City of London" and "New York City" derive from non-subjunction and subjunction, respectively, of a subordinate nominative branch to L_{gen} in the superordinate.

(10:44) is incorrect in one important respect. At the point at which adjunction of loc to the upper L_{ind} takes place, RP-subjunction has not yet applied to the superordinate. When loc is adjoined and subjoined to L_{ind} , L_{ind} is obligatorily subjoined to ind: all genitives are 'definite'. The appropriate structure directly underlying "the man's hat" is (10:45):

(1971a:107 fn 1) remark that in many languages the 'possessor' is marked locative, whereas in others it is the 'possessed' which is so marked. He offers no explanation for this, only suggests that the latter situation is a phenomenon of surface structure. Even if the transformational shift undergone by the morphophonemic carriages hardly qualifies as an explanation of this, it certainly highlights the crucial point, which is that the 'parts' forming an NP which derives from a complex structure may be functionally specified by a complex case-specification. If the present account were to qualify as an explanation it would have to be assessed on the background of predicative possessive constructions involving -- pertinent equivalents of -- "have" in various languages. Like existential sentences, such possessive predicational structures may turn out to be capable of a purely nominal derivation, at least diachronically.

Although English possessive constructions are likely to have a directly underlying structure like (10:45), it is not so certain, however, that (10:45) is a derivation of (10:44). In particular, the origin of the subordinate branch is in some doubt. Notice that I tacitly assumed a feature-specification on the superordinate L_{ind} in (10:44) which consists exclusively of weak deictics. What happens if one of the deictics is strong? Is it possible to exclude the strong deictics from under L_{ind} when a subordinate branch is involved? Not, I think, along the lines proposed.

There has been incorporated no determination relation between the branches in a multi-branch tree; it appears that precisely such a relation is required.

Various modifications could be made to the basic scheme which would accommodate such a determination relation. We could, for example, appeal to the notion of 'global' derivational constraint (G. Lakoff, 1970b; 1971), and let adjunction of the subordinate depend on the secondary subcategorization-specification on a given categorial node to which adjunction would apply. Or we might explore the possibilities of letting a secondary subcategorization-specification on a given categorial node insert directly a subordinate case-phrase and -- in the case of relativization -- even an adnominal V.

Although these two possibilities to some extent are equivalent -- at least within the present framework -- the latter is susceptible of slightly easier formulation. We shall therefore pursue this latter possibility.

I begin by distinguishing terminologically between the kind of subordinate branch with which we have been operating up till now, and a branch inserted by a secondary subcategorization-specification. The former kind I shall continue to call subordinate; the latter I shall refer to as secondary. It is to be understood that a subordinate branch governed by a given case may still be subjoined to a particular categorial node in the superordinate, provided that the receiving node and the subjoined case-phrase are

cognitively similar. Since a secondary branch in a certain sense is an extension of the superordinate, a subordinate is subjoined before it in structures that contain both types.

With this in mind let us look at what happens when a locative subordinate branch occurs in a tree in which the superordinate L_{ind} is subcategorized by a strong deictic.

- (10:46) (a) our friends here (came to visit us)
 (b) these friends of ours (came to visit us)
 (c) *these our friends (came to visit us)

Both appositive and delimitative serializations are relevant to the present topic, exemplified by (a) and (b), respectively. (c) is considered unacceptable without a sharp juncture between "these" and "our"; and even with such a juncture this particular example would probably be odd, although the type it represents is not: "this - my trusty putter - let me down on the 13th". We concentrate on (a) and (b).

Notice first that (10:46 a) may have two intonation contours associated with different stress on "here". The strongly stressed variant represents a lexical subjunction of a subordinate locative phrase like "in Edinburgh". It is not a requirement on the correct usage of the strongly stressed variant that the friends referred to are actually with the speaker at the time of utterance. They need not even be in the vicinity of the speaker. They may have gone to Melbourne the day after the visit, having paid their fare-

well respects on the occasion temporally referred to by "came".

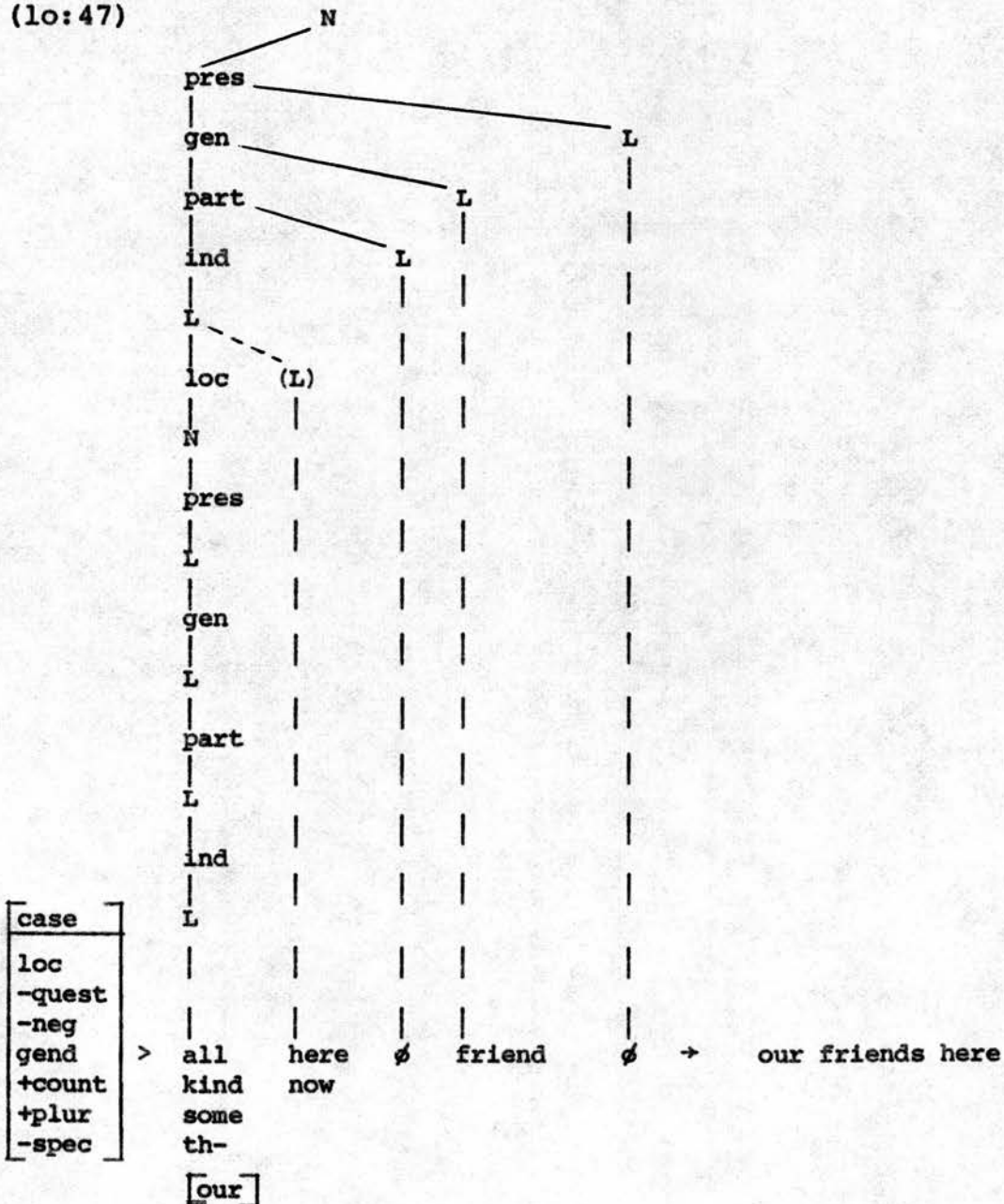
The weakly stressed variant, on the other hand, can only be correctly used if the friends referred to are with the speaker at the time of utterance. We thus have embodied in (10:46 a) the two derivational possibilities for deictic adverbials which were discussed above (pp. 345 ff).

We see now that if the derivation of possessive structures outlined in (10:44) and (10:45) is correct, then we must in fact operate with two subordinate locative branches in order to generate the strongly stressed version of (10:46 a), one underlying the possessive, and one underlying "here". This, I fear, would be somewhat confusing. I take it, therefore, that one of these two is a secondary branch, in the sense of "secondary" just explained (p.362). Moreover, I take the secondary branch to be the one underlying "our".

Since the strongly-stressed version of (10:46 a) derives "here" from a subordinate, there is no evidence that the superordinate L_{ind} is specified by a strong deictic. In contrast, the weakly stressed version is an indication of a strong (+proximate) spatial as well as temporal deictic. However, since I assumed above that the strong deictics can be analyzed into two components, of which the α -component is the element involved in lexical subjunction, leaving the locative component behind, there is no

reason to suppose that the source of "our" differs for the weakly-stressed version. It is still a secondary locative branch, which generates "we". By subjunction to loc this branch is turned into a possessive, and by subjunction to -- the lexically subjoined -- L_{ind} in the superordinate it absorbs the α -component. The derived structure immediately underlying the weakly-stressed version of (10:46a) is

(10:47)



In this configuration "th-" is the expression of the α -component, "our" the expression of the lexically subjoined locative branch which absorbs the superordinate subjunction of functional nodes, and "here"/"now" the expression of the locative component left behind. I am aware, as already mentioned, that this derivation creates problems for the natural serialization. Short of ad hoc proposals, all I can suggest is that -- since it is a marked derivation -- it shapes itself on the unmarked one which derives "here" from a subordinate; cf. further on this point § 10.43.

Let us now turn to (10:46 b). It is not referentially identical to (a) on either interpretation of the latter; it is a demonstrative variant of the type "a friend of mine", the (historical) development of which has been much discussed in the literature. Cf. Mustanoja (1960: 165 f) for a survey of the major positions. The common feature in these discussions is that, somehow, a partitive structure is involved: "a friend from the group of my friends".

Whether or not a partitive structure is the historical source of this type, it can be analyzed synchronically on the basis of a subordinate ablative branch which develops a secondary locative branch on L_{ind} , giving a schematic representation like (10:48):

referentiality, "same" is a strong rival of "the". It is the linguistic means of expressing identity. When therefore "the" and "same" occur together, they form a composite determinative of not a little importance to a linguistic theory of reference.

In the preceding section I developed what I called a secondary branch, introduced by the deictic features on L_{ind} . It was argued that such a secondary branch was the origin of genitives, and it was suggested that a secondary V might be inserted in the same way to account for relativization. With this in mind, consider the following:

- (10:49) (a) the same dog stole the bone
 (b) the same dog that stole the bone chased the cat
 (c) the dog that stole the bone also chased the cat
 (d) *my same dog stole the bone

Of these, I submit, (a) and (c) are well-formed, normal sentences of English; (d), on the other hand, is ill-formed and abnormal. What about (b)? It is not ill-formed in any received sense of this rather vague notion; yet it is odd. I submit that its oddity stems from the arguable fact that it is tautologous. It contains superfluous information. I suggest that it does so because "same" and "that stole the bone" originate at the same point in the referential structure, and that "same" serves the same referential purpose as a (restrictive) relative clause. The common point of origin is a secondary branch inserted

by L_{ind} . The reason why (10:49 b) is tautologous -- rather than downright ill-formed -- is of course that the relative clause derives from an adnominal V one of whose dependent N's turns up superficially as a relative pronoun, whereas "same" derives from an adnominal N. This, in turn, explains the ill-formedness of (10:49 d); "my" and "same" are both realizations of the same structure. But it cannot be realized by both at the same time.

Our main task is now to assess what properties the secondary branch underlying "same" may have; and also what feature-specifications on L_{ind} may introduce a secondary.

To that end we note first that the unmarked determinative with which "same" co-occurs is "the"; (10:50) are either marked or unacceptable:

- (10:50) (a) that same night (she left home)
 (b) ?these same trees (gave shade once to Keats)
 (c) those same people now say that ----
 (d) *the same dog here (chased the cat)

We next take note that there are alternatives to (10:50 a-c) -- in particular to the somewhat pseudo-solemn (b) -- which involve "very" instead of "same". In § 5.323 it was mentioned that a scalar feature (n degree) also subcategorizes L_{ind} . I have not had occasion to go into the workings of this feature, which is especially concerned with adjectival comparison. Here, however, we see it realized as "very". "Very" cannot be a derivational variant

of "same", since "the very same ..." is a perfectly normal phrase.

It was said that "same" is the linguistic means of expressing identity. To put it more precisely: "same" is the linguistic means of expressing re-identification.

Re-identification presupposes individuation; and individuation may be achieved either categorially or spatio-temporally, or in both ways simultaneously. Re-identification then means that one is able to say of a given entity of a given kind appearing at a particular point in space/time that it is 'the same' as one that appeared at a different point in space/time. 'The same' may then mean two things: (a) the same individual; or (b) an individual of the same kind. Situation (a) involves one individual which is related to itself in space/time. Position (b) involves two individuals which are related to each other in a categorial location¹.

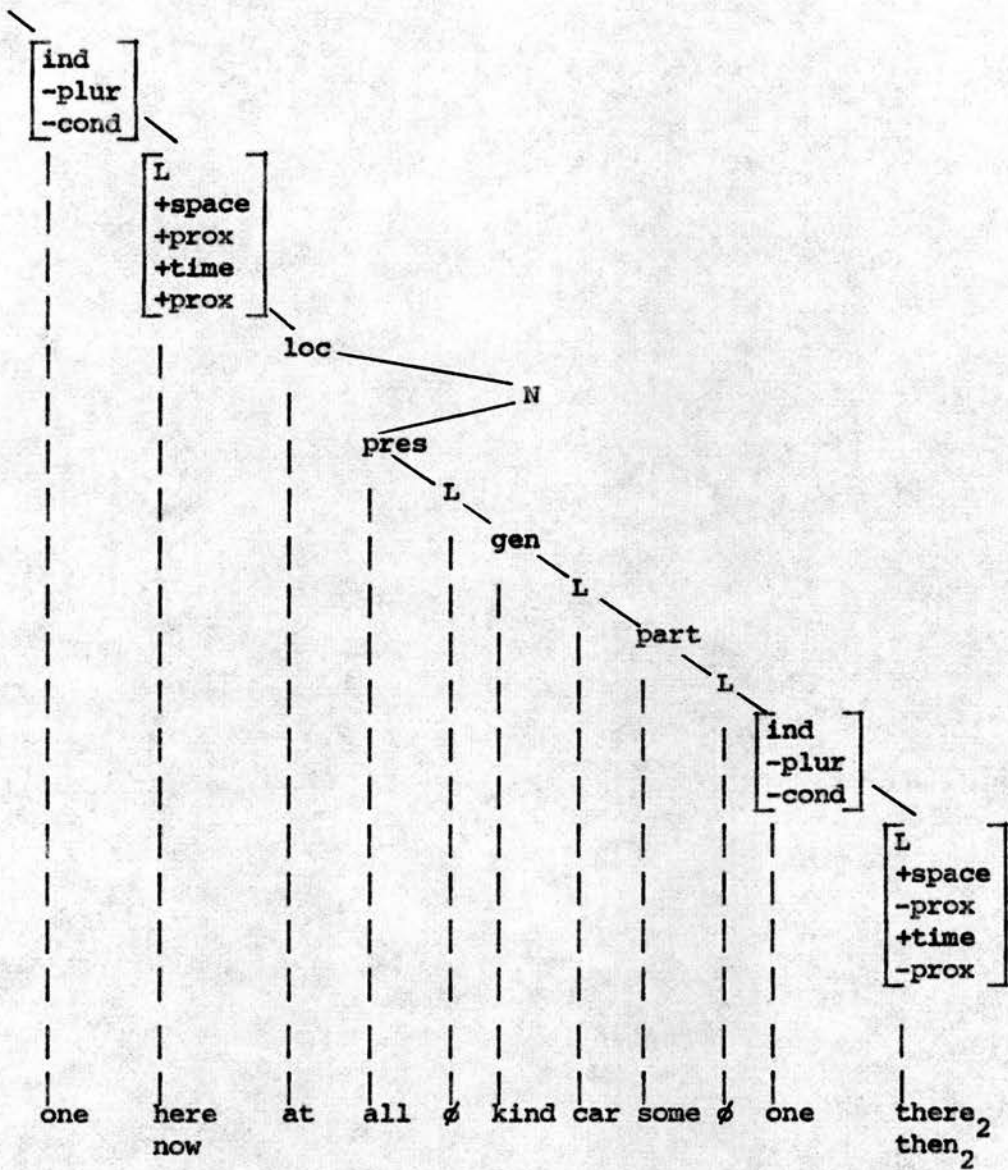
This inherent ambiguity in "the same car", for example, is due to different subjunctional properties of the secondary branch. The derivation of phrases expressing position (b) relies on the 'generic' subjunction (cf. § 10.22, esp. (10:17); also § 10.41 (10:34) and discussion there),

¹ This does not presume to be a philosophical account of identity, or re-identification, although I believe that it correlates with Strawson's discussion of re-identification (1959:31 ff). The 'unificatory' side of identity -- i.e. situation (a) -- is the main subject of Heidegger (1957).

whereas the derivation of phrases expressing situation (a) relies on the 'individuating' subjunction. Moreover, the 'generic' subjunction requires specification of the secondary L_{ind} by weak deictics -- since we are concerned with categorial location -- whereas the 'individuating' subjunction requires specification of the secondary L_{ind} by strong deictics -- since we are concerned with different points in space/time. As for the specification of the superordinate L_{ind} , both (a) and (b) require strong deictics: in both cases a spatio-temporally located entity is related to something else. The secondary branch is subjoined to, and absorbs, the locative component of the strong deictics on the superordinate L_{ind} , leaving only the α -component free for lexical subjunction. Hence the unmarked form is "the same".

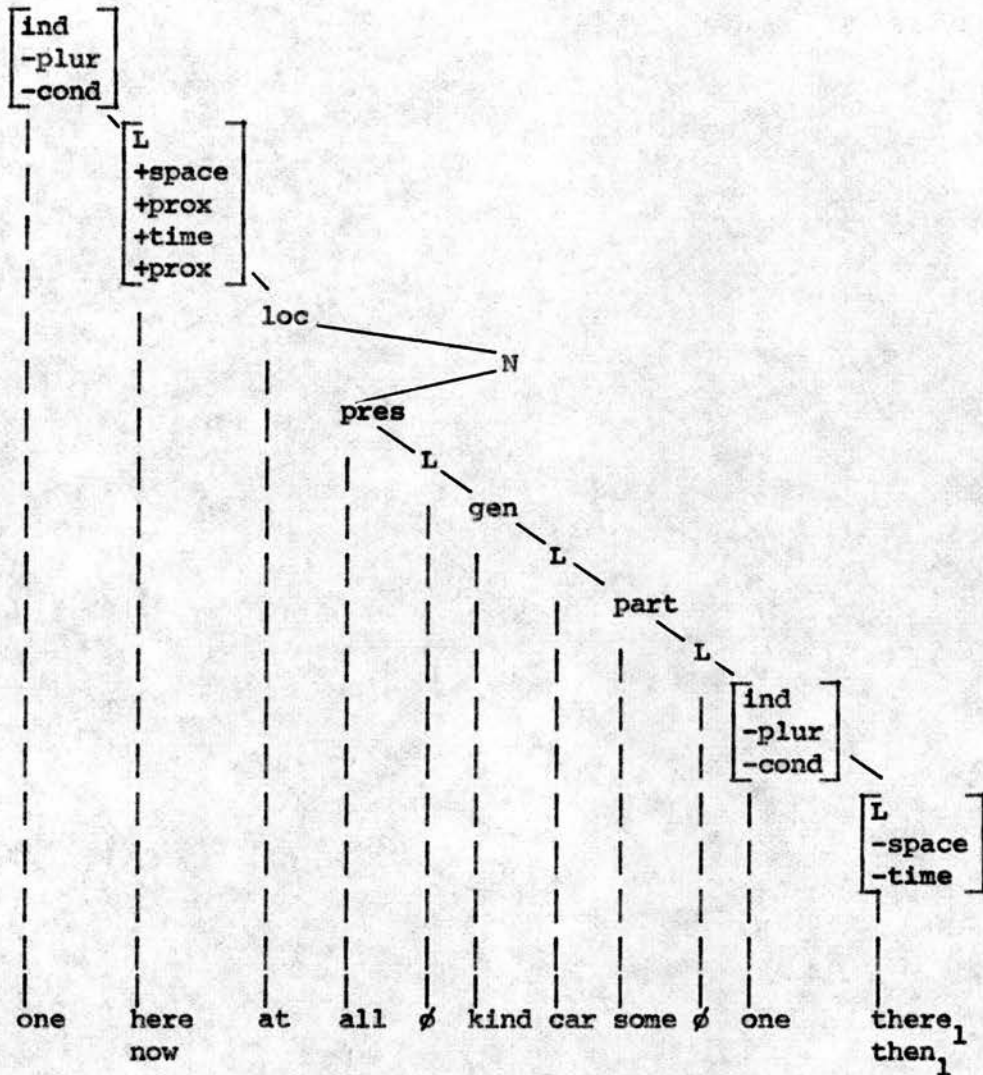
The (lower part of the) representation underlying "the same car" on reading (a) is (10:51 a), on reading (b) (10:52 a):

(10:51) (a)



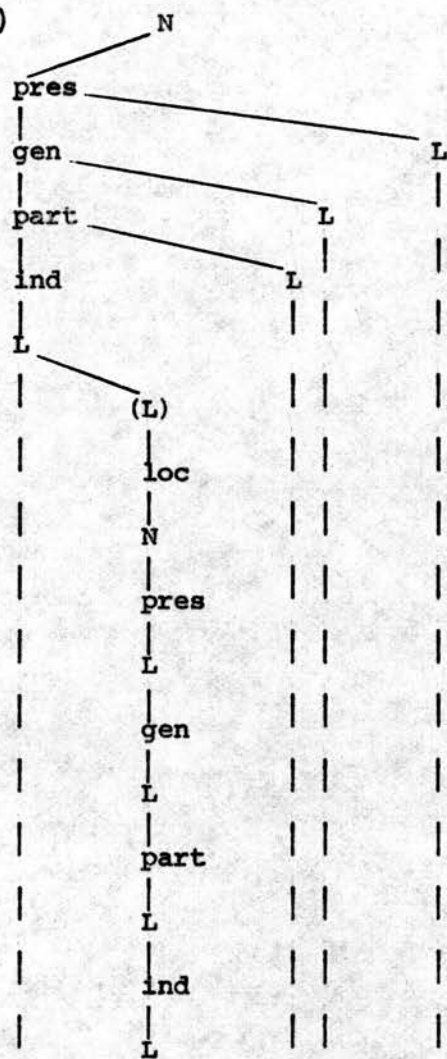
As usual, this representation is somewhat simplified. Notice in particular that the two morphophonemic carriages have been left out.

(10:52) (a)



The secondary branch is fully subjoined lexically and subjoined to loc. The superordinate ind-L is lexically subjoined, but the locative component is left behind for loc to be subjoined to. Finally, by RP-subjunction of the superordinate, we reach the structures (10:51 b) and (10:52 b), which directly underlie the two readings of "the same car":

(10:51) (b)



case
loc
-quest
-neg
gend
+count
-plur
-cond

> all here \emptyset car \emptyset → the same car
 kind now
 some at
 one all
 th-kind car
 some
 one
 there₂
 then₂

hering to such an analysis. In the derivations (10:51) and (10:52) loc is considered to be subjoined to these stranded locative components. This, evidently, leads to natural serialization of "the same ...". If, however, the secondary is further subjoined to the superordinate functional cluster we get simply "the car" -- again with a 'generic' and an 'individuative' reading -- but now with inbuilt anaphoric reference.

In conclusion I should like to point out what to me appears to be the main difficulty with these derivations, in particular with (10:51), i.e. the one underlying the individuative reading of "the same car".

As will have been noticed, (the features realized as) "car" appear both in the superordinate and in the secondary. It is by no means clear that this ought to be the case. Is the acorn the oak, is the boy the man? The issue is that the same entity is compared to itself at different points in time (and space). In time, entities undergo change, and with change they fall in different categorial locations. Although superficially of purely philosophical interest, this problem has clear linguistic (referential) ramifications, even if they are most often glossed over in linguistic discussions. It is the problem behind the concept of 'strictly identical nouns' as embodying not only referential but also lexical identity. These two kinds of identity do not necessarily go together. In fact, more often than not they do not go together. It may well be,

therefore, that a better representation than (10:51) would be one in which L_{gen} in the secondary branch is empty -- though lexicalizable -- so that only the lexical reflexes of L_{pres} are absorbed in "same", i.e. "thing", "person", and "place". Supporting evidence for this alternative will be presented in §§ 11.42-3.

Chapter 11

Pronouns

11.1 The class of pronouns.

The last class of referential functives we shall be concerned with is the class of pronouns. These, it will be recalled, are defined by their incapability of occurring in either of the two referentially diagnostic frames established in (8:2).

As was the case with the determinatives, the pronouns may be further subdivided on the basis of the nature of the minimal referential structure required for their analysis. Thus there are some pronouns which can be analyzed on the basis of a single-branch tree (I), while others require a double-branch tree (II). Moreover, within (I), one pronoun (a) can be analyzed on the basis of the minimal primary subcategorization of N (universal individuat-ive), a number of pronouns (b) on the basis of a primary subcategorization of N which involves (selective) to the exclusion of (elective restrictive), and some (c) that

require the full primary subcategorization of N, i.e. including (elective). The Roman numerals and the letters here refer to the lay-out of the class of pronouns in

(11:1)	(a)	(b)	(c)
	it	I	he
			she
(I)		-thing	they
		-body	
		-one	
<hr/>			
	mine	myself	who (R)
	yours	yourself	that (R)
	hers	herself	
	ours	himself	
(II)	theirs	itself	
		ourselves	
		yourselves	
		themselves	
<hr/>			

A number of traditional pronouns are left out here, as will be clear, especially "we", "you", and "them". These may be considered pronouns with occasional determinative function. The reason for their capability of determinative function will be gone into in § 11.32.

It should be made clear that the subclassification in (11:1) is based on the minimal branch which is capable of

generating the pronoun(s) in question. I do not thereby commit myself to deriving all instances of a given pronoun from the minimal branch.

11.2 The derivational characteristics of pronouns.

Throughout chapters 8 to 10 we have been concerned with quantifiers, E-classifiers, and determinatives. Before we now go on to discuss pronouns one or two points which have emerged during these chapters should be noticed.

Quantifiers were considered to be basic among the referential functives. Two derivational characteristics that reflect this basic status are that, in so far as a lexical subjunction is involved in their derivation, it is only of ind-L. Some non-primitive quantifiers (e.g. "many", "(a) few", etc.) are the superficial reflexes of diachronic lexical subjunctions of a whole branch which, in particular, contains a lexicalized L_{part} . Yet synchronically this subjoined branch may be regarded as a fossilized structure which absorbs part in a superordinate branch. The other characteristic is that quantifiers do not (necessarily -- but cf. the discussion of "the guests all" in §§ 6.4-5; 8.42) involve the MI-convention. They usually rely on absorption.

In contrast, E-classifiers depend on lexical subjunction of gen-L in the subordinate of a complex structure,

while determinatives generally involve lexical subjunction of ind-L and the working of the MI-convention at various points.

The pronouns on their part are characterized by a high degree of lexical subjunction within the branch that generates them, notably of gen-L and ind-L. The order in which I have discussed these subclasses reflects a hierarchy of transformational complexity within the major class of referential functives, with quantifiers as the least complex class, pronouns as the most complex class.

The lexical subjunction of gen-L in the derivation of pronouns is the reason for their incapability of appositive serialization with a noun. Cf. in this connection Hjelmslev (1937:196):

Leur base (viz. des pronoms) doit donc être constituée, non par des morphèmes convertis, mais par un syncrétisme de tous les plérèmes nominaux de la langue. C'est ainsi qu'il faut expliquer leur rôle de nomina utwaria, c'est-à-dire le fait qu'ils renferment toutes les significations nominales possibles, prêtes à surgir alternativement à titre de variantes sémantiques selon les exigences du contexte.

(my emphasis)

The "plérèmes nominaux" are the minimal, non-autonomous, meaning-carrying elements which are involved in the constitution of nouns.

11.3 Single-branch pronouns.

11.31 "It".

So far we have been occupied with the analysis of NP's which are generated by N subcategorized as (universal elective restrictive individuative). It is only within the class of pronouns that we have reason to operate with N primarily subcategorized in terms of the other possible specifications set out in § 4.3.

The minimal specification on N -- at least synchronically; cf. pp. 354-5 above -- is (universal individuative), and the only realization of a N subcategorized in this way is "it". What Jespersen has called 'The Great "It" of Nature', as exemplified by "it is raining", what is known as 'formal' (or 'preliminary subject') "it", can be explained on the basis of the minimal branch ensuing from this primary subcategorization, at least if it is desirable to consider such occurrences of "it" noun phrases, which may, indeed, be doubtful.

Notice also the -- in colloquial English -- frequent occurrence of the 'tag-like' "it all". This phrase, as it were, expresses 'individualized universality', and contrasts with the underlined part of "there he stood -- gumboots and all", which may suggest the possibility of subcategorizing N by means of (universal) alone. This point, however, is of minor importance.

Of more intrinsic interest is the possibility of an alternative derivation of such occurrences of "it" which is offered by considering the structure of what Strawson (1953-4:38) has called "feature-placing sentences", among which we find "it is raining". These may contain a noun, and hence derive from a structure that contains gen-L. If we want to analyze all feature-placing sentences in a uniform manner, then "it is raining" should also involve gen-L. We might then explore further the possibility of realizing the temporal deictics by "be", so that the entire feature-placing sentence will be derived from a nominal structure. "It" in "it is raining" will then realize L_{pres} specified as (-entity): a common characteristic of feature-placing sentences is that they involve reference to a place at which a 'feature' (like "rain") is 'located'. "Rain", therefore, will originate under L_{gen} , but will be converted into "raining" by subsequent rules pertaining to predicational structure.

Which of these two derivational possibilities merits the more attention cannot be decided just by considering them vis-à-vis each other. I shall present evidence below (§ 11.35), however, which suggests that in fact the latter view is preferable. This in turn entails a simplification of the theory, since we then only need to recognize two primary subcategorizations of N, one including (elective restrictive) and one involving (selective).

11.32 "I".

"I" (and "you" (sg.)), like the definite article, are sometimes considered to be semantic primitives of English¹, sometimes not (cf. e.g. Russell, 1940:ch. 7; Kuryłowicz, 1972). As with the definite article, I shall consider "I" to be non-primitive, for reasons to be gone into below. Cf. also § 11.35.

I take my starting-point in Hjelmslev's (1937:198) remark that "ego et tū ne sont que deux formes paradigmaticque d'un même pronom." This casual and simple suggestion has far-reaching implications when seen in connection with the deixis/denotative distinction, since by accepting it we reduce what appears to be a three-scale system of first, second, and third person in the personal pronouns to a two-scale system.

My next observation is that the personal pronouns are definite; they depend upon lexical subjunction of L_{ind} . These two points taken together direct our attention to the indicating features on L_{ind} : first/second person pronouns can only be associated with strong deictics, third

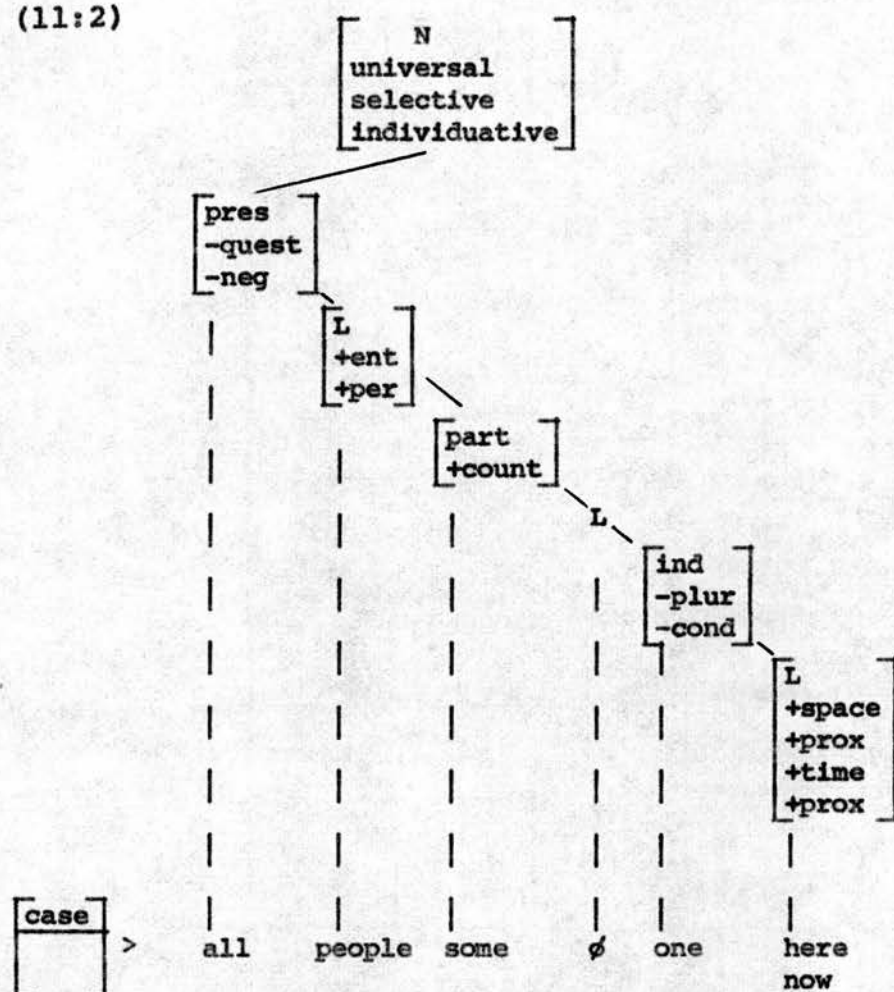
¹ E.g. by Sørensen (1963:95 ff). He 'proves' their primitive status by disproving their substitutability by such phrases as "the person who is speaking now" and "the person I am speaking to now", and by suggesting that, since they are first and second person signs, respectively, they cannot be defined (away) by any sign in English, because all other signs are third person signs -- except "we" and "you" (pl.), which can, however, be defined on the basis of "I" and "you" (sg.). I shall return to the validity of this proof later on.

person by either strong or weak deictics.

Lastly, first/second person pronouns are characterized in (Indo-European) languages with gender-distinctions (either in the system of personal pronouns, or in the nominal system generally) by being insensitive to gender. If we assume, as I do, that it is basically the same gender-system that characterizes nouns and (personal) pronouns in languages which have the distinction in both categories, and that there is no special pronominal gender-system¹, the conclusion to be drawn is that the referential category associated with gender is inapplicable to derivations of first/second person pronouns. With these preliminaries over, we can state the appropriate derivation of "I":

¹ This, of course, is a position that implies that the gender-system which characterizes modern English personal pronouns is a remnant of the gender-system which in Old English characterized nominal structures in general.

(11:2)



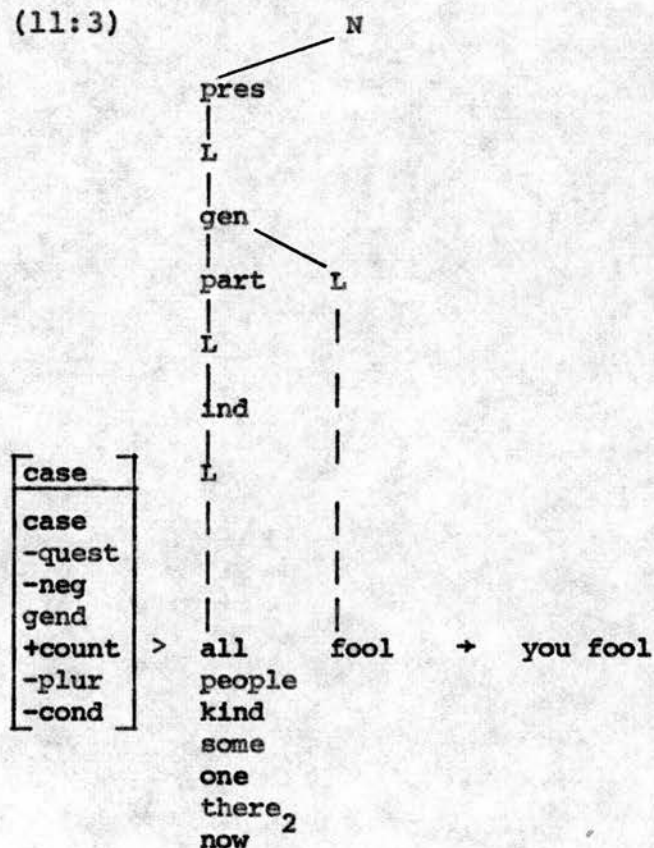
The remote structure of "you" is the same, except that L_{ind} is specified as (+space -prox +time +prox). (11:2), fully subjoined lexically, is expressed by 'I'.

Notice that L_{part} is empty. It usually is for the derivation of pronouns, but there are phrases like "poor you", "lucky me" -- "me" being partly a case-determined variant of "I" -- which are evidence of the underlying presence of the node that dominates adjectives.

(11:2) is the minimal branch which generates "I",

"you", and "we" -- for the latter with ind marked (+plur) and either (+spec) or (-spec) -- but it is only "I" that does not have an alternative derivation from a larger branch which involves gen-L. However, since the branch without gen-L in itself generates "you" (sg. and pl.) and "we", gen-L does not take part in the lexical subjunction, so we get derived structures like

(11:3)



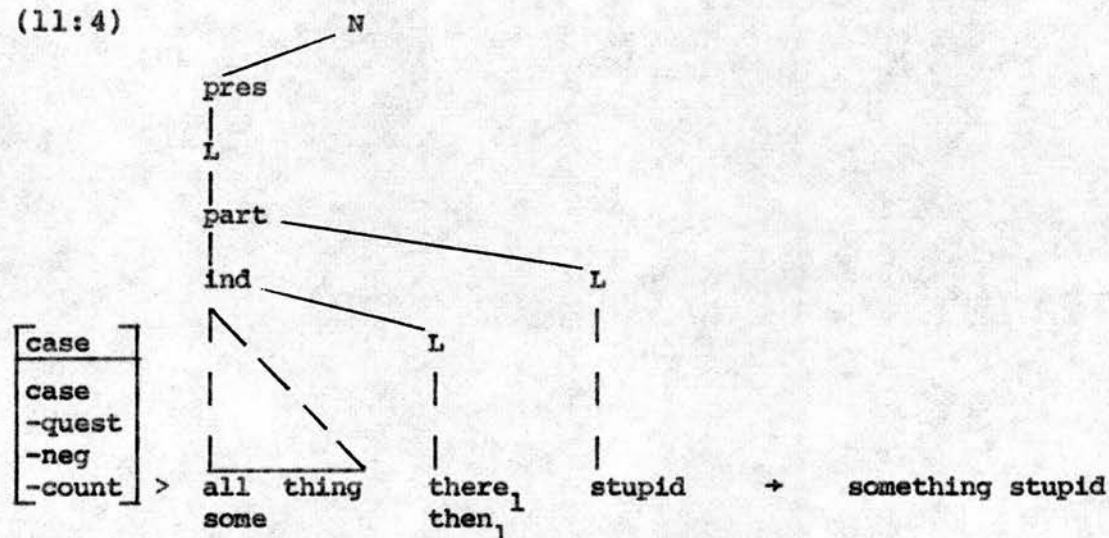
-- where also L_{part} need not be lexically subjoined: "you stupid fool". This is the derivational source of such 'appositive' phrases as "we men", "you guys", etc., and it is the source of the determinative function of these items.

11.33 "-thing", "-body", and "-one".

The large group of pronouns formed from these suffixes constitute the pronominal suppletives to quantifiers and -- in the case of "no-" -- determinatives. Like "I" they derive from a branch without gen-L, "-thing" and "-body" being reflexes of the feature-specification on L_{pres} , "-one" of the specification of ind. Unlike "I" they do not involve lexical subjunction of L_{ind} . If L_{pres} is marked (-entity) we get the 'proadverbs' in "-where".

Again, L_{part} may be empty or it may be non-subjoined. Thus the configuration immediately underlying "something stupid" is

(11:4)



-- where the MI-convention has applied during RP-subjunction of part to L_{pres} .

The specification of this NP as uncountable may be debatable. However, I assume that the distinction between

"somebody" and "someone" -- which may be stylistic rather than referential -- can be explicated on the basis of countability, so that "someone" is explicitly countable, whereas "somebody" is only implicitly countable, or neutral¹. Since "-body" and "-thing" both originate higher up in the tree than the node (part) which is subcategorized by (\pm count), I therefore attribute to "-thing" the same neutrality. Cf. in this connection "I want something to drink" vs. "I want something to drink from".

The origin of the first elements in these pronouns is outlined during the preceding chapters.

11.34 "He", "she", and "they".

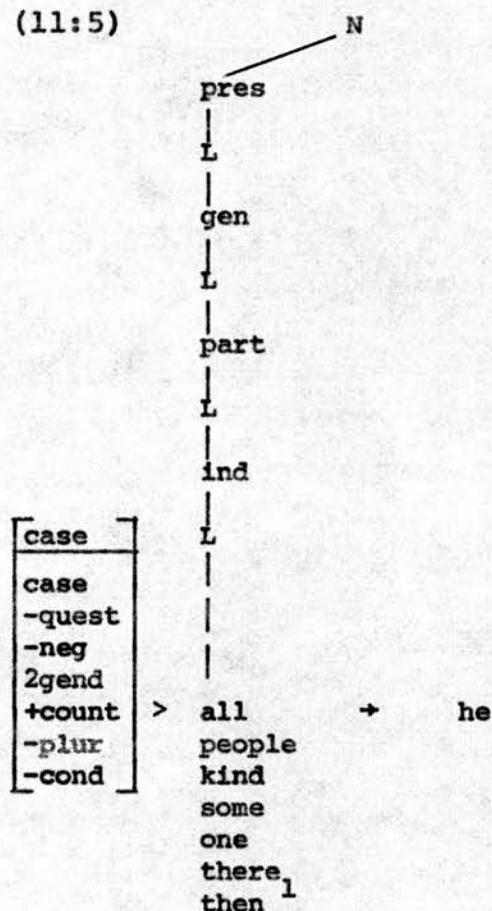
The main thing that distinguishes third person personal pronouns from first/second person personal pronouns, as indicated above, is gender. Another interesting fact in this connection is that "*he man", "*him boy", etc. are unacceptable, in contrast to "you fool". The reason for this,

¹ The distinction between "-body" and "-one" is described by Schibsbye (1961:§ 9.2.3) as a tendency to employ "-one" when reference is made to entities considered to be members of a delimited group, whereas "-body" is used when no such implicit delimitation is present. This correlates with the present analysis in that "-body" is the reflex of the node which constitutes the ultimate background group, on the basis of which "-one" operates, but where part intervenes, further to delimit that (ultimate) background group. It is the origin of "-body" higher in the branch than part, and the origin of "-one" lower in the branch than part which is the basis for Schibsbye's explanation when it is converted into my terminology.

I suggest, is that the third person pronouns derive from a branch that must contain gen-L, obligatorily.

"He" and "she" are similar to "I" and "you" in being definite; they, too, involve lexical subjunction of L_{ind} . The pertinent configuration directly underlying "he" is

(11:5)



As will be clear presently, it is the presence of gen-L in such structures which is of importance, rather than the question of whether or not it is lexicalized. In contrast, L_{part} may be lexicalized: "poor him". The word-order in such phrases indicates that subjunction and the MI-convention have applied.

"She" and "they" derive from the same kind of structure, but they differ, of course, at various points in the secondary subcategorization. "Them" is a special case. It has a marked derivation in which L_{gen} is non-empty and non-subjoined: "them fellers". This is unconventional and, I believe, restricted to conversational and/or dialectal usage.

11.35 The single-branch pronouns reclassified.

"One"¹, "some", and "all" can have pronominal function. They are defined (as quantifiers) by their capability of appearing in both the referentially diagnostic frames, but this is not to say that they always appear in one of these frames. When they do not, however, they do not alter their derivation; that is, they do not, in their pronominal use, derive from a branch which does not include gen-L. Cf.:

- (11:6) (a) some suggest that the Concorde should be scrapped
 (b) some noise-measures suggest that the Concorde
 should be scrapped

To say that (a) derives from a branch without gen-L would be to ignore the fact that it might have the same referential content as (b). The interpretation of (a)

¹ I take the 'prop-word' "one" to be a 'carrier' of the number morpheme as suggested by Sommerstein (1972:200), parallel to "do" as the carrier of the tense-morpheme in certain constructions.

as "some people ..." if "some" is not anaphoric relies on the supposition that L_{gen} may be empty, not that it may be absent. Conversely, the interpretation of (a) = (b) relies on the supposition that gen-L may be lexically subjoined. It is this lexical subjunction that is the basis for the pronominal use of "some" (and, generally, the other quantifiers). The same holds for some of the determinatives, notably "this", "that", "these", and "those".

I shall now avail myself of the assumption that gen-L may be present or absent from the branch which underlies a given pronoun to say that a pronoun in the underlying structure of which gen-L is present is a categorial pronoun, whereas a pronoun in the underlying structure of which gen-L is absent will be called a non-categorial pronoun. Furthermore, I shall say that a pronoun which in its derivation involves lexical subjunction of L_{ind} is a definite pronoun, whereas a pronoun which does not involve this subjunction is an indefinite pronoun.

The single-branch pronouns, and the pronominally functioning single-branch quantifiers and determinatives lend themselves to the following classification on the basis of these distinctions (see (11:7) on the next page).

Within each box, the items on the left are the pronouns proper, those that can only be pronouns. In the columns to the right are those items which are primarily quantifiers, E-classifiers ("none"), or determinatives.

(11:7)

	categorial	non-categorial
definite	he him she her it they them both that this these those such	I me you we us you
indefinite	- one two ... some any all many much a few a little none	-thing - -body -one

We are now in a position to see why Sørensen's 'proof' (above, p. 384 fn) of the primitive status of "I" and "you" does not prove that they are primitives. It only proves that they are something special. Sørensen confuses cause and effect. He takes their property of being first

and second person signs, respectively, as the reason why they cannot be defined (away). He should rather have investigated what makes them first and second person signs, or -- following Hjelmslev -- paradigmatic variants of a special pronoun, because it is the properties associated with this special status that are the 'primitives' in terms of which they can be defined.

Let us, just for the present purpose, say that this special pronoun is a sign, Z, and that any sign that shares the same special properties is also Z. We can then say that a sign, s, is Z if and only if, s is both definite and non-categorial.

A sign which is both definite and non-categorial is a purely deictic sign: it identifies an entity in space/time, irrespective of the categorial location of that entity. It so happens that "I" and "you" -- plus their case-dependent and numerus-dependent derivatives -- form a closely knit subgroup within the class of definite, non-categorial signs in English. This makes them special; but it does not make them semantic primitives.¹

¹ Sørensen might well argue that "I" and "you" cannot be defined away in this fashion. We cannot say "all people some one here now" instead of "I". This is true. In fact, the sign by which Sørensen substitutes "I" -- viz. "the person who is speaking now" -- is more likely to be understood to refer to what "I" refers to. Yet of this Sørensen says (1963:96), "Either B (i.e. the hearer) will take "the person who is speaking now" literally - that is, he will take it to be intended to denote a person C (i.e. one distinct from the speaker, A) - or he will consider it the result of an attempt to be funny. He will not accept it as a genuine equivalent of "I"." (footnote continues, p. 395).

We now also see why the alternative for the analysis of "it" which was prompted by considering the derivational status of Strawson's feature-placing sentences is preferable. On this alternative "it" will be a definite, categorial sign, and this, intuitively, is what it is. At least it does not identify entities in space/time ir-respectively of their categorial location. Yet many peculiarities remain for the referential theory to explain about "it", most of which, however, are likely to be cleared up when the RS- and SS-analyses are integrated, or so I should imagine. The question as to how this integration is to be achieved is too complex for me to go into in any great detail in the present work, which has for its more modest scope just to try to establish the validity of RS-analysis as (also) a linguistic discipline. Cf., however, §§ 11.42-3 for a tentative and informal discussion of some of the points at issue.

I shall refrain from going into an argument on this issue, and instead simply quote an example of what Sørensen apparently thinks is a sign which 'defines away' another sign. Thus, in Sørensen (1958:36), the sign "(his) uncle" is held to be defined away by the following:

"the male person who has, or who is married to the female person who has (or to one of the female persons who have), the same first-degree male ancestor and the same first-degree female ancestor as the first-degree male ancestor or the first-degree female ancestor he has has".

I leave it up to the reader to decide whether he, as hearer, would be inclined to think that the utterer of this paraphrase was trying to be funny, or whether he would be prepared to accept it as "a genuine equivalent" of "(his) uncle".

11.36 A note on proper names.

"I" and "you" (and their derivatives) are not the only definite, non-categorial signs in English. Proper names ("John", "London", etc.) are, I submit, also definite and non-categorial. It is therefore not the properties of being definite and non-categorial alone that ensure that a sign is a first or a second person sign -- unless, of course, one is prepared to call proper names first and/or second person signs, which I am not.

The distinguishing feature between "I" and "you" on the one hand and "John", "London" on the other is (\pm time). Whereas the pronouns involve (\pm time \pm prox) always, proper names involve either (\pm time -prox) ("John"), or (-time) ("London"): places are located in space essentially, in time contingently.

In this light, "The City of the Angels", "Mont Blanc", "Loch Tay" are pseudo-proper names in that they contain a categorizing element, and so, too, for example, are the Icelandic family-names, in which "-son" and "-dottir" are still productive. Such cases as "Bridge of Allan" (the name of a town) and Scottish and Irish family-names in "Mc-" and "O'-", although presumably pseudo-proper names historically, are now 'true' proper names.

Note the implications this analysis has for Linsky's treatment of proper names and 'almost' proper names (cf. above, § 2.22). It is not meaning that proper names do

not have; if it were they would not be signs. It is a categorizing element they lack -- like "I" and "you". Cf. further, for the best linguistic analysis of proper names available, Sørensen (1958; 1963) who arrives at the -- in my view, erroneous -- conclusion that proper names constitute an autonomous class, also relative to first and second person personal pronouns.

11.4 Double-branch pronouns.

The double-branch pronouns all derive from subjunction of a secondary branch to a superordinate branch in the manner outlined for the possessives and "same" above. Three subgroups of double-branch pronouns may be distinguished (cf. (11:1 (II))), depending on different properties of the two branches involved.

11.41 The possessive pronouns.

The possessive pronouns -- as well as the possessive determinatives -- originate in a secondary locative branch which is introduced by L_{ind} in a categorial (i.e. one containing gen-L) superordinate. The secondary branch may be either categorial ("hers") or non-categorial ("mine"). In other words, I take it that underlying the possessive

pronouns is the same structure which generates the corresponding personal pronouns. Their possessive character is acquired by subjunction to and absorption of loc. If the superordinate branch is fully subjoined lexically, the result is a possessive pronoun; if it is not fully subjoined lexically -- i.e. if gen-L is not lexically subjoined -- then the resultant NP is an appositive serialization involving at least a noun and a possessive determinative.

11.42 The reflexive pronouns.

Although I shall not generally attempt to integrate the RS- and SS-analyses in the present work, the last two sections of this chapter will take us into some of the issues involved. The reflexive pronouns cannot be adequately described or analyzed without reference to certain aspects of V, nor can relative pronouns be treated without reference to clause-structure. I shall, however, restrict myself to discussing one or two aspects of these areas in an informal manner.

The relevant aspect of V into which we have to go when dealing with reflexive pronouns is the general area of transitivity. In the SS-framework we work with (Anderson's) this is more or less equivalent with the area of ergativity. An ergative clause is a clause in which V is initial-

ly subcategorized as (+ergative); this feature on V introduces the categorial (case-) symbol erg, which in turn governs N. Thus erg is the case which governs the N under which the NP is generated whose referent is the agent of the action denoted by V. Nom -- the 'neutral' case -- governs the N under which the NP is generated whose referent is the 'patient' of the action denoted by V. This is not to say, however, that only ergative clauses can contain a reflexive pronoun, only that this type of clause is the paradigmatic setting for reflexive pronouns.

In order (also) to account for conventionally 'reflexive verbs' (cf. e.g. Jespersen, 1927:§ 16.2₁; Schibsbye, 1961:§§3.3.1 ff; Lees & Klima, 1963:155), Anderson (1971a: § 4.5) distinguishes clausal from phrasal reflexivity, the former being characterized by a subcategorization-feature (+reflexive) introduced by (+ergative) in the complex symbol in terms of which V is subcategorized. Thus "John moved" is a reflexive ergative clause, whereas "John moved himself" is a non-reflexive ergative clause which contains a reflexive nom. The formal characteristic of a reflexive ergative clause is that the case-symbol erg is superimposed on nom, just in case the complex symbol on V includes (+ergative +reflexive). This analysis is a consequence of the unique status attributed to nom as always present in the underlying structure of any clause (1971a: 50). I shall argue below that it is in fact the other way round, that nom is superimposed on erg.

The approach to reflexivity to be taken here, although of a strictly synchronic nature, is inspired by the diachronic fact that "same" -- which is a loan from Norse in English -- came to supersede the vernacular "self" in a number of cases (cf. Onions, Etym., artt. same and self), thus suggesting an overlap between them that can plausibly be associated with the referential property of both items to indicate identity in a wide sense. Notice in this connection the modern English -- somewhat pleonastic -- expression "the selfsame", which occurs in Danish as well: "den selvsamme".

It is generally recognized that reflexivization -- supposing for the moment that there is such a process -- is a relation between coreferential NP's dominated (or governed) by the same S (or V) (Lees & Klima, 1963:146 f; Langacker, 1966:163 fn 5, 167) -- or, in Langacker's terms, between NP nodes within a command relation.

In Anderson's framework it is explicitly the case that what turns up as a reflexive pronoun has at some stage been dominated by N governed by nom. Taking note of this, the first point I want to make about reflexive pronouns is that they are generated under a N which is governed by nom.

The next point to make has to do with the fact that the typical function performed by a reflexive pronoun is as superficial object in an ergative clause, and, moreover, that it cannot occur as superficial subject in a passive ergative clause:

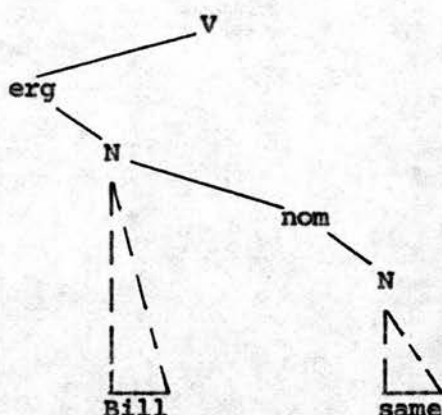
- (11:8) (a) Bill shot himself
 (b) *himself was shot by Bill
 (c) Bill was shot by himself

I take it that (c) -- possibly of marginal acceptability -- may occur with contrastive stress on "-self".

Consider now the implications of the diachronic relation between "self" and "same". I shall suggest that (part of) the structure generating "himself" is the structure underlying "same" on the individuating reading (cf. (10:51)), except that it is governed by nom rather than by loc. Moreover, I shall consider the alternative derivation of "same" advanced towards the end of § 10.43 more appropriate in that it does not commit us to a specific categorial location in the "same"-branch.

If these points are accepted then it must also be accepted that the branch which generates "same" cannot be the superordinate; it has to be the same as something. Yet on the other hand it cannot be a secondary branch, since the secondary "same"-branch is governed by loc. It must, therefore, be a subordinate branch, with the branch governed by erg as its superordinate. The situation can be shown schematically as follows:

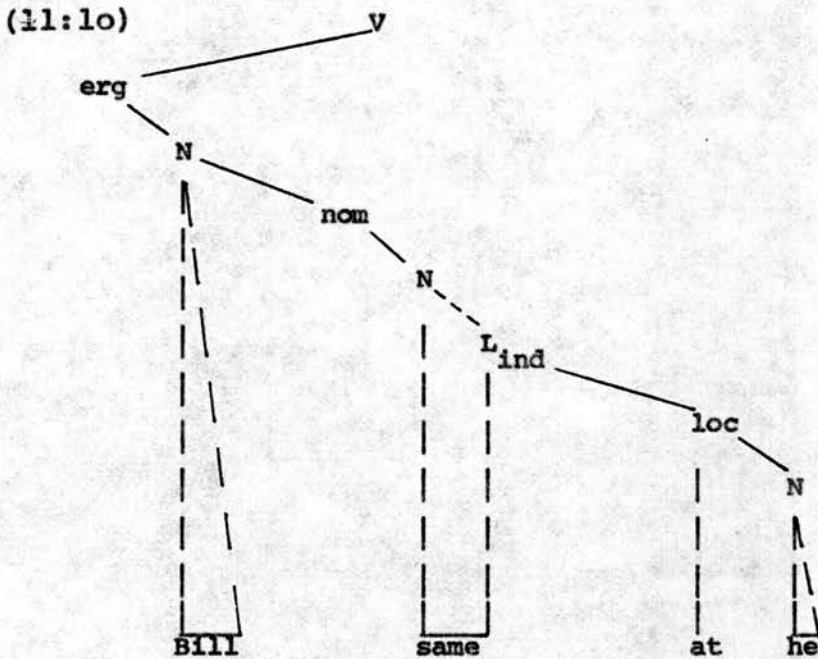
(11:9)



The principle I am exploiting is the principle that anything is identical to itself. Notice in this connection that one of the cases in which "same" came to supersede "self" was where "self" was 'coreferential' with a noun, as in "on þat self nyȝt" (= "on that same night") (Mustanoja, 1960:176). Furthermore, "self" appeared as an independent reflexive -- without "my-" etc. -- throughout Middle English, as in "ure Loverd sulf" (= "our Lord (him)self") (Mustanoja, 1960:145).

This latter observation now naturally leads to the suggestion that the nom-branch in (11:9) in fact has a secondary branch attached to it which generates the possessive -- or more correctly, the locative¹ -- element in the modern English reflexive pronouns. In accord with this suggestion I expand (11:9) in the following fashion:

¹ Historically, the locative is expressed by either the genitive or the dative in English; hence the fluctuation in the reflexive pronouns between "him-" and "my-".



This, in outline, is the structure underlying "Bill himself". It depends for its further development on the assumption that most verbs subcategorized as (+ergative) require superficial expression of the object -- i.e. of nom -- whereas others, like "move", "shave", etc., optionally subjoin the subordinate (nom) branch with its dependents to the superordinate. In this way nom comes to be superimposed on erg by the conflation of the morphophonemic carriages.

Is there any evidence for this analysis? I think there is. Notice that 'reflexive' pronouns need not be reflexive; they may be emphatic, as in "he did it himself". This emphatic use of the 'reflexive' pronoun suggests that it is in fact underlyingly present, even when nom governs a N which is lexicalized by a NP which is not coreferential

with the subject NP. If this is correct then we cannot have clauses which contain both a reflexive pronoun and an emphatic instance of a 'reflexive' pronoun. This, in fact, is the case. Cf.:

- (11:11) (i) (a) the barber shaved himself
 (b) the barber shaved him
 (c) *the barber shaved himself himself
 (d) the barber shaved him himself
 (e) the barber himself shaved
 (f) the barber himself shaved him
 (g) *the barber himself shaved himself
- (ii) (a) Bill shot himself
 (b) *Bill shot himself himself
etc.

As predicted by the analysis, emphatic "self"-forms are mutually exclusive with reflexive pronouns.

Consider once more (11:8). Why should it be that the reflexive pronouns cannot be independent superficial subjects? The answer provided by the present analysis is clear: because it derives from a subordinate branch which is only realized under precisely stateable conditions: (a) when an ergative V -- whose case-frame is V__erg,nom -- occurs in a clause in which nom is unrealized, the subordinate nom is copied into the empty nom which is governed by V, unless the verb is one of those which allow subjunction of nom to erg; (b) when for stylistic reasons

emphasis is required on the participant referred to by the NP generated under the N governed by *erg*, assuming -- counterfactually -- that reflexive pronouns only arise from a subordinate to an *erg*-phrase.

Lastly, the analysis offered here explains why reflexivization is restricted by the scope of a single V, a phenomenon which is not easy to explain on the assumption that the reflexive pronouns are the reflexes of independent N's in the clause-structure.

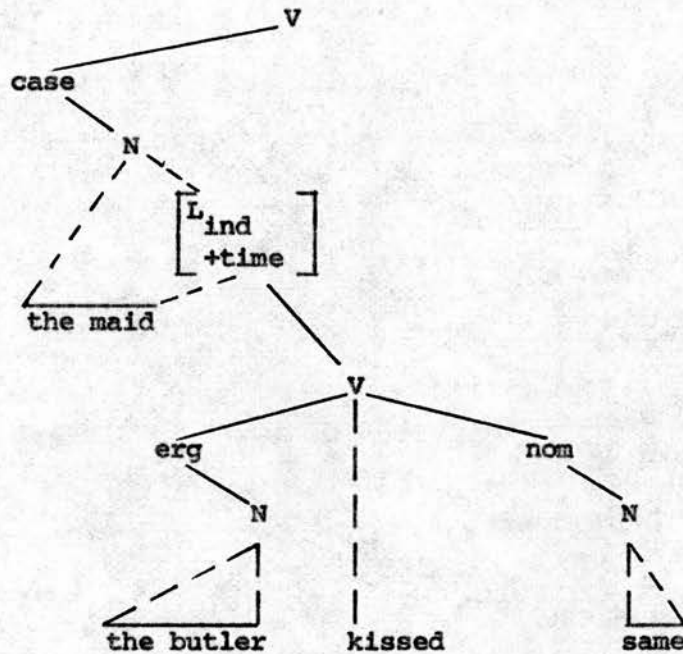
11.43 The relative pronouns.

Just as the reflexive pronouns can be analyzed as the reflexes of a subordinate (complex) branch which is 'promoted' to superordinate status, the relative pronouns can be analyzed as the reflexes of a superordinate branch which is 'degraded' to secondary status, the main difference between the two types of 'pronominalization' being that only one V is involved in the analysis of reflexive pronouns, whereas two V's of necessity are involved in the analysis of relative pronouns.

The presence of the feature (\pm time) on L_{ind} in a referential branch is the formal requirement on relativization. It is the starting-point for a recursion of V in the form of a 'secondary' branch. This secondary V is developed normally except that its non-superordinate

status entails that one of the N's governed by it is a "same"-branch, depending for its categorial location on the branch which has developed V. In outline we get a configuration like (11:12):

(11:12)



I take (11:12) to be the structure underlying "the maid who the butler kissed (slapped his face)". The further development of (11:12) adjoins the "same"-branch to the superordinate, and it may, as in this case it could, be subjoined to it, yielding "the maid the butler kissed".

It should be noticed, however, that this can only be the source of restrictive relative clauses. Non-restrictive relative clauses presumably also involve a "same"-branch, but their V is not secondary.

One of the reasons for deriving relative clauses in this way is the fact that relative "which" may, at least

in literary language, be an adjunct (in Jespersen's terms), i.e. it may be in appositive serialization with a noun. The interesting feature of such constructions is that the noun with which relative "which" is in appositive serialization may -- but need not -- be the same noun as the noun in the antecedent NP; cf.:

(11:13) (a) the butterfly lays an egg, which egg can become a caterpillar, which caterpillar can become a chrysalis, which chrysalis can become a butterfly (Butler)

(b) sure of nothing but the horses; as to which cattle he could have taken his oath that they were not fit for the journey (Dickens).

(Both quoted from Jespersen, 1927:127)

Constructions such as (b) pose a threat to the current conception of relativization as depending on lexical as well as referential identity, and they support the alternative derivation of the "same"-branch on which L_{gen} is empty but lexicalizable by either the same noun (11:13 a) or by a noun which is superordinate to the antecedent noun in a hyponymical system (11:13 b).

It is not only reflexivization and relativization which depend on the underlying presence of a "same"-branch. So, too, do pronouns with anaphoric reference and 'pronominal' epithets like "the bastard" in "I asked John to lend me

his fishing rod, but the bastard wouldn't let me have it". In this sense definite NP's are 'pronouns'. The relationship between anaphorically referring pronouns, personal, reflexive, and relative, is intuitively a strong one. This relationship can be put down to the same derivational characteristic of involving a "same"-branch. Furthermore, the incapability of anaphoric accounts of pronouns to accommodate "I" and "you" is now seen to stem from the supposition that these two are non-categorial signs. Their categorial counterparts are "myself" and "yourself". At the same time we see why "I asked John to lend me his fishing rod, but John wouldn't let me have it" is strange if the same John is referred to by both tokens of the name. As non-categorial signs proper names cannot be anaphoric. Their categorial counterparts are the third person personal pronouns and the corresponding reflexive and relative pronouns.

I venture, therefore, to conclude that an anaphorically referring sign is a categorial sign; but it is anaphorically referring by virtue of being a referring sign: anaphora depends on deixis.

Conclusion

Summary and Further Prospects

My main concern in this work has been to argue in favour of recognizing a distinction between two equipollent types of linguistic analysis. Of these, the syntactico-semantic analysis is well established and has been throughout the history of linguistics. In contrast, the referential-semantic analysis has only received sporadic and informal treatment, more often than not by philosophers rather than by linguists. Furthermore, when linguists have concerned themselves with the analysis of data that lend themselves to RS-analysis, they have more often than not conducted their inquiries within the framework which is designed to account for SS-phenomena. This has led to a certain amount of inconsistency within the SS-analysis while at the same time complicating the issues unnecessarily.

The area of English nominal composition which has provided data for an empirical assessment of the validity of the theoretical framework established in part II has been restricted to the area in which the referential functives play a major part. This area is at the same time one of

the areas least satisfactorily dealt with by current SS-practice.

Yet it is not only with respect to the referential functives that the referential theory can contribute with new insights into linguistic structure. Another general area where this type of analysis can reasonably be expected to yield felicitous results comprises many aspects of adjectival constructions. The serialization of attributive adjectives is clearly bound by a system of rules which the SS-analysis has no obvious way of accounting for. The referential theory offers the immediate possibility of subcategorizing the cover feature QUAL in various ways which, a priori, would seem to involve reference to such notions as essential vs. contingent properties. An essential property is a property which an entity has outside time, as it were. A dog is a carnivorous animal even if it has lost all its teeth and cannot eat meat. A contingent property is a property which an entity has inside time, either momentarily or permanently. Thus an eye may be black either permanently -- if it belongs to a beauty queen from the south of Italy, for example -- or momentarily -- if it belongs to a boxer who has just lost (or won) a fight. Along such tentative lines a hierarchy of properties may be established, and it will turn out, I believe, that the closer semantic affinity with "kind" a given property may be interpreted to have, the closer it will be to the noun in the superficial serialization.

Adjectival comparison and reinforcement by elements like "very" and "too" likewise fall within the scope of the referential theory where they will be related to the scalar feature (n degree) on L_{ind} and -- possibly -- a secondary branch introduced by it.

The general area of nominal compounding is susceptible of analysis in RS-terms, and the relationship between apposition (in the conventional sense) and (phrasal) coordination is likely to be captured within the RS-analysis rather than within the SS-analysis. Notice in this connection the relation of mutual exclusion that holds between the NP-constructions in

- (i) (a) Harry planted his garden with roses and other flowers
- (b) *Harry planted his garden with flowers and (other) roses
- (ii) (a) *Harry planted his garden with roses - flowers, actually
- (b) Harry planted his garden with flowers - roses, actually

Quite obviously the hyponymical relations between lexical nouns involved in compositions such as these impose restrictions on the serialization-order allowed in coordination (i) and apposition (ii). Apposition implies restriction; coordination implies generalization.

Finally, when sufficient insight in the referential structure of NP's has been reached and a serious attempt

can be made to integrate the RS-and the SS-analyses, I suspect that even aspects of VP's will prove susceptible of RS-analysis, in particular with respect to the deictic category of tense, but also with respect to establishing a principled basis for an inquiry into aspectual phenomena (cf. e.g. Schibsbye's (1969:98) parallelism between countable/uncountable and perfective/imperfective).

Tentative considerations such as these invite us to broaden the scope of RS-analysis beyond the restricted area investigated in part III. More important than this, they constitute sufficiently varied and interesting areas for further investigation into the referential structure of language.

ABBREVIATIONS AND REFERENCES

A. Abbreviations

<u>AL(H)</u>	<u>Acta Linguistica (Hafniensia)</u>
<u>Am S</u>	<u>American Speech</u>
<u>BGDSL</u>	<u>Beiträge zur Geschichte der deutschen Sprache und Literatur</u>
<u>ES</u>	<u>English Studies</u>
<u>EWPL</u>	<u>Edinburgh Working Papers in Linguistics</u>
<u>FL</u>	<u>Foundations of Language</u>
<u>Fol L</u>	<u>Folia Linguistica</u>
<u>Idg J</u>	<u>Indogermanisches Jahrbuch</u>
<u>IULC</u>	<u>Indiana University Linguistics Club</u>
<u>JL</u>	<u>Journal of Linguistics</u>
<u>LAUT</u>	<u>Linguistics Agency, University of Trier</u>
<u>Lg</u>	<u>Language</u>
<u>LI</u>	<u>Linguistic Inquiry</u>
<u>PhP</u>	<u>Philologica Pragensia</u>
<u>PMLA</u>	<u>Publications of the Modern Language Association of America</u>
<u>SL</u>	<u>Studia Linguistica</u>
<u>WW</u>	<u>Wirkendes Wort</u>
<u>YPL</u>	<u>York Papers in Linguistics</u>

B. Lexica

Ernout & Meillet, Etym. = E. Ernout et A. Meillet,
Dictionnaire Étymologique
de la Langue Latine
Paris 1959

NED = The Oxford New English Dictionary on Historical
Principles.

Onions, Etym. = The Oxford Dictionary of English Etym-
ology. Oxford 1966

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