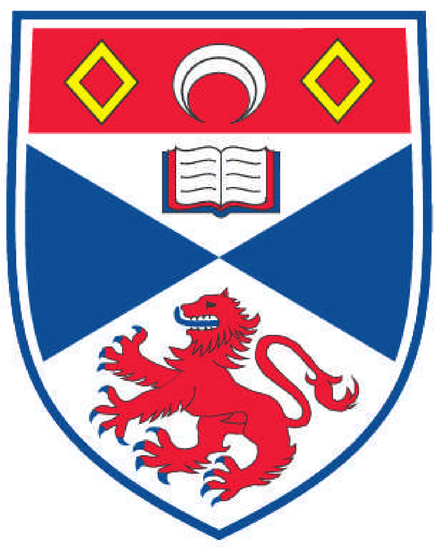
PREDICTIVE-BASED SYNTAGMS IN KAMALI ARABIC COMPARED WITH SIMILAR PATTERNS IN ENGLISH

Suliman A. K. Hadj-Mohamed

A Thesis Submitted for the Degree of PhD
at the
University of St. Andrews



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BY

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for a Ph. D. Degree

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June, 1980

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ABSTRACT

The present work is mainly concerned with the syntactic structures of the predicative-based syntagms in Mamali Arabic. The constituents within these syntagms are further analysed until the relations between pleremes (i.e. the minimal syntactic entities) are arrived at. It also offers description of similar structures in English, and brief comparisons between the structures of the two languages in question.

Linguistic description has been defined as "the application of a particular linguistic theory to a selected field of linguistic phenomena". (Mulder 1975). The theory applied in this work, to both English and Kamali Arabic, is Mulder's axiomatic functionalist approach to syntax.

This thesis falls into four parts. The first part is divided into two chapters the first of which offers a brief introduction to the basic principles of axiomatic functionalism, and to the relations between linguistic theory, linguistic descriptions and the speech phenomena; and the second provides explanations to the essential notions in syntax.

The second part, dealing with syntactic relations in Kamali Arabic, comprises three chapters. Chapter I is concerned with the verbal, and non-verbal, predicative-based syntagms, chapter II with the functional syntagms, and chapter III with the nominal syntagms.

The third part, dealing with syntactic relations in English, comprises four chapters. Chapter I deals with the verbal predicative-based syntagms, chapter II with the copulative predicative, III with functionals, and IV with nominals.

The fourth part, offering comparisons between English and Kamali Arabic, is divided into three chapters. Chapter I offers

comparisons between the predicative-based syntagms, and between their constituents. Chapter II between functionals, and III between nominals.

DECLARATION

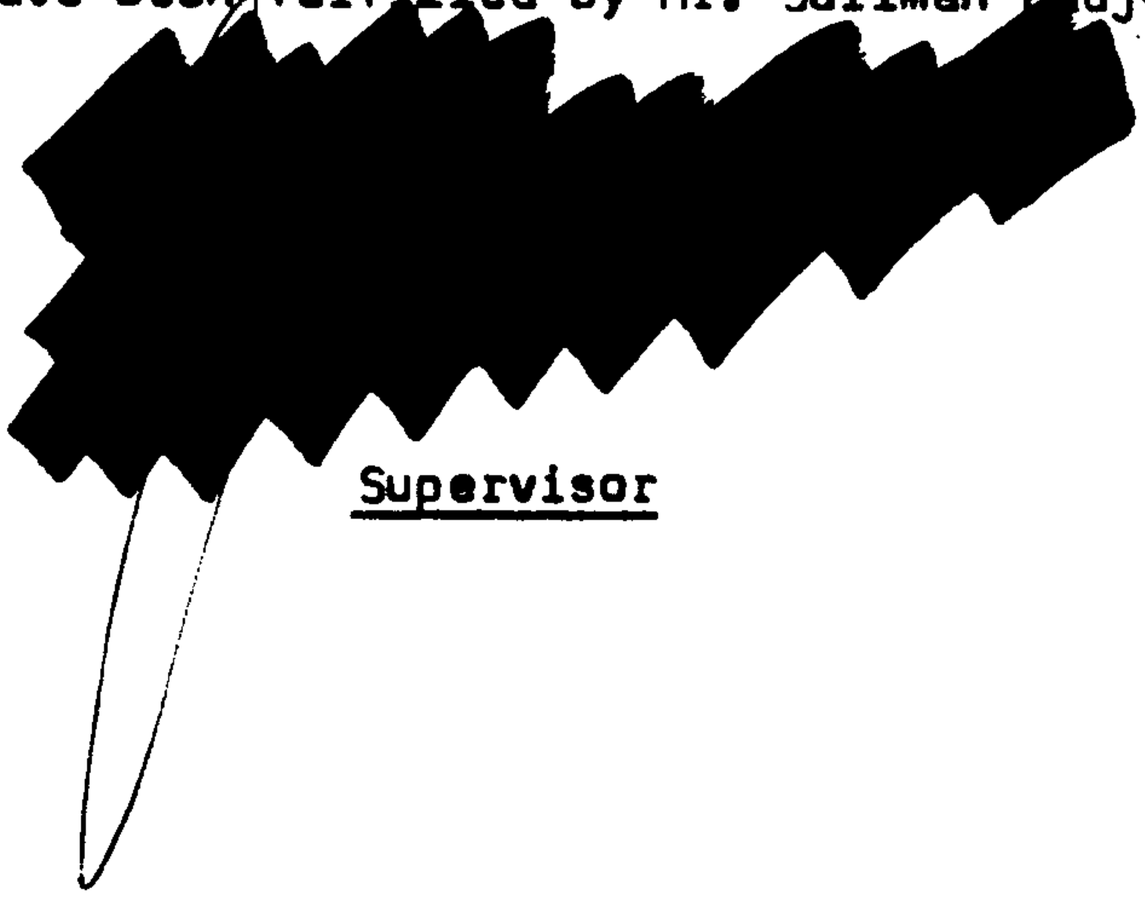
I HEREBY DECLARE that the present work which is a record of research performed by myself, was conducted under the supervision of Professor J.W.F. Mulder, Department of Linguistics, University of St. Andrews to which I was admitted as a research student under Ordinance General No. 12 in October, 1976 and as a candidate for the Degree of Doctor of Philosophy in October, 1977 (retroactive to October 1976).

I also declare that this thesis embodies work which is being made public for the first time, and which has not been accepted previously for any degree.

Suliman Hadj-Mohamed

CERTIFICATE

I HEREBY CERTIFY that the conditions of the Ordinance and Regulations concerning the submission of a Ph.D. thesis have been fulfilled by Mr. Suliman Hadj-Mohamed.



Supervisor

ACKNOWLEDGEMENTS

I wish to express my gratitude and sincere thanks to my supervisor Professor J.W.F. Mulder, of the Department of Linguistics, St. Andrews, for his thoughtful attention and valuable suggestions while this thesis was in preparation. I hope I have succeeded in making proper use of his axiomatic functionalist theory to syntax in the present work.

I should also like to thank Dr. Roberts and Mr. M.Y. Sulieman, for their assistance in reading through the manuscript and making valuable suggestions. Not less sincere thanks also go to S.G.J. Hervey for his co-operation and valuable advice; and to my informants on English and Arabic, J. Sherif, S. Gardner, R. Prince, A. Grear, M. Munro; S. Assil, F. Mardoud, M. Gatheeth, S. Munla, F. El-Shakfeh, J. Toumajian, and especially to my Mother.

I should also like to address a special word of thanks to my wife for her support and encouragement, and for her patience while this work was in preparation.

Last, but not least, I am grateful to Mrs. B. Waterfield who patiently and expeditiously dispatched the task of typing the manuscript, and to her husband for his co-operation.

FOREWORD

The theory employed in this work is that of Professor J.W.F. Mulder, and is a sub-component of his Axiomatic Functionalist theory. By the aid of that theory, which defines its terms rigorously, the writer has tried to give a satisfactory account of the descriptive problems encountered, discussing where necessary the alternative possible solutions, and explaining the theoretical notions and principles underlying them. The final statements in the present description, or in any other description basing itself on the present theoretical approach for that matter, are to be taken as a set of unrefuted hypotheses. This, however, should not be taken to imply that those hypotheses are not still unrefutable (i.e. subject to refutation). Through testing, a hypothesis may be improved upon, but it can never be proved. It may be refuted in the light of new data, i.e. if a new example showing the inconsistency and/or the inadequacy of that hypothesis is discovered, or if that hypothesis can be replaced by a simpler (though perhaps equally consistent and/or adequate)solution.

The present thesis falls into four parts. The first part is given over to the theoretical background of this work: to explaining the basic principles of axiomatic funtionalism, the relations between linguistic theory, linguistic descriptions and the speech phenomena, and to giving brief explanations of those notions in the theory which are essential and have particular relevance for a syntactic analysis.

The second part is concerned with the actual syntactic analysis (i.e. the description) of the syntactic relations within the predicative-based syntagms in Kamali Arabic. The analysis covers studying the syntactic relations which may exist not only between the constituents of

the predicative-based syntagms - roughly between what is known as subject, predicative, object, indirect object and complementary object - but extends to cover the relations which may exist <u>within</u> those constituents. Chapter I deals with the predicative-based syntagms ("transitive", "non-transitive", "intransitive" etc.), chapter II deals with the functional syntagms, and chapter III deals with the nominal syntagms. The latter syntagms (i.e. functionals and nominals) may form immediate constituents in a predicative-based syntagm as we shall see in this work.

Similar to the second part, the third one is concerned with the syntactic structure of the predicative-based syntagms, the functional, and the nominal syntagms in English.

The fourth, and last, part offers comparisons between the syntactic structures of the above mentioned syntagms in English and Kamali Arabic. The description of these two languages are based on the same theoretical approach, namely Mulder's axiomatic functionalist approach to linguistics. Without this, i.e. without basing the two descriptions on one and the same theoretical background, comparisons would, if they are viable at all, be extremely confused.

The term Kamali Arabic is the name of the dialect spoken in Abou-Kamal, a small town in the southern east corner of Syria. The number of the speakers of this dialect is about sixteen thousand. The main reasons for choosing this dialect in particular for a syntactic analysis are:

a) To the full knowledge of the writer no previous grammatical (morphological and/or syntactic) study of any kind has been done on this particular dialect.

b) The writer is especially knowledgeable about this dialect as he was born and raised in the region where the dialect is spoken.

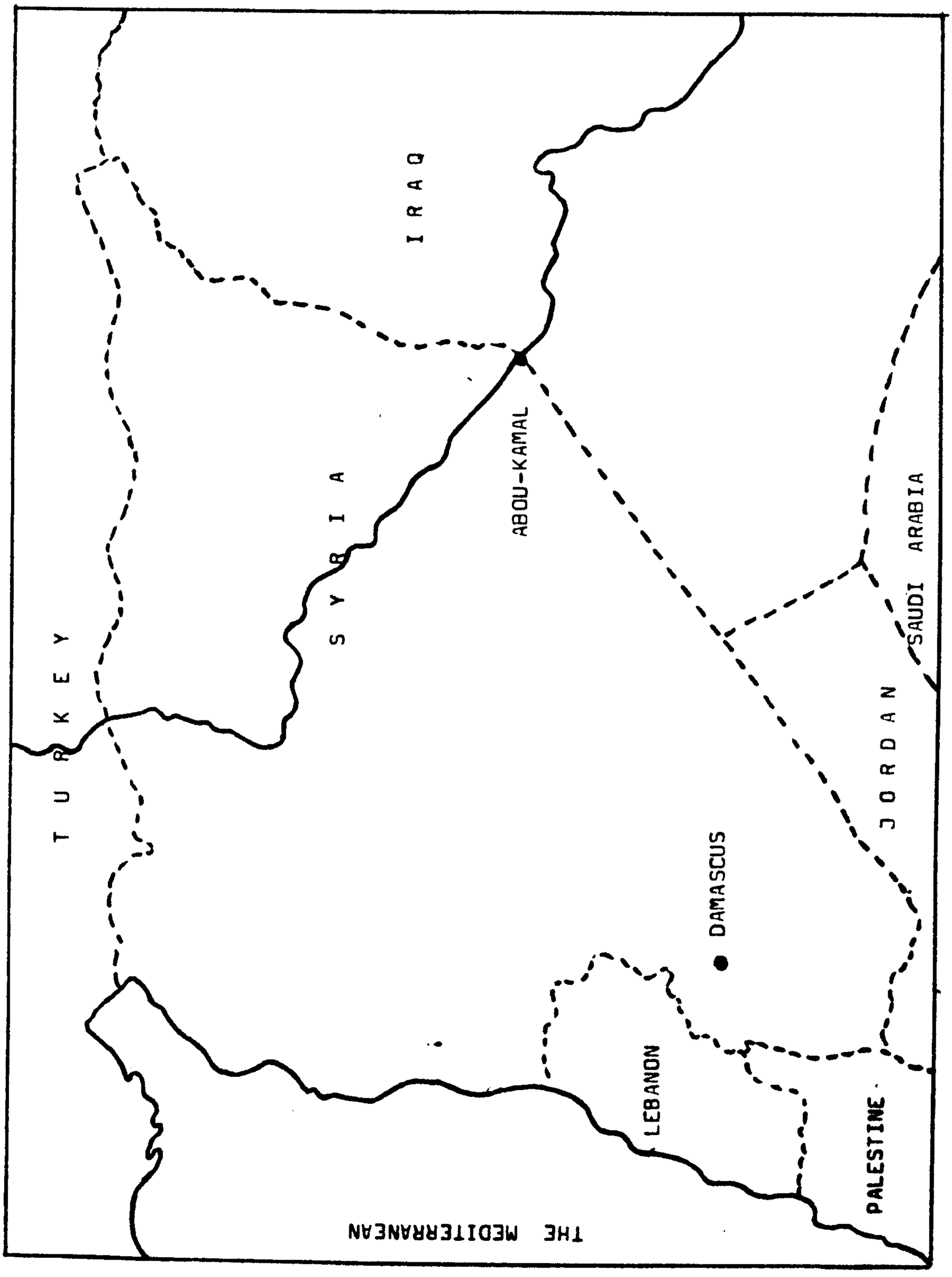
c) A syntactic analysis will complement the phonological analysis of this dialect, which was made by the same writer, and by the aid of the

same theoretical approach (See Hadj-Mohamed, S., 1976 "A Phonological Description of Kamali Arabic" St. Andrews M. Litt. thesis). The previous phonological analysis is made use of in the present work as the orthography used in it is derived from that phonological study. (Phonemes of Kamali Arabic and their realizations will be listed at the end of this thesis.)

d) Last, but not least, a syntactic analysis of a remote dialect such as Kamali Arabic, in addition to its contribution to linguistic knowledge, provides a test for and an exposition of the applicability of a linguistic theory, namely Mulder's axiomatic functionalist theory, to a selected field of speech phenomena, namely, Kamali Arabic.

The Kamali Arabic data analysed in this work come partly from the writer's knowledge of this dialect, and partly from a field trip made to Syria in the summer of 1976. The data recorded on tapes comprises family and social conversations and some casual interviews. During the research the writer also benefited from social visits and casual meetings with native speakers (Kamali friends) in the United Kingdom.

Abou-Kamal, the town where Kamali Arabic is spoken, is situated on the western bank of the Euphrates river, and is the last point where the river leaves the Syrian lands to flow through Iraq. The map below shows the location of the town in question.


TURKEY
SYRIA
IRAQ
ABOU-KAMAL
SAUDI ARABIA
JORDAN
DAMASCUS
LEBANON
PALESTINE
THE MEDITERRANEAN

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PART ONE

CHAPTER I : THEORY

1. The Axiomatic Functionalist Approach

Mulder, the founder of axiomatic functionalist linguistics, defines the principal aim of linguistics as : "To make possible the scientific description of any chosen field of speech-phenomena".[1] And he believes that to achieve this aim a theory should be provided as a device. It is the theory that makes any descriptive statement scientifically meaningful and allows us to formulate our observations about the data in a meaningful way. In the absence of a theory on the basis of which a linguistic description is produced, that description is deemed to be arbitrary and, therefore, scientifically speaking, devoid of descriptive content.

An axiomatic linguistic theory, as the name indicates, contains, as major statements, "axioms". As Mulder puts it "The initial justification for these statements is that they seem reasonable and acceptable to others, and their further justification is that they are assumed, in the absence of refutation, to be appropriate".[2] Mulder agrees with Hjelmslev in regarding good linguistic theories as "both arbitrary and appropriate" (Hjelmslev 1953), but he interprets his statement as follows : "Though linguistic theories are arbitrary in the sense that some or all the elements in them could have been different, one is still not entirely free when one selects, or rather creates, one's theory, or any statement in it".[3] He goes on to say,"There are limitations within which one has to work, and these limitations begin to apply as soon as the first statement of the theory is launched". Axioms may contain primitive[4] terms as well as vague, or, rather, technical ones. The latter will have no scientific value until

they are duly and exhaustively defined. And since new definitions may also contain meaningless terms, the process of defining terms should progressively continue until all the terms in the theory are reduced to primitive, intuitive ones. Hence one sees the importance of definitions as statements in an axiomatic linguistic theory. Their major role is to attach meanings to technical terms which may be encountered in the axioms, theorems, or other definitions. Another task of definitions is to introduce some "notions" in the theory. Some of the notions may apply to entities[5] in the linguistic description based on that theory, e.g. "distinctive features", and "archiphonemes"; others do not apply to entities, but they may stand in a certain relation of isomorphism with notions in the description, e.g. "opposition", "commutation", "distinctive function", "simultaneity", and "neutralization". These may be called "processes" or "state of affairs". Definitions may also contribute to the simplicity of the theory by the fact that they throw a sufficient light on the structure of the theory, and that, in turn, helps to trace the consistency of its statements. A third type of statement that an axiomatic theory may contain is "theorems". Theorematic statements are not necessarily incorporated in the body of the theory since they are implied by the set of axioms and definitions of the theory. Added to that is the difficulty of foreseeing all the theorems that one may wish to establish.

A successful axiomatic theory must satisfy three major requirements which, in order of importance, are : consistency, adequacy, and simplicity. A theory, in the first place, must be internally consistent, i.e. no two of its statements (whether these statements are axioms, definitions or theorems), should contradict one another. The consistency in one's theory can be traced by maintaining a certain organisation in the structural body of its statements, and by making one's definitions as rigorous as they can be. Then one should ensure

that, in the intricate chain of definitions, every term has been used properly, i.e. according to the definition given to that term within the theory in question.

The second equally major requirement that an axiomatic theory should satisfy is adequacy. According to Mulder, "Something is said to be adequate if it fulfils its purpose and does this well". He goes on to say : "The purpose of a linguistic theory is to render an unlimited number of good - i.e. consistent, adequate, and simple - linguistic descriptions possible, and this gives us the criterion for judging the adequacy of linguistic theories".[6]

Simplicity, the third requirement in an axiomatic approach, is not as significant as any of the preceding criteria of "consistency" and "adequacy". With respect to "simplicity" Mulder says : "The reason for the theory's having to be consistent are exactly the same as those given for linguistic descriptions. The same can be said of the requirement of simplicity,[7] but because of the one-to-many relation between theory and descriptions, it may be economical to sacrifice some simplicity in the theory, if it can lead to a greater simplicity in the descriptions based on it".[8]

2. Speech-Phenomena

In an axiomatic functionalist sense "speech-phenomena proper", rather than "intuitions" about the phenomena, are the object of study. As Mulder says : "One does not have to know the intuitions about the phenomena in order to study the phenomena themselves".[9] For adequacy considerations, it is necessary for the amount of speech-data taken for analysis to be sufficient for the testing of the hypotheses launched about the data. Hence it is preferable for the analyst to have a thorough knowledge of the speech-data. With more knowledge, or access to informants or other sources of the data, his hypotheses are expected to be more sound and reliable. This, however, should not be taken to mean that those

hypothese are not still refutable. Needless to say, it is not only extremely difficult, but impossible, to subject every single utterance in the data to an individual syntactic analysis. And as this is the case, the describer, before presenting a hypothesis as a final statement in the description, subjects it to as many tests as possible.

3. Linguistic Descriptions

"Description" is defined as : "The application of a particular linguistic theory to a selected field of speech phenomena".[10] The statements made in the description of a particular field of speech phenomena are hypotheses.[11] That those hypotheses should, in principle, be refutable is in no way a subsidiary thought, but lies in the very heart of Mulder's hypothetico-deductive method. And since a hypothesis cannot be proved in an empirical sense, but it can only be disproved, or rather refuted, it should be subjected to attempted refutations before before being adopted. Only when, after many tests, we fail to discover any counter-evidence in the data which refutes our hypothesis, may that hypothesis be adopted as a valid statement in our description. This in effect means that the final statements in our description are not mere hypotheses but they are unrefuted ones. However, one should not lose sight of the fact that they are still hypotheses and, therefore, still refutable. The "discovery", in the data, of a single counter-evidence to refute a given hypothesis will be sufficient to invalidate that hypothesis. A hypothesis can also be refuted if it can be replaced by another hypothesis which is more consistent, adequate, or simple. In contra-distinction with the axiomatic statements in the theory, hypotheses, the descriptive statements, are not arbitrary as they should be justified by the theory on the one hand and by the facts in the data on the other.

Just as a good scientific theory, also, a good scientific description should be consistent. "Before anything else, a description should be consistent, i.e. no two statements it contains or implies should

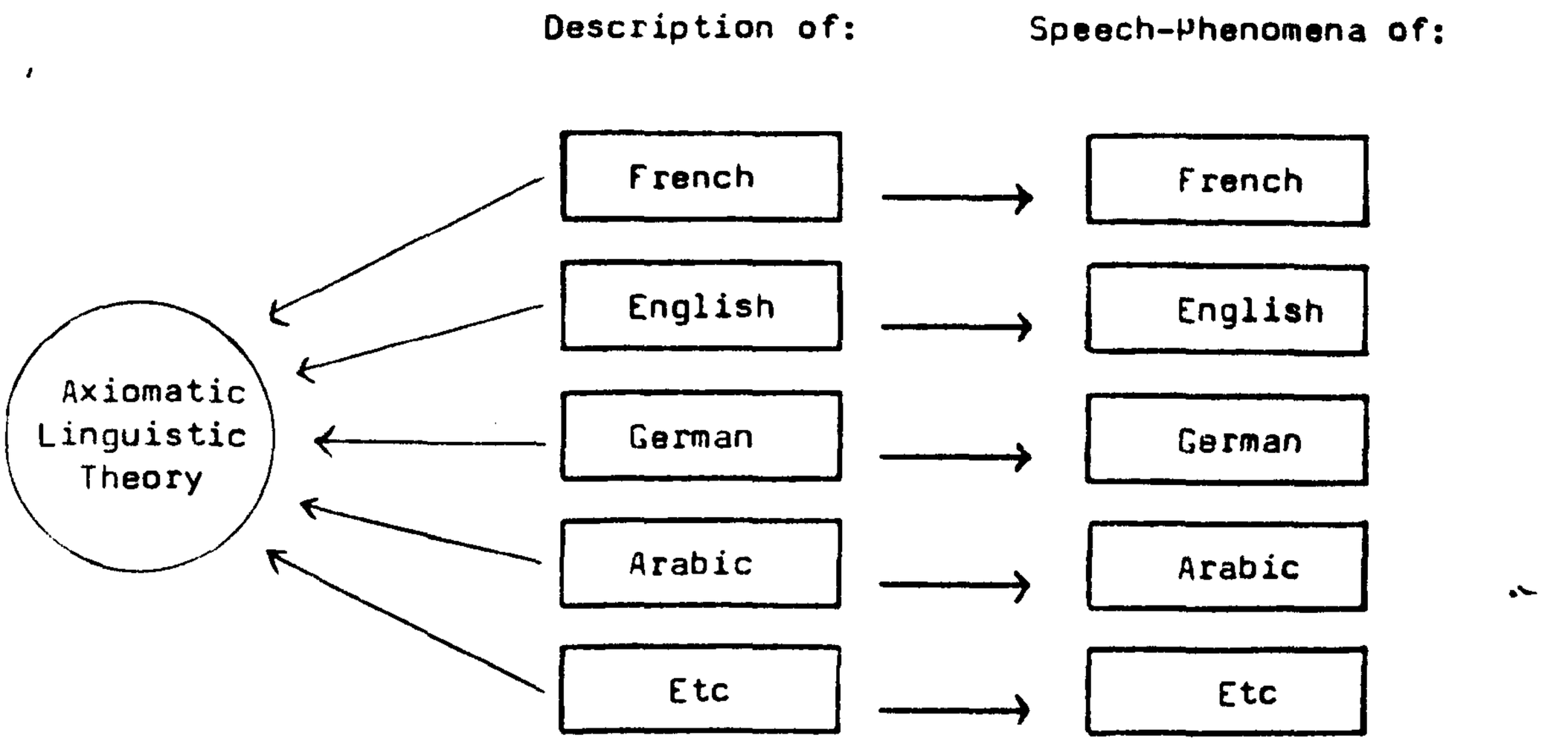
be in contradiction with one another. If one statement contradicts another, then both statements involved are scientifically, i.e. in their capacity as statements in a description, meaningless, even though one of them may be objectively correct."[12] A linguistic description, being dependent on a particular linguistic theory, should not only be consistent with that theory, but, also every statement in it should be justified by the theory. If this is not achieved, the descriptive statements become arbitrary and therefore, scientifically speaking, meaningless.

Another equally important requirement that a good description should satisfy is adequacy. A linguistic description is said to be adequate when it accounts for all the relevant phenomena which have been selected for description. And since, as already indicated, it is not possible to subject every single utterance in the data to an individual analysis, by the application of the theory to the data we set up structures, i.e. "models", to account for the relations involved in the constructions in an adequate manner. Then, and after testing the models on as many examples from the data as possible, may we assume that our models are adequate, not only for the description of the actual data that have been presented for analysis, but also for the description of all the potential data which one may wish to describe under the theory employed. Even then, there is always a chance that a refuting example in the data might have been overlooked. A linguistic description should also be consistent with what we know and observe in the phenomena under description.

A good linguistic description should, for practical purposes, be simple. Mulder chooses not to formulate specific rules for "simplicity" since this is difficult to assess, and exact measures are not easy to obtain, but he says: "To insist that a description must be simple is, in the last analysis, merely to say that it should not be so complicated as to impair its usefulness as an account of the phenomena." (Mulder, 1975)

4. The Relation Between Theory, Descriptions and Speech Phenomena

The present approach, which maintains that a linguistic theory should not be exclusively concerned with one universe of speech phenomena but with a virtually infinite number of parallel universes, draws a sharp distinction between "theory" and "description". In view of this and on the basis of linguistic description (see page 4), the relations between a linguistic theory, linguistic descriptions, and fields of speech phenomena can be illustrated by the following diagram.



If we interpret the arrow (⟶), as "implies" or "presupposes", we understand from the above diagram that :

a) A linguistic description presupposes a linguistic theory and a field of speech-phenomena simultaneously. Without either, no linguistic description, in an axiomatic functionalist sense, can be produced.

b) There is a one-to-many relation between a linguistic theory and the descriptions based on that theory.

c) There is a one-to-one relation between a particular linguistic description and a selected field of speech phenomena. That is to say each time the theory is applied to a particular field of speech phenomena, a description, particular to that field, emerges.

d) There is a unilateral dependency between a linguistic description and

a linguistic theory, in the sense that the former is, for its production, dependent on the latter but not vice versa.

e) There is a unilateral dependency between a particular linguistic description and a particular linguistic theory in the sense that the former is, for its existence, dependent on the latter but not vice versa.

f) There is a mutual independency between theory and speech-phenomena in the sense that neither, for its existence, depends on the other. That is to say a linguistic theory may stand without being applied, and a field of speech-phenomena may exist without being described.

NOTES TO CHAPTER I : THEORY

1. See "Linguistic Theory, Linguistic Descriptions and the Speech Phenomena", by J. Mulder, La Linguistique II, 1975.

2. ibid.

3. ibid.

4. A primitive term is recognised by Mulder as "a term whose further definitions - we are satisfied - would not add anything to our understanding of that term". (See ibid.)

5. It should be noted that entities in a description are not entities in the realm of speech phenomena, but they stand in a certain relation of isomorphism with certain classes of phenomena. "Such entities in a description are called models". The notions in the theory corresponding to those models can be called meta-models, or theoretical models.

6. ibid.

7. For simplicity in the descriptions see page 5.

8. ibid.

9. ibid.

10. ibid.

11. By the fact that we cannot subject all possible phenomena, let alone all combinations and aspects of phenomena for analysis, it is appropriate to call the statements of the description "hypothesis", i.e. mere assumptions about the data.

12. See Mulder's Descriptive Adequacy in Phonology and the Vowel Phonemes of the Scottish Dialects of Angus and Perthshire Compared with Southern English System, La Linguistique 10, 1974.

CHAPTER II : ESSENTIAL NOTIONS IN SYNTAX

1. The Linguistic Sign

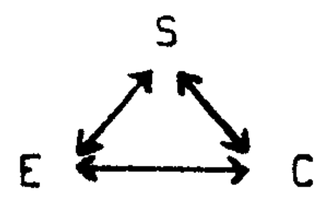
The notion "linguistic sign", from an axiomatic functionalist point of view, is basic not only in syntactic but also in morphological, semantic and even in phonological descriptions. And since syntactic relations hold between signa, rather than between their allomorphs, it becomes clear why it is necessary to distinguish between "signa" and "allomorphs". The notion linguistic sign has been treated in extenso especially in "Theory of the Linguistic Sign" (by Mulder and Hervey), and in many other publications by those authors.[1] Needless to say that a theory which accounts for the sign concept in a consistent and adequate manner would inevitably lead to more precise (i.e. more consistent and adequate) descriptions based on it.

The afore-mentioned sign-theory is based on two main functionalist concepts: the "distinctive function" of the sign and the "double articulation"[2] of language. The distinctive function of a linguistic sign, or for that matter any sign in a semiotic system, is determined by the set of signs with which it commutes in equivalent contexts. Hence, for its identity, a sign must commute with at least one other sign, or with zero (in equivalent contexts), in such a way that the commutation brings about a functional difference in the message conveyed. The last statement is implied in the definition of "signum"[3] as, "the conjunction of a particular expression and a particular content, which mutually imply one another" (def. 2H). In view of this, we may say that the identity of "sign" is negatively determined by the other signs to which the given sign is opposed by commutation, and positively by the conjunction of its expression and content. The expression (E) and the content (C) of the linguistic sign (S), called by de Saussure "signifiant" and "signifié"

respectively are inseparably united to form two different aspects of one and the same thing. The mutual implication between E and C is symbolised as :

$$E \longleftrightarrow C$$

By virtue of this mutual implication we may say that expression and content are equivalent. And furthermore, because of the mutual implication between "expression" and "sign", i.e. $E \longleftrightarrow S$, on the one hand, and between "content" and "sign" i.e. $C \longleftrightarrow S$, on the other, the notions "expression", "content", and "sign" are said to be equivalent :



In Mulder's terms : "They represent three ways of looking at the same thing. Using the term 'sign' implies looking at the sign in its totality, using 'expression' implies looking at the sign from a formal angle, and using the term 'content' implies looking at the sign from the side of meaning".

In the following, we shall, for simplicity considerations, represent the sign by its expression, i.e. we shall act as if "expression" is the sign. Mulder symbolises a phonological form by p, a class of phonological forms by {p}, and expression by {p} Rs which reads as : a certain class of phonological forms {p} standing in relation "R" with a certain grammatically "distinctive function" "s".[4] This is to say each individual "p" of the class {p} in {p} Rs has a grammatical distinctive function "s". So {p} Rs = p_1Rs ∪ p_2Rs ..... ∪ pnRs, e.g. the phonological form of the plural which equals : /iz/ ∪[5] /z/∪/Z/∪/rn/∪/Ø/∪ /men ~ man/∪/mais ~ maus/∪/uaivZ/∪/uaif/∪ ..... etc.[6] These phonological representations refer to the forms of the plural-allomorphs in such words as 'houses', 'days', 'huts', 'oxen', 'sheep', 'men', 'mice',

and 'wives' respectively. "Expression", then, is a class of allomorphs, and its relation to the notion phonological form is via those allomorphs; hence the necessity of distinguishing between "expression" (significant), and morph (or allomorph) on the one hand, and between morph (or allomorph) and phonological form on the other. It is worthwhile pointing out that while in the majority of cases allomorphs have phonological forms, we notice that some allomorphs have zero forms, e.g. the allomorph of the plural "sheep". Because of the mutual implication between "expression" and "sign", we may say that "sign" is also a class of allomorphs. As members of a given sign, allomorphs are equivalent in respect to that sign and each of them represents the sign in question. And by implication each individual phonological form p of the class $\{p\}$ in $\{p\}$ Rs represents the form of the sign in question. Allomorphs of a certain sign, being in complementary distribution (i.e. contextual variants), and having the same distinctive function in grammar, cannot be opposed to one another.

Finally we should note, that "signa" are, with a view to grammatical analysis, either "simple" or "complex". A simple sign is a sign which is not analysable into two, or more, constituent signs, and a complex sign is a sign which is analysable into, at least, two constituent signs. For instance, the complex sign "went" is a combination of two signs: "to go" and "past". And since neither "to go" nor "past" is analysable into further constituent signs, each of them forms a simple sign. However, in grammatical analysis, the term "sign" is used without any regard to grammatical complexity. Therefore, in language, it covers monemes, pleremes, as well as syntagms.[7]

2. <u>"Language" and the Concept "Double Articulation"</u>

A "Language" is, in an axiomatic functionalist sense, a structural set of "models" set up by the descriptive linguist to account for certain facts in the speech phenomena. The components of that structure will

appear isomorphic with the theoretical "models" on the basis of which such a structure has been set up. Hence the necessity of distinguishing between "speech" or rather that shapeless mass of speech-phenomena on the one hand, and "language" - as a set of "models" - on the other. On the basis of this distinction, "language" is said to be <u>established</u> by the linguist, while "speech", i.e. the speech-phenomena proper, is said to be <u>described</u> by him.

"Language" is defined as: "semiotic system with double articulation" (Def. 3c). In order to attach a scientific value to this definition, we should be able to understand what is meant by the terms "semiotic system", "articulation" and finally "double articulation". As the main issue, as far as this section is concerned, is the concept of "double articulation", the concept in question and its implications will be discussed in detail. (For "semiotic system" see Def. 1c and ensuing definitions.) Although both Martinet and Mulder lay emphasis upon the importance of "double articulation" as the defining property of language, yet there is an important difference as to what is meant by the term in question. For Martinet the constituents of the first articulation are minimum elements of both "form" and "meaning" (i.e. monemes). Successively, the signifiants (expressions) of monemes are further articulated into elements of "form" only (i.e. phonemes), in the second articulation.

Mulder defines "articulation" as: "cenotactics or syntax (plerotactics)" (Def. 3b). The constituents in "syntax" stand in ordering relations to one another in sub-ordinative constructions,[8] and in relations of simultaneity in co-ordinative and/or inter ordinative constructions. Thus "monemes" which are, by definition, in morphological relations of simultaneity cannot be regarded as constituents of the first articulation. "Pleremes" which are, by definition, the ultimate syntactic elements, are by implication the ultimate (~~simple~~) constituents of the first articulation.

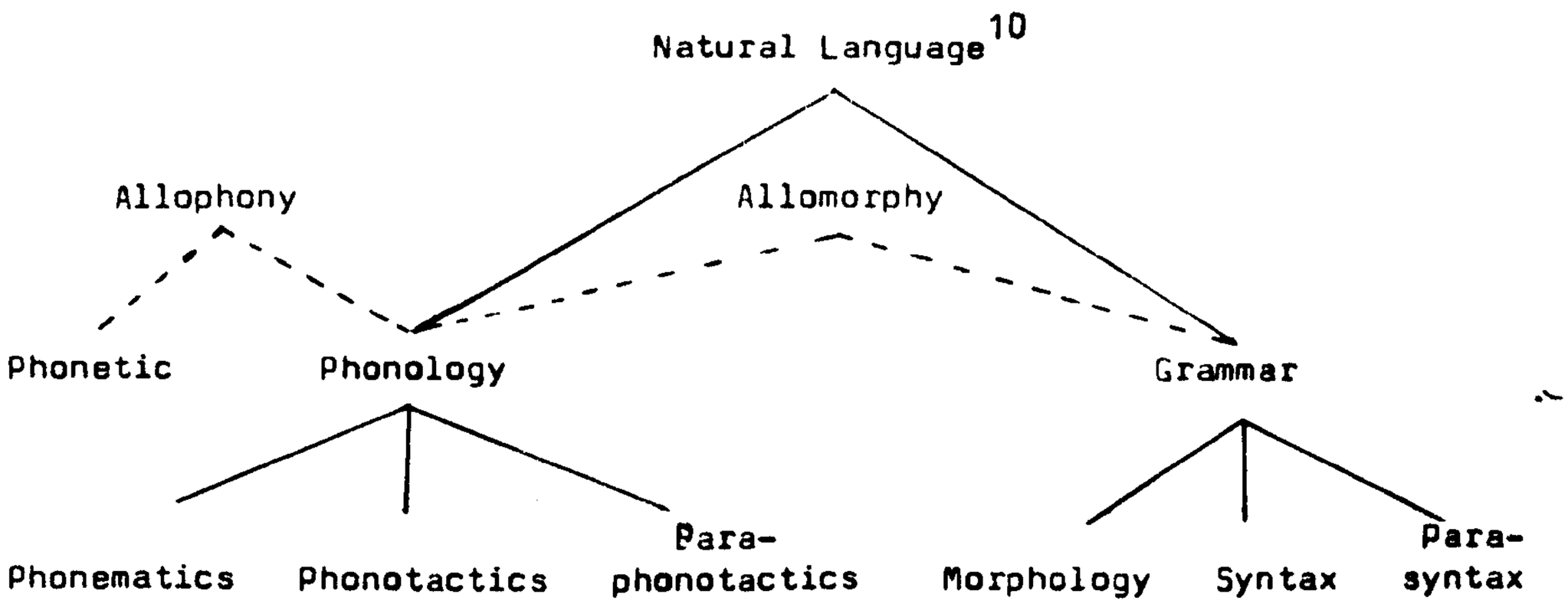
With regard to the second articulation, Mulder regards the "phonemes" as its ultimate constituents, since they (phonemes), by definition, stand in ordering relations to one another. "Phonemes" are further analysable into "distinctive features". The reason why Mulder does not regard "distinctive features" as the constituents of the second articulation is justified by his underlying assumption that these constituents combine together by simultaneity, rather than ordering, relations. Thus regarding distinctive features as constituents of the second articulation would contradict the concept "articulation" (relations in phonotactics are, by definition, ordering relations).

It is noteworthy that though both Martinet and Mulder regard the "phonemes" as the ultimate constituents of the second articulation, yet there is an important difference as to what elements are to be viewed as "phonemes". Mulder, in order to remain consistent with his linguistic sign-theory, believes that it is absurd from an ontological point of view to analyse, as Martinet does, the expression of the linguistic sign into phonological features called phonemes. Such an absurdity derives from the fact that the identity of the linguistic sign is established by the conjunction of a particular expression and a particular content. And since - as indicated in the previous section - the notions "expression", "content" and "sign" are equivalent, it follows that segmenting the expression of the linguistic sign into phonemes - which are mere "forms" - would obviously mean segmenting the sign itself - which is the conjunction of both "form" and meaning - into phonemes. This would, consequently, lead to mixing up ontological levels, namely "grammar" and "phonology", which axiomatic functionalists are quite keen to keep segregated. Being reluctant to analyse the "expression" of the linguistic sign into phonemes, Mulder chooses to analyse the "phonological form" of the expression[9] - by implication the phonological form of the sign - into phonemes. Finally, it must

be recalled that Mulder disapproves of calling the two articulations of language "first" and "second", as these terms may imply that the "second" articulation is unfolding from the "first" one, or vice versa. And since "phonology" and "grammar" - and by implication phonotactics and syntax - are, in Mulder's view, two independent systems, the two articulations of language are to be regarded as independent, though perhaps interconnected with one another.

3. "Language" and the Domain of Syntax

Axiomatic functionalism sets up a model for the structure of natural language which is represented as follows :



Natural languages in description, as well as in theory, have two main sub-disciplines: "phonology" and "grammar" as shown by the above model. Phonology, is in its turn, further sub-divided into: "phonematics", "phonotactics" and "para-phonotactics". Phonematics and phonotactics are two independent sub-systems, the former of which deals with "phonemes" in terms of "simultaneous bundles of distinctive features" whereas the latter deals with "phonemes" as constituents of more complex phonological entities, i.e. "phonotagms". The two sub-systems are said to be inter-locking[11] in the sense that the maximum entities, i.e. the self-contained simultaneous bundles of "phonematics" (the unordered phonological system) correspond, in their turn, to the minimum entities of "phonotactics" (i.e. phonemes

in the ordered phonological system).

Grammar, the other main sub-discipline of language is divided into: "morphology" and "syntax" and "para-syntax". Similarly, i.e. parallel to the distinction between "phonematics" and "phonotactics" in "phonology", "morphology" and "syntax" constitute two independent sub-systems in grammar, the former of which deals with "pleremes" as self-contained simultaneous bundles of monemes, whereas the latter with "pleremes" and combination of pleremes, i.e. syntagms, as constituents of more complex grammatical entities, i.e. higher syntagms and so on. The foregoing two sub-systems of grammar are said to be interlocking in the sense that the maximum entities, i.e. "pleremes", the maximal self-contained bundles of monemes in the unordered grammatical system, correspond, in their turn, to the minimum entities of syntax, the ordered grammatical system.

"Allophony" and "allomorphy" are, to axiomatic functionalists, "realizational levels", rather than sub-systems or interlevels. Mulder says "To call them interlevels may even be misleading, because, as soon as we are dealing with 'allophones', i.e. as soon as we have brought in 'distinctive function', we are no longer in phonetics, but in phonology. Similarly, all 'allomorphs' belong to grammar, not to phonology". As a realizational, rather than a structural, aspect of grammar, 'allomorphy' may be ignored in syntactic descriptions where one basically deals with relations between syntagmatic entities (pleremes and syntagms) - which are by definition signa (signs or symbols) but not between "allomorphs", let alone "phonological forms".

The para-tactic levels, i.e. "para-phonotactics" and "para-syntax", in Mulder's view, stand slightly outside the system of systems (Mulder and Hervey ibid), which constitutes language, in so far as their connexion with the tactic levels, i.e. "phonotactics" and "syntax", is not one of simple interlock. The connexion between the two levels is

explained in the following manner: "The tactic levels provide the bases for the para-tactic entities produced by the para-tactic level". It is further said, "On the para-tactic levels one finds bases, constituted of tactic entities, together with further features, with respect to natural language, mainly prosodic ones, that contribute to their ultimate identity."[12] The distinction between "tactic" and "paratactic" levels is useful in syntactic analyses since one can make a distinction between para-syntactic entities (i.e. sentences and/or clauses) and their bases which are the actual entities analysed in syntax.[13]

In the light of what has preceded, we may say that "syntax" is that area of grammar that is left over after subtracting "morphology" and "para-syntax", and of course after removing "allomorphy" (which is a realizational, rather than a structural, aspect of grammar). This, however, does not mean that we do not refer to morphology and para-syntax when we set out to analyse syntactically. As Mulder puts it: "Indeed, the pure identity of a syntagm explicitly or implicitly depends upon the role it may play as the base, or part of the base, of particular sentences. Only in this way may we distinguish between two different syntagms corresponding to one and the same phonological form, e.g. that of 'flying planes may be dangerous'."[14]

4. <u>"Positions", "Syntagms" and "Sentences"</u>

In Mulder's linguistic theory, the term "distributional unit", "field of relations" or "chain" in its wide sense, is used to cover self-contained bundles of positions or <u>instances</u> of those self-contained bundles, both in phonology and in grammar. The term in question is referred to as "phonotagm" in phonology, and "syntagm" in grammar.

"Syntagm" is defined as: "self-contained bundle of positions in grammar" or "<u>instance</u> of a self-contained bundle of positions in grammar" (Def. 9b). This implies that the notion "syntagm" refers, not only to the theoretical and descriptive models, but also to the

instantiation of those models. Taking the "intransitive" syntagm in English as an example, the term "syntagm" may be used to refer to:

a) The fact that the syntagm in question is a self-contained bundle of positions in grammar (i.e. it satisfies the definition of syntagm in the theory).

b) An instance of the above, e.g. the model "subject → predicative" set up in a description of English to account for the syntactic relations involved in it.

c) An instantiation of the syntagm in question, e.g.

the manager slept

The notion "positions" is defined in the theory as "divisions within a chain, such that in every such division an entity, as an immediate constituent of that chain can stand and alternate (i.e. commute) with other entities, or with zero". (Def. 7g). An alternative definition is: "points on a chain corresponding to relata of direct tactic relations", and, yet another alternative definition is "points of intersection between paradigms (visualized as <u>vertical</u> straight line, called paradigmatic axis)". (Def. ibid). From the definition of "position" and "syntagm" we see that the two notions are inextricably bound together. One cannot conceive of positions in grammar without conceiving of syntagms, nor vice versa. Referring back to the intransitive model "subject → predicative", we may say that the model in question is a self-contained bundle of two positions: "a verbal predicative" in the nuclear[15] position, and a "subject" in the peripheral position.

Dealing with "positions" and distributional units (syntagms) in grammar involves dealing with considerations concerning what axiomatic functionalists call "paradigmemes" and "syntagmemes". (Defs. 10, 10a). A paradigmeme is viewed as an element partaking in a functional opposition within the paradigmatic axis of which it is a member, whereas a "syntagmeme", which is essentially a paradigmeme together with the position

it occupies, is viewed as a member of the self-contained chain within which is contracts syntactic relations with the other members of the chain in question. Thus "the manager" in, for instance, "the manager slept" can be looked upon as a paradigmeme when it enters into functional opposition with other entities e.g.

the manager slept

the teacher slept

the minister slept

or as a syntagmeme when it is taken to occupy the subject position with reapect to the predicate "slept". In view of what has preceded it is possible for one to view syntagms either in terms of paradigmemes forming ordered combinations, or alternatively in terms of syntagmemes, each consisting of a paradigmeme standing in a position. It is in terms of positions that the syntactic functions of elements can be clearly and elegantly described.[16] Taking this, together with the fact that the syntactic functions of constituents are to be described completely and exhaustively within the syntagm (i.e. without reference to any elements outside its boundaries) into consideration, it follows that it is necessary to ensure that the model set up consists of the correct number of positions required to accomodate the immediate constituents of the syntagm described.

"Syntagms" on the highest level in the syntactic hierarchy may constitute "bases" for what Mulder calls "sentences", (though a base of a sentence is not necessarily a well-formed syntagm). "Sentence" is defined as "signum with such features that it cannot be a feature (constituent or other feature) of another signum". (Def. 20). An alternative definition is, "signum such that it is a self-contained vehicle for conveying messages". (Def. ibid). It is further explained in the "postulates" that "it should be noted that other signa, even though they have information-value, can only convey messages, if and

only when, belonging to, or constituting the base of a sentence. That is the notion "information-value" and "messages" have to be distinguished". On the basis of this, "syntagm" as a "sentence-base" or part of a "sentence-base", i.e., the ordered combination of elements, and "sentence" which contains, in addition to the "base", para-tactic features (e.g. intonation), have to be regarded as two separate entities. This, however, should not be taken to imply that the two notions in question are entirely unrelated. The distinction between "message" and "information-value" plays an important role in the distinction between "sentence" and "syntagm". "Sentences" as signs in language are characterised by the fact that, when realized, they convey self-contained messages in actual communication, whereas syntagms do not have such properties. That is "syntagms" - or for that matter any other grammatical entities (i.e. monemes, pleremes) - though they have information-value, they do not, and cannot, of themselves, and by themselves (e.g. without a certain intonation superimposed on them) convey self-contained messages in actual communication. In syntactic descriptions it is the "syntagms", the bases of sentences, rather than the sentences themselves, that are subjected to analysis.

5. Syntagmatic Entities in Grammar

"Syntagmatic entity" is defined as: "Entity capable of standing in ordering relations with other entities or having an internal structure such that it is capable of containing - as constituents, entities capable of standing in ordering relations with other entities". (Def. $7b^2$). By this definition it is implied that the term "syntagmatic entities" applies to entities on the tactic plane in both "phonology" and "grammar"; that is, it applies to entities in "phonotactics" and in "syntax" respectively. It is the latter, i.e. "syntax" that is important as far as the present work is concerned. In view of the above definition, both "pleremes" and "syntagms", being capable of exhibiting ordering relation, may be called "syntagmatic entities". However, it is quite essential to know

that though both "pleremes" and "syntagms" have the property of exhibiting ordering relations, or more specifically, syntactic relations, it is only the latter elements that can contain within their structure - i.e. as constituents - entities capable of standing in ordering relations with one another. The internal structure of a syntagm, depending upon the level in the syntactic hierarchy on which it occurs, may consist of only "syntagms", only "pleremes", or a combination of the two. For instance, the immediate constituents of the syntagm "the little boy has eaten the cakes on the table" are the <u>syntagms</u>: "the little boy", "has eaten" and "the cakes on the table". On the next lower level in the syntactic hierarchy, the immediate constituents of the syntagm "the little boy" are the <u>pleremes</u>: "the", "little", and "boy", whereas those of the syntagm "the cakes on the table" are the <u>pleremes</u> "the" and "cakes", <u>and</u> the <u>syntagm</u> "on the table". (For further considerations involving the term "syntagm" see the preceding section).

The term "plereme", defined as "word or grammateme" (Def. 8b), covers both "word" and "grammateme" and unequivocally represents either and both of them. "Word or grammateme" is defined as: "self-contained (by definition: simultaneous) bundle of one or more monemes as its immediate (and at the same time: ultimate) constituents" (Def. $8b^1$). Alternative definitions are: "Minimum syntagmatic entity in grammar", "Minimum syntactic (plerotactic) entity". By implication, these definitions equally apply to the term "plereme".

Theoretically speaking, there is no ground for distinguishing between "word" and "grammateme". The two are equivalent since each as a minimal syntactic entity (i.e. plereme) may exhibit a syntactic function. In the realizational part of syntactic descriptions, however, there are certain practical considerations which make the distinction between "word" and "grammateme" a useful point of issue. That is, "words" are characterised by the fact that their <u>forms</u> are represented

by "discrete linear entities" whereas the forms of "grammatemes" are represented by "discontinuous entities". For example, in English the syntagm "he eats" can be analysed syntactically either as, "he ...s" and "eat", or as "he" and "eats" whatever is the most convenient. This implies that the element /s/ in the one case is regarded as part of the phonological form of an allomorph of the sign "third person masculine singular"; but it is equally correct to regard it as part of the phonological form of an allomorph of the sign "to eat". According to the first analysis it is assumed that "/he ...s/" is an allomorph (contextual variant) of the sign "third person masculine singular", and "/eat/" an allomorph of the sign "to eat", whereas in the second it is assumed that "/eats/" is an allomorph (contextual variant) of the sign "to eat", and "/he/" an allomorph of the sign "third person masculine singular". The two means of representing the signs reflect, but do not affect, the same syntactic relation holding between the two signs: "third person masculine singular" and "to eat", nor, in fact, do they affect the identities of these two signs. Hence the emphasis that "syntactic relations are relations between signs, and not between allomorphs of signs" (Mulder 1978). Opting for one, therefore, or the other type of representation is, as I have said already, a mere matter of descriptive convenience, or emphasis on the one, or the other, aspect of the case. And since, in syntactic analyses, it is usually more convenient to represent a syntagm, or rather to project it onto the model, in terms of "discrete linear entities" (words), rather than in terms of "discontinuous entities" (grammatemes), the second type of representation (i.e. "he" and "eats") is often (though not in all cases) preferable to the first (i.e. "he ...s" and "eat").

In conclusion "word" and "grammateme" are equivalent notions in the theory. They represent the same entity (i.e. plereme), but looked upon in different ways from the point of view of realizations.

6. Immediate Constituent Analysis

In syntactic description from an axiomatic functionalist point of view a certain, more or less, logically determined order of procedures is followed. In "Syntax in Axiomatic Functionalist Linguistic" 1976, Mulder says: "What we start off with i.e. that which we must accept as given, when we begin to analyse syntactically, is a duly identified syntagm, presented as a duly justified string of pleremes. No matter what else we may wish to do with this string, we have first to arrange it into its immediate constituents. Those have to be identified as the first step in our syntactic analysis". In order to present the syntagm as a string of pleremes, the investigator depends on certain criteria, deduced from the set of axioms and definitions of Mulder's axiomatic linguistic theory, for the identification of morphological complexes as opposed to syntactic complexes. (See Hervey and Mulder, "Pseudo-composites"). After reducing the syntagm to a string of pleremes, the analyst starts to group those pleremes into immediate constituents taking into consideration the following major points which are summed up by Mulder as the most characteristic features of IC. analysis in axiomatic functionalist linguistics: "In the first place, there is no a priori binarism involved. Secondly, I maintain that the only way in which one can arrive at cuts, is not by cutting but by grouping. That is, if one progressively groups together those entities that are in more direct relations, the cuts immediately fall into place. Thirdly, only purely linguistic criteria - together with the theoretical criteria of consistency, adequacy, and simplicity - are used in decisions. And in the fourth place, evidence for the structure in question must be found in the syntagm itself, not in other, external syntagms, and least of all in paraphrases or "transformations" of the Chomskyan type".[17] To illustrate the procedure for IC. analysis the following sentence base is taken for analysis: "That little girl bought three big books". On

applying the aforementioned criteria the syntagm in question is analysable into the following pleremes:

that/little/girl/bought/three/big/books

On investigating the validity of the assumption that the immediate constituents of the above syntagm are:

that little girl/bought three big books

we notice that there is a direct[18] tactic relation between "that" and "girl", and between "little" and "girl". The relation between "that" and "little" is indirect as it goes via "girl". On further investigation no other direct relation can be detected between "that" or "little" and any other plereme in the syntagm being analysed. But the element "girl" together with "that" and "little" stand in a direct tactic relation with "bought", while no other direct relation can be detected between "that little girl" and any other constituent in the syntagm. Accordingly the construction "that little girl" constitutes a self-contained combination of syntagmatic entities, i.e. a syntagm. On the other hand we notice that there is a direct tactic relation between "three" and "books" and between "big" and "books". The relation between "three" and "big" is indirect as it goes via "books". No other direct relation can be established between "three" or "big" and any other constituent in the above syntagm. But the two, together with "books" stand in direct tactic relation with "bought", while no other direct relation does hold between "that little girl" and any other constituent in the syntagm. For these considerations "three big books" constitutes a self-contained combination of syntagmatic entities, i.e. a syntagm. In view of these observations there is no linguistic reason why the syntagm should be analysed into:

a) that little girl/bought three big books

rather than into:

b) that little girl bought/three big books

That neither (a) or (b) can be corroborated as a valid solution is

justified as follows: it is theorematically deduced from the set of axioms and definitions in Mulder's axiomatic functionalist linguistic theory that if two constituents "a" and "b" are syntactically combined to constitute the syntagm "x", it follows that the relation holding between them is either a relation of "sub-ordination", of "co-ordination", or of "inter-ordination" in any of these three cases, the relation between "a" and "b" is, by definition, a "direct tactic relation". "Direct relation" is defined as: "relation between constituents (not necessarily immediate constituents) that is not a relation <u>via</u> other constituents". (Def. 15). And for a direct relation to be <u>tactic</u> it should be between immediate constituents (see Def. ibid. and Def. $7C^3$). Thus to corroborate either of the hypotheses (a) and (b) as a valid analysis we should be able to ensure that the relation between the constituents of either is a <u>justified</u> direct tactic relation. If it turns out that none of them satisfies the definition then both solutions have to be rejected. On investigation we see that "bought" is directly related to "that little girl" ~~in~~ as much as it is related to "three big books". This is sufficent to invalidate the assumed direct relation in either (a) or (b),and consequently to reject either of them as a valid I.C. analysis. Secondly, and this is also theorematic in the theory being employed, if "a" and "b" are said to be <u>syntagms</u> forming the immediate constituents of the syntagm "x", then each of "a" and "b" must be, by itself, a self-contained, or an <u>instance</u> of a self-contained bundle of positions in grammar. This, again, is violated by the fact that neither "bought six books" in the first analysis, nor "the little girl bought" in the second, satisfies this theorem, and, therefore, cannot be claimed to form immediate constituents, Thus both (a) and (b) have been shown to be inconsistent with the theory on the one hand, and materially inadequate on the other, and consequently they have to be rejected. This leaves us with the sole valid alternative of breaking the syntagms down into the following immediate constituents:

that little girl/bought/three big books

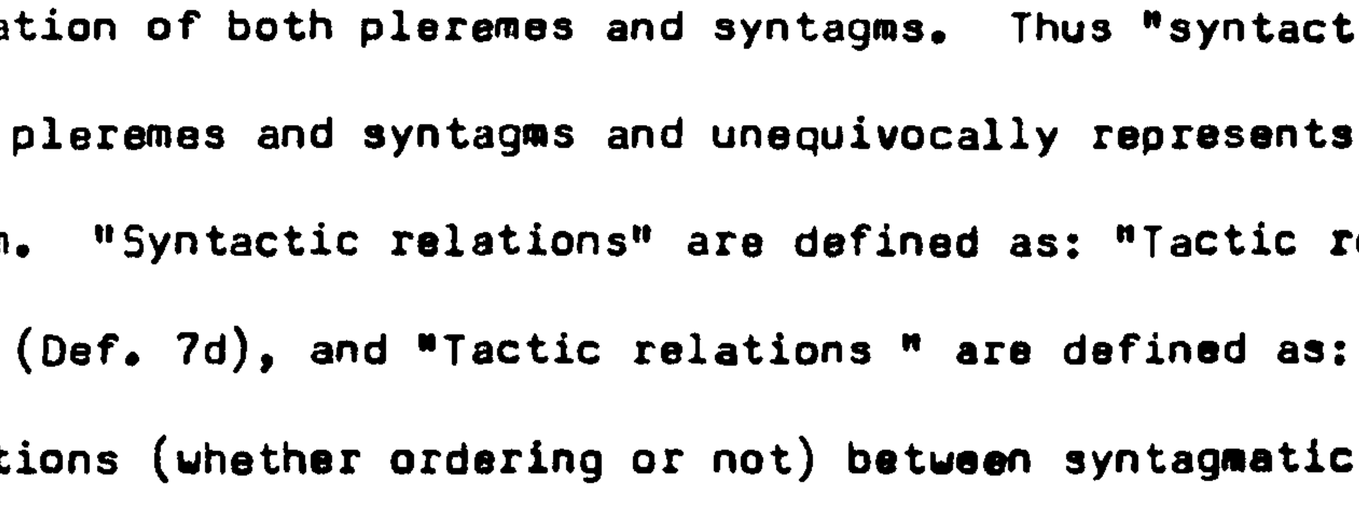
That this is the only consistent and adequate solution can be shown as follows: the above syntagm as a whole is a self-contained sub-ordinative construction in which "bought" is the nucleus. It is the nucleus since it governs the syntactic functions of each of the constituents "that little girl" and "three big books"; that is to say each of the latter two peripheral I.C.s. is, for its function, directly dependent on "bought", and that the two are indirectly related via it. On the next lower hierarchical level, the nominal peripheral construction "that little girl" constitutes, in its own right, a sub-ordinative syntagm whose immediate constituents are "that", "little" and "girl" of which the latter is the nucleus. Each of the two peripheral items "that" and "little" stands in a direct relation of sub-ordination with respect to the nucleus "girl", and the two peripherals are indirectly related via it. Similarly, the peripheral construction "three big books" constitutes a sub-ordinative nominal syntagm whose immediate constituents are: "three" "big" and "books" of which "books" is the nucleus.

In view of what has preceeded, I.C. analysis from the point of view of axiomatic functionalism, can be conducted either by establishing the direct and indirect relations between the highest hierarchical syntactic complexes moving progressively downwards in the syntactic hierarchy to the direct and indirect relations holding between the minimal syntagmatic entities, i.e. pleremes, or by the reverse of this procedure. No matter which of the two procedures one may wish to follow, the syntagm has, as it has already been indicated, to be presented as "a duly justified string of pleremes". The difference between the two methods figures as follows: on applying the first procedure, the investigator launches the first cut(s) as a hypothesis that may stand if it proves to be consonant with his calculations of direct and indirect relations or refuted if otherwise. But in the second case he is duly guided by his knowledge

of direct and indirect relations rather than by his intuitions and calculations about them. This in effect means that in the former, the analysis is performed, then, justified, whereas in the latter, the analysis is performed step by step with due justification.

7. Syntactic Relations

It has been indicated that in syntactic description, from an axiomatic functionalist point of view, what we start off with when we begin to analyse syntactically is "a duly justified string of pleremes". Pleremes constitute the minimal syntagmatic (this implies the minimal syntactic) entities in grammar. Via the direct and indirect relations holding between them pleremes are grouped into syntagms, and the latter into higher level syntagms, and so on. This in effect means that syntactic relations may obtain between pleremes as well as syntagms, or, in fact, between pleremes and syntagms since immediate constituents of one and the same chain may be a combination of pleremes, of syntagms, or a combination of both pleremes and syntagms. Thus "syntactic entities" covers both pleremes and syntagms and unequivocally represents each and both of them. "Syntactic relations" are defined as: "Tactic relations in grammar" (Def. 7d), and "Tactic relations " are defined as: "constructional relations (whether ordering or not) between syntagmatic entities as immediate constituents". (Def. $7c^3$).[19] The following diagram shows the types and sub-types of relations which may obtain between syntagmatic entities in grammar, i.e. syntactic entities.



To exemplify the relations shown in the diagram the syntagm "that little

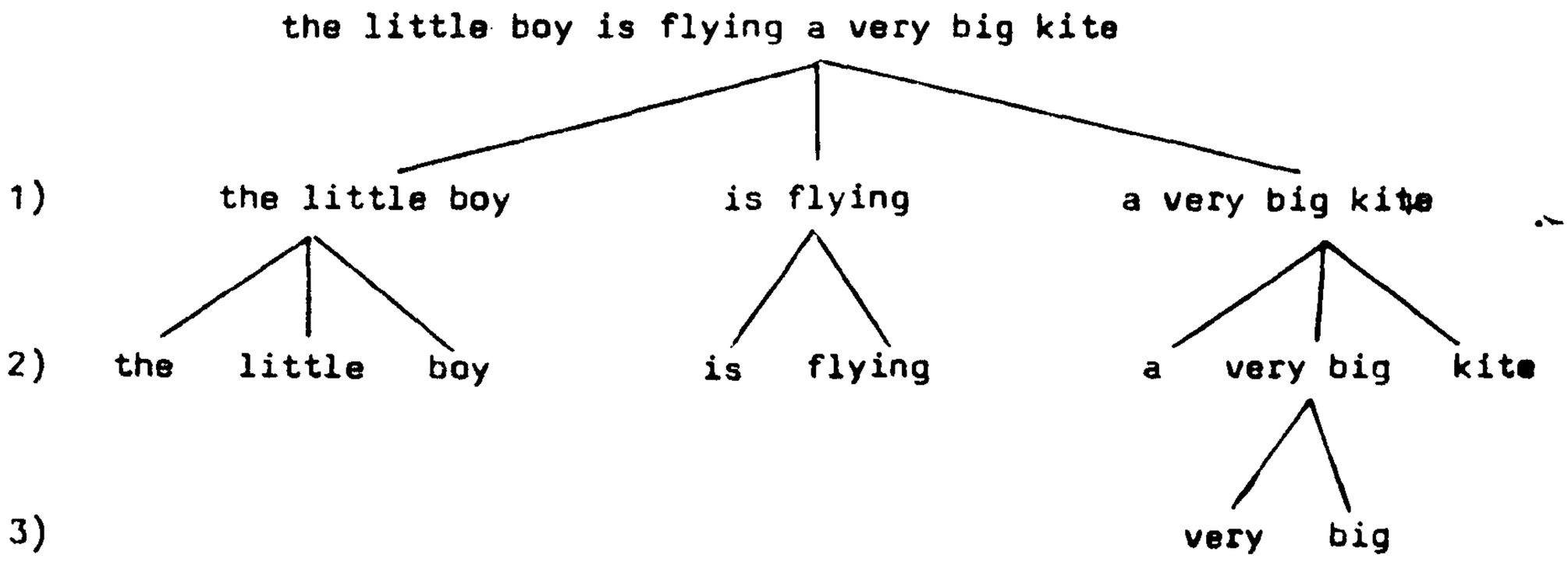
boy is flying a very big kite" is taken for analysis. According to certain theoretical criteria (see Hervey and Mulder "Pseudo-Composites"), the syntagm is analysable into minimal syntagmatic entities, i.e. pleremes as follows:

the/little/boy/is/flying/a/very/big/kite

The syntagm is grouped into its immediate constituents in the following manner:

the little boy/is flying/a very big kite

On the next lower level the above immediate constituents are analysable into immediate constituents and so on. The hierarchical levels involved in our syntagms and the I.C.s. established on each level are diagramatically represented by the following scheme:



On the basis of the definition of "direct relation" which is: "Relation between constituents (not necessarily immediate constituents) that is not a relation via other constituents" (Def. 15) and the definition of tactic relation ($7c^3$) which has been stated earlier, direct tactic relations may be established.

On the first level between:

"the little boy" and "is flying"

"a very big kite" and "is flying"

On the second level between:

"the" and "boy"

"little" and "boy"

"is" and "flying"

"a" and "kite"

"very big" and "kite"

On the third level between:

"very" and "big"

From the above relations we notice that a direct tactic relation in a sub-ordinative[20] construction holds between each peripheral immediate constituent and the nucleus to which it is sub-ordinated. (The left-hand terms in the above paradigms are peripheral constituents while the right-hand ones are nuclei.) Thus the relation between "the little boy" and "is flying", for instance, is <u>direct</u> as it is not via other constituents, and <u>tactic</u> since it holds between immediate constituents on the same level (i.e. of one and the same syntagm, namely "the little boy is flying a very big kite). The same argument applies to all the constituents listed above. Direct tactic relation is explained in the "Postulates" (Def. 15) as follows: "There are also direct relations between the nuclei of peripheral constituents and the nucleus of the corresponding nuclear constituent - the nuclei constitute, as it were the joint in multiply complex constructions, but as the nuclei in that case are mere constituents, not immediate constituents such relations are direct, but not tactic relations, i.e. direct non-tactic relations". In our previous syntagm direct non-tactic relations are established between:

"boy" and "flying"

"kite" and "flying"

"big" and "kite"

From this we see that a direct-non-tactic relation may obtain between the nucleus of a peripheral immediate constituent and the nucleus of the corresponding nuclear immediate constituent - the latter has been

called "the nucleus nucleorum", (see Mulder's "Some Difficult Cases in Syntax" (1978) - within one and the same syntagm. The relation between "boy", the nucleus of the peripheral I.C. "the little boy" and "flying" the nucleus of the nuclear immediate constituent "is flying", is direct as it does not go via other constituents, and non-tactic since "boy", alone, i.e. without the peripheral elements "the" and "little" to which they are sub-ordinated, and "flying", without its peripheral "is" are mere constituents, but not immediate constituents within the chain in question. Relations between peripheral I.C.s. in sub-ordinative constructions are indirect tactic. In "the little boy", the relation between "the" and "little" is indirect as it goes via "boy", and tactic since "the" and "little" are immediate constituents within the same chain. Other indirect tactic relations can be established between: "a" and "very big" in the syntagm "a very big kite", and between "the little boy" and "a very big kite" in the syntagm "the little boy is flying a very big kite".

"All other relations between constituents are indirect non-tactic relations, and as such uninteresting."[21] Examples, the relation between:

"the"	and	"flying"
"boy"	and	"big"

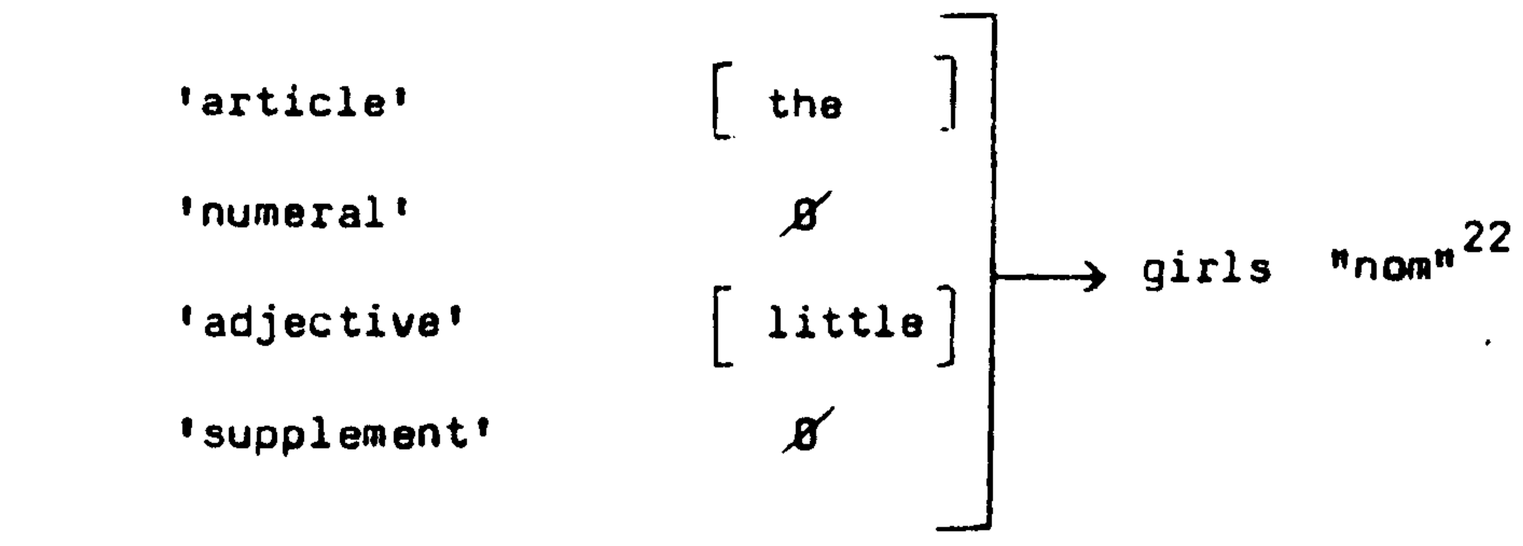
As indirect non-tactic relation is insignificant in syntactic description no purpose is served in listing all the items between which this type of relation may hold.

From the point of view of the theory employed, three types of direct-tactic relation may obtain between syntagmatic entities in grammar:

i) Relation of Sub-ordination

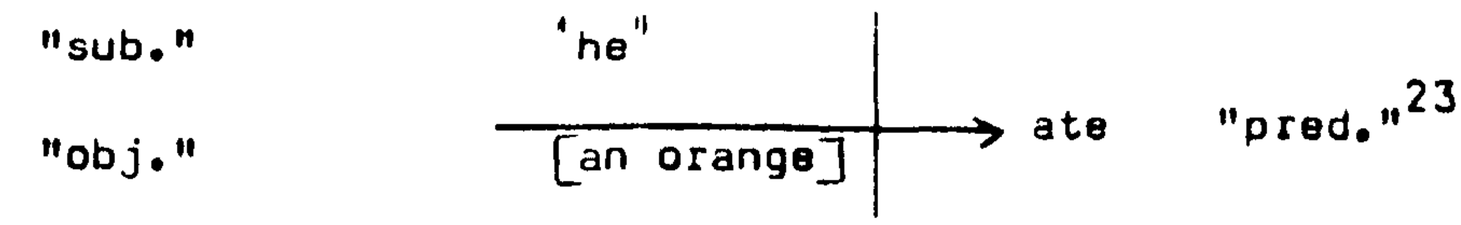
"Relation of sub-ordination" or "determination" is defined as: "Direct tactic asymmetrical relation of functional dependency". Its

converse is super-ordination or "government". (Def. 11a). Mulder explains this type of relation in the following manner: "If a and b are in direct tactic relation, and a is for its tactic function (i.e. "position") dependent on b, but not vice versa (in symbols: a → b), a is said to be sub-ordinate to b, and b super-ordinate to a. Furthermore, a is said to be standing in peripheral, and b nuclear position in the chain (i.e. the self-contained bundle of positions)". In view of the above definition and the explanation following it, a relation of sub-ordination requires the presence of at least two syntactic elements (as I.C.s, one of which is peripheral while the other is nuclear within one and the same self-contained bundle of positions in grammar, i.e. syntagm). For instance the syntagm "the little girls" is a combination of three I.C.s of which "girls" is the nucleus; each of "the" and "little" is a peripheral element standing in a sub-ordinative relation with respect to the nucleus "girls". The relations between the peripheral elements and the nucleus can be represented by the following diagram:



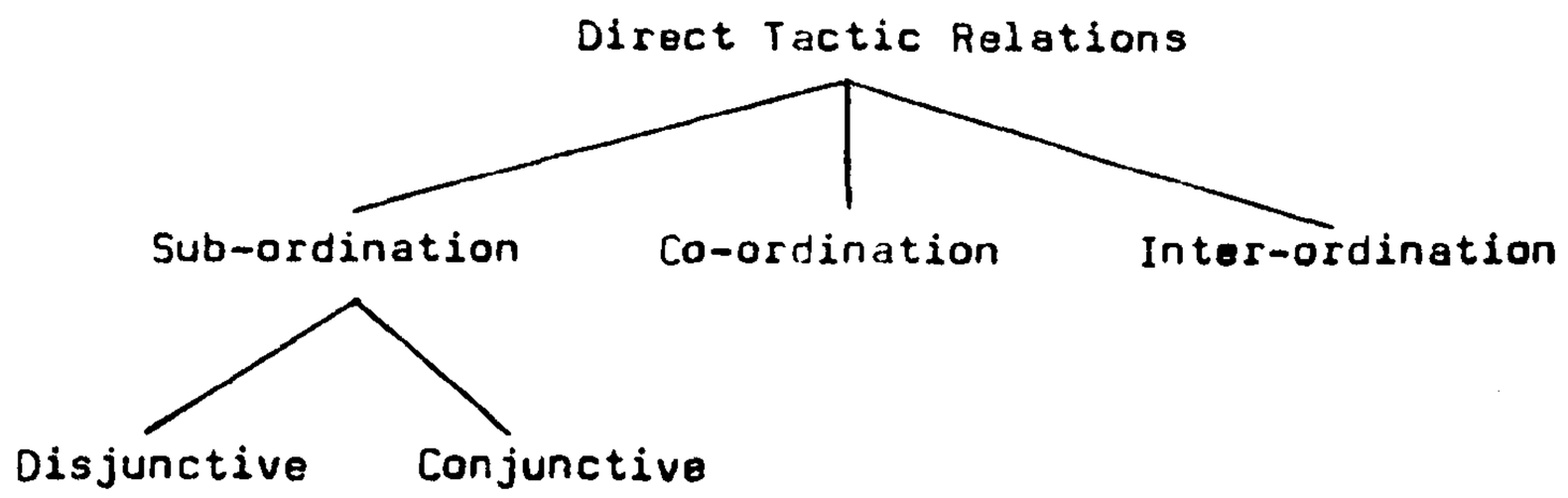
Square brackets indicate a peripheral expansion, i.e. "it commutes with zero". (Def. 13c). A peripheral entity partaking in a sub-ordinative relation may also be bound. "Bound entity" or "actualizer" is defined as: "Peripheral immediate constituent that does not commute with zero". This is symbolised as a→b in which a is a bound entity (Def. 13d). For instance in the syntagm "he ate an orange" there are three immediate constituents of which "ate" is the nucleus; each of "he" in the subject position and "an orange" in the object position is a peripheral entity

standing in a direct tactic relation of sub-ordination with respect to the nucleus "ate". The constituents "he" and "an orange" differ, in regard to occurrence, in that the first is "bound", whereas the second is an "expansion". The corresponding syntactic structure of the syntagm may be represented as follows:



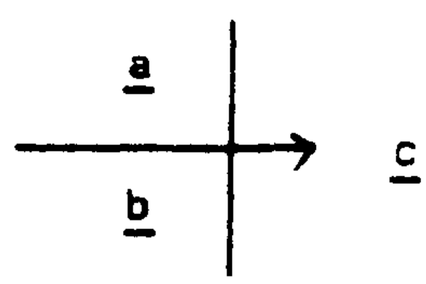
The element "he" has not been bracketed since it is bound, i.e. it does not commute with zero. And also the nuclear element "ate" has not been bracketed since a nucleus, by definition, does not commute with zero. The symbol (⟶⟷) represents a relation of diverse determination (which will be discussed presently).

Within the relation of sub-ordination Mulder distinguishes between types of relation: "Disjunctive determination" and "Conjunctive determination", as shown by the following diagram:

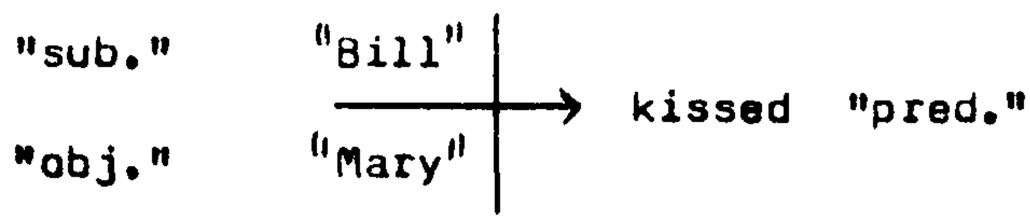


a) "<u>Disjunctive Determination</u>"

"Disjunctive or diverse determination" is defined as: "Complex tactic relation such that two or more peripheral immediate constituents are sub-ordinated to the same nucleus, but in different ways". This type of relation is symbolised in the Postulates as follows: "<u>a</u> Rx <u>c</u> and <u>b</u> RY <u>c</u>, where <u>a</u> and <u>b</u> are peripheral, <u>c</u> is nuclear, and Rx and RY are different tactic relations (relators)". This is represented as follows:

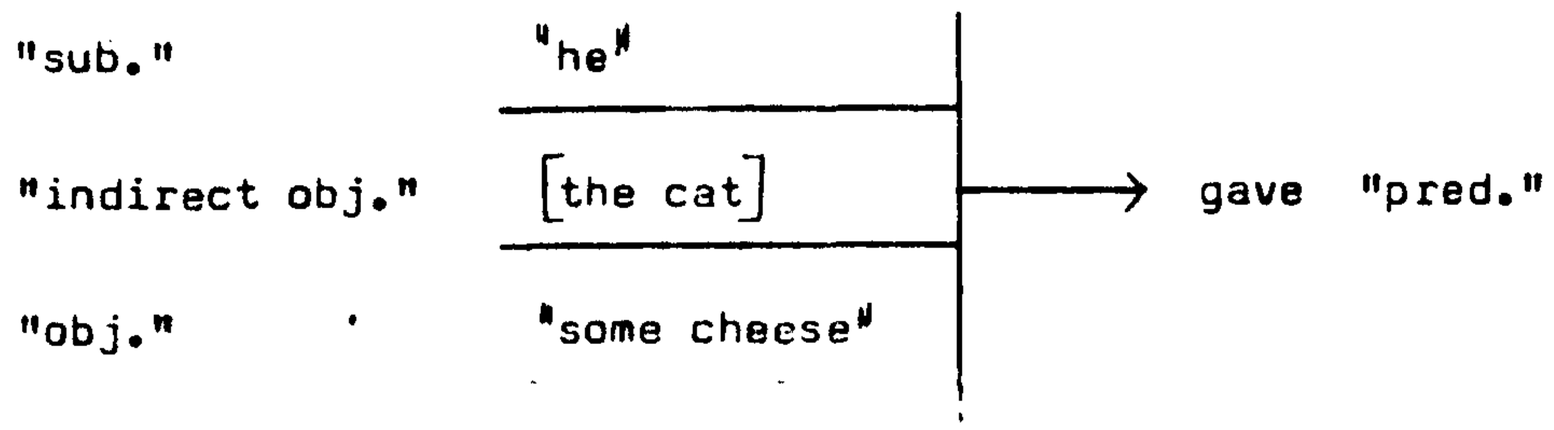


The syntagm "Bill kissed Mary" is a combination of three immediate constituents of which "kissed" is the nucleus. Each of "Bill" and "Mary" is a peripheral entity standing in a direct relation of subordination with respect to the nucleus "kissed".



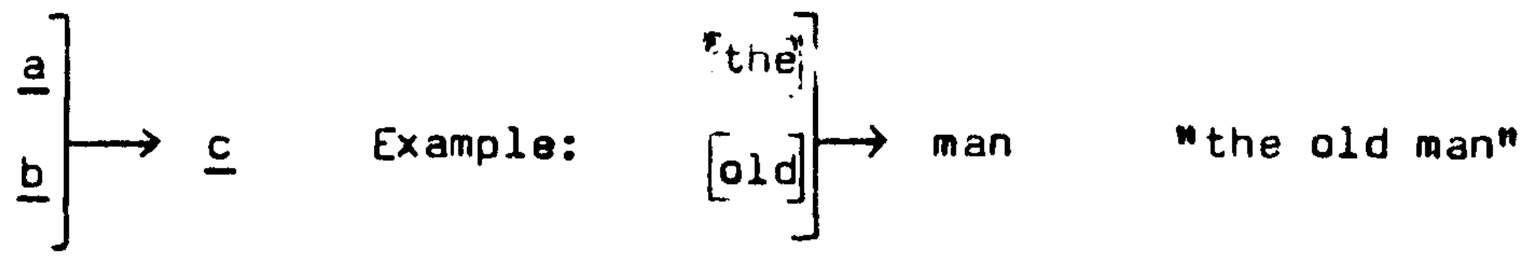
In this syntagm the peripheral entities "Bill" and "Mary" are subordinated to the nucleus "kissed" in different ways. This can be demonstrated by the fact that in "Bill kissed Mary" and "Mary kissed Bill" the relation in which any of the two peripheral items stands with respect to the nucleus in the first syntagm is different from the relation in which that peripheral items stands with respect to the nucleus in the second. In other words, in "Bill kissed Mary", "Bill" is identified as "subject" precisely because its function contrasts with that of "Mary" in the object position. Conversely one may state that "Mary" is identified as "object" precisely because its function contrasts with that of "Bill" in the subject position. The difference between the two contrastive functions of the peripheral elements is produced by the sequential order of the elements in question on the realizational level. That is to say that the element "Bill" is "subject" in "Bill kissed Mary" and "object" in "Mary kissed Bill", not only because it has preceded "kissed" in the first and followed it in the second, but also because of its contrastive relation with that of "Mary" which followed "kissed" in the first and preceded it in the second.

As indicated by the aforementioned definition, there may be more than two peripheral immediate constituents partaking in a diverse determination. For instance in "he gave the cat some cheese" the peripheral elements "he", "the cat", and "some cheese" stand in diverse determination in respect of the nucleus "gave":



b) "Conjunctive Determination"

"Conjunctive or parallel determination" is defined as: "A complex tactic relation such that two or more peripheral immediate constituents are sub-ordinated to the same nucleus, but it cannot be ascertained that they are so in different ways". (Def. 14b). This type of relation is symbolised in the Postulates as follows: a Rx c and b Ry c, where, as far as we know, $-(x \neq y)$, i.e. $x = y$. This is represented as:



The syntagm "the old man" is a combination of three immediate constituents of which "man" is the nucleus. Each of the peripheral elements "the" and "old" is standing in a direct relation of sub-ordination in respect of the nucleus "man", but it cannot be ascertained that the relation between "the" and "man", i.e. (the ⟶ man), is different from the relation between "old" and "man", i.e. (old ⟶ man). Unlike the situation which is encountered in "diverse determination", we notice that the reversibility of elements, i.e. the change of ordering of elements on the realizational level would not lead to producing two, or more, syntagms that are functionally distinct.[24]

So as not to confuse between "parallel determination" with "co-ordination" (which is discussed below), Mulder says: "This situation differs from certain cases of co-ordination, i.e. (a ⟷ b) ⟶ c, which indeed implies a Rx c and b Ry c, where x = y, but where a and b

stand in a direct tactic relation, and hence are together one immediate constituent (rather than two separate ones) in respect to c". (Def. 14b).

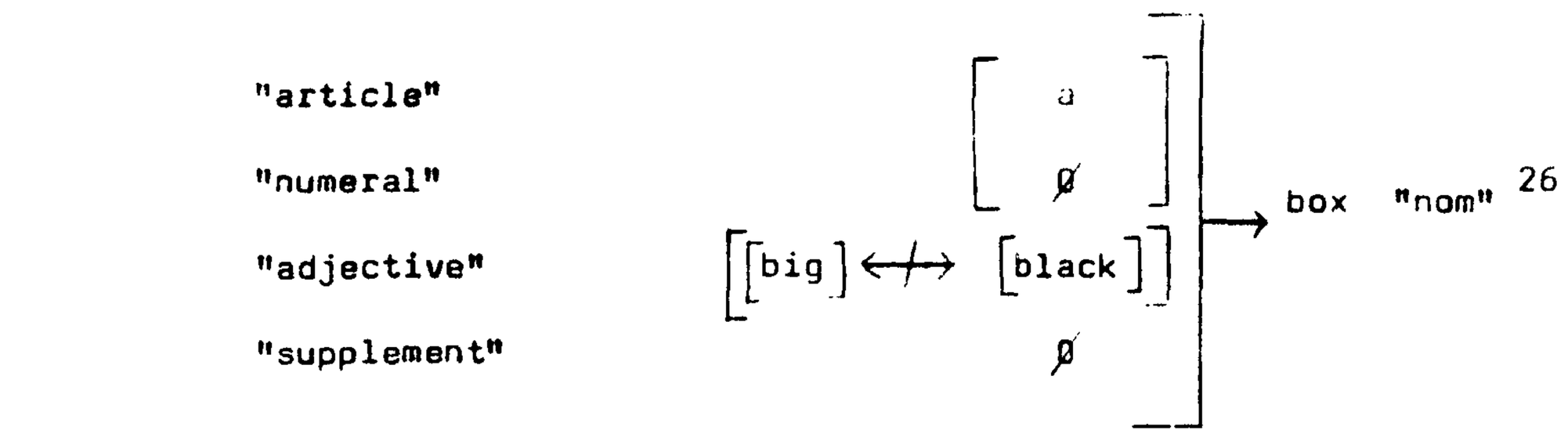
ii) Relation of Co-ordination

This type of relation is defined as: "Direct tactic (by implication symmetrical) relation of mutual functional independency". (Def. 11b). It is further explained in the Postulates that "if a and b are in a direct tactic relation, and a is for its tactic function (i.e. "position") independent of b and vice versa, a and b are said to be co-ordinated (in symbols: a $\leftarrow\!\!/\!\!\rightarrow$ b)". In the view of the present aproach only functional criteria may be brought to bear in the identification of syntactic relations. In "small and tight" in the phrase "a small and tight shirt" the element "and" may act as a conjunction between the denotata of the two elements "small" and "tight", but this does not provide any grounds for establishing a relation of co-ordination between the two elements. Two elements are said to be co-ordinated only when they stand in a direct tactic relation to one another in such a way that neither, for its function, depends on the other, (i.e. when "a mutual functional independency" is maintained between them). Accordingly "small" and "and tight", the immediate constituents of "small and tight", cannot be said to be co-ordinated since there is no mutual functional independency between them. And even if we accepted the analysis of "small and tight" into three, rather than two, immediate constituents, i.e.

* small/and/tight [25]

we would still be unable to recognise a relation of co-ordination beweeen "small" and "tight" for the absence of a direct tactic relation between them (in this case the two would be indirectly related via "and"). In "a big black box", Mulder recognises a relation of co-ordination between "big" and "black", i.e. (big $\leftarrow\!\!/\!\!\rightarrow$ black). This implies that these two elements are standing in a direct relation to one another, and that they are functionally independent, i.e. "big", for its function, is not

dependent on "black" nor vice versa. Accordingly the elements "big" and "black", together, form one rather than two, peripheral immediate constituent alongside with the nucleus "box" to which they are sub-ordinated. And since the two elements are combined together by a relation of co-ordination the two together as a self-contained bundle in grammar (i.e. a syntagm) - but neither of its constituents separa-tely - is for its function dependent on the nucleus "box" within the syntagm in question. The relations involved in the syntagm "a big black box" can be represented as follows:



26

iii) Relation of Inter-ordination

"Relation of inter-ordination" is defined as: "direct tactic (by implication : symmetrical) relation of mutual functional dependency" (i.e. functional interdependency). (Def. 11c). It is further explained in the Postulates that "If a and b are in a direct tactic relation, and a is for its tactic function (i.e. "position") dependent on b, as well as vice versa, a and b are said to be inter-ordinated (in symbols : a ⟷ b). It means, in fact, that the relation between a and b is both of sub-ordination and of super-ordination, and the same goes for the converse of the relation". In the idiomatic phrase "the sooner the better", there is a relation of inter-ordination between the immediate constituents "the sooner" and "the better":

the sooner ⟷ the better

There is a direct tactic relation between the above two I.C.s; "the sooner", for its function, depends on "the better" and vice versa. This, in fact, implies that the two elements are, for their occurrence,

also dependent on one another (and this means that neither commutes with zero). As we shall later see, when an element is, for its function, dependent on another, it follows that it must also depend on it for its occurrence, though not vice versa. The essential difference between this type of relation and "co-ordination" is that the co-ordinated elements are, neither for function nor occurrence, dependent on one another, and, therefore, either of them is commutable with zero.

8. Quasi-syntactic Relation

"Relation of apposition" or "quasi-syntactic relation" for "direct non-constructional - and, therefore, non-grammatical relation between, qua tactic function, equivalent immediate constituents of a chain". (Def. 11d). It is further explained in the Postulates that: "If a and b are in a direct non-constructional relation, but each of them separately is, or corresponds to, an immediate constituent of a more complex entity, a and b are said to be in a relation of apposition (in symbols : a ⟶ b). For instance, in "John the genius passed the test" there is a direct tactic relation between "John" and "passed", and between "the genius" and "passed". There is also a direct relation between "John" and "the genius", but this one is non-tactic and non-constructional since "John" and "the genius" refer to one and the same element and consequently they constitute equivalent immediate constituents combined by qua-tactic function, rather than by a syntactic relation to constitute a syntagm. This implies that the two elements together do not constitute an immediate constituent with respect to "passed", though each of them separately does. The difference between "co-ordination" and apposition is explained in the Postulates (Def. 11d), in the following manner: "The difference between co-ordination and apposition is that the relation in the former is constructional (i.e. is not merely "juxtaposition", and has, therefore, semantic import as such) and results, therefore, in a construction (i.e. chain), whereas apposition is

non-constructional". In "a big black box", for instance, the elements "big" and "black" constitute a chain standing as an immediate constituent alongside with "box". On the next lower hierarchical level, the construction "big black" is a combination of two I.C.s. combined via a direct tactic and, therefore, constructional relation.

9. Occurrence and Functional Dependencies

"Occurrence" and "Functional" dependencies have been confused in many approaches to linguistics due to the difficulty of capturing the precise nature of the relation via which the two are interrelated. The interplay between these two types of dependency and how they are related will be clarified in the following discussion. From an axiomatic functionalist point of view three logical possibilities of occurrence dependency may be distinguished:

i) Bilateral Occurrence Dependency

"Occurrence interdependency" or "bilateral (or mutual) occurrence dependency" is defined as: "relation such that neither of two entities in direct relation (see Def. 15) which are immediate constituents of a chain can occur in the chain in question whilst the other is zero". (Def. 12a). This type of relation is symbolised as a b. It is implied in the above definition that if two entities are standing in a relation of mutual occurrence dependency to one another it follows that the one, for its occurrence, depends on the other and vice versa, and, therefore, none of the two entities can be an expansion, i.e. commute with zero, that is, the two entities involved should be bound to one another. The connexion between "occurrence interdependency" and "functional dependency" figures as follows: if two immediate constituents of a chain are bilaterally dependent, then the entities involved are, functionally, either in a relation of "sub-ordination" or "inter-ordination", but they cannot be in co-ordination. With reference to "sub-ordination" (symbolised a $\longrightarrow$ b), we may say occurrence interdependency implies

sub-ordination though not necessarily vice versa.[27] For instance, in "the book", the constituent "the", for its occurrence, depends on "book" and vice versa, i.e. there is a "mutual occurrence dependency" between the two entities involved. In terms of "function" there is a relation of "sub-ordination" between "the" and "book" since the first is, for its function, dependent on the second but not vice versa. But in a syntagm such as "new books", though "new" stands in a sub-ordinative relation with respect to "books", the two constituents do not stand to one another in a relation of a "bilateral occurrence dependency". One sees that "books" may occur as an instance of a nominal syntagm without requiring the presence of "new" within the syntagm in question. With reference to inter-ordination, (symbolised a $\longleftrightarrow$ b), we may say occurrence inter-dependency implies inter-ordination and vice versa. For instance, in "the sooner the better", "the sooner" is, for its occurrence, dependent on "the better" and vice versa, i.e. there is a "mutual occurrence dependency" between the two entities involved. In terms of "function", we recognise a relation of inter-ordination between "the sooner" and "the better", since each of the two entities involved is, for its function, dependent on the other and vice versa.

ii) Unilateral Occurrence Dependency

"Unilateral occurrence independency" or unilateral occurrence dependency" is defined as: "Relation such that one of two entities in direct relation which are immediate constituents of a chain can occur in the chain in question whilst the other is zero, but the other cannot". (Def. 12b). This implies that if two entities are in a unilateral occurrence dependency, it follows that the dependent entity must be an expansion, i.e. commutes with zero, whilst the entity depended upon must not commute with zero. This type of relation is symbolised (see "Postulates"), as: [a] b or a [b], where the brackets indicate an element that commutes with zero. That is to say that in [a] b, [a], is, for its

occurrence, dependent on b, though not vice versa, whilst in a [b], the reverse is the case. The connexion between this type of relation and functional relation figures as follows: if two immediate constituents of a chain are unilaterally dependent (or independent), then, the two entities involved are, functionally, in a relation of sub-ordination, though not necessarily vice versa. For instance, in "little boys", "little", for its occurrence, depends on "boys" though not vice versa, i.e. there is a unilateral occurrence dependency between the two. In terms of "function", a relation of sub-ordination is recognised between "little" and "boys", since the former is, for its function, dependent on the latter but not vice versa. Accordingly, the functional as well as the occurrence dependencies involved in "little boys" are represented in " [little] ⟶ boys". We have noted that "unilateral occurrence dependency" implies sub-ordination, though not necessarily vice versa, since two elements, unilaterally dependent, are necessarily in a relation of sub-ordination, e.g. the relation between "little" and "boys" in ([little] boys), cannot be but sub-ordination, i.e. ([little]⟶ boys), whilst elements in a relation of sub-ordination could either be unilaterally dependent, e.g. ([little] ⟶ boys), or bilaterally dependent, e.g. ("the" ⟶ boy)

iii) Bilateral Occurrence Independency

"Bilateral (or mutual) occurrence independency" is defined as: "Relation such that each of two entities in direct relation which are immediate constituents of a chain can occur in the chain whilst the other is zero". (Def. 12c). This implies that if two immediate constituents in a chain are bilaterally independent it follows that each of the entities involved is commutable with zero.(i.e. expansion). This is symbolised in the Postulates as: [a][b]. The connection between this type of relation and functional dependency figures as follows: if two immediate constituents of a chain are bilaterally independent, then they are in a relation of mutual functional independency, i.e. co-ordination. In

"a small brown table", "small" and "brown", the immediate constituents of the chain "small brown", are in a relation of mutual occurrence independency, that is to say, "small", for its occurrence does not depend on "brown", nor vice versa. Furthermore, neither "small" is, for its function, dependent on "brown", nor vice versa; therefore they are said to be in a relation of co-ordination.

10. "Nuclearity" and "Peripheralness"

The term "nucleus" or "governing entity" is defined as: "entity in nuclear position" (Def. 13a). "In symbols it is represented as: $\underline{b} \longrightarrow \underline{a}$, $[\underline{b}] \longrightarrow \underline{a}$, $\underline{a} \longleftarrow \underline{b}$, or $\underline{a} \longleftarrow [\underline{b}]$, in which $\underline{a}$ is the nucleus". It is further added in the Postulates that "The nucleus is the "identity-element" in the chain in question, i.e. the tactic functions of all other elements depend on their relation towards the nucleus". By this definition, and by other axioms and definitions in Mulder's linguistic theory, it is implied that no immediate constituent in a sub-ordinate syntagm can be recognised as "nuclear", unless all other immediate constituents in that chain are recognised as "peripheral". This, in effect, means that the establishment of "nuclearity" is inseperable from the establishment of "peripheralness". In view of the Saussurian tenet, "Dans la langue il n'ya que des différences", we may say that the nucleus of a particular syntagm is characterised by the fact that it is what the other immediate consituents in that syntagm are not. This boils down to saying that a nucleus is negatively defined by the fact that it is not peripheral and vice versa. Assuming, for instance, that the immediate constituents of the syntagm "the two green books on the table" are:

the/two/green/books/on the table

of which "green" is the nucleus. This hypothesis may be adopted if it can be shown that "green"occupies the nuclear position, and consequently, it can be shown that each of the other immediate constituents in the chain in question is, for its function (i.e. position), dependent on

"green". On investigation we see that "green" commutes with zero in which case the construction "the two books on the table", without the occurrence of "green", can stand as a well-formed utterance. Since the other immediate constituents cannot, for their functions (i.e. positions), depend on a zero element, an element that commutes with zero cannot occupy a nuclear position. In the light of these considerations the hypothesis that "green" is the nucleus of the syntagm "the two green books on the table" cannot stand. And, by virtue of the same considerations, the hypothesis that "the", "two", or "on the table" is the nucleus, is refuted. This, in effect, leaves us with the sole alternative of recognising "books" as the nucleus of the syntagm in question. But before presenting the justification for this last alternative, let us take an example like "the little boy in the garden", where each of "little" and "in the garden", but neither "the" nor "boy" can commute with zero.[28]

Were we to accept the hypothesis that "the" is the nucleus of the syntagm, we should have to be able to demonstrate that each of "little", "boy", and "in the garden", is, for its function, dependent on "the", and, consequently we should have to demonstrate that each of the dependent immediate constituents stands in a direct relation with respect to "the". This hypothesis is refuted by the fact that no direct relation can be maintained between "the" and "little", or between "the" and "in the garden". On the other hand, "little", "boy" and "in the garden", the assumed peripheral I.C.s, are not indirectly related as ~~it~~ is necessarily the case with peripheral I.C.s in sub-ordinative constructions.

Going back to the syntagm "the two green books on the table", we recognise "books" as the nucleus of the syntagm in question for the following considerations:

a) by the direct relation holding between each of the other I.C.s and "books", constructions like:"the books", "two books", "green books", and "books on the table" stand as instances of a self-contained syntagm.

In each of them, "the", "two", "green", and "on the table", for its function, depends on "books", but not vice versa.

b) It is via "books", and no other immediate constituent in that syntagm, the syntagm in question could be related to a higher level immediate constituent(s) (i.e. a "higher level" syntagm). For instance, in the syntagm "the two green books on the table may cost a lot of money", it is via "books" that the syntagm "the two green books on the table", is (directly) related to the syntagm "may cost", and via the latter to "a lot of money". Thus "books" in:

books may cost a lot of money

stands as an instance of the syntagm "the two green books on the table" while none of: "the", "two", "green", and "on the table", in the syntagms:

* a) the may cost a lot of money

* b) two may cost a lot of money[29]

* c) green may cost a lot of money

* d) on the table may cost a lot of money

does.

In syntax Mulder distinguishes between two types of "nucleus":

a) Free nucleus

"Free nucleus" is defined as: "Nuclear immediate constituent that does not require the presence of a non-zero peripheral constituent." "In symbols it is represented as: a ⟵ [b], in which a is a free nucleus." (Def. 12c). In the nominal syntagm "the three little boys in the classroom", each of the peripheral elements "the", "three", "little", and "in the classroom", is an expansion, i.e. commutes with zero and, therefore, the nuclear element "boys" may, on its own, stand as an instance of the syntagm in question, and therefore, it is a "free" nucleus.

b) Actualized nucleus

"Actualization" is defined as: "situation in which a nuclear immediate constituent requires the presence of a non-zero peripheral constituent". "In symbols it is represented as: a ← b, where a is said to be actualized, and b is said to be bound entity or actualiser." (Def. 13f). In the syntagm "the boy", the nucleus "boy" cannot occur as an instance of a self-contained chain without the presence of the peripheral element "the", nor, of course, vice versa. That is to say there is mutual occurrence interdependency (See Def. 12a) between "the" and "boy" in the chain in question. In English the nuclear element in the singular nominal governed syntagm is always actualized, i.e. in addition to the nucleus, there should be, at least, one peripheral element that does not commute with zero.

Parallel to the distinction between two types of "nucleus" one may also distinguish between two types of "peripheral":

a) Expansion

The term "expansion" is defined as: "immediate constituent that commutes with zero". "In symbols it is represented as: [a] ⟶ b, in which [a] is an expansion" (Def. 13c). There is mutual implication between "expansion" and "free nucleus" in the sense that, if all the peripheral immediate constituents in a particular well-formed syntagm are "expansions", the nucleus of that syntagm must be "free", and vice versa. (For an example see "free nucleus").

b) Bound

"Bound entity" or "actualizer" is defined as: "peripheral immediate constituent that does not commute with zero." "In symbols: a ⟶ b, in which a is a bound entity" (Def. 13d). There is mutual implication between "bound entity" and "actualized nucleus", in the sense that, if one, or more, peripheral immediate constituent in a particular syntagm is "bound", the nucleus of that syntagm must be

"actualized" and vice versa. (For an example see "Actualized nucleus").

11. Ellipsis

Ellipsis is defined as: "realization of a syntagm, such that one or more of its constituents are not realized at the utterance level" (Def. 21). Mulder formulates three rules for identifying ellipsis:

a) "In the first place, it is typical for ellipsis that the message would not be affected if the missing element(s) were to be reincluded.

b) Without the missing element the utterance cannot be a well-formed syntagm..

c) The missing element(s) should be unequivocally recoverable."

In "Mary eats" versus "Mary eats soup", for instance, one cannot argue that an element such as "soup" has been ellipted in the first as this would not satisfy any of the above three rules. That is to say (a) the addition of an element like "soup" to the utterance "Mary eats" would undoubtedly change the message conveyed by the utterance in question. (b) The utterance "Mary eats", by itself, i.e. without the element assumed to be missing, is a well-formed syntagm. (c) An unlimited number of paradigmatic elements can be said to be missing, and this violates the criterion of unequivocal recoverability.

A syntagm such as "big apples and oranges" conveys either of the following two mutually exclusive types of message: "big apples and oranges that are big and small" or "big apples and big oranges". As regards the first interpretation the syntactic structure of the syntagm in question can be represented as follows:

$$([\text{big}] \longrightarrow \text{apples}) \longleftarrow [\text{and} \longleftarrow \text{oranges}]$$

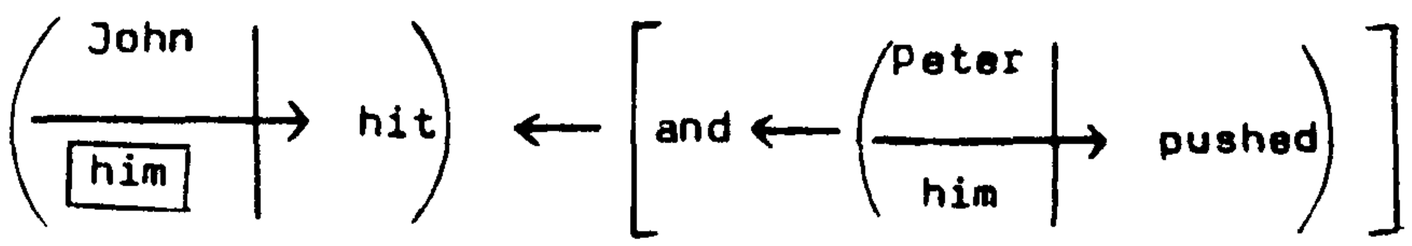
In the above construction no element(s) can be said to be suppressed (ellipted), since the element "big" clearly determines "apples" only, and not the syntactic complex "apples and oranges" as a whole. As regards the second interpretation, the syntactic structure of the syntagm can be represented as follows:

$$[\text{big}] \longrightarrow (\text{apples} \longleftarrow [\text{and} \longleftarrow \text{oranges}])$$

As the element "big" determines the syntactic complex "apples and oranges", as a whole, one might be tempted to argue that the element "big" can be inserted before "oranges" and therefore the above utterance is elliptical. This, however, may satisfy the first and third criteria for ellipsis, but not the second. That is to say each of the utterances "big apples and oranges" and "apples and oranges" corresponds to a well-formed syntagm in the English language.

In the Postulates, the construction "John hit and Peter pushed him" is introduced as an example that satisfies the definition of ellipsis and the three criteria associated with it. Firstly, the reinclusion of the suppressed element "him" after "hit" would not affect the message conveyed by the syntagm in question. That is to say one and the same message is conveyed by either "John hit and Peter pushed him" or by "John hit him and Peter pushed him". Secondly, the utterance "John hit", by itself, i.e. without the suppressed element "him" cannot stand as a well-formed syntagm, nor therefore can it be regarded as a syntactic constituent. Thirdly, the element "him" is unequivocally recoverable as the suppressed (elliptical) element.

Following the definition of ellipsis (Def. 21), Mulder explains: "This implies that ellipsis belongs to realization, rather than to the form of a signum. It does not have to be accounted for, except at the utterance level, and the phenomenon can therefore be ignored in syntax, i.e. in syntax one regards the constituent(s) as being present." In view of this the syntactic structure of "John hit and Peter pushed him" is described in the following manner:



The box indicates the suppressed (ellipted) element.

It is essential to know that the present theory does not recognise ellipsis at the sentential level. The importance of ellipsis is emphasised, as it has been implicitly and explicitly said in the foregoing discussion, at the syntactic level only. With respect to this Mulder says: "At the sentential level we must, therefore, consider ellipsis to play no role at all, and the only analyses possible at that level are one into constituents, the clauses, and one into base and para-syntactic features. It is, as I said, irrelevant at the sentence level whether the base corresponds to a well-formed realization of a syntactic structure. It is only at a different level, i.e. the syntactic one, that ellipsis becomes an issue, and from the point of view of that level we may say that it is merely a matter of 'defective' realization of a syntactic entity as an utterance." He goes on to say: "In order to avoid a common confusion, it should be noted that there are no ill-formed entities in language, i.e. 'well-formedness' or 'not well-formedness' is always a matter of realization with respect to a particular level of analysis, not of entities at the level in question." The main reason why ellipsis should be ignored on the sentential level is that the criterion of unequivocal recoverability cannot be satisfied at all at that level. That is to say one cannot predict what the missing elements exactly are. For instance, in an utterance such as "No, not a cow, a horse", being an answer to a question such as "Did he buy a cow?", one cannot predict ~~what~~ exactly the elements that can be reincluded in order to achieve a syntactically well-formed realization of the base of the utterance in question. The possibility of inserting elements, for that purpose, is infinite, e.g. "No, he did not buy a cow, but a horse", "No, what he bought was not a cow, but a horse", "No, he was unwilling to buy a cow and he preferred a horse", etc.

In conclusion I should like to point out that no suppressed

(ellipted) element(s) could ever be peripheral expansions. This is due to the fact that a peripheral expansion could always be left out without affecting the well-formedness of the realization of the syntagm of which it is a part. By this fact the second criterion of ellipsis cannot be satisfied, i.e. a syntagm remains well-formed in the absence of peripheral expansions.

NOTES TO CHAPTER II : ESSENTIAL NOTIONS IN SYNTAX

1. See J.W. Mulder, Sets and Relations in Phonology, Oxford 1968. On the art of definition, the double articulation of language and some of the consequences, Forum for Modern Language Studies, V 2, April 1969;"Linguistic Sign, Word and Grammateme" La Linguistique, 1971. And S.G.J. Hervey, Functional Semantics: a linguistic theory with application to Pekingese Oxford, D. Phill. Thesis, 1970. See also "Index and Signum" by the two authors.

2. The "double articulation" of language will be discussed in a separate section.

3. The term "signum" is used to cover both "sign" and "symbol". See definitions 2a, $2a^1$ and $2a^2$ in the Postulates (Appendix A).

4. "s" which indicates "distinctive function" in grammar should be distinguished from "d" which indicates "distinctive function" in phonology.

5. The sign $\cup$ signifies the union of terms.

6. For the phonemic notation of English used here, see Mulder and Hurren, 1968.

7. For the terms "monemes", "pleremes", and "syntagms" see the Postulates (Appendix A).

8. For sub-ordination, co-ordination and inter-ordination see section 7 of the present chapter.

9. Note that every "expression" has "phonological form" but it is not necessarily vice versa, i.e. not all phonological forms correspond to expressions. (See Theory of the Linguistic Sign, by J. Mulder and S. Hervey, 1972).

10. This scheme is taken from Mulder's "Syntax in Axiomatic Functionalist Linguistics" (1975).

11. See "Language as a System of Systems", by J. Mulder and S. Hervey La Linguistique II, 1975.

12. "Syntax in Axiomatic Functionalist Linguistics", by J. Mulder 1975.

13. For the distinction between a sentence and its base see the next section.

14. "Syntax in Axiomatic Functionalist Linguistics" by J. Mulder 1975.

15. "Nuclearity" and "peripheralness" are to be discussed in section 10, page 42.

16. "Positions" in syntax may be looked upon as devices for capturing the syntactic functions of entities. Alternatively, "position" and "function" may be viewed as aspects of one and the same thing, the first (i.e. position) corresponds to the realizational aspect of that thing, while the latter (i.e. function) corresponds to its abstract aspect.

17. Mulder's "Syntax in Axiomatic Functionalist Linguistics" (1975).

18. For the "direct" and "indirect" relations see Def. 15. (Appendix A).

19. From the two definitions, note that syntactic relations are established after, but not before, the I.C.s of the syntagm are identified.

20. For sub-ordinative constructions see the next section. Direct tactic relations also obtain between immediate constituents of co-ordinative and inter-ordinative constructions which are to be discussed presently.

21. Postulates Def. 15 (Appendix A).

22. For the analysis of the nominal governed syntagm in English see Chapter IV, Part 3. The "numeral" and the "supplement" positions are filled by zero elements "ø" since they are not realized. The numeral position may be filled by an element such as "three" and the supplement position by an element such as "in the classroom".

23. This anticipates the analysis of the "non-transitive" syntagm which is to be discussed on page 167.

24. Note that the difference in sequential order is sufficient, but not necessary, for recognising a diverse determination. That is, there might be cases of diverse determination, theoretically speaking at least, without repercussion on sequential order.

25. For analysing "small and tight" into (small/and tight) rather than (small/and/tight), or in any other way, see "Some Difficult Cases in Syntax" Mulder 1978.

26. One pair of brackets enclosing more than one item (in separate positions), indicates that either the one or the other, but not both, may be an "expansion". In the singular nominal governed syntagm in English, either the "article" or the "numeral", but not both at the same time, commute with zero. For further details see Mulder's Postulates and "On the Representation of Syntactic Structures" 1978.

27. See "Unilateral Occurrence Dependency" (Next sub-section).

28. Note that every "bound" element, by definition, does not commute with zero, but not every element that does not commute with zero is a bound element. A <u>nuclear</u> element also does not commute with zero.

29. Construction (b) may be recognised as a possible realization of the syntagm in question if, and only if, a case of "ellipsis" (see Def. 21) is recognised. The elliptical element involved is "books".

PART TWO

CHAPTER 1 : PREDICATIVES

1. Introduction to the Description

Syntax for axiomatic functionalists deals with syntactic relations that may obtain between syntagmatic entities in grammar, ultimately pleremes. Syntagms that correspond to sentences represent the maximum potential entities for a syntactic analysis. The sentence by definition, represents the maximum sign in language. However, the sentence itself is not a purely syntactic notion in that it involves, in addition to the tactic entities which constitute its base, para-syntactic features such as intonation. Thus after subtracting the para-syntactic features from a sentence we are left with a sentence-base, which may be a plereme, a syntagm, or both (or neither). Syntagms, in their turn, are successively analysed into immediate constituents, until the ultimate constituents in syntax (i.e. pleremes) are arrived at. The main purpose of the analysis, as far as the present work is concerned, is to determine and describe the syntactic relations which may hold between the constituents of the predicative[1] syntagm in Kamali Arabic and then proceeding to the description of the syntactic relations existing within the constituents of the syntagm in question. The syntactic relations holding between the syntagmatic entities on the different levels of the syntactic hierarchy will be explicitly stated in terms of models set up for an adequate description of those relations.

Mulder[2] has given the following as being an order of procedures for carrying out a syntactic analysis:

1) "Analysis into immediate constituents.

2) Establishing whether the relation between these immediate constituents is sub-ordinative, co-ordinative, or inter-ordinative.

3) If sub-ordinative, establishing which of the constituents is nuclear, and which is peripheral.

4) In case there is more than one peripheral constituent, establishing whether and, if so, how they stand in a different relation to the nuclear constituent.

5) Establishing whether a peripheral element is "bound", or whether it is an "expansion". This operation is simultaneous with the other operations, as the outcome of 1 and 2, may partly depend on it, but itself depends on 1 and 3. We may say that until all 5 operations have been applied, each of the results remains hyper-hypothetical and cannot even be launched as a descriptive statement concerning the phenomena. That is, until stage 5 has been passed, each hypothesis has to be considered as a mere working-hypothesis.

6) Making an inventory of all types of syntagms that can be distingushed on this basis, and further classifying them according to the hierarchical levels on which they occur. It is, for instance, clear that a syntagm such as "very old" is, generally speaking, of a lower hierarchical type than "the old man" is, because it commutes with one of the constituents of the latter, but not <u>vice versa</u>. The same is true for "the old man", <u>versus</u> "John hit Paul", as the former commutes with elements in the latter, but not <u>vice versa</u>. In a similar way we can classify words as to their syntactic potentials, e.g. "very" is of a different (i.e. lower) order than "old" and so on.

From the above operations, it is understood that the immediate constituents will remain hyper-hypothetical until stage 5 is reached. If they do not pass stage 5 then the hypothesis that they are immediate constituents has been refuted and the syntagm in question must be re-analysed and the immediate constituents of the new analysis be subjected to the same testing.

Before proceeding to the actual act of the analysis of the

verbal predicative-based syntagm, I should like to give a brief discussion regarding some problems in translation, and regarding the indentities of what shall be called "subject" and "object" in this work.

2. Translation Problems

It is important to note that translation is a matter of providing rough equivalents of meaning, rather than rough equivalents of structure, between constructions from two, or more, languages. One, therefore, should not be misled into establishing equivalent, or similar, grammatical functions for certain constructions which may seem to exhibit equivalent, or similar, meanings. For instance an element such as "nām" in Kamali Arabic and "he slept" in English, though roughly equivalent in denotation, are vastly different in regard to their grammatical make up. While the element "nām" (roughly : he slept) is a morphological bundle of monemes - i.e. "to sleep", "third person", "masculine singular", "active", "perfective"- (see Ashkur's "A morphological Description of the Verb in Formal Arabic" St. Andrews, M. Litt 1979), the construction "he slept" constitutes a syntactic complex in which "slept" occupies a nuclear position, and "he" stands in a relation of sub-ordination to it (i.e. "he"→ "slept"). Furthermore, the nucleus, in its turn, is a self-contained morphological bundle consisting of the monemes "to sleep" and "past". In short we may say that "nām" is a morphological complex, and "he slept" is a syntactic one.

The present work, however, does not aim at producing the best English translation for certain constructions in Kamali Arabic, nor does it aim at achieving exactness in translation. All what we are hoping to achieve is to provide a good translation which may guide the English reader in following and understanding our arguments regarding the syntactic structures of the syntagms in Kamali Arabic with which this work is mainly concerned.

Traditional grammarians take the verb in Arabic to be "perfect" when its signification is associated with the past, e.g. "katab" (roughly: he wrote), and "imperfect" when its signification is associated with the present, e.g. "iḳtib" (roughly : he writes). The "perfect" and "imperfect" are looked upon as "aspects", rather than "tenses". Verbs in Arabic cause one of the main problems for translation into English. The problem is twofold:

a) It involves what is known as "aspect" in Arabic, and "tense" in English.

b) It involves the identities of what is known as "subject" in the two languages in question. (This point will be discussed in more detail in the succeeding section.)

Elements such as "katab" and "iiktib", for instance, may be translated in the following manner:

Kamali Arabic	English
	"he (it) wrote"
"katab"	"he (it) has written"
	"he (it) had written"
.....	
	"he (it) writes"
"iḳtib"	
	"he (it) is writing"

Opting for one translation or the other depends mainly on the type of the adverb of time which accompanies the verb. It would be more correct for instance, to translate a construction such as "katab lualad risāla lbārha" into (the boy wrote a letter yesterday) rather than (the boy had written - or has written - a letter yesterday). The choice between "he" or "it" on the one hand, and "she" and "it" on the other, depends on certain considerations which will be discussed presently.

Needless to say that it is very cumbersome and inconvenient for the reader to engage himself in all possible translations for an

element such as "katab" while he is concentrating on arguments regarding the analysis of a certain construction. And more inconvenient still is to use long and tedious formulae such as: "third person masculine singular inhuman" instead of "it". For simplicity, therefore, the following points are to be taken into consideration:

a) On translating an element such as "katab" the simple past (i.e. wrote) shall be used, unless there is an adverb of time which makes it necessary to do otherwise. Similarly, on translating an element such as "iiḳtib" the simple present (i.e. writes), shall be used.

b) If the reference within the Arabic verb is unambiguously made to "third person masculine singular human" the pronoun "he" shall be used. Thus in conjunction with (a), an element such as "?akal", when isolated from a context such as "lualad ?akal" (the boy ate), or "lmudír ?akal" (the manager ate), shall be translated as "he ate". In a similar fashion, an element such as "?aklat", isolated from a context such as "lbint ?aklat" (the girl ate) or "lmudíra ?aklát" (the manageress ate), shall be translated as "she ate". And an element such as "?akál" or "?aklat" isolated from contexts such as "lkalb ?akal" (the dog ate), and "lbissa ?aklat" (the cat ate) respectively, shall be translated as "it ate".

c) In the absence of a context from which one may understand whether the reference is made to a "human" or "inhuman", e.g. "?akal", and "?aklat", the elements "he - it" and "she - it" shall be used. Thus "?akal", on its own, shall be translated as (he - it - ate), and "?aklat", on its own, as (she - it - ate). These elements shall be underdotted in translation, i.e. (he - it) and (she - it) when they are incorporated within the verb, but not when they are expressed by separate pronouns such as "huua" (he - it), and "hiia" (she - it). The dot underneath is to indicate a morphological element, while its absence a syntactic one. (More details will follow in the succeeding section.)

d) The definite article "l" in Kamali Arabic, being a morphological, rather than syntactic, element shall be underdotted in translation. Thus "lbint" shall be translated as (the girl), and "lkursi" as (the chair). (More details about the definite article in Kamali Arabic will follow in Chapter III.)

3. "Subject" and "Object" in Kamali Arabic

Traditionally the "subject" is looked upon as the theme about which something is predicated. In "Postulates for Axiomatic Functionalism" Mulder employs terms such as "subject", "object", "predicate" etc. as mere descriptive labels for certain positions of the predicative syntagm in English, or, for elements which may stand in those positions. Terms, or rather labels, of the above kind are not defined in the theory since they exclusively belong to the description of a specific language. What one may view as "subject" in a certain language cannot be viewed as such in another. This is simply because the descriptive conditions under which a certain element may be recognised as "subject" may differ from one language to another. In the description of the predicative syntagm in English, one could in an equally convenient fashion have employed (x, y, z) instead of the aforementioned labels as long as the relations between (x, y, z) are kept clearly specified. However, employing the traditional terms "subject", "object", and "predicate" is practically more convenient since they are easier to remember being in conformity with the general and conventional views of the majority of the scholars concerned.

The axiomatic functionalist approach emphasises the importance of the distinction between morphology and syntax. The distinction between these two grammatical levels will appear, not only useful, but essential in resolving the main difficulties that may be encountered in determining the grammatical status of what we shall call "subject" and

"object" in Kamali Arabic. In a complex such as "šarbat" (she - it - drank), it is understood that the "doer of the action" is third person feminine singular. This is expressed by the underlined element "at" suffixed to the predicate "šarab"[3] (to drink). In "hịia šarbat" (she - it - drank), the "doer of the action" is expressed by the pronoun "hịia" (she - it) as well as by "at". To decide what the grammatical status is of those two elements (i.e. "hịia" and "at"), the following solutions are proposed. In "hịia šarbat" (she - it - drank) :

a) The element "at" (third person feminine singular), which is incorporated within the form of the predicate is non-functional, being triggered off by the occurrence of the pronoun "hịia" (she - it) in the syntagm in question; this may be represented as: /hịia .... at/. (This discontinuous form is called "grammateme" which has been discussed on page 20.

b) The two elements "hịia" (she - it) and "at" (third person feminine singular) are standing in a relation of apposition to one another.

c) The pronoun "hịia" (she - it) is a syntactic element exhibiting a syntactic function with respect to "šarbat" (she drank), whereas "at" is a moneme standing in a morphological relation of simultaneity within the complex "šarbat" (she drank).

The first assumption is excluded by the fact that "šarbat", on its own, i.e. without the occurrence of the pronoun "hịia" (she - it) is capable of standing as a well-formed utterance conveying a complete piece of information : "she - it - drank".

The second assumption cannot stand as it does not satisfy the definition of "apposition"; that is, the two elements "hịia" and "at" do not constitute, as we shall see, two immediate constituents within the construction "hịia šarbat". Having eliminated the first two alternatives, we are left with the third alternative (c) as the only appropriate grammatical solution. This is justified as follows : the construction "hịia šarbat" (she - it - drank), is a combination of two immediate constituents:

hịia / šarbat

On the next lower level, the constituent "šarbat" (she - it - drank) is a combination of the signa "to drink", "third person", "feminine", "singular", "perfective" and "active".[4] This shows that the immediate constituents of the construction "hịia šarbat" (she - it - drank) are themselves not the ultimate ones. Furthermore, we notice that the pronoun "hịia" (she - it) is commutable with a syntagm as shown below:

hịia šarbat	(she - it - drank)
lbint lkbĭra šarbat	(the big girl drank)

In view of these observations we may say that "hịia" and "šarbat" are in a syntactic relation, rather than in a morphological relation of simultaneity. This implies that "hịia" (she - it), is a plereme rather than a moneme. So far the requirement of the first half of our hypothesis (c) has been satisfied.

Now on investigating the grammatical complexity involved in "šarbat" (she - it - drank), we notice that the constituent in question is a bundle of the signa "to drink", "third person", "feminine", "singular" "perfective" and "active". These elements are the immediate as well as the ultimate constituents of "šarbat". Further investigations show that permutation between the constituents of the complex "šarbat", within the complex in question, does not lead to producing a new complex that is functionally different from "šarbat" (she - it - drank). They further show that it is not possible for any of the constituents of "šarbat" to commute with a syntactic complex. Accordingly we may say that the constituent "šarbat" (she - drank), is a morphological rather than a syntactic complex, and consequently the elements in it are monemes rather than pleremes. In view of these observations the syntactic structure corresponding to the syntagm "hịia šarbat" (she - it - drank), can be represented as follows:

[hịia] ⟶ šarbat

As no syntactic complexity can be discovered within the boundaries of either "hịia" (she), or "šarbat" (drank), each of the two elements in question is said to constitute a plereme, i.e. a minimal syntactic entity, and as such it may occupy a position in syntax as shown by the above model. In view of these observations and in the absence of any counter-example to refute alternative (c), that alternative stands as a valid solution.

Returning now to the discussion of the constituents "subject" and "object", with the above presentation as a background, there are three different methods of identifying them:

a) The subject - predicate agreement (this applies when there is object - predicate disagreement). When, in a predicative syntagm, there is agreement between one, but only one, of the constituents assumed to be subject and object, and the predicate, the agreeing element is recognised as subject, the other as object. For instance, in:

lbnaiia šāfat lualad (the girl saw the boy)

by virtue of the element "at" (third person, feminine, singular) which is incorporated within the form of the predicate "šāfat" (sḥe saw), there is agreement between "šafat" (sḥe saw), and "lbaniia" (tḥe girl), but not between "šāfat" and "lualad" (tḥe boy). On the basis of this we take "lbnaiia" (tḥe girl), as subject and "lualad" (tḥe boy), as object. An interesting point to note here is that "lbnaiia" (tḥe girl) remains subject and "lualad" (tḥe boy), object no matter whether one says:

šāfat lbnaiia lualad

šāfat lualad lbnaiia

lbnaiia šāfat lualad

The above three instances are not functionally different but they represent one and the same syntagm conveying the message "the girl saw the boy". Elements such as "at" (third person, feminine, singular), "tu" (first person, singular), etc. may be called subject - indicators. A comprehensive list of elements of this kind together with the subject-

pronouns to which they correspond is as follows:

1.	katabtu	ʔāni	(I wrote)
2.	katabit	ʔinta	(you - m.sing. - wrote)
3.	katabti	ʔinti	(you - f.sing. - wrote)
4.	katabø	huua	(he - it - wrote)
5.	katabat	hiia	(she - it - wrote)
6.	katabna	ʔiħna	(we wrote)
7.	katabtu(m)	ʔintu	(you - pl. - wrote)
8.	katabu	humma	(they wrote)

Note that in (4), the subject-indicator has a zero realization. That is to say the third person masculine singular in examples of the above kind is realized (by ø) when none of the other subject-indicators is present.

b) The ordering of constituents within the verbal predicative syntagm. This method is viable only when the two peripheral items assumed to be "subject" and "object" are expressed in third person by two nominals having the same gender and number. This in effect means that there is a subject-predicate agreement, as well as an object-predicate agreement within the syntagm in question. For instance, in the syntagm:

lbissa šāfat lbnaiia (the cat saw the girl)

there are three I.C.s. of which "šāfat" (it -saw) is the nucleus. There is agreement between "lbissa" (the cat) and "šāfat" (she saw) on the one hand, and between "lbnaiia" (the girl), and "šāfat" on the other. I shall put forward the hypothesis that "lbissa" (the cat) is "subject" by virtue of its occurrence before the predicate, and "lbnaiia" (the girl) is "object" by virtue of its occurrence after it. For the sake of argument, let us substitute "lbissa" for A, "šāfat" (she saw), for B, and "lbnaiia" for C, and assume that the syntactic function of A is "x" and that of C is "z" when, and only when, they occur in the sequence ABC. We further assume that A and C exchange functions when they occur in the sequence CBA. This hypothesis may stand unless, for instance, in CBA we

discover that the syntactic function of A is still "x", or that of C is still "z"; or, if, on the other hand, in ABC we discover that the syntactic function of A is "z", or that of C is "x". On substituting ABC by the actual elements it becomes obvious that the relations exhibited by the peripheral items "lbissa" (the cat), and "lbnaiia" (the girl) in:

A	B	C	
lbissa	šāfat	lbnaiia	(the cat saw the girl)

are functionally different from the relations exhibited by the two peripheral items in:

C	B	A	
lbnaiia	šāfat	lbissa	(the girl saw the cat)

It is precisely because of this functional difference, which has been produced by virtue of the linear sequence of elements in the syntagm, that we have attributed two syntactically different functions to the constituents A and C. On this basis we may call A "subject" and C "object" when, and only when, they occur in the sequence ABC.

However, two peripheral items may both agree with and succeed the predicate. In such a case it becomes difficult to determine the identities of the subject[5] and object in that construction. That is to say either: "the cat saw the girl" or "the girl saw the cat" may be conveyed by utterances of the sequence:

šāfat lbissa lbnaiia

c) The object, but not the subject, when expressed by a pronoun, is marked in the form of the predicate. Going back to our example "lbissa safat lbnaiia" (the cat saw the girl), we notice that the object "lbnaiia" (the girl), commutes with a pronoun such as "a" (her), as shown below:

lbissa šāfat lbnaiia	(the cat saw the girl)
lbissa šāfat a	(the cat saw her - it)

Separate tests confirm the commutability of a pronoun such as "a" (her) with a whole syntagm, and consequently "a" can be legitimately given the

status of a plereme, rather than a moneme. In the second syntagm above it becomes immaterial with regard to the identities of the subject and the object whether one says:

lbissa šāfata

or

šāfata lbissa

That is, the element "lbissa" (ṭhe cat), remains the subject, and "a" (her - it), which is suffixed to the predicate, remains the object despite the permutation shown above. Thus each of the two constructions above conveys the message "ṭhe cat saw her". Following is a comprehensive list of examples from the data showing the objects expressed by pronouns:

1. šāfatni (sḥe - it - saw me)
2. šāfatak (sḥe - it - saw you - m.sing.)
3. šāfatič (sḥe - it - saw you - f.sing.)
4. šāfata (sḥe - it - saw her - it)
5. šāfatu (sḥe - it - saw him - it)
6. šāfatna (sḥe - it - saw us)
7. šāfatkum (she - it - saw you - pl.)
8. šāfathum (sḥe - it - saw them)

4. The "Subject" and the "Object" and the Question of "Diverse" and "Parallel" Determination

Elements partaking in a relation of "diverse" or "parallel" determination in a certain syntagm, are by definition peripheral elements standing in relation of sub-ordination with respect to the nucleus of the syntagm in question. The two types of relation are distinguished from one another by the fact that in the first (i.e. diverse), the constituents stand in different relations of sub-ordination with respect to the nucleus (see Def. 14a), whereas in the second (i.e. parallel), one cannot ascertain that the constituents are sub-ordinated

to the nucleus in different ways (see Def. 14b).

In Kamali Arabic, unlike in literary Arabic, the "cases" known by traditional as well as current[6] grammarians as "nominative", "accusative" and "genitive" are never used. Consequently the "subject" in the language in question, is not marked by a so-called "nominative" case, nor is the object by a so-called "accusative" case. The subject and the object are characterised by certain properties which have been discussed in the previous section. We have noticed that in certain situations the subject always precedes the predicate while the object succeeds it. For instance, in the syntagm:

lualad šāf lkalb (the boy saw the dog)

there are three immediate constituents of which "šāf" (he saw) is the nucleus. Each of "lualad" (the boy), and "lkalb" (the dog), is a peripheral constituent standing in a relation of sub-ordination with respect to the nucleus "šāf". On permuting the peripheral elements in the syntagm in question, the syntagm:

lkalb šāf lualad (the dog saw the boy)

is produced. The above syntagms convey two different messages. This indicates that the relations exhibited by the constituents "lualad" (the boy), and "lkalb" (the dog), with respect to the nucleus "šāf" (saw) in the syntagm:

lualad šāf lkalb (the boy saw the dog)

are different from the relations exhibited by those items with respect to the nucleus in the syntagm:

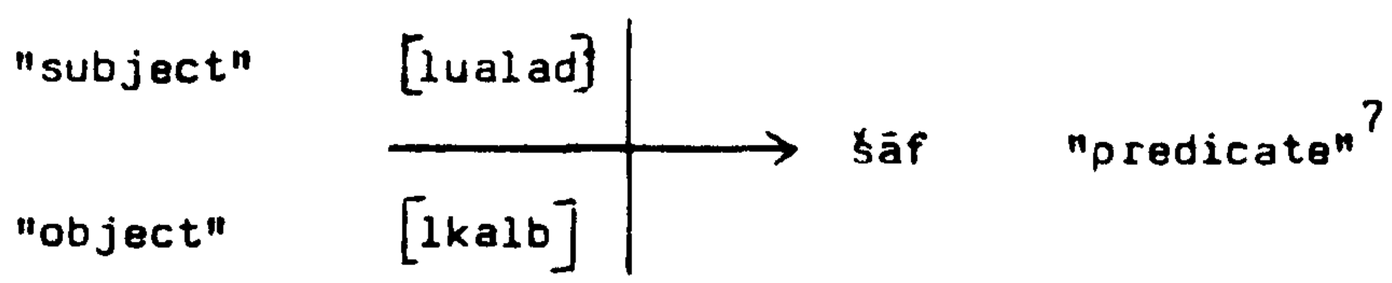
lkalb šāf lualad (the dog saw the boy)

The above permutation test shows that the peripheral constituents "lualad" (the boy), and "lkalb" (the dog), stand in different relations of sub-ordination with respect to the nucleus "šāf" (he saw). On the basis of these different relations they are said to stand in a relation of "diverse" rather than "parallel", determination with respect to the nucleus.

Accordingly, the syntactic structure of the syntagm:

lualad šāf lkalb (ṭhe boy saw ṭhe dog)

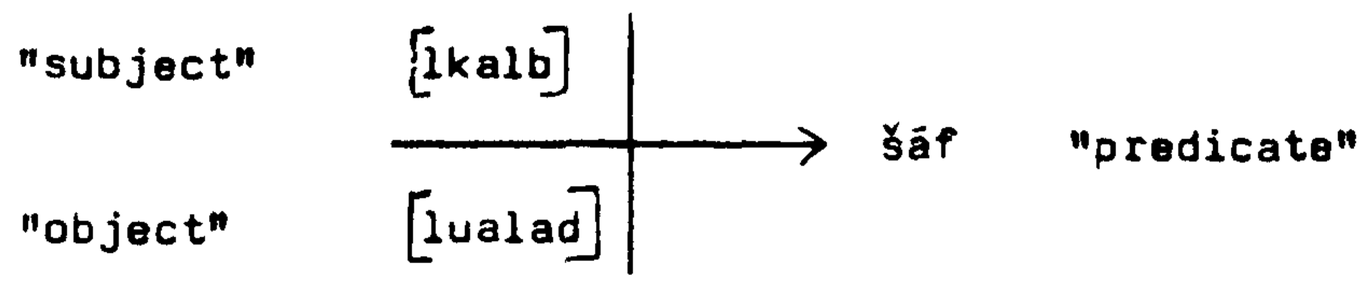
may be represented as follows:



and the syntactic structure of the syntagm:

lkalb šāf lualad (the dog saw the boy)

as follows:



The other verbal predicative syntagms in the data in which a subject and an object are involved shall be represented in the same manner.

Diverse determination may also be encountered in syntagms in which an indirect object is involved. In a syntagm such as:

lualad ʕaṭa lṭifil lqird (ṭhe boy gave ṭhe baby ṭhe monkey)

there are four immediate constituents of which "ʕaṭa" (gave) is the nucleus. Each of the constituents "lualad" (ṭhe boy), "lṭifil" (ṭhe baby), and "lqird" (ṭhe monkey), stands in a relation of sub-ordination with respect to the nucleus "ʕaṭa" (gave). The following permutations

lualad ʕaṭa lqird lṭifil (ṭhe boy gave ṭhe monkey ṭhe baby)

lṭifil ʕaṭa lualad lqird (ṭhe baby gave ṭhe boy ṭhe monkey)

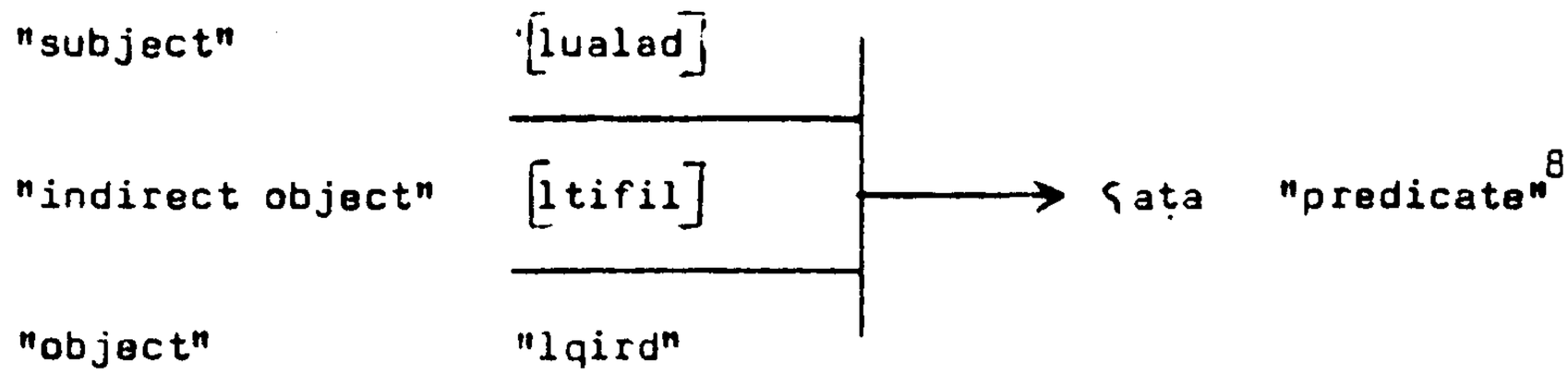
lṭifil ʕaṭa lqird lualad (ṭhe baby gave ṭhe monkey ṭhe boy)

lqird ʕaṭa lṭifil lualad (ṭhe monkey gave ṭhe baby ṭhe boy)

lqird ʕaṭa lualad lṭifil (ṭhe monkey gave ṭhe boy ṭhe baby)

show that the peripheral elements stand in different relations of sub-ordination with respect to the nucleus, i.e. they stand in a relation

of "diverse" rather than "parallel" determination with respect to the nucleus. Accordingly the structure of the syntagm: "lualad ʕaṭa ltifil lqird" (the boy gave the baby the monkey), can be represented as follows:



The above other syntagms may be described in a similar fashion, and so will all the syntagms incorporating an indirect object as they behave in a similar manner.

5. The Predicative Syntagm

In its general sense, the term "predicative syntagm" will be used to refer to any syntagm (i.e. "a self-contained bundle of positions in grammar") in the data the nucleus of which is a "predicative". In this work a distinction will be drawn between two main types of predicative syntagms:

a) "Verbal" predicative syntagm, indicating a "self-contained bundle of positions the nucleus of which is a verb".

b) "Non-verbal" predicative syntagm, indicating "a self-contained bundle of positions the nucleus of which is a non-verbal predicative".[9] (This type of syntagm will be dealt with in the next section.)

a) The Verbal Predicative Syntagm

The aim of this section is to establish and discuss the syntactic relations which may exist between the constituents of the verbal predicative syntagm in Kamali Arabic. For practical considerations, namely, simplicity and convenience, the analysis will be conducted starting with setting up a model to account for the relations within the syntagm in question, and then proceeding to larger syntagms

on the syntactic hierarchy within which our present syntagm may figure as an immediate constituent. For the purpose of the present discussion, the following examples from the data are presented:

1.	iḳtib	(he - it - writes)
2.	kān iḳtib	(he - it - was writing)
3.	irīd iḳtib	(he - it - wanted to write)
4.	kān irīd iḳtib	(he - it - was wanting[10] to write)
5.	lualad kān irīd iḳtib	(the boy was wanting to write)
6.	lualad kān irīd iḳtib lrisāla	(the boy was wanting to write the letter)

The last syntagm is analysable into minimal syntactic entities, i.e. pleremes as follows:

lualad/kān/irīd/iḳtib/lrisāla

Separate tests would show that the immediate constituents of the syntagm in question are:

lualad/kān irīd iḳtib/lrisāla

and that the syntagm "kān irīd iḳtib" (he was wanting to write), is the nucleus. To analyse the nuclear syntagm into immediate constituents the following three alternatives may be proposed:

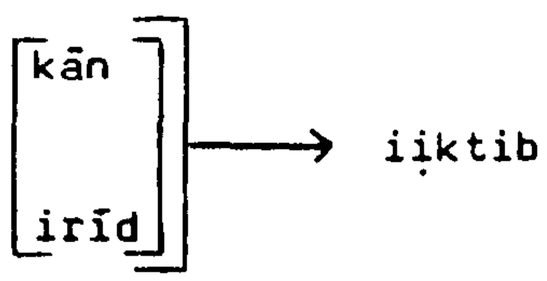
a) kān/irīd/iḳtib

b) kān/irīd iḳtib

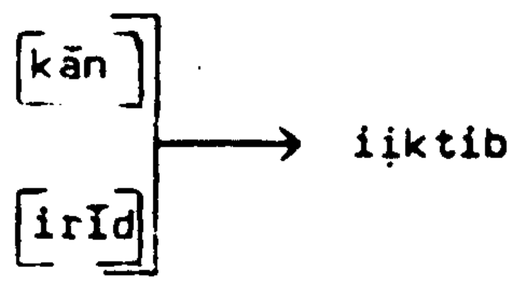
c) kān irīd/iḳtib

On the basis of the first I.C. analysis the syntactic structure of the syntagm may be represented by one of the following ways:

(1)



(2)



The first structure is immediately rejected by the fact that the data do not confirm the proposition that either "kān" (he was) or "irīd" (he wants to) is a bound peripheral. On the contrary the data confirm

that the two peripherals are both expansions. The second structure as it stands is materially inadequate (i.e. incongruent with respect to the message conveyed by the utterance in question) as it excludes any direct relation between "kān" (he was) and "irīd" (he wants to), on the one hand (the structure shows that the two elements are indirectly related via the nucleus "iiktib" (he writes)), and maintains a direct tactic relation between "kān" (he was), and "iiktib" (he writes) on the other. None of these relations, according to the message conveyed by the utterance in question, is plausible. The model in question, therefore, and the I.C. analysis on which it is based have to be rejected.

The second I.C. analysis has also to be rejected since, according to the message conveyed by the utterance under analysis, a direct tactic relation cannot be maintained between "kān" (he was), and "irīd iiktib" (he wants to write) as a whole. Separate tests would show that "kān" (he was) is related to "iiktib" (he writes) via "irīd". Therefore, a structure such as:

$$[\text{kān}] \longrightarrow ([\text{irīd}] \longrightarrow \text{iiktib})$$

which shows a direct relation between "kān" and "iiktib" has to be rejected.

Having rejected the first two I.C. analyses, we are left with alternative (c), the last I.C. analysis, as the only plausible solution. With reference to (c), (i.e. kān irīd/iiktib), the syntactic structure of the syntagm under analysis may be represented by either of the following models:

1) $\left[[\text{kān}] \longleftrightarrow [\text{irīd}]\right] \longrightarrow \text{iiktib}$

2) $\left[[\text{kān}] \longrightarrow \text{irīd}\right] \longrightarrow \text{iiktib}$

The first structure shows that "kān" (he - it - was), and "irīd" (he - it - wants to) contract <u>equivalent</u> direct relations with respect to "iiktib" (he - it - writes). It is also implied by the first structure that "kān" (he - it - was) is neither for function nor for occurrence

dependent on "irīd" (he - it - wants to), which as argued earlier, is not the case. Neither of the above considerations can, according to the message conveyed, be maintained and, therefore, the first analysis has to be rejected.

Thus the second structure, i.e.

$$\left[\left[\text{kān}\right] \longrightarrow \text{irīd}\right] \longrightarrow \text{iiktib}$$

seems to be the only plausible analysis. The analysis in question shows that "kān irīd" (he - it - was wanting to) constitutes a sub-ordinative syntagm standing, in its turn, in a relation of sub-ordination with respect to the nucleus "iiktib" (he - it - writes). Being an expansion, the peripheral syntagm in question, for its occurrence, depends on the nucleus "iiktib", but not vice versa. On a lower level, the syntagm "kān irīd" (he - it - was wanting to) is a combination of two I.C.s of which "irīd" (he - it - wants to), is the nucleus. The element "kān" (he - it - was) stands in a relation of sub-ordination with respect to "irīd" (he - it - wants to). And, being an expansion, the element "kān" is for its occurrence, dependent on "irīd" but not vice versa.

Having subjected the above analysis to attempted refutations (by testing it on as many examples, from the data, as possible), and failed to discover any counter-evidence which might make it necessary for us to revise our analysis, we are in the position to adopt it as a valid (unrefuted) descriptive statement. Accordingly, we may say that the verbal predicative in Kamali Arabic is a self-contained bundle of two positions: a verb (abbreviated as "v") in the nuclear position governing the tactic function of a peripheral expansion in the auxiliary (abbreviated as "aux") position. The model set up to account for the syntactic relations within this syntagm is as follows:

$$\left[\text{aux}\right] \longrightarrow \text{"v"}$$

In the "aux" position single pleremes as well as syntagms may stand. The pleremes "kān" (he - it - was), and "irīd" (he - it - wants to),

may occupy the "aux" position in syntagms such as:

kān iḷktib (ḥe - iṭ - was writing)

and

irīd iḷktib (ḥe - iṭ - wants to write)

The elements "kān" and "irīd", on the other hand may co-occur together in one and the same syntagm in which case they constitute a sub-ordinative syntagm occupying the "aux" position and standing in a relation of sub-ordination with respect to the verbal predicative as shown by our previous model. Accordingly, in the syntagms:

kān iīktib (ḥe - iṭ - was writing)

irīd iḷktib (ḥe - iṭ - wants to write)

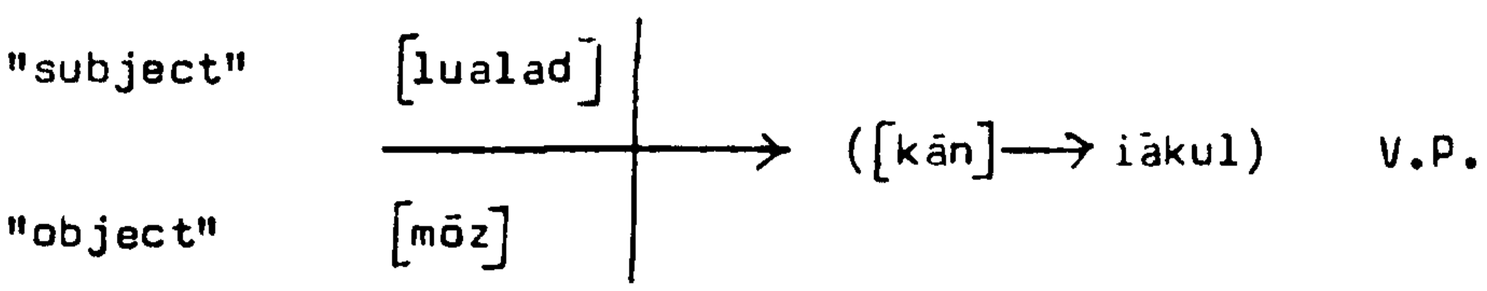
kān irīd iḷktib (ḥe - iṭ - was wanting to write)

we may say that "kân", "irīd", and "kān irīd" are members of one and the same position (i.e. "aux"). A syntagm occupying the "aux" position (e.g. "kān irīd"), may also be said to constitute a self-contained bundle of two positions. The nuclear element may be called "aux", and the peripheral one "aux. determiner".

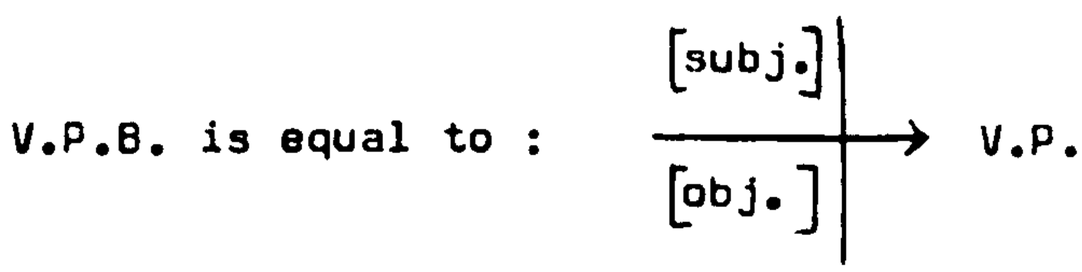
In realization, the occurrence of the constituents within the verbal predicative syntagm is restricted to the order given by the examples in our previous list.

In the preceding section the verbal predicative syntagm (abbreviated as "V.P."), has been discussed. The V.P. syntagm which is equivalent to: [aux] ⟶ v, may figure as a nuclear immediate constituent in a larger syntagm. The latter syntagm, i.e. the V.P. syntagm together with the peripheral constituents it governs, shall be referred to as: "verbal predicative-based" syntagm, (abbreviated as V.P.B.). For instance, in the syntagm "lualad kān iākul mōz" (ṭhe boy was eating banana), there are three immediate constituents of which "kān iākul" (ḥe - iṭ - was eating), is the nucleus. The nuclear syntagm in question may be called, as indicated earlier, V.P.; and the V.P. syntagm, together with the

peripheral constituents determining it - i.e. "lualad" (the boy), and "mōz" (banana) - may be called V.P.B. The syntactic structure of the latter syntagm may be represented as follows:



Calling the above structure, as a whole, a verbal predicative-based (V.P.B.) syntagm, as opposed to a "verbal predicative" (V.P.), we may say that the:



The above structure represents one type of the verbal predicative-based syntagms, namely the non-transitive, which will be discussed in the next section.

6. Types of the Verbal Predicative-Based Syntagm

On classifying the different types of the V.P.B. syntagm, it would appear practically more convenient to employ examples whose I.C.s are single syntagmatic entities, i.e. pleremes rather than syntagms. That is to say, if either of the syntagms:

lualad (the boy)

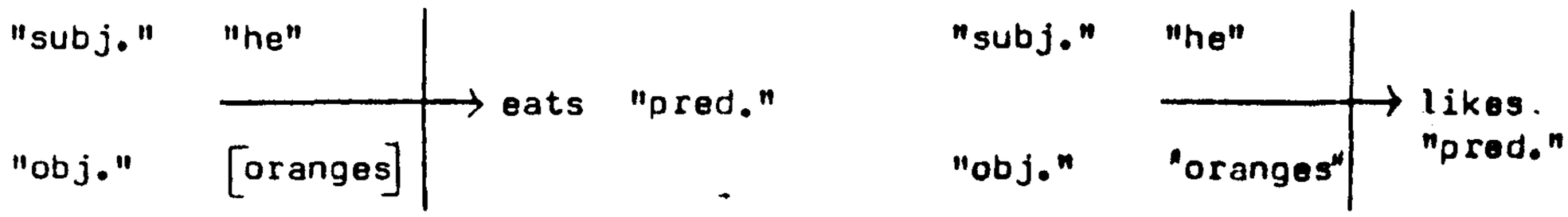
or

lualad lnašīt- (the clever boy)

is a potential filler of the position "subject" in the V.P.B. syntagm, it follows that it is simpler, in the exemplification, to favour the first simple element over the second complex one, as a representative filler of that position. One should not, however, lose sight of the fact that a whole syntagm, as well as a single plereme may occupy a position in a syntagm. Syntagms that may occupy the positions "subject"

and "object" in the V.P.B. syntagm will be dealt with in a succeeding chapter.

The different types of the V.P.B. syntagm will, as we shall see, vary according to the nature of the verbal nucleus in each. By the nature of the nucleus, I mean its capacity to govern the tactic functions of the peripheral items that may be sub-ordinate to it whether those items are expansions or bound elements. This in effect means that the capacity of the nuclear element, in a particular syntagm may, at a certain stage, cease to govern the function of any further peripheral constituent, and in doing so it exerts a limitation, as it were, on the maximum co-occurrence of items as I.C.s, and consequently, a limitation on the number of positions in the model set up for the description of that syntagm. "Functional" as well as "occurrence" dependencies, which considerations are basic to the present approach, will be taken into account in the classificatory operations of the different types of the V.P.B. syntagm. Note, for instance, that though each of the syntagms: "he eats oranges" and "he likes oranges" in English, is a combination of three immediate constituents, yet in terms of structure they are, to a certain extent, different. The two syntagms may be described in the following manner:



The difference between the two structures is accounted for by the fact that the element "oranges", the object constituent, is an expansion in the first structure, but a bound element in the second. Being an expansion "oranges", for its occurrence, depends on the nucleus "eats" <u>but not vice versa</u>. But being a bound element "oranges", for its occurrence depends on "likes" <u>and vice versa</u>. As far as the functional dependency

is concerned, the element "oranges" in both of the above syntagms is, for its function, dependent on the nucleus but not vice versa. Note that the terms "expansion" and "bound" are taken to refer to the actual syntactic elements which may occupy the positions rather than to the positions themselves. This means in fact that from the point of view of syntactic functions (or its equivalent : positions) the two syntagms exhibit the same structure, but from another - albeit structurally perhaps less important - point of view, they differ. I shall regard them in this work as structurally different, but it should be understood that there is an important respect in which they are the same, i.e. as a bundle of positions.

Before listing the different types of the V.P.B. syntagms, attention should be drawn to the fact that terms such as "transitive", "non-transitive", etc. will be employed as mere classificatory labels for the different types of the syntagm in question. For the sake of convenience they shall be referred to as: V.P.B1, V.P.B2 etc. when necessary. Retaining these traditional terms is, however, simpler in that they may be easier to remember.[11] Terms of the aforementioned kind will, in this work, be taken to refer not only to the verbal[12] element that may stand in the nuclear position, but to the syntagm as a whole.

The following provide interpretations for the terms used in labelling the different types of the verbal predicative-based syntagm:

1) The prefix "in" indicates complete absence of an object.

e.g. "intransitive" has no "object" at all.

2) The prefix "non" indicates the presence of an optional "object", or optional "complementary object".

e.g. "non-transitive" has an optional (expansion) object.

"non-complementary" has an optional (expansion) complementary object.

3) The absence of the prefixes "in" and "non" indicates the presence of an obligatory (bound) "object" or bound "complementary object".

e.g. "transitive" has a bound object.

"complementary" has a bound complementary object.

"complementary transitive" has both bound object and bound complementary object.

4) Because the distinction is made between "indirect object" and "object", rather than between "indirect object" and "direct object", the term "indirect" shall be used to refer to a syntagm having an obligatory (bound) "indirect object", and "non-direct" to refer to a syntagm having an optional (expansion) "indirect object".

Remarks about the terms "object", "indirect object", "complementary object" and "subject" in Kamali Arabic are to follow at the end of this chapter.

i) Intransitive

The intransitive syntagm (V.P.81) is a self-contained bundle of two positions: a verbal predicative (V.P.), in the nuclear position governing the tactic function of a peripheral expansion in the subject position. The model set up to account for the whole field of the syntagmatic relation within the syntagm in question is as follows:

[subj.] ⟶ "V.P."

The syntagm "iụhdur lbaḥir" (the sea roars), provides an example where the positions in the above model may be filled:

subj.	"V.P."
[lbaḥir] ⟶	iụhdur

The two elements involved represent the immediate constituents of the syntagm in question. The element "lbaḥir" (the sea), in the subject position, being an expansion, depends for its function as well as occurrence on the nuclear element. The nucleus does not require the

presence of any "bound" peripheral to actualize it. Hence it is a free nucleus. (Def. 13e).

The most common realization of this syntagm is that the predicative precedes the subject as shown by the above example. However, it is not uncommon for the predicate to succeed the subject, as shown by the following possible instances of the syntagm in question:

a) iuhdur lbaħir (the sea roars)

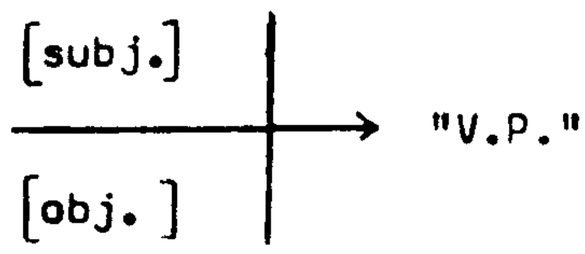
b) lbaħir iuhdur (the sea roars)

On leaving out the subject one may have:

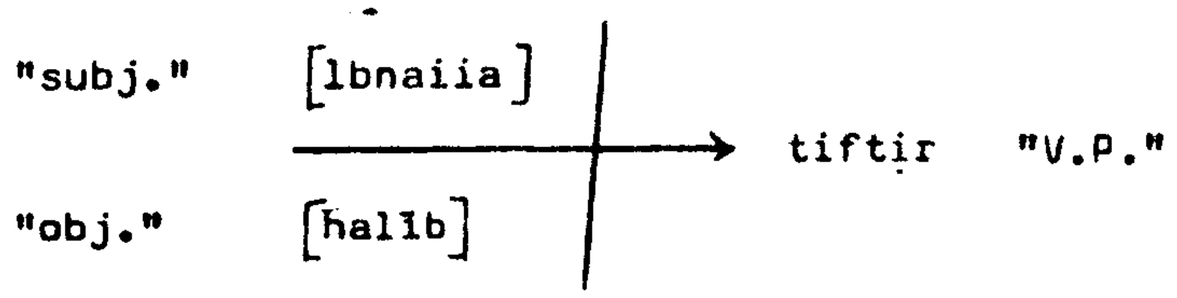
iuhdur (it roars)

ii) <u>Non-Transitive</u>

The non-transitive syntagm (V.P.B2) is a self-contained bundle of three positions: a V.P. in the nuclear position governing the tactic functions of two peripheral expansions in the subject and the object positions. The model set up to account for the whole field of the syntagmatic relations within the syntagm in question is as follows:



The syntagm "tiftir lbnaiia ħalīb" (the girl breakfasts on milk), provides an example withall the positions filled in the above model:



The syntagm has three I.C.s of which "tiftir" (she takes her breakfast) or, (she breakfasts), is the nucleus. Each of "lbnaiia" (the girl), in the subject position, and "ħalīb" (milk), in the object position, is standing in a direct relation of sub-ordination to the nucleus "tiftir".

The nucleus does not require the presence of any peripheral element to actualize it. Hence it is a free nucleus (see Def. 13e). Each of the two peripheral elements, being an expansion , depends for its function, as well as occurrence on the predicative nucleus, but not vice versa.

The most common realization of this syntagm is the sequence: predicative - subject - object as shown by (a), in the examples below; (b) and (c) are other possible, but not as common, instances of the syntagm:

a) tiftiṛ lbnaiia ħalib (thẹ girl breakfasts on milk)

b) lbnaiia tiftiṛ ħalib (thẹ girl breakfasts on milk)

c) tiftiṛ ħalib lbnaiia (thẹ girl breakfasts on milk)

Any other arrangement of these elements would be possible but less commonly admissible. As the two peripheral elements are expansions one may encounter:

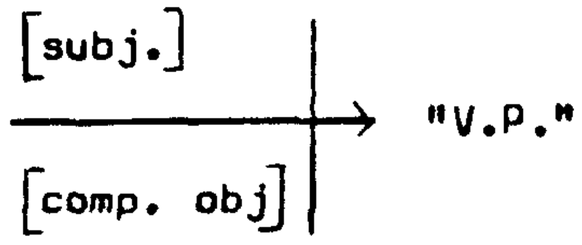
a) tiftiṛ lbnaiia (the girl breaksfasts)

b) tiftiṛ ħalib (shẹ breakfasts on milk)

c) tiftiṛ (shẹ breakfasts)

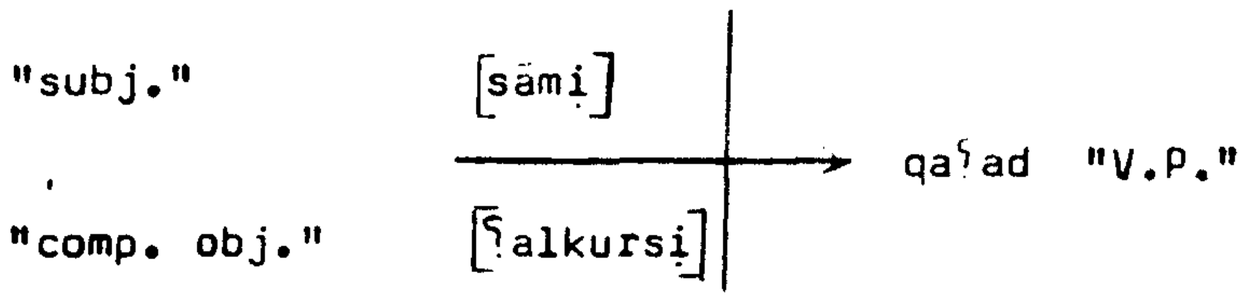
iii) Non-complementary Intransitive

The non-complementary intransitive syntagm (V.P.83) is a self-contained bundle of three positions: a V.P. in the nuclear position governing the tactic functions of two peripheral expansions in the positions "subject" and "complementary object". The model set up to account for the whole field of the syntagmatic relations within this syntagm is as follows:



The syntagm "qaʕad sāmi ʕalkursi" (Sami sat on the chair), provides an

example with all the positions filled in the model:



The syntagm is a self-contained combination of three I.C.s of which "qaʕad" (he sat) is the nucleus. Each of the peripheral elements "sāmi" and "ʕalkursi" (on the chair), is standing in a direct relation of subordination with respect to the nucleus.

The most common realization of this syntagm is the sequence: predicate - subject - complementary object. However, the syntagm, depending on what element the emphasis falls, may begin with the emphasised element as shown in the following constructions:

a) qaʕad sāmi ʕalkursi (Sami sat on the chair)

b) sāmi qaʕad ʕalkursi (Sami sat on the chair)

c) ʕalkursi qaʕad sāmi (Sami sat on the chair)

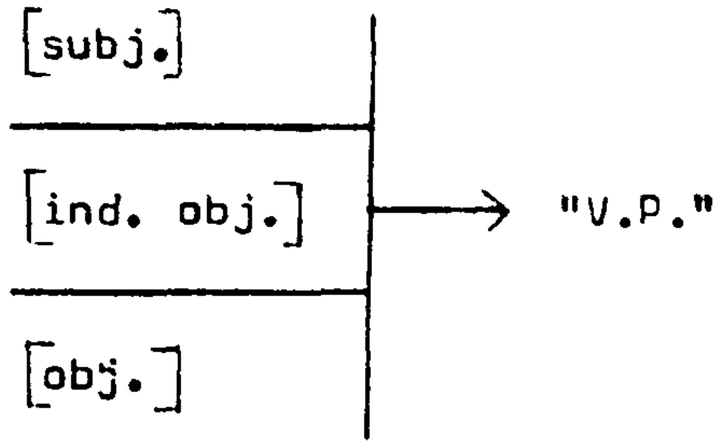
The subject, being marked within the form of the predicative, is most frequently left out:

qaʕad ʕalkursi (he sat on the chair)

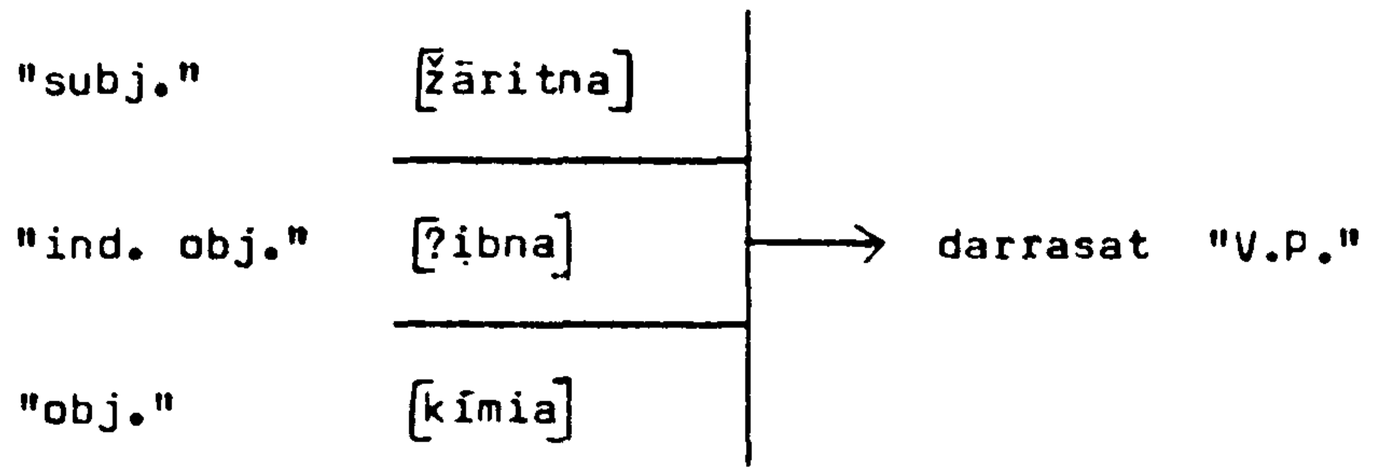
ʕalkursi qaʕad (he sat on the chair)

iv) <u>Non-direct non-transitive</u>

The non-direct non-transitive syntagm (V.P.84), is a self-contained bundle of four positions: a V.P. in the nuclear position governing the tactic functions of three peripheral expansions in the positions "subject", "indirect object", and "object". The model set up to account for the whole field of the syntagmatic relations within this syntagm is as follows:



The syntagm "žāritna darrasat ʔibna kīmia" (our neighbour taught her son chemistry),[13] provides an example with all the positions filled in the model.



The syntagm has four I.C.s of which "darrasar" (she taught) is the nucleus. Each of the elements "žāritna" (our neighbour), in the subject position, "ʔibna" (her son), in the indirect object position and "kīmia" (chemistry), in the object position is standing in a relation of sub-ordination to the nucleus. The present syntagm differs from the preceeding one (V.P.83), in that it has three, rather than two, peripheral I.C.s. As these three I.C.s are all expansions, the nuclear element may occur on its own as a free nucleus.

The most common realization of this syntagm is the sequence: subject - predicative - indirect object - object. The subject may also follow the predicative. Thus to convey the message "our neighbour taught her son chemistry", either of the following two instances may be used:

a) žāritna darrasat ʔibna kīmia

b) darrasat žāritna ʔibna kīmia

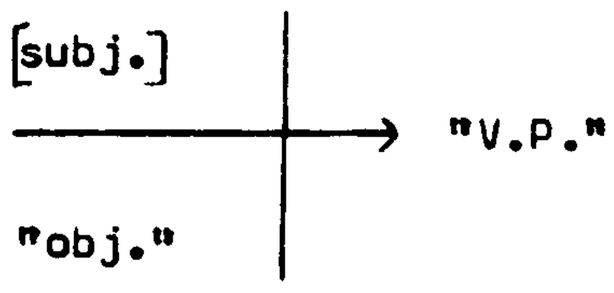
The subject, being marked within the form of the predicative is most

frequently left out:

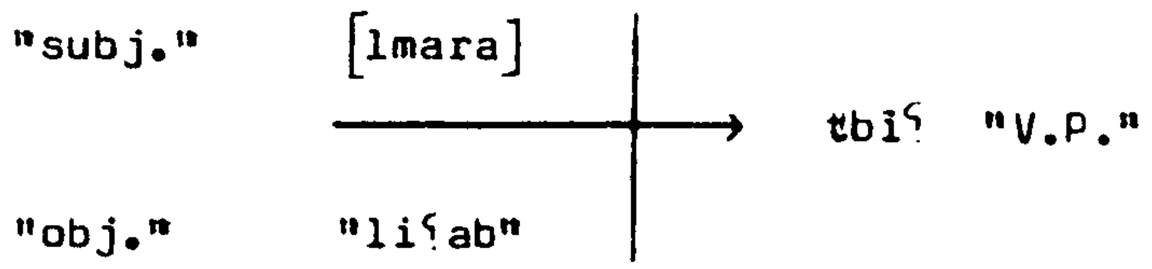
darrasat ?ibna kĭmia (she - it - taught her son chemistry)

v) Transitive

The transitive syntagm (V.P.B5), is a self-contained bundle of three positions: a V.P. in the nuclear position governing the tactic functions of a peripheral expansion in the "subject" position, and a bound peripheral in the "object" position. The model set up to account for the whole field of the syntagmatic relations within this syntagm is as follows:



The syntagm "tbiʕ lmara liʕab" (the woman sells toys) provides an example where all the positions in the model are filled:



The above syntagm is a self-contained combination of three immediate constituents of which "tbiʕ" (she sells), is the nucleus. Each of "lmara" (the woman) in the subject position, and "liʕab" (toys) in the object position, stands in a direct relation of sub-ordination with respect to the nucleus "tbiʕ". The nucleus of the syntagm in question, unlike the nuclei of the preceding syntagms, requires the presence of a bound peripheral element in the object position to actualize it; therefore, it is not a free nucleus.

The most common realization of this syntagm is the sequence: predicative - subject - object. Other possible instances of the syntagm are the sequences: subject - predicative - object, and predicative -

object - subject as shown below:

a) tbiʕ lmara liʕab (the woman sells toys)

b) lmara tbiʕ liʕab (the woman sells toys)

c) tbiʕ liʕab lmara (the woman sells toys)

Any other arrangement would be possible but less commonly admissible.

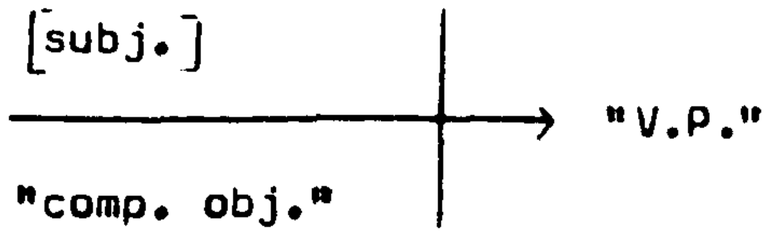
In emphatic cases, the emphasised element usually precedes the other elements in the syntagm.

The subject, being marked within the form of the predicative, is most frequently left out:

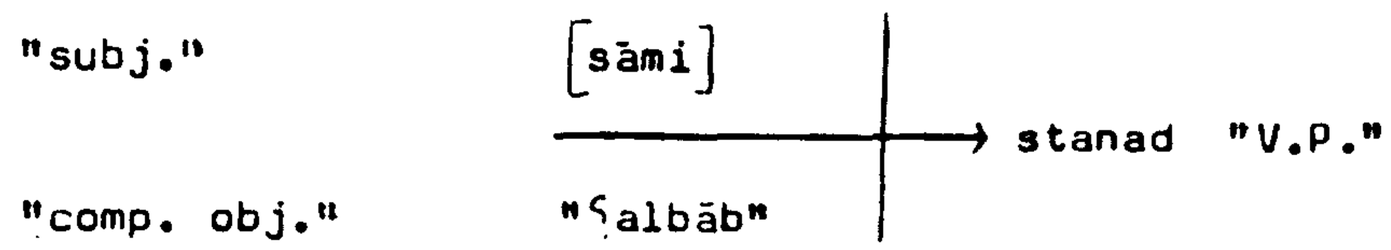
tbiʕ liʕab (she sells toys)

vi) Complementary Intransitive

The complementary intransitive syntagm (V.P.86) is a self-contained bundle of three positions: a V.P. in the nuclear position governing the tactic functions of a peripheral expansion in the subject position, and a bound peripheral in the complementary object position. The model set up to account for the whole field of the syntagmatic relations within this syntagm is as follows:



The syntagm "stanad sāmi ʕalbāb" (Sami leaned against the door), provides an example where all the positions in the model are filled:



The syntagm has three I.C.s of which "stanad" (he leaned) is the nucleus. Each of "sāmi" and "ʕalbāb" (against the door), is standing in a direct relation of sub-ordination to the nuclear element. The nucleus of this

syntagm is not free since it has to be actualized by a bound peripheral element in the complementary object position.

In realization the constituents may succeed one another in one of the following sequential orders:

predicative - subject - complementary object

stanad sämi ʕalbāb

(lit: leaned Sami against the door)

subject - predicative - complementary object

sāmi stanad ʕalbāb

(lit: Sāmi leaned against the door)

complementary object - predicative - subject

ʕalbāb stanad sāmi

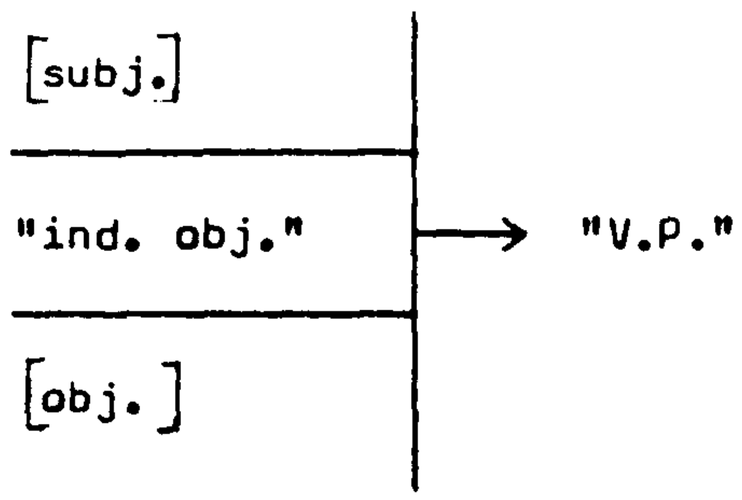
(lit: against the door leaned Sami)

The subject, being marked within the form of the predicative, is most frequently left out:

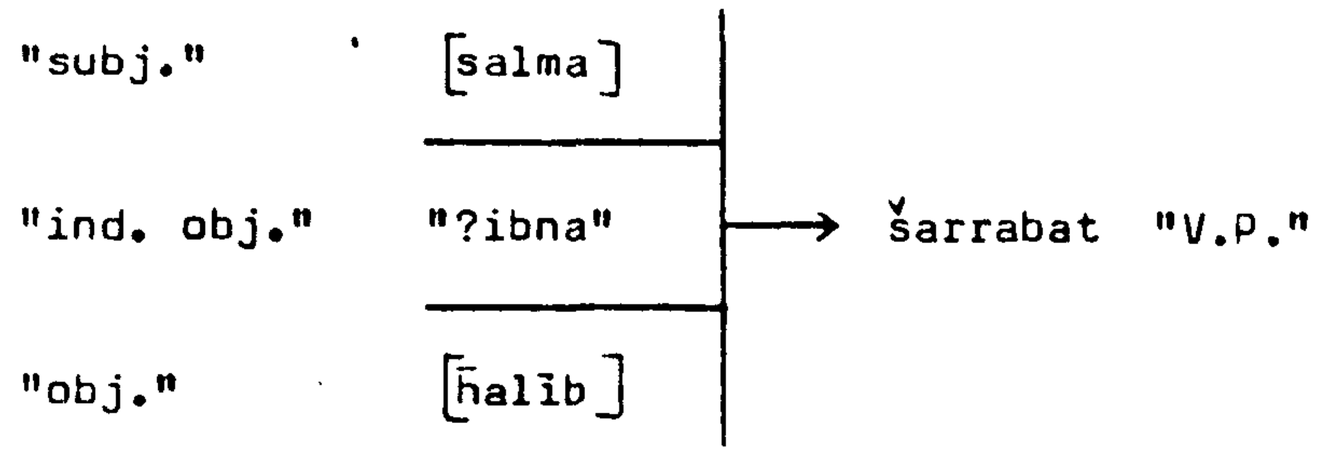
stanad ʕalbáb (he leaned against the door)

vii) Indirect Non-transitive

The indirect non-transitive syntagm (V.P.87), is a self-contained bundle of four positions: a V.P. in the nuclear position governing the tactic functions of two peripheral expansions in the positions "subject" and "object", and a bound element in the position "indirect object". The model set up to account for the whole field of the syntagmatic relations within this syntagm is as follows:



The syntagm "salma šarrabat ?ibna ħalīb" (Salma made her son drink milk) provides an example where all the positions in the above model are filled:



The syntagm has four I.C.s of which "šarrabat" (she made (someone) drink), is the nucleus. Each of the elements "salma" in the "subject" position, "?ibna" (her son), in the "indirect object" position, and "ħalīb" (milk) in the "object" position is standing in a direct relation of subordination to the nuclear element. The syntagm in question differs from the "indirect transitive" (V.P.B10) by the fact that the object in this syntagm is an "expansion" but not "bound".

The most common realization of this syntagm is the sequence: subject - predicative - indirect object - object. It is also quite common for the subject to follow the predicative. Thus for conveying the message "Salma made her son drink milk", either of the following two instances may be used:

a) salma šarrabat ?ibna ħalīb

b) šarrabat salma ?ibna ħalīb

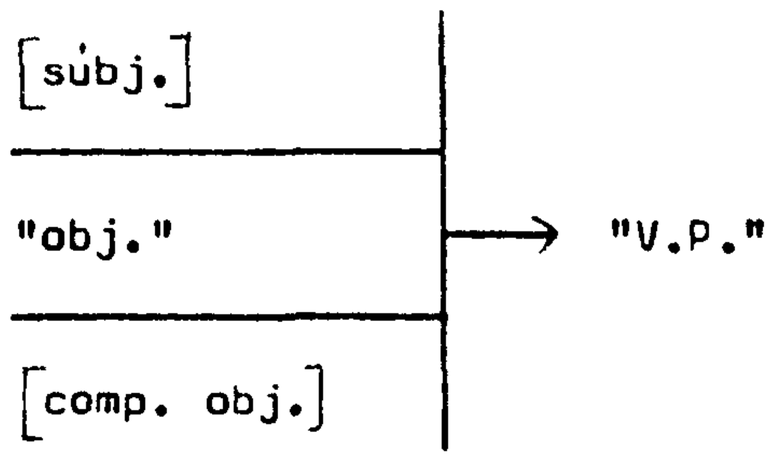
The subject, being marked within the form of the predicative, is most frequently left out:

šarrabat ?ibna halib (she made her son drink milk)

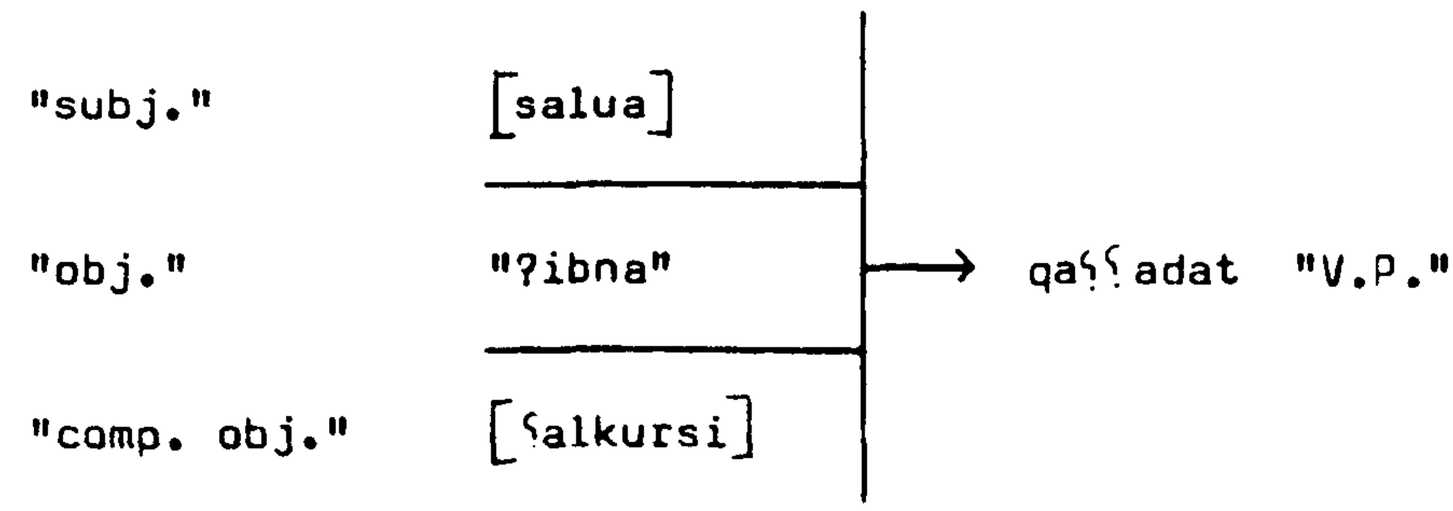
viii) <u>Non-complementary Transitive</u>

The non-complementary transitive syntagm (V.P.88) is a self-contained bundle of four positions: a V.P. in the nuclear position governing the tactic functions of two peripheral expansions in the positions "subject", "complementary object", and a bound element in the "object"

position. The model set up to account for the whole field of the syntagmatic relations within this syntagm is as follows:



The syntagm "salua qaʕʕadat ʔibna ʕalkursi" (Salwa made her son sit on the chair), (lit: Salwa sat her son on the chair), provides an example with all the positions filled in the model:



This syntagm is a self-contained combination of four I.C.s of which "qaʕʕadat" (she made (someone) sit), is the nucleus. Each of "salua" in the subject position, and "ʔibna" (her son) in the object position, and "ʕalkursi" (on the chair) in the indirect-object position, is standing in a relation of sub-ordination with respect to the nucleus. The nucleus is actualized by a bound peripheral in the "object" position; hence it is not free.

The common realizations of this syntagm are the sequences: (subject - predicative - object - complementary object), and (predicative - subject - object - complementary object). Thus for conveying the message "Salwa made ser son sit on the chair" any of the following two instances may be used:

a) salua qaʕʕadat ʔibna ʕalkursi

b) qaʕʕadat salua ʔibna ʕalkursi

The complementary object, when emphasised, may occur at the beginning

of the syntagm. Thus, either:

ʕalkursi salua qaʕʕadat ʔibna

or

ʕalkursi qaʕʕadat salua ʔibna

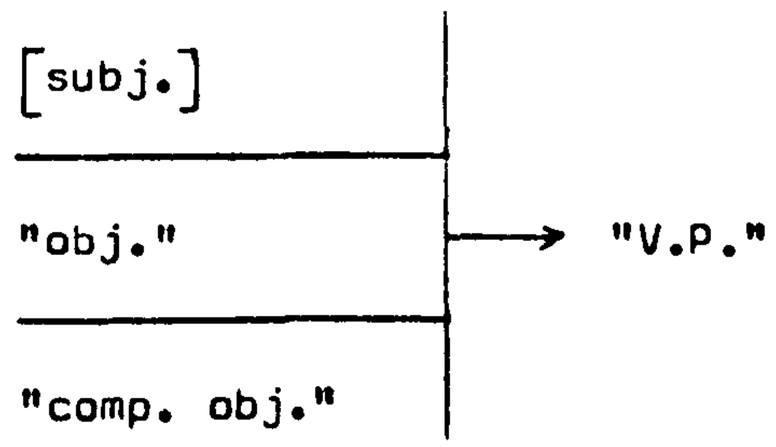
may convey the message: "Salwa made her son sit on the chair".

The subject, being markerd within the form of the predicative, is most frequently left out:

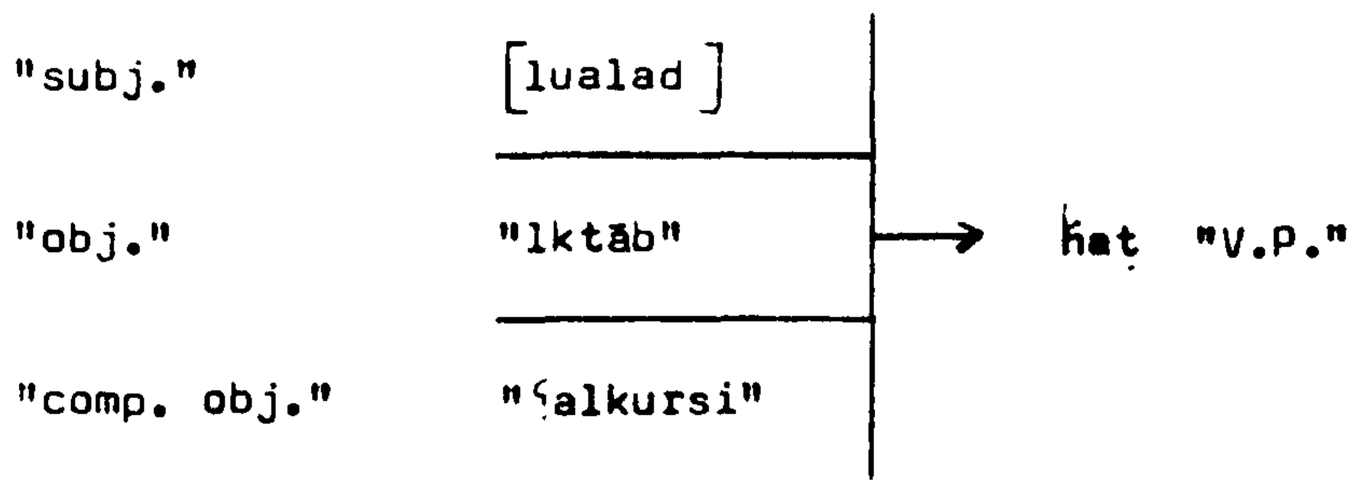
qaʕʕadat ʔibna ʕalkursi (she made her son sit on the chair)

ix) Complementary Transitive

The complementary transitive syntagm (V.P.89) is a self-contained bundle of four positions: a V.P. in the nuclear position governing the tactic functions of a peripheral expansion in the subject position and two bound peripherals in the positions, "object" and "complementary object". The model set up to account for the whole field of the syntagmatic relations within this syntagm is as follows:



The syntagm "lualad ħaṭ[14] lktāb ʕalkursi" (the boy laid the book on the chair), provides an example with all the positions filled in the above model:



The above syntagm is a self-contained combination of four immediate

constituents of which "ħaṭ" (he laid) is the nucleus. Each of the peripheral elements "lktāb", in the "object" position, and "ʕalkursi" (on the chair), in the "complementary object" position, is standing in a direct relation of sub-ordination with respect to the nucleus "ħaṭ". The nucleus in this syntagm is actualized by two peripherals in the positions "object" and "complementary object"; it is, therefore, not free.

The common realizations of this syntagm are the sequences: (subject - predicative - object - complementary object), and: (predicative - subject - object - complementary object). Thus for conveying the message "the boy laid the book on the chair", either of the following two instances may be used:

a) lualad ħaṭ lktāb ʕalkursi

b) ħaṭ lualad lktāb ʕalkursi

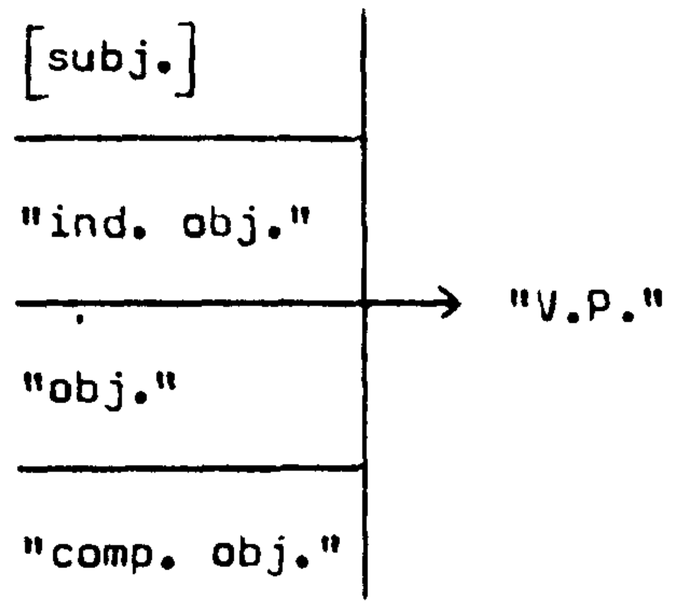
It is possible, though hardly admissible, for the complementary object to precede the object.

The subject, being marked within the form of the predicative, is most frequently left out:

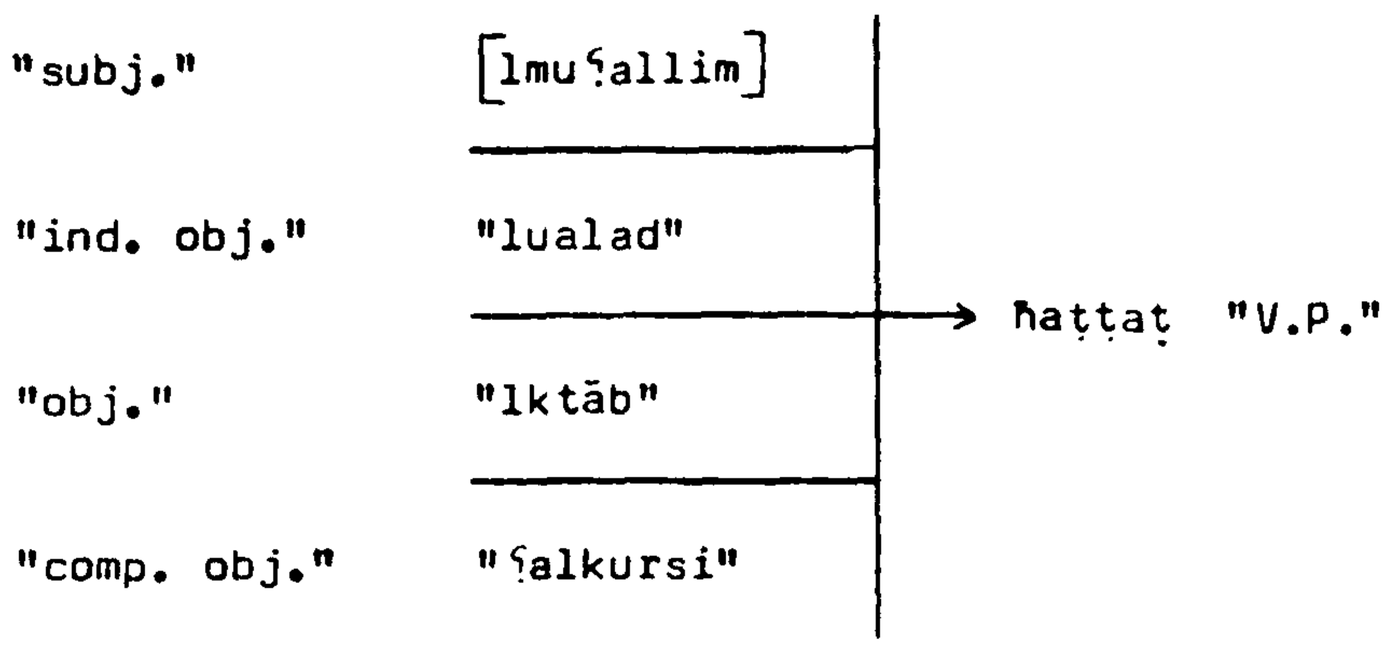
ħaṭ lktāb ʕalkursi (he laid the book on the chair)

x) <u>Indirect Complementary Transitive</u>

The indirect complementary transitive syntagm (V.P.810), is a self-contained bundle of five positions: a V.P. in the nuclear position governing the tactic functions of a peripheral "expansion" in the subject position, and three "bound" peripherals in the positions, "object", "indirect object" and "complementary object". The model set up to account for the whole field of the syntagmatic relations within this syntagm is as follows:



The syntagm "lmuʕallim ħaṭṭaṭ[15] lualad lktāb ʕalkursi" (the teacher made the boy lay the book on the chair) provides an example with all the positions filled in the model:



The above syntagm is a self-contained combination of five immediate constituents of which "ħaṭṭaṭ" (he made someone lay something) is the nucleus. Each of "lmuʕallim" (the teacher), in the "subject" position, "lualad" (the boy), in the "indirect object" position, "lktāb" (the book) in the "object" position, and "ʕalkursi" (on the chair) in the"complementary object" position, is standing in a direct relation of sub-ordination with respect to the nucleus "haṭṭaṭ". The nucleus of this syntagm requires the presence of three bound peripherals in the positions "object", "indirect object" and "complementary object", and, therefore, is actualized (i.e. not free).

The common realizations of this syntagm are the sequences: (a): (subject - predicative - indirect object - object - complementary object), and (b): (subject - predicative - indirect object - object - complementary object). Thus for conveying the message "the teacher

made the boy lay the book on the chair" either of the following two instances of the syntagm may be used:

a) lmuʕallim ħaṭṭaṭ lualad lktáb ʕalkursi

b) haṭṭaṭ lmuʕallim lualad lktāb ʕalkursi

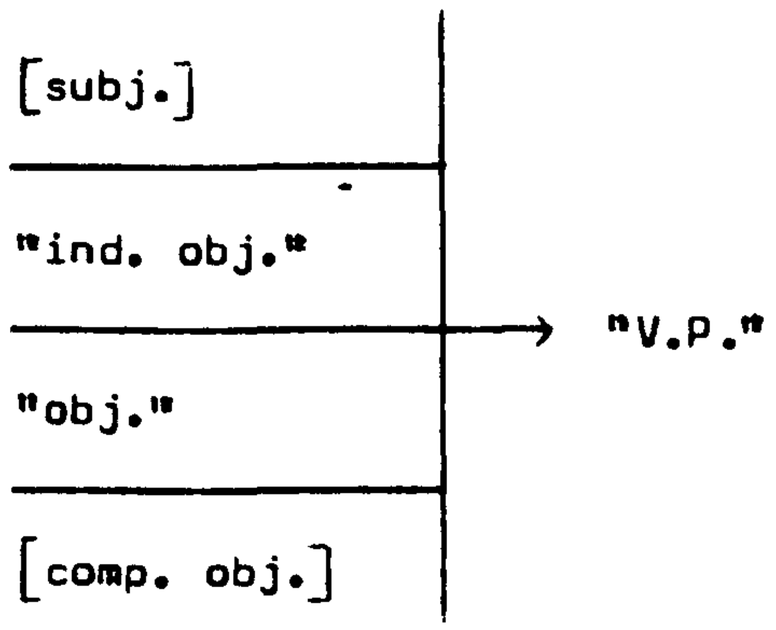
However, when the indirect object is expressed by a pronominal rather than by a nominal - as in the above instances - then instead of (b), the following sequence may be used:

predicative	-	ind. obj.	-	subject	-	object	-	comp. obj.
ħaṭṭaṭ		u		lmuʕallim		lktāb		ʕalkursi
(lit: made put		him		the teacher		the book		on the chair)

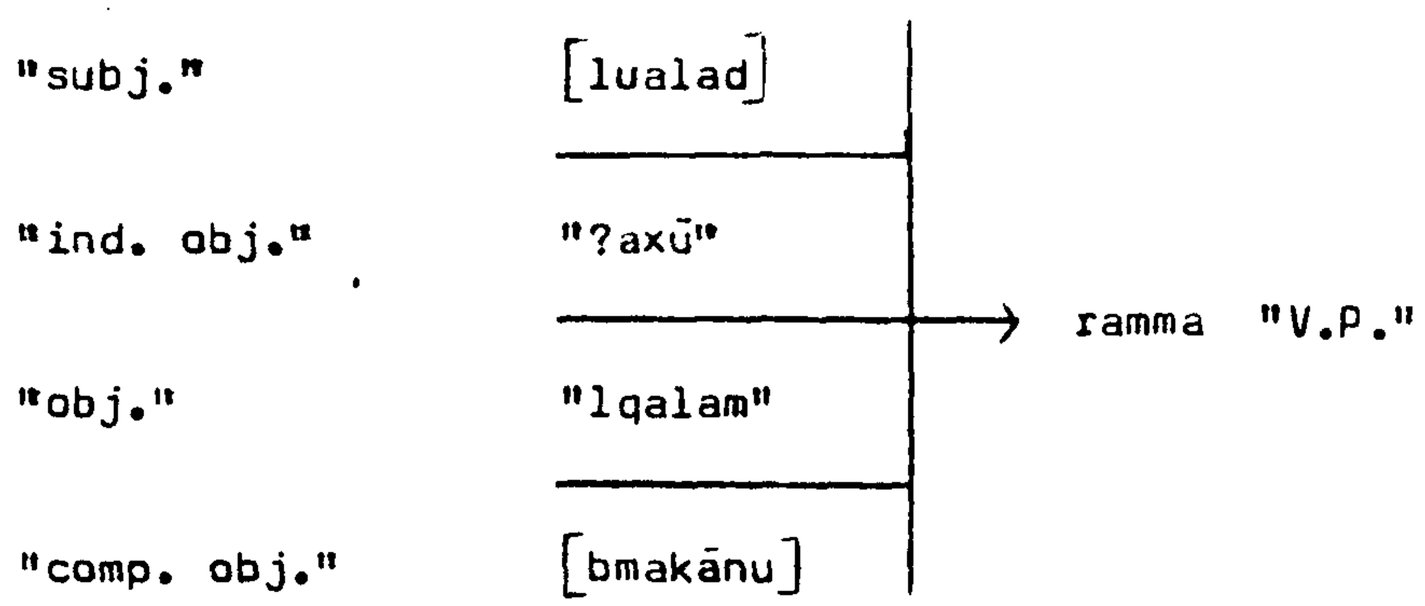
The subject, being marked within the form of the predicative, is most frequently left out.

xi) Indirect Non-complementary Transitive

The indirect non-complementary transitive syntagm (V.P.B11), is a self-contained bundle of five positions: a V.P. in the nuclear position governing the tactic functions of two peripheral expansions in the positions "subject" and "complementary object", and two bound peripherals in the positions "indirect object" and "object". The model set up to account for the whole field of the syntagmatic relations within this syntagm is as follows:



The syntagm "lualad ramma ʔaxū lqalam bmakānu" (the boy made his brother leave the pen in its place) provides an example with all the positions filled in the model:



The above syntagm is a self-contained combination of five immediate constituents of which "ramma" (ḥe made (someone) leave), is the nucleus. The four peripherals stand in direct relations of sub-ordination with respect to the nucleus. For their occurrence, the peripheral elements "lualad" (ṭḥe boy), in the subject position, and "bmakānu" (in its place), in the complementary object position, depend on the nucleus, but not vice versa. There is a bilateral occurrence dependency between each of "?axū" (his brother), in the indirect object position, and "lqalam" (ṭḥe pen), in the object position on the one hand, and the nucleus on the other, and vice versa.

The common realizations of this syntagm are the sequences:

a)	subject	-	predicative	-	ind. obj.	-	object	-	comp. obj.
e.g.	lualad		ramma		?axū		lqalam		bmakānu

b)	predicative	-	subject	-	ind. obj.	-	object	-	comp. obj.
e.g.	ramma		lualad		?axū		lqalam		bmakānu

Each of the above two instances conveys the message: "the boy made his brother leave the pen in its place".

However, when the indirect object is expressed by a pronominal rather than by a nominal - as in the above instances - either of the following sequences may be used:

a)	subject	-	predicative	-	ind. obj.	-	object	-	comp. obj.
	lualad		ramma		a		lqalam		bmakānu
(lit:	the boy		made leave		him		the pen		in its place)

or

b) predicative - ind. obj. - subject - object - comp. obj.

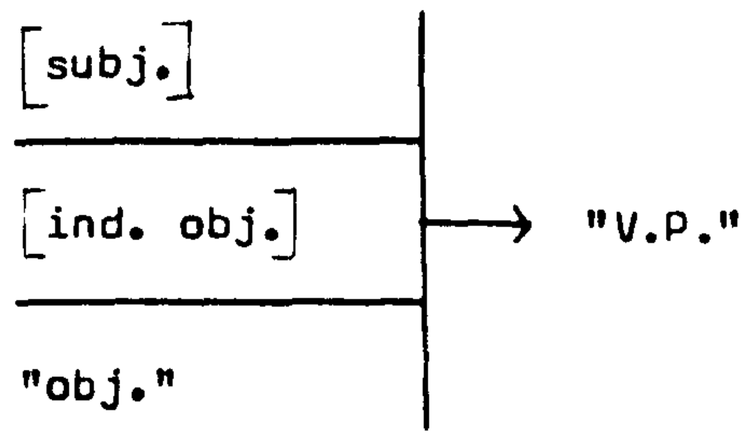
ramma a lualad lqalam bmakánu

(lit: made leave him the boy the pen in its place

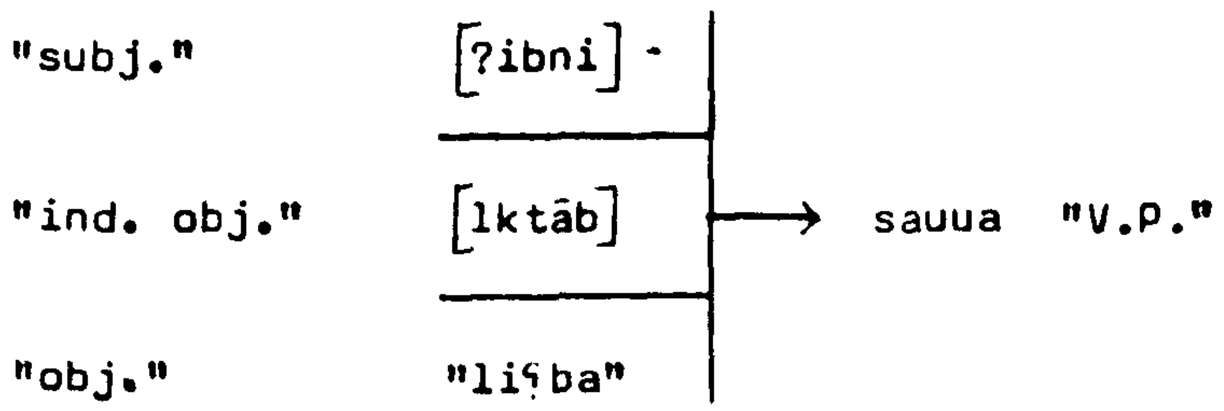
The subject, being marked within the form of the predicative is most frequently left out.

xii) Non-direct Transitive

The non-direct transitive syntagm (V.P.B12), is a self-contained bundle of four positions: a V.P. in the nuclear position governing the tactic functions of a "bound" peripheral in the object position, and two peripheral "expansions" in the positions "subject" and "indirect object". The model set up to account for the whole field of the syntagmatic relations within this syntagm is as follows:



The syntagm "?ibni sauua lktāb liʕba" (my son made the book a toy), or more accurately (my son made a toy out of the book) provides an example for filling all the positions in the model:



The above syntagm is a self-contained combination of four immediate constituents of which "sauua" (he made) is the nucleus. Each of "?ibni" (my son), in the subject position, "lktāb" (the book), in the indirect

object position, and "liʕba" (a toy), in the object position, is standing in a direct relation of sub-ordination with respect to the nucleus "sauua" (he made). The nucleus of the syntagm in question is not free (i.e. actualized) since it requires the presence of a bound peripheral in the object position.

The common realizations of this syntagm are the following sequences:

a)	subject	-	predicative	-	indirect object	-	object
e.g.	?ibni		sauua		lktāb		liʕba
	(my son		made		the book		a toy)

b)	predicative	-	subject	-	indirect object	-	object
e.g.	sauua		?ibni		lktāb		liʕba
	(made		my son		the book		a toy)

Note that the indirect object when expressed by a pronominal, unlike the nominal, always succeeds the predicative as shown below:

a)	subject	-	predicative	-	indirect object	-	object
e.g.	?ibni		sauua		ni[16]		liʕba
	(my son		made		me		a toy)

(my son made a toy out of me)

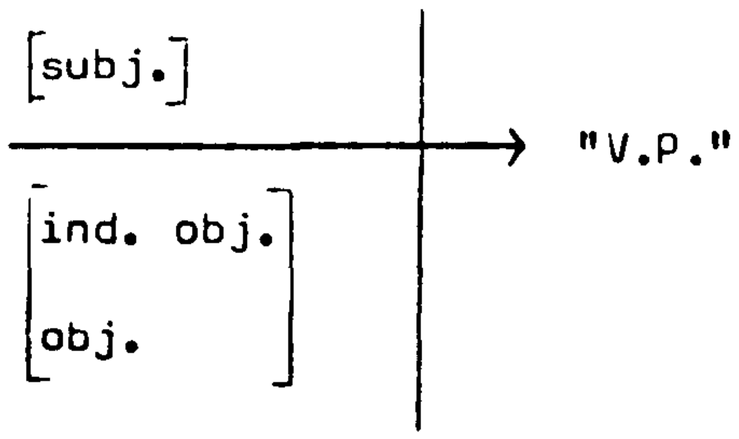
b)	predicative	-	indirect object	-	subject	-	object
e.g.	sauua		ni		?ibni		liʕba
	(made		me		my son		a toy)

The subject, being marked within the form of the predicative, is most frequently left out.

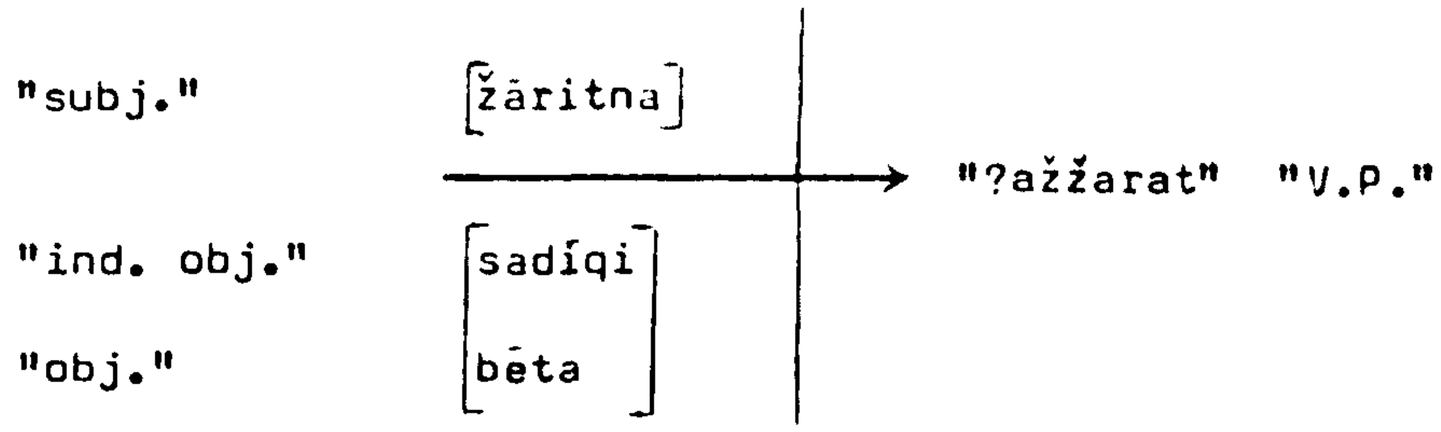
xiii) <u>Optional Indirect Transitive</u>

The optional indirect transitive syntagm (V.P.B13) is a self-contained bundle of four positions: a V.P. in the nuclear position governing the tactic functions of a peripheral expansion in the subject

position, and an either/or relation between a "bound", or an expansion peripheral in the positions "object" and "indirect object". The model set up to account for the whole field of the syntagmatic relations involved in this syntagm is as follows:



The syntagm "žāritna ?aždžarat sadīqi bēta" (our neighbour -f- let her house to my friend -m-), (lit: our neighbour -f- let my friend -m- her house) provides an example for filling all the positions in the above model:



The above syntagm is a self-contained combination of four immediate constituents of which "?aždžarat" (to let) is the nucleus. The constituent "žāritna" (our neighbour -f-) stands in the subject position. The lower brackets indicate that one of the constituents "sadīqi" (my friend -m-), in the "indirect object" position or "bēta" (her house), in the "object" position has to be bound while the other is an expansion.

Accordingly, we may have, as realizations of the syntagm in question, the following instances:

žāritna ?aždžarat bēta

(our neighbour -f- let her house)

žāritna ?aždžarat sadīqi

(our neighbour -f- let "~~something~~" to my friend)

(lit: our neighbour -f- let my firend -m-)

žāritna ?ažžarat sadīqi bēta

(our neighbour -f- let her house to my friend -m-)

(lit: our neighbour -f- let my friend her house)

On leaving out the subject "žāritna" (our neighbour -f-) we may have:

?ažžarat bēta (she let her house)

?ažžarat sādiqi (she let "~~something~~" to my friend -m-)

(lit: she let my friend)

?ažžarat sadīqi bēta (she let her house to my friend -m-)

(she let my friend her house)

The common realizations of this syntagm are the sequences:

a) subject - predicative - indirect object - object

e.g. žāritna ?ažžarat sadīqi bēta

(our neighbour-f let my friend-m her house)

b) predicative - subject - indirect object - object

?ažžarat žāritna sadīqi bēta

(she let our neighbour-f my friend-m her house)

When the indirect object is expressed by a pronominal, rather than by a nominal, then either of the following sequences may be used:

a) subject - predicative - indirect object - object

e.g. žāritna ?ažžarat u bēta

(lit: our neighbour-f let him her house)

b) predicative - ind. obj. - subject - object

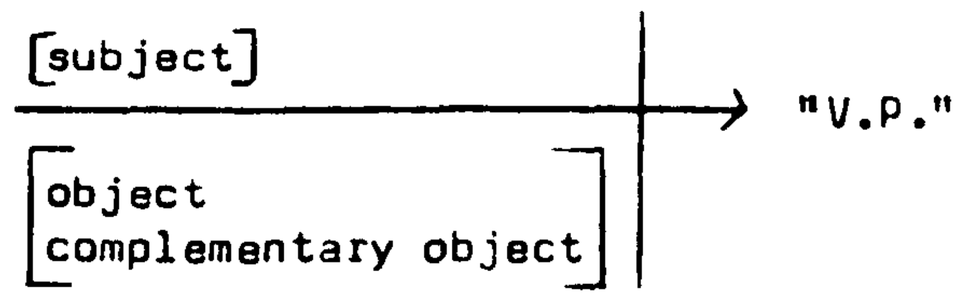
e.g. ?ažžarat u žaritna bèta

(lit: let him our neighbour her house

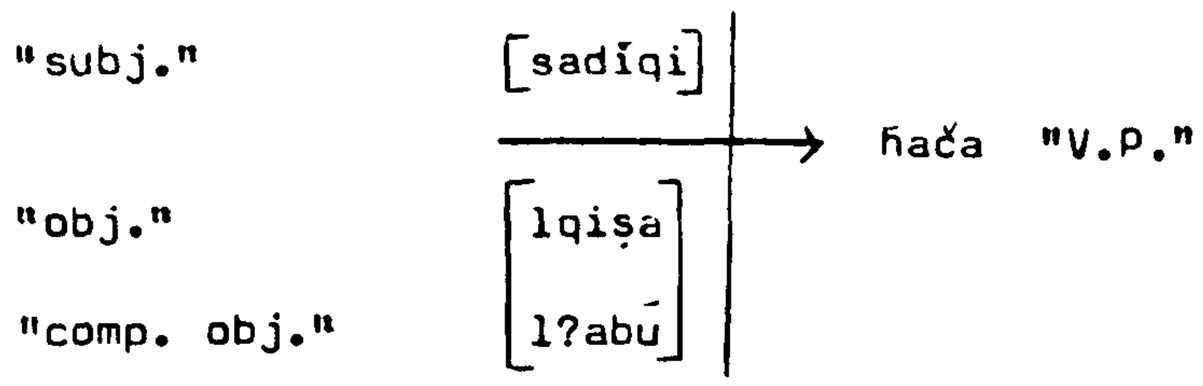
Note that the indirect object but not object in the syntagm in question can always be marked in the predicative by a pronoun.

xiv) Optional Complementary Transitive

The optional complementary transitive syntagm (V.P.B14) is a self-contained bundle of four positions: a V.P. in the nuclear position governing the tactic functions of a peripheral expansion in the subject position, and an either/or relation between a bound, or an expansion, peripheral in the positions "object" and "complementary object". The model set up to account for the whole field of the syntagmatic relations involved in this syntagm is as follows:



The syntagm "ṣadīqi ħača lqiṣa l?abū" (my friend - m. - told his father ṭhe story) (lit: my friend - m. - told the story to his father), provides an example with all the positions filled in the above model.



The above syntagm is a self-contained combination of four immediate constituents of which "ħača" (he told) is the nucleus. The constituent "ṣadíqi" (my friend - m.) stands in the subject position. The lower brackets in the model indicate that either "lqiṣa" (ṭhe story) in the object position, or "l?abu" (to his father) in the complementary object position has to be bound while the other is an expansion. Accordingly, we may have, as realizations of the syntagm in question, the following instances:

ṣadīqi ħača lqiṣa (my friend - m. - told ṭhe story)

sadīqi ħača l?abū (my friend - m. - told his father)

(lit: my friend - m. - told to his father)

sadīqi ħača lqiṣa l?abu (my friend told his father the story)

(lit: my friend -m.- told the story to his father)

On leaving out the subject we may have:

ħača lqiṣa (he told the story)

ħača l?abū (he told his father)

(lit: he told to his father)

The common realizations of this syntagm are the sequences:

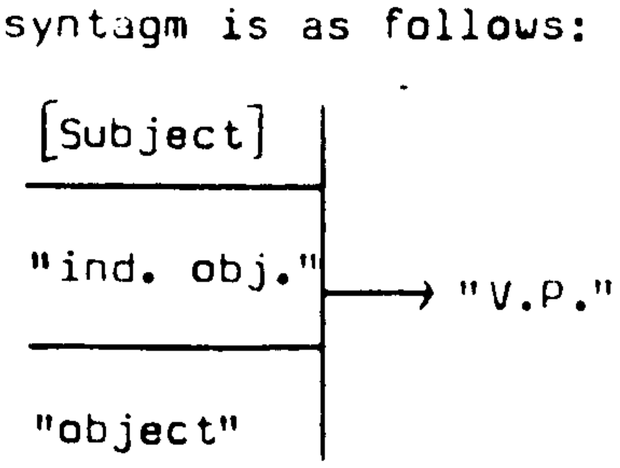
a)	subject	-	predicative	- object	-	complementary object
e.g:	sadīqi		ħača	lqiṣa		l?abū
	(my friend -m		told	the story		to his father)

b)	predicative	-	subject	- object	-	complementary object
e.g:	ħača		sadīqi	lqiṣa		l?abū
	(told		my friend -m	the story		to his father)

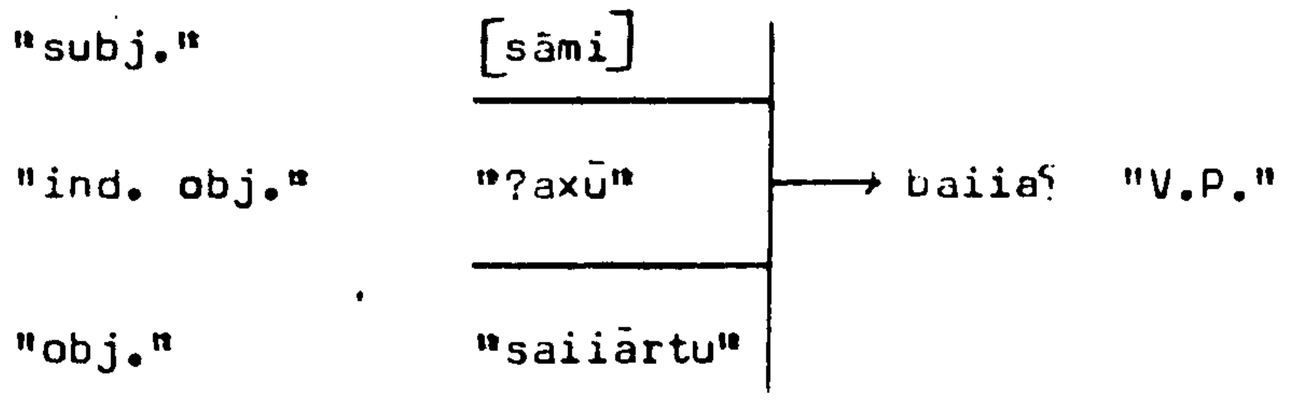
It is also possible, but less common, for the complementary object to precede the object in any of the two realizations above.

xv) Indirect Transitive

The indirect transitive syntagm (V.P.B15) is a self-contained bundle of four positions: a V.P. in the nuclear position governing the tactic functions of a peripheral expansion in the "subject" position and two bound peripherals in the positions "object" and "indirect object". The model set up to account for the whole field of the syntagmatic relations within this syntagm is as follows:



The syntagm "sāmi baiiaʕ ?axū saiiārtu" (Sāmi made his brother sell his car) provides an example with all the positions filled in the above model:



The syntagm has four I.C.s of which "baiiaʕ" (he made - someone - sell) is the nucleus. Each of the elements "sámi" (Sami) in the subject position, "?axū" (his brother) in the indirect object position, and "saiiārtu" (his car) in the object position, stands in a direct relation of subordination with respect to the nucleus.

The constituents in the above syntagm succeed one another in one of the following sequences:

a)	subject	-	predicative	-	indirect object	- object
e.g:	sámi		baiiaʕ		?axū	saiiārtu
(lit:	Sami		made sell		his brother	his car)
b)	predicative	-	subject	-	indirect object	- object
e.g:	baiiaʕ		sāmi		?axū	saiiārtu
(lit:	made sell		Sami		his brother	his car)

The subject, being marked within the form of the predicative, may be left out.

7. General Remarks about the Verbal Predicative-Based Syntagm in Kamali Arabic

In the light of what has preceded in the previous section the following remarks may be made:

a) The verbal predicative V.P., governs the tactic function of at least one peripheral element; e.g. in the "intransitive" syntagm which is represented as follows:

[subject] ⟶ predicative

The predicative nucleus governs the tactic function of one peripheral element only. The predicative may also govern the tactic function, of one or more, object.[17] In the "transitive" (V.P.B5) for instance, the predicative nucleus governs, in addition to the subject, the tactic function of another peripheral element in the object position. And in a syntagm such as "complementary transitive" (V.P.B9), the predicative nucleus governs, in addition to the subject and the object, the tactic function of another peripheral element in the complementary object position.

b) The subject always figures as a peripheral expansion standing in a relation of sub-ordination with respect to the predicative nucleus. It may also contract an indirect tactic relation with one, or more, objects.

c) The object, in addition to its direct tactic relation with the predicative nucleus and its indirect tactic relation with the subject, may, or may not, contract an indirect tactic relation with a complementary object, with an indirect object, or with both. For instance, in the complementary transitive (V.P.B9), the object contracts an indirect tactic relation with a peripheral element in the complementary object position and vice versa. In the "non-direct transitive" (V.P.B12) the object contracts an indirect tactic relation with an element in the indirect object position.

d) The indirect object, in addition to its relations with the predicative

nucleus and the subject, may ~~not~~ occur without an object with which it contracts an indirect tactic relation, but not vice versa. It may, or may not, contract an indirect tactic relation with a complementary object. In realization the indirect object precedes the object, and both the object and the complementary object when the latter two are present.

e) The complementary object, in addition to its relations with the predicative nucleus and the subject, may, or may not, contract an indirect tactic relation with an object, an indirect object, or with both (see c). The complementary object always figures as a complex syntagmatic entity, i.e. a syntagm the nucleus of which is a "functional".

8. The Non-Verbal Predicative Syntagm

In the preceding chapter the syntactic relations which may exist within the verbal predicative syntagm in Kamali Arabic have been discussed and models for different types of the syntagm in question have been set up. Here we shall examine the syntactic relations which may be encountered in syntagms of the following type:

1.	kánat našīṭa	(ṣhe - iṭ - was active)
2.	lbint našīṭa	(the girl is active)
3.	lbint kānat našīṭa	(the girl was active)
4.	kān faqīr	(he - it - was poor)
5.	lualad faqīr	(the boy is poor)
6.	lualad kān faqīr	(the boy was poor)
7.	kānu kaslānīn	(they were lazy)
8.	lṭullāb kaslānīn	(the students (m) are lazy)
9.	lṭullāb kānu kaslānīn	(the students (m) were lazy)

Taking the syntagm "lbint kānat našīṭa" for analysis, the following three I.C. analyses may be proposed:

lbint/ kānat/ našīṭa (the girl was active)

lbint kānat/ našīṭa (the girl was active)

lbint/ kānat našīṭa (the girl was active)

On investigation the following observations are made:

a) The element "lbint" (the girl), commutes with zero in which case the construction "kānat naśīṭa" (she was active) remains a self-contained syntagm corresponding to a well-formed utterance in the data.

b) The element "kānat" (she was), commutes with zero in which case the construction "lbint našīṭa" (the girl is active), remains a self-contained syntagm corresponding to a well-formed utterance in the data.

c) The elements "lbint" (the girl), and "kānat" (she was), in the syntagm "lbint kānat našīta" (the girl was active), do not at one and the same time commute with zeroes. That is, one of the two elements in question should be bound (i.e. uncommutable with zero) while the other IS an expansion (i.e. commutable with zero).

d) The element "našīṭa" (active), is the only element in the syntagm under analysis that does not commute with zero.

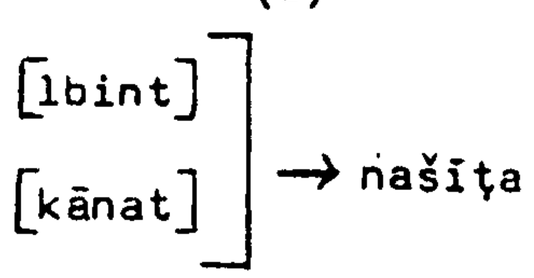
In view of these observations we notice that the element "našīṭa" (active) is the only element that can be justifiably called "nucleus" no matter which of the three foregoing I.C. analyses one may have to opt for.

With reference to the first I.C. analysis, i.e.

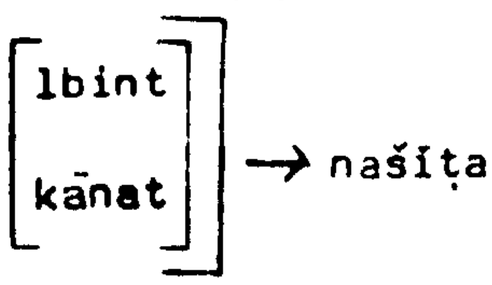
lbint/ kānat/ našīṭa

the syntactic structure of the syntagm in question may be represented by one of the following models:

(1)



(2)

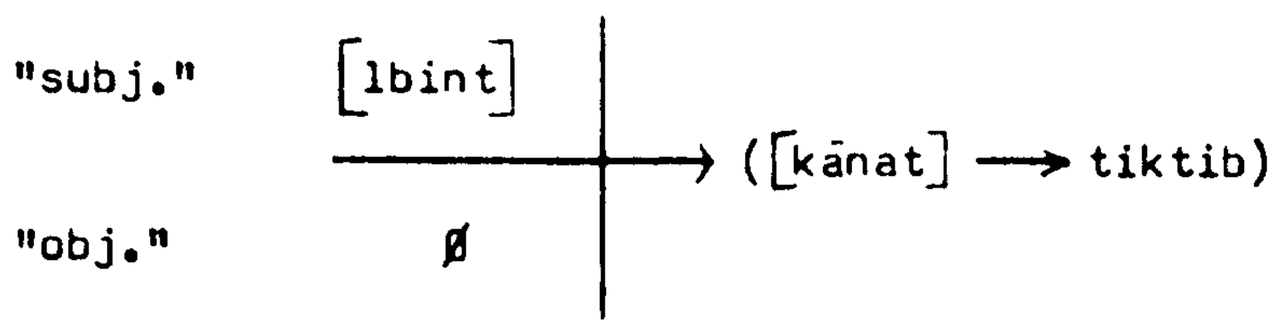


According to our earlier observation (c), the two peripheral elements do not at one and the same time commute with zeroes. The first structure, therefore, is materially inadequate and consequently has to be rejected. The second model, although it accounts for the fact that one of the peripheral elements has to be bound while the other an expansion, is also materially inadequate as it shows that "lbint" (the girl), and "kānat" (she was) are equally peripheral with respect to the nucleus "našīṭa" (active), and that they are sub-ordinated to it in a parallel fashion. Further investigation, as we shall see, would show that "kānat" (she was) is more directly related to the nucleus "năsīṭa" (active), than "lbint" (ṭhe girl) is. Comparing the syntagms:

lbint kānat našīṭa (ṭhe girl was active)

lbint kānat tiktib (ṭhe girl was writing)

we notice that the elements "našīṭa" (active) in the first, and "tiktib" (she writes) in the second, properly commute with one another. We have already seen that "kānat" (she - was) in the second syntagm occupies the auxiliary position to stand in a direct relation of sub-ordination with respect to "tiktib" (she writes). This is an example of a non-transitive syntagm which has been described in the following manner:



These observations give more weight to the assumption that "našīṭa" (active), in the syntagm "lbint kānat našīṭa" (ṭhe girl was active) is the nucleus, and that "kānat" (ṣhe was) stands in a direct relation of sub-ordination to it in the same fashion as "kānat" (ṣhe was) stands with respect to "tiktib" (she writes) as shown by the above model. Taking this into consideration we find it necessary to reject the following model:

$$\left[\begin{matrix}\text{lbint}\\ \text{kanat}\end{matrix}\right] \longrightarrow \text{nasita}$$

and consequently to reject the I.C. analysis (i.e. lbint/ kanat/ nasita) on which it was based.

Having rejected the three-term I.C. analysis we are left to opt for one of the following analyses:

a) lbint kānat/ našīṭa

Roughly: (ṭhe girl was/ active)

b) lbint/ kānat našīṭa

Roughly: (ṭhe girl/ was active)

Opting for one of the above analyses implicitly leads to rejecting the other and vice versa. With reference to the first analysis the syntactic structure of the syntagm may be represented in one of the following ways:

$$([\text{lbint}] \rightarrow \text{kānat}) \longrightarrow \text{našīṭa}$$

or

$$(\text{lbint} \leftarrow [\text{kānat}]) \longrightarrow \text{našīṭa}$$

The above two structures have both to be rejected for the following reason: both solutions are inconsistent with the theory which does not allow an element that commutes with zero to stand as a nucleus of a syntagm. Each of "kānat" (she was), and "lbint" (the girl) in the syntagm "lbint kānat nasita" (the girl was active) commutes, as we have already seen, with zero, i.e. each may constitute an "expansion". These considerations make the above two structures and consequently the I.C. analysis (i.e. lbint kānat/ našīṭa) on which they were based unfeasible.

Having rejected the first and the second I.C. analyses we are left with:

lbint/ kānat našīṭa

Roughly: (ṭhe girl/ was active)

as the only plausible analysis. This is justified by the following external as well as internal considerations. Externally, by analogy with the syntagm "lbinṭ kānat tiktib" (ṭhe girl was writing), we have good reasons to believe that "kānat" (sḥe was) in the syntagm "lbint kānat našīṭa" (ṭhe girl was active) is in direct tactic relation with the predicative nucleus "našīṭa" (active), while "lbint" (ṭhe girl) is not. Internally, establishing an unfeasible direct tactic relation between "kānat" (sḥe was), and "lbint" (the girl) would give us the construction "lbint kānat" which does not constitute a self-contained syntagm; while by virtue of the direct tactic relation existing between "kānat" and the predicative nucleus "našīṭa", the construction "kānat našīṭa" (sḥe was active) constitutes a self-contained syntagm corresponding to a well-formed utterance in the data. The latter reason (i.e. the internal), while giving support to the above hypothesis, provides at the same time good reasons for rejecting any assumption by virtue of which a direct tactic relation between "lbint" (ṭhe girl), and "kānat" (sḥe was) may be established. This in effect leads to the rejection of the assumption that the construction "lbint kānat" (ṭhe girl was), is a sub-ordinative, a co-ordinative, or an inter-ordinative syntagm.

Having opted for the above I.C. analysis, and having subjected it to attempted refutations without succeeding to discover any counter-evidence which may make it necessary for us to revise our position, we may say that the syntagm in question (which we shall call non-verbal predicative-based, abbreviated to NV.P.B.) is a self-contained bundle of two positions: a non-verbal predicative in the nuclear position governing the tactic function of a peripheral element in the subject position. The non-verbal predicative nucleus is, in its turn, a self-contained bundle of two positions: a predicative in the nuclear position governing the tactic function of a peripheral element in the auxiliary

(aux) position. The model set up to account for the overall syntactic relations involved in the syntagm in question is as follows:

"[subject]" ⟶ ("[auxiliary]" ⟶ predicative)

Enclosing each of the "subject" and the "auxiliary" position by square brackets within inverted commas (i.e. "[ ]"), indicates that either of the elements standing in these positions, but not both at the same time, may be an expansion, (i.e. may commute with zero). The syntagm "lbint kānat našīṭa" (the girl was active) is projected onto the model in the following manner:

"subj." "NV.P."

"[lbint]" ⟶ ("[kānat]" ⟶ našīṭa)

Sub-ordinative as well as co-ordinative constructions may occupy the subject position. Examples of sub-ordinative and co-ordinative syntagms are:

a) lbanāt lxamsa lžidad

(the five new girls)

b) lulād lbanāt ?umhum u?abūhum

(the boys the girls their mother and father)

The first syntagm constitutes a nominal syntagm which will be dealt with in a succeeding chapter. The syntactic complexity involved in the second syntagm may be represented as follows:

([lulād] ⟷ [lbanāt] ⟷ [?umhum u?abūhum])

In the "auxiliary" position only a closed set of a relatively small number of items may stand. Examples of those items are: "kān" (he - it - was), "ṣār" (he - it - became), "ṣabbaḥ" (he - it - became in the morning), and "massa" (he - it - became in the evening).

In the predicative position co-ordinative as well as sub-ordinative constructions may stand. Examples:

lbanāt kānu had?în mužiddîn

(lit: the girls were quiet (and) industrious)

lulàd kānu kaslānīn ǯiddan

(lit: the boys were lazy very)

In the first example the elements "had?ín" (quiet), and "mužiddĭn" (industrious), stand to one another in a relation of co-ordination. The two together as a self-contained syntagm occupy the predicative position. In the second example the construction "kaslānĭn ǯiddan" (very lazy), constitutes a sub-ordinative syntagm occupying the predicative position. It is a combination of two immediate constituents of which "kaslānīn" is the nucleus. The element "ǯiddan" (very) constitutes a peripheral expansion standing in a relation of sub-ordination with respect to the nucleus "kaslānīn".

In the absence of the auxiliary element one may have examples of the following type:

lktāb ǯidíd	(the book is new)
šibbāk lsaiiāra maksūr	(the car's window is broken)
ṣadīqu nažǯār	(his friend is a carpenter)
lbanāt xamsīn	(the girls are fifty)
lkutub lqadīma nādra	(the old books are rare)

The first syntagm may be represented in the following manner:

"lktāb" ⟶ "ǯidíd"

The element "lktāb" (the book), in the subject position, stands in a direct relation of subordination with respect to the predicative "ǯidíd" (is new). And, being bound, it contracts a bilateral relation of occurrence dependency with the nucleus. That is, the subject for its occurrence depends on the predicative nucleus and vice versa.

A syntagm of the type "lktāb ǯidíd" (the book is new), should not be confused with a nominal syntagm such as: "lktāb lǯidīd" (the new book). The two syntagms obviously convey two functionally different messages, and the constituents in them exhibit different syntactic functions. Describing the syntagm "lktāb ǯidíd" as:

"subject"		"predicative"
"lktāb"	⟶	"židīd"

and the syntagm "lktāb lžidīd" (the new book), in terms of the nominal model:

"part."	ø	
"sub."	ø	
"pos."	ø	⟶ lktāb "def. nom."
"num."	ø	
"adj."	[lžidīd]	
"dem."	ø	
"sup."	ø	

shows the difference in the syntactic structures of the two syntagms. One also sees that the two syntagms are distributionally different, i.e. they belong to two different levels in the syntactic hierarchy. The syntagm "lktāb lžidīd" (the new book), commutes with one of the constituents of the syntagm "lktāb židīd" (the book is new), as shown below:

lktāb židīd	(the book is new)
lktāb lžidīd židīd	(the new book is new)

9. Realizations of the Non-Verbal Predicative Syntagm

The most common realizations of the non-verbal predicative syntagm is the sequence:

	subject	-	predicative
Examples:	lṭullāb		mužiddīn (the student (s) are serious)
	lkutub		qadīma (the books are old)
	lqlām		sūd (the pens are black)

When both the subject and the auxiliary are present the constituents succeed one another in the following manner:

	subject	- auxiliary	- predicative	
Examples:	lbint	kānat	mabṣūṭa	(the girl was happy)
	lbanāt	kānu	mabṣūṭin	(the girls were happy)
	lualad	kān	halkān	(the boy was exhausted)

The auxiliary may also precede the subject, thus one may have:

	auxiliary	- subject	- predicative	
	kānət	lbint	mabṣūṭa	(the girl was happy)
lit:	she was	the girl	happy	
	kānu	lbanāt	mabṣuṭīn	(the girls were happy)
lit:	they were	the girls	happy	
	kān	lualad	halkān	(the boy was exhausted)
lit:	he was	the boy	exhausted	

In the absence of the subject the auxiliary precedes the predicative.

Generally speaking, however, any sequential order in which the elements "subject", "auxiliary", and "predicative" can be arranged would be admissible in the data; and this depends to a large extent on which element the emphasis falls. The emphasised element precedes the others.

There is an agreement between the subject and the non-verbal predicative in gender and in number as shown below:

?ana (?āni)	mirtāħ	(I am comfortable)
?inta	mirtāħ	(you - m - sing. are comfortable)
huua	mirtāħ	(he - it - is comfortable)
?inti	mirtāħa	(you - f - sing. are comfortable)
hiia	mirtāħa	(she - it - is comfortable)
?ħna	mirtāħīn	(we are comfortable)
?intu	mirtāħīn	(you - pl - are comfortable)
humma	mirtāħīn	(they are comfortable)

The agreement between the subject and the auxiliary is similar to the agreement between the subject and the verbal predicative. The following examples show the agreement between the subject and the auxiliary:

?ana (?āni) kinit	(I was)
?ana (?āni) sirit	(I became)
?inta kinit	(you m - sing. were)
?inta ṣirit	(you m - sing. became)
?inti kinti	(you - f - sing. were)
?inti ṣirti	(you - f - sing. became)
huua kān	(he - it - was)
huua ṣār	(he - it - became)
hiia kānat	(she - it - was)
hiia ṣārat	(she - it - became)
?iñna kinna	(we were)
?iñna ṣirna	(we became)
?intu kintu	(you - pl - were)
?intu ṣirtu	(you - pl - became)
humma kānu	(they were)
humma ṣāru	(they became)

NOTES TO CHAPTER I : PREDICATIVES

1. The term "predicative syntagm" covers "verbal" and "non-verbal" predicatives which will be discussed later.

2. See "Syntax in Axiomatic Functionalist Linguistics", 1975, and "Some Difficult Cases in Syntax", 1978 by J. Mulder.

3. Note that "/šarb/" and "/šarab/" are allomorphic variants of "šarab" (to drink).

4. For more details about the morphology of the verb see Ashkuri's A Morphological Description of the Verb in Formal Arabic St. Andrew's, M. Litt. Thesis 1979.

5. Although in a situation of this kind one is more likely to take the element immediately following the predicative as "subject" and the other as "object", one cannot take this as a rule.

6. See An Introduction to Modern Literary Arabic, 1958, by D. Cowan Cambridge University Press.

7. The above analysis anticipates the analysis of the "non-transitive" syntagm which is to be discussed on page 73.

8. This anticipates the analysis of the "indirect-transitive" syntagm which is to be discussed on page 92.

9. The above definitions, or rather "quasi definitions" (Mulder 1975) will be explained, and the terms in them will be defined as the discussion unfolds.

10. A translation such as "he - it - had wanted to" would also be acceptable, but the choice between the two translations remains arbitrary as there is no special context that determines our choice. I have opted for "he - it - was wanting to" as I see that its information value is nearer to the information value conveyed by "kan irīd" when taken in isolation. Note, however, that opting for one translation or the other should have no repercussion on our arguments concerning the structure of the syntagm under discussion. (See section 2).

11. This is probably why Mulder used terms of this kind in his informal discussion of types of the predicatives in his Sets and Relations in Phonology, 1968.

12. Terms such as "transitive", "intransitive" in traditional grammar are used to refer exclusively to "verbs" which may, or may not, take an object.

13. A syntagm of the same form may also convey the message (our neighbour made her son study chemistry), in which case "?ibna" (her son), the indirect object, becomes bound. . This, however, will be dealt with under the syntagm V.P.87.

14. The verb "haṭ" could be interpreted in English as, "laid" as ~~in~~ the ~~syntagm under analysis, or as, "left" in which case the complementary~~

object becomes an expansion rather than bound. In the latter case the syntagm is a non-complementary transitive (V.P.88) which has been dealt with earlier.

15. The verb "ħaṭṭaṭ" could be interpreted in English as, "to make someone lay something" as in the syntagm under analysis, or as, "to make someone leave something", in which case the complementary object becomes an expansion. Syntagms of the latter type shall be dealt with in the next sub-section.

16. Note that it is more accurate for the syntagm "ʔibni sauuāni liʕba" to be interpreted as (my son made a toy out of me), rather than (my son made me a toy) which is ambiguous in English. The latter translation in English could mean either "my son made a toy out of me", or "my son made a toy for me". The syntagm "ʔibni sauuāni liʕba" can only be translated in terms of the first interpretation. Note also that pronouns such as "ni" have been established as pleremes (see page 60.)

17. In its general sense the term "object" covers "object" (direct object) "indirect object" and "Complementary object".

CHAPTER II : FUNCTIONAL SYNTAGMS

Certain positions in some of the predicative syntagms which have been discussed in the preceding chapter may be filled by constructions of the following type:

maʕa lbint	(with the girl)
billēl	(at night)
bilbēt	(in - at - the house)
ʕala kursi	(on a chair)
ʕalkursi	(on the chair)
fōq lbāb	(over the door)

A syntagm such as "ʕalkursi" (on the chair), for instance, may occupy the complementary object position in a syntagm such as "ħaṭ lqalam ʕalkursi" (he - it - put the pen on the chair), (see V.P.88), in "tarak lktāb ʕalkursi" (he - it - left the book on the chair), (see V.P.88), or in "qaʕad ʕalkursi" (he sat on the chair), (see V.P.83). It may also occur in a non-verbal predicative syntagm such as "lktāb ʕalkursi" (the book is on the chair), or in a nominal syntagm (which is to be discussed in the next chapter) such as "qalam ʕalkursi" (a pen on the chair). In the present chapter we shall investigate what kind of complexity is involved in constructions of the above listed type. Is, for instance, a construction such as "maʕa lbint" (with the girl) a morphological complex? i.e. is it a combination of monemes related to one another by a morphological relation of simultaneity? Is it a syntactic complex? i.e. is it a combination of syntagmatic entities related to one another by syntactic relations? Or, is it neither a morphological nor a syntactic complex? i.e. is it a single grammatically unanalysable entity? In the latter case it might turn out to be a pseudo-composite. As an initial

hypothesis we shall assume that the construction "maʕa lbint" (with the girl), is a morphological complex. To corroborate this hypothesis as a valid analysis, the construction in question has to satisfy the following four criteria which are laid down by axiomatic functionalism for the identification of morphological complexes as opposed to syntactic ones. (For more details see Hervey and Mulder, 1973).

1) A morphological complex must be a potential constituent.

2) A morphological complex must contain, at least, two signa, otherwise it is not a complex on the sign level.

3) A morphological complex should have as its constituents only simple signa, i.e. all immediate constituents of a morphological complex must, at the same time, be its ultimate constituents.

4) The members of a morphological complex (of simple signa) must all stand in a relation of simultaneity to one another in the complex in question.

The first criterion is satisfied by the fact that the construction "maʕa lbint" (with the girl), combines with other elements as encountered in:

rāḥ maʕa lbint	(he - it - went with the girl)
ṣadīqu maʕa lbint	(his friend is with the girl)
or	(his friend with the girl)

The second criterion is satisfied by the following commutations:

maʕa lbint	(with the girl)
u lbint	(and the girl)
maʕa lbint	(with the girl)
maʕa ʔaxū	(with his brother)

(The above commutations also provide feasible grounds for the refutation of the hypothesis that the construction "maʕa lbint" (with the girl)is a pseudo-composite.

On testing our construction against the third criterion we notice that one the first level it is a combination of two I.C.s as shown below:

maʕa/ lbint (with the girl)

Roughly: with/ the girl

On a lower level, the constituent "lbint" (the girl) is a combination of two I.C.s as shown below:

l/ bint

Roughly: the/ girl

The above I.C. analysis shows that the immediate constituents of the constructions "ma a lbint" are not themselves the ultimate ones. This in effect means that the third criterion has been violated, and this is sufficient for the refutation of the hypothesis that the construction "maʕa lbint" (with the girl), is a morphological complex.

Now having rejected the hypothesis that the construction under analysis is a morphological complex, or a pseudo-composite, we are left with the only possibility of regarding it a syntactic complex. That this is the only plausible solution is supported by the fact that one of its immediate constituents commutes with a whole syntagm that can demonstrably stand in a position with respect to the other constituent as shown below:

maʕa/ lbint (roughly: with/ the girl)

maʕa/ lbanāt lḥiluīn (roughly: with/ the beautiful girls)

Further investigation would show that "maʕa" (with), which has been established as a syntactic entity, is not any further analysable into other grammatical elements. We may, therefore, say that "maʕa" (with), in a construction such as "maʕa lbint" (with the girl), is a minimal syntactic entity, i.e. a plereme. Elements such as "bi" (in - at) "ʕala" (on), "fōq" (over), which have been used in the examples of the foregoing list may be treated in the same manner as "maʕa" (with).

since each of them properly commutes with the element "maʕa" as in:

maʕa lbēt (with the house)

bi lbēt (in - at - the house)

ʕala lbēt (on the house)

fôq lbēt (over the house)

And like "maʕa", none of them is further analysable on the grammatical level.

Calling a construction of the above type a "functional syntagm" we may say that the functional syntagm in Kamali Arabic is a self-contained bundle of two positions: a functional element in the nuclear position governing the tactic function of a bound peripheral in the complement position. The model set up to account for the syntactic relations involved in the syntagm in question is as follows:

"functional" ⟵ "complement"

A syntagm such as "ʕalkursi" (on the chair), may be projected onto the above model in the following manner:

"functional" "complement"

"ʕa" ⟵ "lkursi"

The element "ʕa" (on) has been legitimately recognised as "nucleus" since it satisfies the definition of "nucleus" in the theory employed. One sees that it is via the element "ʕa" (on), but not "lkursi" (the chair), can the syntagm "ʕalkursi" (on the chair), contract syntactic relations with other immediate constituents on a higher level. In, for instance, "ħaṭ lktāb ʕalkursi" (he - it - put the book on the chair), one sees the importance of "ʕa" (on) in linking the syntagm "ʕalkursi" (on the chair) with the nucleus "ħaṭ" (he - it - put). An element such as "ʕa" (on), on the other hand, plays an important role in determining the distribution of a syntagm such as "ʕalkursi" (on the chair). It is by virtue of "ʕa" (on), for instance, that the syntagm "ʕalkursi" may occupy a complementary object position in a verbal predicative-based

syntagm (see V.P.B. 3, 8, 9), a nuclear position in a non-verbal predicative syntagm, e.g. "lktäb→ʃalkursi" (the book is on the chair), or a supplement position in a nominal governed syntagm (as we shall see in the next chapter). Note that the functional syntagm as a whole always stands in a relation of sub-ordination to other constituents on a higher level, but itself cannot exhibit a relation of super-ordination to other constituents. That is, the functional syntagm may determine other constituents, but itself cannot be determined by any constituent.

Going back to our previous model we notice that there is a bilateral occurrence dependency between the complement and the nucleus. The functional nucleus, therefore, is not free. In realization it always precedes the complement.

The "u" (and), Syntagm and the Adequacy of the Model

In a construction such as "lualad ulbint" (the boy and the girl), both "lualad" (the boy) and "lbint" (the girl), seem to stand in a direct relation to "u" (and), and ~~that~~ the two elements to be indirectly related via it. At first sight, therefore, it may seem that "u" is the nucleus of the syntagm "lualad ulbint" (the boy and the girl). Assuming that this is the case the following alternative models may be proposed to account for the structure of the syntagm in question:

(1) "lualad" "lbint" → u

(2) [lualad] [lbint] → u

(3) [lualad lbint] → u

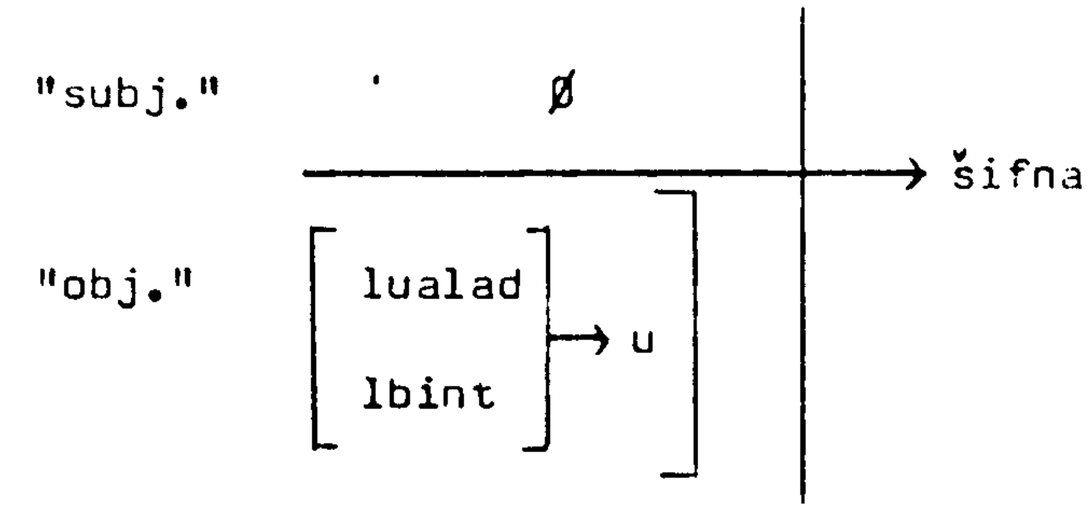
On investigation we notice that the element "u" does not satisfy the requirements for being nucleus since:

a) it is part of an expansion as we shall see.

b) it is not via "u" (and), that the syntagm "lualad ulbint" (the boy and the girl) contracts relations with higher level immediate constituents.

In, for instance, the syntagm "šifna lualad ulbint" (we saw the boy and

the girl), where the syntagm "lualad ulbint" (the boy and the girl), stands in the object position as shown below:



we notice that it is materially inadequate to recognise a direct relation between the nucleus nucleorum "šifna" (we saw), and the element "u" (and), the nucleus of the sub-ordinated syntagm. Furthermore, it is equally inadequate to recognise an indirect relation between each of "lualad" (the boy), and "lbint" (the girl), on the one hand, and "šifna" (we saw), on the other.

Going back to the three alternative models, we notice in addition to the above observations, that model (1) is inconsistent with the data since "lualad" (the boy), and "lbint" (the girl), are not both "bound" elements. And model (2) is equally inconsistent since according to the data, the elements "lualad" (the boy), and "lbint" (the girl) are not both"expansions". Had this been the case i.e. had they both been expansions we would have expected the element "u", which is a "free" nucleus (according to 2), to stand on its own as an instance of the syntagm "lualad ulbint" (the boy and the girl). The third model is in fact a conflation of two models which can be represented as follows:

That is to say either the one or the other of the peripheral elements "lualad" (the boy), and "lbint" (the girl), has to be "bound" while the other is an "expansion". According to the above analyses, one expects, after leaving out the peripheral expansions, the constructions

"lbint u" (the girl and) in the first model, and "lualad u" (the boy and), in the second, to stand as instances of the syntagm "lualad ulbint" (the boy and the girl). This, however, is not the case since neither of these constructions constitutes a well-formed utterance.in the data.

In view of the preceding observations, the three alternative models, and consequently the analysis of the syntagm "lualad ulbint" (the boy and the girl), into the three immediate constituents: "lualad" (the boy), "u" (and), and "lbint" (the girl), have to be refuted.

Having rejected the hypothesis that the syntagm "lualad ulbint" (the boy and the girl), is a combination of three immediate constituents, let us examine the following alternative solutions:

lualad/ ulbint (roughly: the boy/ and the girl)

lualadu/ lbint (roughly: the boy and/ the girl)

Taking the first analysis, the construction "ulbint" (and the girl), may be regarded as a peripheral expansion, and "lualad" (the boy), as the nucleus of the syntagm. And taking the second, we may regard the construction "lualadu" (the boy and), as a peripheral expansion, and "lbint" (the girl) as the nucleus of the syntagm. Both solutions seem to be consistent and adequate. That is, each of "lualad" (the boy), in the first, and "lbint" (the girl) in the second, satisfies the requirements for being "nucleus". Similarly, each of "ulbint" (and the girl), in the first, and "lualadu" (the boy and) in the second commutes with zero and, therefore, deserves the term "expansion". We also see that both solutions are consistent and adequate insofar as the direct and indirect relations that may be established between the constituents in them are plausible. In view of these observations it seems that opting for one or the other of the two solutions would be entirely arbitrary. Looking from a different angle, however, we notice that, in realization, there is a preference to pause after "lualad"

(the boy), i.e. "lualad ..... ulbint" (the boy ..... and the girl), rather than after "lualadu" (the boy and), i.e. "lualadu ..... lbint" (the boy and ..... the girl). For this reason we regard the first analysis, i.e:

lualad/ ulbint (roughly: the boy/ and the girl)

as materially more adequate[1] than the second, i.e:

lualadu/ lbint (roughly: the boy and/ the girl)

Opting for the first solution, the syntactic structure of the syntagm under analysis may be represented as:

lualad ⟵ [ulbint]

The syntagm is a combination of two immediate constituents of which "lualad" (the boy) is the nucleus. Being an expansion, the peripheral constituent "ulbint" (and the girl) is, for its function and occurrence, dependent on the nucleus, but not vice versa. On a lower level the syntagm "ulbint" (and the girl), is a combination of two I.C.s of which "u" (and) is the nucleus, i.e:

"u" ⟵ "lbint"

The above syntagm is a self-contained bundle of two positions: a functional element in the nuclear position governing the tactic function of a bound peripheral in the complement position. The complement "lbint" (the girl), stands in a relation of sub-ordination with respect to the nucleus "u" (and). There is a bilateral occurrence dependency between the complement and the functional, i.e. the complement for its occurrence depends on the functional and vice versa. From what has preceded we notice that the syntagm "ulbint" (and the girl), is characterised by all the syntactic properties of a "functional syntagm" and therefore it is legitimately called "functional".

In view of the above observations, and of the fact that no counter-evidence against our analysis could have been substantiated, our hypothesis about the syntactic structure of the functional syntagm

in Kamali Arabic stands as a valid unrefuted statement for the description of the syntagm in question.

NOTES TO CHAPTER II : FUNCTIONAL SYNTAGMS

1. Note that the "pause" has been brought in only as a measure for the adequacy of our I.C. analysis. Being a para-syntactic feature, "pause" does, and has, not affected our syntactic analysis. The above "pause" which is attested on the "speech" level is reflected on the writing level as well. In writing the element "u" (and) is always expressed as part (prefix) of the written form of the second immediate constituent, i.e. in writing the syntagm in question is always expressed as: ⟨lualad ulbint⟩ .

CHAPTER III: NOMINAL SYNTAGMS

1. Morphology and Syntax with Reference to the Definite Article in Kamali Arabic

The essential characteristic feature of syntax is that the constructional relations in it are, by definition, relations between elements that can stand in tactic asymmetrical relations; whereas in morphology, constructional relations are, by definition, symmetrical. Thus the total absence of any potential for a tactic relation (asymmetrical, or not) is a defining feature of a morphological construction. By the aid of the above distinction one may avoid the risk of confusion between morphological and syntactic complexes on the one hand, and between complexes and pseudo complexes (pseudo-composites) on the other.

In a syntactic analysis the investigator is mainly interested in syntagms that correspond to sentence bases in the data. A "sentence base", in Mulder's theory may be interpreted as the total complex, in a para-syntactic unit, of those features that correspond (on another level) to tactic entities (see Def. 20b). As a first step in a syntactic analysis, the investigator starts with reducing the syntagm to its minimal syntagmatic entities, i.e. pleremes. A plereme in Mulder's theory can be interpreted as a self-contained simultaneous bundle of one, or more, monemes; and as a minimal syntagmatic element in grammar. From these equivalent statements, one may infer that all self-contained morphological complexes must be potential syntactic constituents.[1] The procedure of establishing the pleremes of a particular syntagm is mainly, if not entirely, dependent on the distinction between morphology and syntax, which distinction is basic to the present approach. Without

such a distinction, one would not know whether one is dealing with syntax proper, morphology proper, or a mixture of the two.

In an article called "Pseudo-Composites and Pseudo-Words" (1973), Hervey and Mulder lay down certain criteria for the identification of morphological complexes as opposed to syntactic ones. The four major criteria in that article are:

1) A morphological complex must (with some exceptions, see footnote 1) be a potential constituent.

2) A morphological complex must contain, at least, two signa otherwise it is not a complex on the sign level.

3) A morphological complex should have as its constituents only simple signa, i.e. all immediate constituents of a morphological complex must, at the same time, be its ultimate constituents.

4) The members of a morphological complex (of simple signa) must all stand in a relation of simultaneity to one another in the complex in question.

To show how the above criteria are applied, and consequently how the pleremes of a particular syntagm are arrived at, the syntagm "lbint lhilua" (the beautiful girl), from Kamali Arabic is taken for analysis. Let us assume that the syntagm in question is a combination of the two pleremes:

lbint/ lhilua

To adopt the above analysis as a valid hypothesis we should make sure that neither of the above two constituents consists of elements that can stand in tactic (syntactic) relation to one another. This involves investigating whether any of the above assumed pleremes consists of elements standing in a morphological relation of simultaneity, in a syntactic relation, or in what apparently seems to be a grammatical relation. (In the latter case a construction might turn out to be a pseudo-composite, or a pseudo-word.)

With regard to the element "lbint" (the girl), in the above construction, I shall put forward the hypothesis that it is a self-contained bundle of monemes. That is to say, that the element "lbint" (the girl), is a morphological complex, and, therefore, the relations holding between its constituents are symmetrical morphological relations. On applying the above four criteria to our complex the following observations are made:

1) The complex "lbint" (the girl), can be shown to be a potential constituent in higher constructions as in:

rāḥat lbint	(the girl went)
šāf lbint	(he saw the girl)
lbint lḥilua	(the beautiful girl)

2) The following commutations:

l bint	(the girl)
∅ bint	(a girl)
l ualad	(the boy)

show that the complex "lbint" (the girl), is a combination of two signs: "l" (the), and "bint" (girl). In the above constructions the constituents are commuted in equivalent contexts and without affecting the grammatical relations within the complex "lbint" (the girl). The above commutations are, therefore, valid; and this satisfies the second criterion for the identification of a morphological complex.

3) Being unable to identify more than one <u>simple</u> sign in each of "l" (the), or in "bint" (a girl), the two signs form the immediate, and at the same time the ultimate, constituents of "lbint" (the girl); and consequently the requirement of the third criterion is satisfied.

4) The fourth and the last criteria demands that a morphological complex should not have any potential for tolerating

syntactic relations. This is the most interesting point which needs investigation more than the previous three ones. If it can be demonstrated that the complex "lbint" (the girl), is a syntactic complex, then the hypothesis that the constituents in it are in a morphological relation of simultaneity will have to be refuted. If on the other hand, no syntactic relation can be shown to hold between "l" (the), and "bint" (girl), then the hypothesis that the relation holding between the constituents of the complex under analysis is a morphological relation of simultaneity is to be corroborated.

To test whether there is a syntactic relation within the boundaries of the complex in question, we first apply the simple technique of "permutation". This is very much similar to permutation in "phonotactics". By permuting /s/ and /k/ in /brisk/, for instance, the form /briks/ is produced. Both forms are attested in English and they constitute phonological forms for two functionally different signs in that language. By applying the same technique, i.e. permutation on "l" and "bint" in "lbint" (the girl), the complex "bintl", which is not functionally different from "lbint" (the girl), is produced. Thus the above permutation has failed to show that the elements "l" (the), and "bint" (girl), in the complex "lbint" (the girl), are in a syntactic relation.

Having failed, via permutation, to demonstrate that the complex "lbint" (the girl), is a syntactic, rather than a morphological one, we apply the other equally important technique of "commutation". This procedure involves discovering a constituent which can validly commute with either of "l" or "bint", the constituents of the complex "lbint" (the girl). And if within the boundaries of the new commutant, a possibility of a potential of elements standing in a tactic asymmetrical relation is discovered, one has actually demonstrated that the constituent "lbint" is a syntactic complex. On the other hand, if the

new commutant involves a grammatical complexity (i.e. morphological or syntactic), then this would implicitly lead to violating the third criterion (i.e. that the immediate constituents of a morphological complex should themselves be the ultimate constituents of that complex). For the validity of the commutation, emphasis should be laid on the fact that the commutable elements should mutually exclude one another in an equivalent context without affecting the well-formedness of the complex.

Going back to the complex "lbint" (the girl), let us examine the following commutations:

a)	l bint	(the girl)
b)	ktáb bint	(a girl's book)
c)	qalam bint	(a girl's pen)
d)	fistānēn uqamīs bint	(two dresses and a girl's shirt)

With reference to the commutations (b) and (c), the following observations are made: neither "ktāb" (a book), in (b), nor "qalam" (a pen), in (c), is mutually exclusive with the constituent "l" (the), in the complex "lbint" (the girl). That is to say we can still have:

ktāb lbint (the girl's book)

and

qalam lbint (the girl's pen)

which show the invalidity of the commutations in each of (b) and (c). Furthermore, one can see that neither of the commutants "ktāb" in (b), or "qalam" in (c), consists of more than one simple (unanalysable) sign. This in effect means that the element "l" (the), did not commute with a syntactic complex, nor even with a morphological one; and, therefore, the immediate constituents of the complex "lbint" (the girl), remain themselves the ultimate ones of that complex. Accordingly, we have no justification for the refutation of the hypothesis that the constituents "l" and "bint" in the complex "lbint" (the girl), are in a morphological relation of simultaneity. As regards (d), the last

commutation, one may expect the commutant "fistānēn uqamīs" (two dresses and a shirt) to involve a syntactic complexity (i.e. to be a syntagm) since it can be demonstrated that the immediate constituents in it are not the ultimate ones. And on the basis of this commutation one may argue that the complex "lbint" (the girl), is syntactic rather than morphological. On testing that commutation more closely, it is noticed that the commutant "fistānèn uqamīs", is also not mutually exclusive with the element "l" in "lbint" (the girl). That is to say one can still have in addition to:

fistānēn uqamīs bint (two dresses and a girl's shirt)

the construction:

fistànēn uqamīs lbint (two dresses and the girl's shirt)

Moreover, and more important than all the other considerations, separate tests would show that, say, "fistānèn uqamīsl" is not a constituent, let alone, an immediate constituent alongside with "bint" (a girl), in the construction:

fistānēn uqamīs lbint (two dresses and the girl's shirt)

Having been unable to find a grammatical complex that can validly commute with "l" (the) in the complex "lbint" (the girl), we try to find out whether "bint", the other simple sign in that complex, is commutable with a grammatical complex. On testing the commutation below:

l bint (the girl)

l ualad ulktāb[2] (the boy and the book)

one sees that the commutant "ualad ulktab" (a boy and the book) seems to involve a grammatical complexity, which is presumably syntactic since the immediate constituents in it are not themselves the ultimate ones. This commutation has also to be regarded as invalid for the main reason that the commutant "ualad ulktāb" (a boy and the book), does not form an immediate constituent alongside with "l" (the),

in the construction "lualad ulktāb" (the boy and the book). That is to say that the construction "lualad ulktāb" (ṭhe boy and ṭhe book), cannot be analysed into the immediate constituents:

l/ ualad ulktāb (roughly: the/ boy and the book)

The only adequate analysis would be:

lualad/ ulktāb (roughly: the boy/ and the book)

since it is clear that "l" (the) is directly and exclusively related to "ualad" (boy) rather than to the construction "ualad ulktāb" (a boy and ṭhe book) as a whole.

Having failed via "permutation" or "commutation" to establish a tactic asymmetrical relation within the complex "lbint" (ṭhe girl), the demands of the fourth and the last criterion have been fulfilled. We, therefore, have feasible grounds for stating that the complex "lbint" (the girl) is a self-contained morphological complex, i.e. the element "l" and "bint" are monemes combined by a morphological relation of simultaneity.

Going back to the constituents "lbint" (ṭhe girl), and "lhilua" (beautiful), the immediate constituents of the complex "lbint lhilua" (the beautiful girl), i.e. "lbint/lhilua", we notice that these immediate constituents are not themselves the ultimate ones, since it has already been demonstrated that the element "lbint" is a complex of two monemes "l" and "bint". Other separate tests would also confirm the commutability of "lhilua" (beautiful), with a syntagm.

These considerations are sufficient for the construction "lbint lh̃ilua" (ṭhe beautiful girl), to be regarded as a syntactic, rather than morphological, complex. The constituent "lbint" (ṭhe girl),[3] as we shall see later constitutes a nominal nucleus to which the adjective "lh̃ilua" (beautiful), is sub-ordinated:

lbint ⟵ [lh̃ilua]

On investigating whether the peripheral element "lh̃ilua"

(beautiful), involves a grammatical complexity, or not, we notice that the element "l" prefixed to it, is triggered off by the mere occurrence of the definite article "l" (the), within the complex "lbint" (the girl), or more accurately, by the occurrence of a definite[4] nominal as a nucleus. The occurrence of a definite nominal nucleus in Kamali Arabic, and in the majority, if not all the other Arabic dialects, always determines the occurrence of the element /l/ as part of the form of not only the "adjective", but also the "numeral" as well as the "supplement" which are sub-ordinated to that nucleus within the syntagm in question. Accordingly we may have:

lbanāt lkbār	(the big girls)
lbanât lxamsa	(the five girls)
lbanāt lbilbët	(the girls (who are) at home)
lbanāt lxamsa lkbār	(the five big girls)
lbanāt lxamsa lkbār lbilbet	(the five big girls (who are) at home)

On leaving out the element "l" (the), from the nominal "lbanât" (the girls) in the above syntagms, i.e. on having an indefinite nominal nucleus, the "adjective", the "numeral" and the "supplement", sub-ordinated to it, automatically lose the /l/ prefixed to them. Thus instead of the above syntagms we get:

banāt kbar	(big girls)
banāt xamsa	(five girls)
banat bilbēt	(girls at home)
banāt xamsa kbār	(five big girls)
banāt xamsa kbār bilbēt	(five big girls at home)

The above examples provide good evidence for supporting the view that the element "l" in the "adjective", the"numeral", and the "supplement", is a contextually determined, rather than a functional, entity. But before adopting this view as a valid hypothesis, let us go back to

the complex "lbint lẖilua" (the beautiful girl), and examine the following commutation:

lbint lẖilua (ṭhe beautiful girl)

lbint ɸhilua (ṭhe girl is beautiful)

On the face of it, it seems as though the element "l" in "lẖilua" (beautiful), has been opposed to its absence, and consequently its identity as <u>a contextually determined entity</u> becomes questionable.

If the above commutation can be shown to be valid, then we are in a position to refute the hypothesis that the "l" of "lẖilua" (beautiful), is a contextually determined entity. The argument against the validity of the above commutation runs as follows: the so-called opposition between "l" in "lẖilua" (beautiful), and its absence did not obtain in an equivalent context. This is confirmed by the fact that the syntagm:

lbint lẖilua (ṭhe beautiful girl)

is structurally different from the syntagm:

lbint ẖilua (ṭhe girl is beautiful)

The difference between the two syntagms is accounted for by the fact that the former syntagm, as a whole, may occur as an immediate constituent within the latter, in which case one may have:

lbint lẖilua ẖilua (ṭhe beautiful girl is beautiful)

as a well-formed syntagm in the data. Later in this work we shall see that the syntagm "lbint lẖilua" is a combination of the immediate constituents "lbint" (the girl), and "lẖilua" (beautiful), of which the first is the nucleus, i.e.

lbint ⟵ [lẖilua]

But the syntagm "lbint ẖilua" (ṭhe girl is beautiful), is, as disscussed already, (see page 95), is a predicative syntagm in which "ẖilua" (beautiful), is the nucleus, i.e.

"lbint" ⟶ "ẖilua"

On the basis of the above observations the syntagm "lbint lẖilua ẖilua"

(ṭhe beautiful girl is beautiful), may be represented as follows:

("lbint" ⟵ [lẖilua]) ⟶ "ẖilua"

The above observations show that the grammatical relations in "lbint lẖilua" (ṭhe beautiful girl), have been demonstrably affected when the so-called commutation between "l" in "lẖilua" (beautiful) and its absence was performed.

From the preceding discussion we may conclude that the element "l" may, or may not, be prefixed to the peripheral elements "adjective", "numeral", and/or "supplement". This depends on whether the above peripheral elements, as immediate constituents within a certain nominal syntagm, stand in a relation of sub-ordination to a <u>definite</u> or an <u>indefinite</u> nominal nucleus respectively. Accordingly, the prefix "l" in, for instance, "lẖilua" (beautiful), "lxamsa" (five), and "lbilbēt" (at home), in syntagms such as:

lbint lẖilua	(ṭhe beautiful girl)
lbanāt lxamsa	(ṭhe five girls)
lbanāt lbilbēt	(ṭhe girls at home)

is to be regarded as a contextually determined rather than a functional entity.

2. <u>The Nominal Governed Syntagm</u>

In this work a distinction will be drawn between two types of nominal syntagm in Kamali Arabic: the definite nominal governed syntagm, and the indefinite nominal governed syntagm.

i) <u>The Definite Nominal Syntagm</u>

The purpose of this section is to discuss and describe the syntactic relations which may obtain between the immediate constituents of the definite nominal governed syntagm in Kamali Arabic. For this purpose the following examples are extracted from the data:

1.	lkutub	(the books)
2.	lkutab lθaláθa	(the three books)
3.	lkutub lqadíma	(the old books)
4.	lkutub lθalāθa lqadīma	(the three old books)
5.	kutub ltārīx	(the history books)
6.	kutub lmalik	(the king's books)
7.	kutub tārīx lmalik	(the king's history books)[5]
8.	kutub tārīx lmalik lθalāθa lqadīma	(the king's three old history books)
9.	baʕḍ kutub tārīx lmalik lθalāθa lqadīma	(some of the king's three old history books)
10.	baʕḍ kutub tarīx lmalik lθalāθa lqadīma haðōl	(some of these three old history books of the king)
11.	baʕḍ kutub tārīx lmalik lθalāθa lqadīma haðōl lʕalkursi	(some of these three old history books of the king - which are - on the chair)

On setting up the descriptive model for an exhaustive account of the syntactic relations which may exist between the constituents of the definite nominal governed syntagm, or between the constituents of any syntagm that one may wish to describe, we take into account the maximum number of items that may co-occur as immediate constituents within that syntagm. Thus, the first example in the foregoing list, for instance, is unhelpful in setting up a descriptive model for an adequate description of the syntagm under discussion. One cannot even talk about a syntactic relation, let alone, a field of syntactic relations, in a situation where one has only one syntagmatic entity such as "lkutub" (the books). Judging from the last example in the previous list, it will be obvious that none of the other examples in that list is a better representative of the definite nominal syntagm in its maximal realization. We shall, therefore, conduct the analysis basing ourselves on the underlying assumption that example 11, the last example in the list, is the right representative. This, however, remains a

valid, and, therefore, corroborated hypothesis as long as it is adequate and consistent with respect to the data; but even then it remains subject to refutation. That is, if after further investigation, a counter example is discovered in the data, then that hypothesis has to be rejected. Let us assume that the immediate constituents of the last syntagm in the list are:

baʕḍ/ kutub tārīx/ lmalik/ lθalāθa/ lqadīma/ haðol/ lʕalkursi

On investigation we notice that direct tactic relations may be established between:

baʕḍ	and kutub —	"baʕḍ lkutub"[6]	(some of the books)
tārīx	and kutub —	"kutub ltārīx"	(the history books)
lmalik	and kutub —	"kutub lmalik"	(the king's books)
lθalāθa	and kutub —	"lkutub lθalāθa"	(the three books)
lqadīma	and kutub —	"lkutub lqadīma"	(the old books)
haðol	and kutub —	"lkutub haðōl"	(these books)
lʕalkursi	and kutub —	"lkutub lʕalkursi"	(the books - which are - on the chair)

On the basis of these direct relations we see no feasible grounds for grouping "kutub" (books), and "tārīx" (history), together as one immediate constituent in the above I.C. analysis. The inclination to group these two elements together as one immediate constituent may be attributed to the conviction that they are semantically related to one another more than any other two elements in the syntagm. Some considerations connected with the realizational aspect of the syntagm (see page131) may play a part as well. But neither of these two considerations, nor the two together, would provide a justification for our syntactic analysis. Syntactically speaking there is no justification for the belief that the two elements: "tārix" (history), and "kutub" (books), are related to one another more closely than the elements in "kutub lmalik" (the king's books), "lkutub lqadīma" (the old books), or "lkutub lθalaθa" (the three

books), or, in fact, any other item in the syntagm in relation to "kutub" (books). For this reason the above immediate constituent analysis has to be rejected. This implies rejecting a seven-position model which may have been set up on the basis of that I.C. analysis.[7]

Basing ourselves on the direct relations listed earlier, the syntagm under discussion may be analysed into immediate constituents in the following manner:

baʿḍ/ kutub/ tārīx/ lmalik/ lθalaθa/ lqadīma/ haðōl/ lʕalkursi

The syntagm is a self-contained bundle of eight immediate constituents. The element "kutub" (books) constitutes the nucles of this syntagm since it dominates, i.e. governs the tactic functions of all the other immediate constituents in the syntagm. It is only via "kutub" (books) that the other constituents stand in a significant relation to the rest of the syntagm, or to one another; they are indirectly related to one another via "kutub". Having adopted the above analysis an eight-position model is to be set up to account adequately for instances of the definite nominal governed syntagm in Kamali Arabic. Calling the nuclear position: "nominal", (nom.) for short, and the peripherals "partitive", (part.), "substantive" (sub.) - for lack of a better term - "possessive" (pos.), "numeral" (num.), "adjective" (adj.), "demonstrative" (dem.), and "supplement" (sup.), the model set up is as follows:

[partitive]
[substantive]
[possessive]
[numeral] → definite nominal
[adjective]
[demonstrative]
[supplement]

Having a nuclear and seven peripheral positions in the model is

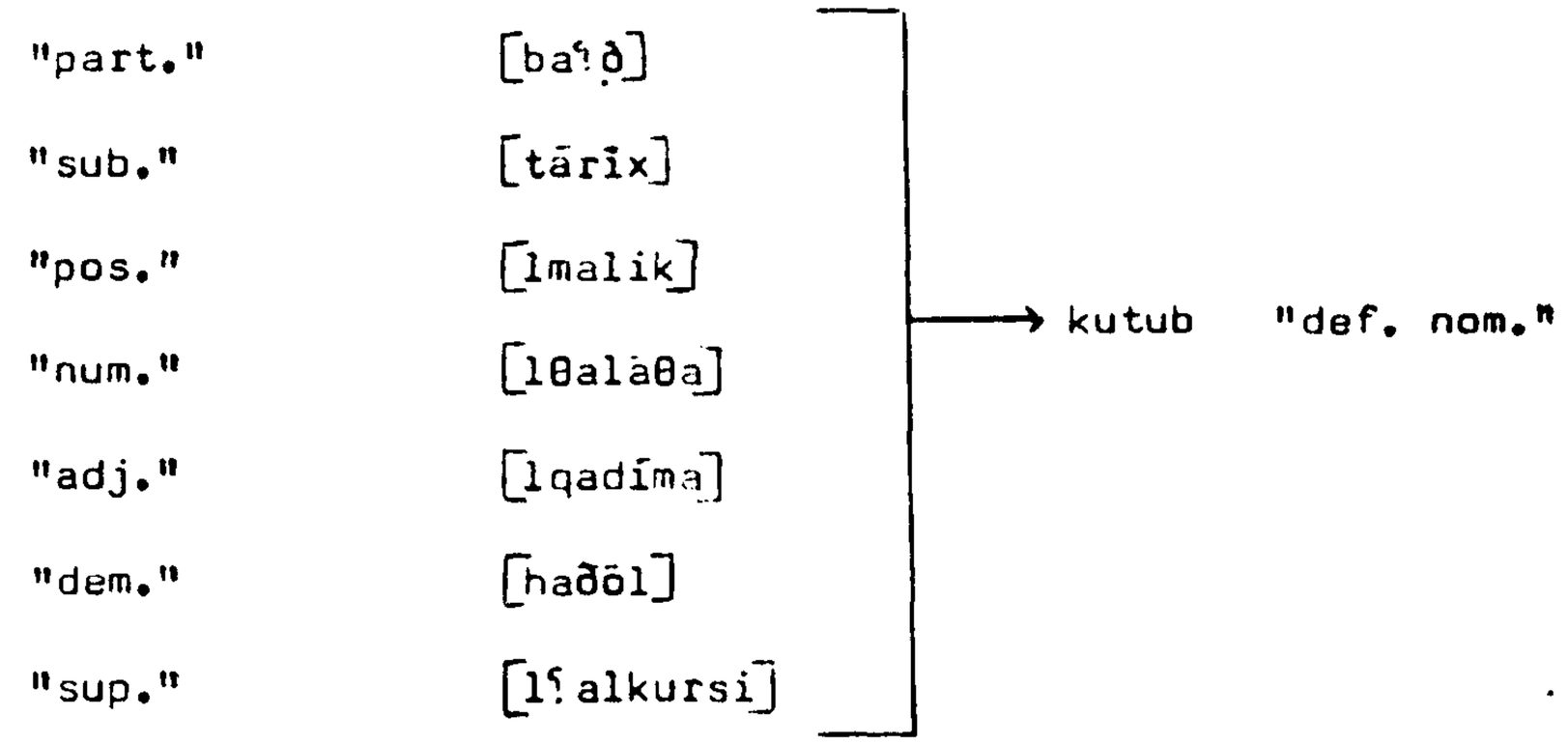
justified by the fact that eight, and only eight, immediate constituents may co-occur together within the syntagm under discussion. That is to say that eight immediate constituents are not mutually exclusive in the syntagm in question.

In view of what has preceded, the definite nominal governed syntagm may be defined as: "a self-contained bundle of eight positions; a nominal element in the nuclear position governing the tactic functions of seven peripheral expansions in the positions part., sub., pos., num., adj., dem., and sup.". The syntagm:

baʕḍ kutub tārīx lmalik lθalāθa lqadīma haðol lʕalkursi

(some of these three old king's history books - which are - on the chair)

provides an example with all the positions in the above model filled. The syntagm is projected onto the model in the following manner:



There is a unilateral occurrence dependency between each of the peripheral items and the nucleus "kutub" (books). That is, each peripheral, for its occurrence, depends on the nucleus but not vice versa. This implies that the nucleus of the syntagm is "free" (i.e. it does not require the presence of any peripheral item to actualize it). The peripheral items, being expansions, are enclosed between square brackets. They all commute with zero elements. As, for function, the peripheral items stand in direct relations of sub-ordination with respect to the nucleus. And as it cannot be ascertained

that the peripheral items determine the nucleus in different ways, they are said to stand in "parallel determination" with respect to the nucleus.

ii) Realizations of the Definite Nominal Governed Syntagm

The occurrence of a definite nominal determines the occurrence of "l" before the "numeral", the "adjective", and the "supplement" determining that nominal. A nominal is viewed as definite under the following circumstances:

1) When the definite article "l" is prefixed to it, as in:

lkutub l8alāθa lkbār lʕalkursi

(the three big books on the chair)

The element "l" is prefixed to the numeral "l8alāθa" (three), the adjective "lkbār" (big), and the supplement "lʕalkursi" (on the chair), like the nominal nucleus "lkutub" (the books).

2) When it is determined by a possessive ~~pronoun~~ such as:

a) a definite nominal, as in:

biūt ltāžir lxamsa lždīda lbilšām

(the merchant's five new houses - which are - in Damascus)

The definite article "l" is shifted from the nominal nucleus "lkutub" (the books), to the possessive element "ltāžir" (the merchant). And since the nominal nucleus is definite, the element "l" has been prefixed to "lxamsa" (five), "lždīda" (new), and "lbilšām" (in Damascus).

b) a proper name, as in:

kutub nādia lxamsa l8aqīla lʕalṭāula

(Nadia's five heavy books - which are - on the table)

qlām sāmi lsitta lṭauīla lʕalktāb

(Sami's six long pens - which are - on the book)

dafātir sāra ltisʕa lmnatafa lbilxzāna

(Sara's nine torn copy books - which are - in the cupboard)

The nominal "kutub" (books), "qlām" (pens), and "dafātir" (copy books) are definite in the above examples, and, therefore, the "numerals", the "adjectives", and the "supplements" determining them acquire the article "l".

c) A possessive pronoun, as in:

qumṣānu[8] lxamsa lmluana lbilbēt

(his five coloured shirts - which are - at home)

kanzāta lsitta lbunnịia lʕaltaxit

(her six brown jumpers - which are - on the bed)

fanāžīnhum lʕašra lmzaxrafa lʕalraf

(their ten decorated cups - which are - on the shelf)

The nominals "qumṣān" (shirts), "kanzāt" (jumpers), "fanážín" (cups), in the above examples are definite, and therefore, the "numerals", the "adjectives", and the "supplements" determining them acquire the article "l". Similar considerations apply when the possessive, determining the nominal nucleus, is itself determined by a possessive pronoun, e.g.

masāṭir ṣadīqu lθalāθa lṭauīla lʕaluarqa

(his friend's three long rulers - which are - on the paper)

karāsi ʔuxta lsabʕa lħumūr lbilmadrasa

(her sister's seven red chairs - which are - at school)

The definite article "l" shifts from the nominal to the substantive element determining it, e.g.

lmaʕāliq	(the spoons)
maʕāliq lʔakil	(the table spoons)

(lit: spoons the eating)

maʿâliq lʂaʿkih (the serving spoons)

(lit: spoons the serving)

maʿâliq lčâi (the tea spoons)

(lit: spoons the tea)

When the nominal nucleus is determined by both a substative and a possessive simultaneously, the definite article shifts to the latter (i.e. the possessive), as in:

maʿâliq ?akil lwalad (the boy's table spoons)

(lit: spoons eating the boy)

maʿâliq sakib lmalika (the queen's serving spoons)

(lit: spoons serving the queen)

maʿâliq čâi lmara (the woman's tea spoons)

(lit: spoons tea the woman)

When the nominal is preceded, rather than succeeded, by a numeral, the definite article shifts from the nominal to the numeral. In the syntagm:

lkutub lxamsa (the five books)

(lit: the books the five)

the numeral succeeds a definite nominal, and like it takes "l" as a prefix; but in:

lxams kutub (the five books)

(lit: the five books)

the article "l" is prefixed to the numeral "xams " (five) but not to "kutub" (books). Note also that the element "a" which is suffixed to the numeral "lxamsa", in the first example disappears in the latter.[9]

The following sequences of elements represent different possible instances of the definite nominal syntagm extended to its maximal realization:

A) part + nom + sub + pos + num + adj + dem + sup

ex: kul kutub tārīx lmalik lʕašra lqadīma haðōl lʕalkursi

B) part + nom + sub + pos + adj + num + dem + sup

ex: kul kutub tārīx lmalik lqadīma lʕašra haðōl lʕalkursi

A^1) part + nom + sub + pos + dem + num + adj + sup

ex: kul kutub tārīx lmalik haðōl lʕašra lqadīma lʕalkursi

B^1) part + nom + sub + pos + dem + adj + num + sup

ex: kul kutub tārīx lmalik haðōl lqadīma lʕašra lʕalkursi

Any of the above four sequences conveys the message "all these ten old history books of the king on the chair" (A) represents the most common realization of the syntagm in question. (A) and (B) show that the elements "numeral" (num), and "adjectival" (adj), are interchangeable while the sequential ordering of the other elements in the syntagm is kept constant. (A) and (A^1) show that the "demonstrative" (dem), may succeed or precede the sequence "num + adj" while the ordering of the other elements in the syntagm is kept constant. (B) and (B^1) show that the "demonstrative" may succeed or precede the sequence "adj + num" while the ordering of the other elements in the syntagm is kept constant. The following sequence:

C) part + nom + sub + pos + sup

is kept constant in all of the above four instances of the nominal governed syntagm. And, since, as already said, all the peripheral elements in sequence (C), (and in fact in the nominal governed syntagm as a whole), are expansions one may encounter:

1. nom:

   ex: lkutub (the books)

2. part + nom:

   ex: kul lkutub (all the books)

3. nom + sub:

ex: kutub ltārīx (the history books)

4. nom + pos:

ex: kutub lmalik (the king's books)

5. nom + sup:

ex: lkutub lʕalkursi (the books on the chair)

This shows that the ordering of any element in (C) remains fixed no matter whether the other peripheral expansions are realized or not.

The peripheral "demonstrative" (dem) may succeed or precede the nominal when all the other peripheral elements in the syntagm are absent, e.g.

a) nom + dem:

ex: lkutub haðol (these books)

b) dem + nom:

ex: haðol lkutub (these books)

I should like, however, to point out that according to sequence (b), the syntagm may convey two functionally distinct types of message:. "these books" or "these are the books". That is to say there is a constructional homonomy involved and therefore two types of structure have to be set up to account for the difference between the two messages. According to the first the element "haðól" (these) is a peripheral expansion standing in the "demonstrative" position in the nominal governed syntagm, whereas in the second it is a bound peripheral standing in the "subject" position of the non-verbal predicative syntagm.[10]

iii) The Indefinite Nominal Syntagm

In the preceding section an eight position model was set up to account for instances of the definite nominal syntagm. Here we

shall discuss and describe the syntactic relations which may exist within the indefinite nominal syntagm. The following are instances of an indefinite nominal syntagm from the data:

1.	qlām	(pens)
2.	qlām ħibir	(fountain pens)
3.	qlām ħibir ṭālib	(a student's fountain pens)
4.	qlām ħibir ṭālib xamsa	(a student's five fountain pens)
5.	qlām ħibir ṭālib xamsa židīda	(a student's five new fountain pens)
6.	qlām ħibir ṭālib xamsa židīda bkāsa	(a student's five new fountain pens in a glass)

The last example is an instance of an indefinite nominal syntagm extended to its maximal realization. It is analysed into immediate constituents as follows:

qlām/ ħibir/ ṭālib/ xamsa/ židīda/ bkāsa

Roughly: pens/ fountain/ a student's/ five/ new/ in a glass

Having six immediate constituents in the above syntagm is justified by the direct tactic relations that can be established between the constituents in the following constructions:

qlām ħibir	(fountain pens)
qlām ṭālib	(a student's pens)
qlām xamsa	(five pens)
qlām židīda	(new pens)
qlām bkāsa	(pens in a glass)

In view of these observations a six position model will be adequate to account for all instances of the indefinite nominal syntagm. The model set up is as follows:

[substantive]
[possessive]
[numeral]
[adjective]
[supplement]
→ indefinite nominal

The syntagm "qlām ħibir ṭālib xamsa židīda bi~~t~~kāsa" (a student's five new fountain pens in ~~th~~ glass), provides an example with all the positions filled in the model:

"sub." [ħibir]
"pos." [ṭālib]
"num." [xamsa]
"adj." [židīda]
"sup." [bi~~t~~kāsa]
→ qlām indef. nom.

The peripheral elements stand in a relation of parallel determination with respect to the nucleus. Being all expansions, the peripheral elements for their occurrence depend on the nucleus but not vice versa; hence it is a free nucleus.

The indefinite nominal syntagm, unlike the definite, does not incorporate a "partitive" or a "demonstrative" within its structure. Note that in a construction such as:

haðōl qlām židīda (these are new pens)

the demonstrative "haðōl" (these) determines the syntagm "qlām židīda" (new pens) as a whole, and does not stand in a relation of parallel determination together with the adjective "židīda" (new) to determine "qlām" (pen) on its own. The above construction is an example of a non-verbal predicative syntagm (see page 95), in which "haðōl" (these) is functioning as a subject.

iv) Realizations of the Indefinite Nominal Governed Syntagm

When all the constituents of the indefinite nominal syntagm are realized they succeed one another in the following sequential orders:

1)	nom	-	sub	-	pos	-	num	-	adj	-	sup
e.g.	qlām		ħibir		ualad		xamsa		židīda		bilkāsa
(lit:	pens		ink		boy		five		new		in the glass)

(a boy's five new fountain pens in the glass)

2)	num	-	nom	-	sub	-	pos	-	adj	-	sup
	xamis		qlām		ħibir		ualad		židīda		bilkāsa
(lit:	five		pens		ink		boy		new		in the glass)

(a boy's five new fountain pens in the glass)

The first sequential order is more common than the second. When only the constituents "nom", "sub", and "num" are realized, the syntagm may begin or end with the numeral[11] while the sequence "nom - sub" is kept constant, e.g:

xamis qlām ħibir (five fountain pens)

(lit: five pens ink)

qlām ħibir xamsa (five fountain pens)

(lit: pens ink five)

When only the constituents "nom", "sub", "pos", and "num" are realized the syntagm may begin or end with the numeral, while the sequence "nom - sub - pos" is kept constant, e.g:

xamis qlām ħibir ualad (a boy's five fountain pens)

(lit: five pens ink boy)

qlām ħibir ualad xamsa (a boy's five fountain pens)

(lit: pens ink boy five)

The adjective succeeds but never precedes the nominal. The numeral and the adjective may be permuted after the nominal as shown below:

kāsāt xamsa mlauana (five coloured glasses)

(lit: glasses five coloured)

kāsāt mlauana xamsa (five coloured glasses)

(lit: glasses coloured five)

The first realization is more common than the second. However, when only the above three elements are realized, a more common order than the above two would be:

xamis kāsāt mlauana (five coloured glasses)

(lit: five glasses coloured)

The above sequence, i.e. "num - nom - adj" is also preferable when a "supplement" is added:

xamis kāsāt mlauana bilmažla (five coloured glasses in the sink)

(lit: five glasses coloured in the sink)

Note that the peripheral elements "numeral", "adjective", and "supplement" do not acquire the article "l" since they are sub-ordinated to an indefinite nominal nucleus.

3. Syntactic Complexes in the Peripheral Positions of the Nominal Governed Syntagm

In the previous section an eight-position model was set up to provide an exhaustive account of all the syntactic relations which may obtain between the immediate constituents of the definite nominal governed syntagm. Some of those immediate constituents may themselves be syntactic complexes as we shall see. Others, such as "partitive", "demonstrative" do not seem to involve syntactic complexity. That is, they are expressed by minimal syntactic entities, i.e. pleremes.

i) The Substantive Position

For investigating the syntactic relations which may obtain within the complexes in the substantive position, the following examples from the data are introduced:

daftar lfīzia ulkīmia (the physics and chemistry note book)

ṣurat lktāb ulqalam (the picture of the book and the pen)

ṭāulat lqirā?a ulkitāba (the writing and reading desk)

firšaiat lšaʕar ulmalābis (the brush of the hair and the clothes)

The syntagm "daftar lfīzia ulkīmia" (the physics and chemistry note book) is a combination of the following immediate constituents:

daftar/ lfīzia ulkīmia

The constituent "lfīzia ulkīmia" (the physics and chemistry), stands in a relation of sub-ordination with respect to the nucleus:

daftar ⟵ [lfīzia ulkīmia]

The peripheral constituent "lfīzia ulkīmia" (the physics and chemistry) is analysable into:[12]

lfīzia/ ulkīmia

Roughly: (the physics/ and the chemistry)

of which "lfīzia" (the physics) is the nucleus. The constituent "ulkīmia" (and the chemistry) is a peripheral expansion standing in a relation of sub-ordination with respect to the nucleus "lfīzia":

lfīzia ⟵ [ulkīmia]

Further down in the analysis, the syntagm "ulkīmia" (and the chemistry) is analysable into:

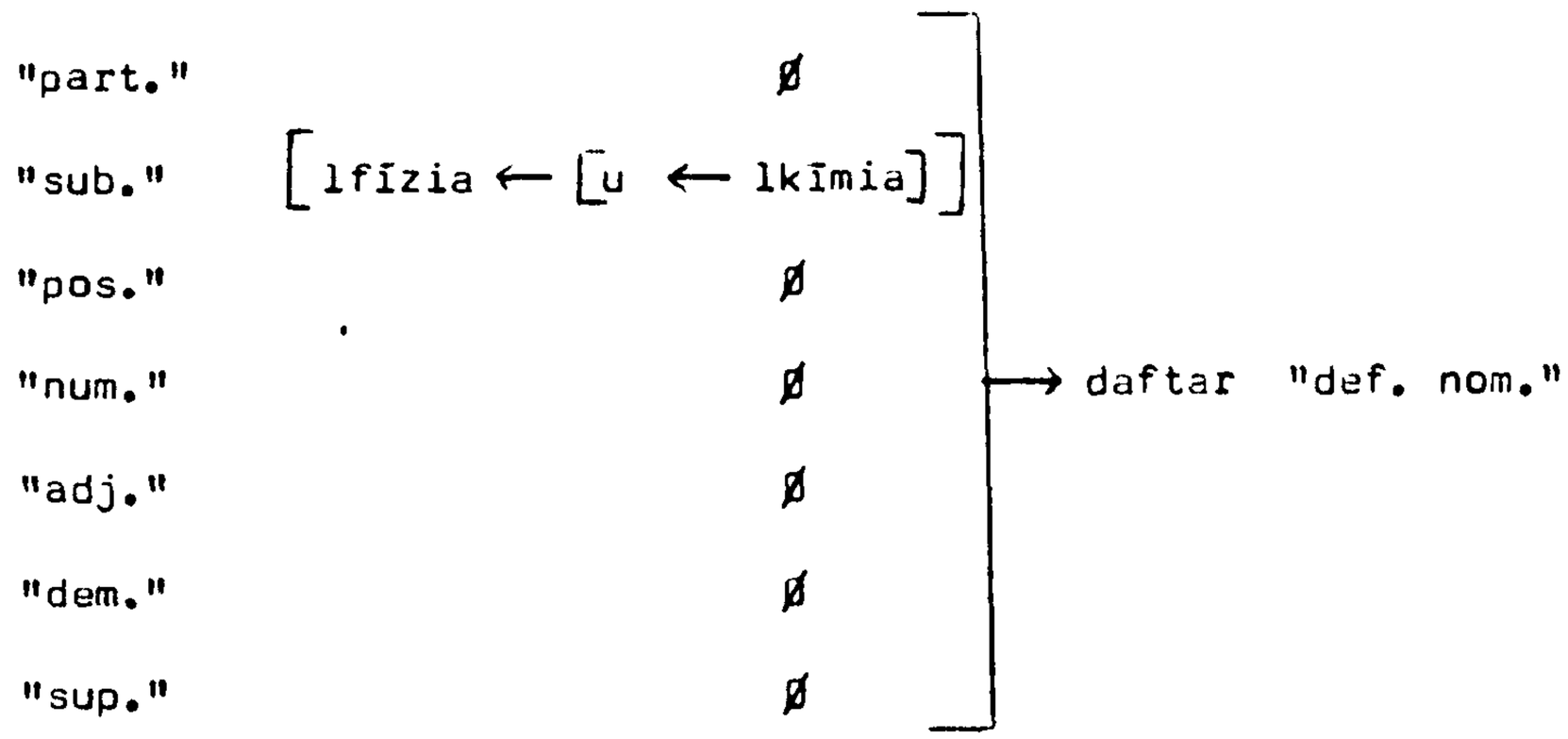
u/ lkīmia

Roughly: (and/ the chemistry)

of which "u" is the nucleus. The constituent "lkīmia" (the chemistry) is a bound peripheral standing in a relation of sub-ordination with respect to the nucleus:

u ⟵ "lkīmia"

The syntagm "lfīzia ulkīmia" (the physics and the chemistry), and the syntactic relations involved within it is projected onto the model in the following manner:



Constructions such as "lfīzia lħadīθa" (the modern physics), "lfīzia lðarrịia" (the atomic physics), may also stand in the "substantive" position. Thus one may have:

ktāb lfīzia lħadīθa (tẹhe modern physics book)

ktāb lfīzia lðarrịia (tẹhe atomic physics book)

In the above examples, each of the constructions "lfīzia lħadīθa" (tẹhe modern physics), and "lfīzia lðarrịia" (tẹhe atomic physics), forms a peripheral expansion standing in a sub-ordinative relation with respect to the nucleus "lktāb" (tẹhe book). In each of these sub-ordinative syntagms there is an adjective determining a nominal. In the first, the adjective "lħadīθa" (modern), determines the nominal "lfīzia" (physics); in the second, the adjective "lðarrịia" (atomic), determines "lfīzia" (physics).

Co-ordinative constructions are attested within, but not between, the I.C.s of substantive constructions. In a construction such as:

ktāb lfīzia lðarrịia lnauauịia

(tẹhe atomic - and - nuclear physics book)

the substantive construction "lfīzia lðarrịia lnauauịia" (tẹhe atomic nuclear physics), is a combination of two immediate constituents:

lfīzia/ lðarrịia lnauauịia

(lit: tẹhe physics/ the atomic tẹhe nuclear)

The elements "lðarrịia" (the atomic), and "lnauauịia" (tẹhe nuclear)

stand in a relation of co-ordination to one another. The two together form a co-ordinative construction standing in a relation of sub-ordination with respect to the nucleus "lfīzia" (physics):

lfīzia ⟵ [[lðarịia] ⟷ [lnauauịia]]

The above syntagm as a whole occupies the substative position to stand in a relation of sub-ordination to the nominal nucleus "ktāb" (book).

On investigation no inter-ordinative constructions have been attested in the substative position.

ii) The Possessive Position

In a construction such as "ktāb lualad" (ṭhe boy's book), the element "lualad" (ṭhe boy) constitutes a simple syntagmatic entity, i.e. a plereme, occupying the position "possessive", and standing in a relation of sub-ordination with respect to the nominal nucleus "ktāb" (book). Signa that are syntactically complex may also occupy the "possessive" position. The following examples are taken from the data to investigate the type of complexity which may figure in the possessive position.

1) qalam bint lmudīr (the manager's daughter's pen)
2) qalam bintu (his daughter's pen)
3) qalam bintu lkbīra (his big daughter's pen)
4) qalam bintu lkbīr (his daughter's big pen)
5) qalam banātu lxamsa (his five daughters' pen)

In the first example the construction "bint lmudīr" (the manager's daughter) constitutes a sub-ordinative syntagm, occupying the possessive position and standing in a relation of sub-ordination with respect to the nominal "qalam" (pen), i.e:

qalam ⟵ [bint lmudīr]

The peripheral construction "bint lmudīr" (the manager's daughter) is a combination of two immediate constituents of which "bint" (daughter) is the nucleus. Accordingly, the relations involved in the syntagm

"qalam bint lmudīr" (the manager's daughter's pen) may be represented as follows:

$$\left[\text{bint} \longleftarrow [\text{lmudīr}]\right] \longrightarrow \text{qalam}$$

Possessive elements may continue to recur in the possessive position as far as the comprehensibility of the construction is maintained. Thus constructions such as:

qalam lbint (the daughter's pen)

qalam l?ibin (the son's pen)

qalam lmudīr (the manager's pen)

may be conflated to constitute the following:

qalam bint l?ibin (the son's daughter's pen)

qalam bint lmudīr (the manager's daughter's pen)

qalam bint ?ibin lmudīr (the manager's son's daughter's pen)

(the manager's grand-daughter's pen)

qalam ?ibin bint lmudīr (the manager's daughter's son's pen)

(the manager's grand-son's pen)

The sequential order in constructions of the above kind is strict, and therefore, the functions of the immediate constituents of the syntagm are clearly identified. The last example is analysable into immediate constituents as follows:

qalām/ ?ibin bint lmudīr (the manager's daughter's son's pen)

?ibin/ bint lmudīr (the manager's daughter's son)

bint/ lmudīr (the manager's daughter)

In realization the nucleus always precedes the peripheral element. That is, "qalam" (pen) "?ibin" (son), and "bint" (daughter) constitute the nuclei of the above three syntagms. Note that the element "l" is always prefixed to the last possessive element realized in the syntagm.

The nominal nucleus may be determined by a possessive pronoun such as "u" (his), in "qalamu" (his pen), which is suffixed to the form of the nominal. The element "u" (his), constitutes a simple syntactic

entity, i.e. a plereme. Its identity as a "plereme", or rather as a syntactic entity, may be established by the following commutation:

qalamu	(his pen)
qalam lbint lkbīra	(the big girl's pen)

The structure of the syntagm "qalamu" (his pen) may be described as follows:

qalam ⟵ [u]

The element "u" (his), occupies the possessive position to stand in a relation of sub-ordination to the nominal "qalam" (pen).

A possessive element such as "u" may also determine a possessive element, as in "qalam bintu" (his daughter's pen), which is described as follows:

qalam ⟵ [bint ⟵ [u]]

When there is more than one element occurring in the possessive position, the possessive pronoun can only be tagged on to the form of the last element in the construction.

Functional syntagms (see page 111) such as "ulbint" (and the girl), may also determine the possessive element. Thus one may have "qalam lualad ulbint" (the pen of the boy and the girl), which is described in the following manner:

qalam ⟵ [lualad ⟵ [u ⟵ lbint]]

iii) <u>The Dual Complex</u>

Before discussing certain syntagmatic items, i.e. syntagms that may figure as immediate constituents in the numeral position of the nominal governed syntagm, I shall investigate a certain complexity that may be involved in the dual nominal nucleus. A nominal may have a singular, a dual, or a plural form:

1.	ktāb	(a book)
2.	ktābēn	(two books)

2. ktābēn (θnēn) (two books)

3. kutub (books)

The element "ktābēn" (two books), seems to involve a certain type of complexity whose precise nature is not immediately clear to the investigator. To determine the type of complexity involved we shall examine the following alternatives:

a) The element "ēn" indicating dual is non-functional, being triggered off by the occurrence of the numeral "θnēn" (two) which is standing in a sub-ordinative relation with respect to the nominal "ktābēn" (two books).

b) Both the numeral "θnēn" (two), and the element "ēn" incorporated within the form of the nominal "ktābēn" (two books), constitute a discontinuous form of one and the same sign, i.e. /θnēn .... ēn/.

c) The element "ktābēn" is a self-contained bundle of two pleremes standing in a syntactic relation to one another.

d) The element "ktābēn" is a self-contained bundle of two monemes standing in a morphological relation of simultaneity to one another.

The first alternative is excluded by the fact that "ktābēn" (two books) is capable, on its own, i.e. without being determined by a numeral such as "θnēn" (two), to stand as an instance of a nominal syntagm conveying the message "two books". This is sufficient to show that the presence of "ēn" in "ktābēn" is not, in any way, dependent on the presence of the numeral "θnēn" (two), as a determinant of the nominal "ktābēn" (two books), and consequently it is sufficient for the refutation of the first alternative. The same reasons contribute to the refutation of the second alternative. Added to that the important fact that each of "θnēn" (two), and "ēn", is capable of figuring on its own as a simple sign, as we shall see later. Now, either (c), or (d), is to be adopted as the right grammatical solution. Opting for one of them implies rejecting the other. I shall adopt the

hypothesis that "ktāb" and "én" in "ktābén" (two books), are in a morphological relation of simultaneity (alternative (d)). The refutation of (c), i.e. that the elements "ktāb" and "én" (two books), are syntactically combined will suffice to corroborate (d). To settle this issue we shall resort to certain criteria (see Hervey and Mulder, 1973), for the identification of morphological complexes as opposed to syntactic ones. These criteria are formulated as follows:

1) A morphological complex (with some exceptions which do not concern us here) should be a potential constituent.

2) A morphological complex should consist of, at least, two simple signa.

3) The immediate constituents in a morphological complex should themselves be the ultimate constituents of that complex.

4) The immediate constituents in a morphological complex should stand in a morphological relation of simultaneity to one another.

To adopt the hypothesis that the construction "ktābēn" (two books) is a morphological complex, the complex in question has to satisfy the above four criteria.

That the element "ktābēn" (two books), is a potential constituent is demonstrated by the fact that it forms an immediate constituent in complexes like:

ktābēn kbīrēn	(two big books)
ktābēn ʕalkursi	(two books on the chair)
štarēt ktābēn	(I bought two books)

These examples are sufficient to satisfy the first criterion.

The second criterion is satisfied by the following commutations:

ktābēn	(two books)
ktāb ø	(a book)
-------	--------

ktābēn (two books)

bābēn (two doors)

The fact that neither "ktäb" (a book), nor "ēn" (two), is analysable into more than one simple signum shows that the immediate constituents of the complex being investigated are themselves the ultimate ones. Thus we are left with the fourth and last criterion which is the most significant of all. If it cannot be demonstrated that the two elements "ktäb" and "ēn" of the complex "ktābēn" (two books), are momenta of an asymmetrical relation, then the hypothesis that the two elements are in a morphological relation of simultaneity must hold true and, therefore, be corroborated. Here certain techniques are performed on the internal structure of the complex. A very simple and useful technique is "permutation". If, by reversing the ordering of the two elements "ktäb" and "ën", another functionally distinct complex is produced, then the relation between these two elements is not a relation of simultaneity and, therefore, not a morphological, but a syntactic relation. By reversing the ordering of elements in:

ktābēn (two books)

the form: ēnktāb

is produced. The latter form does not convey a functionally different message than the one produced by the former; in fact it does not convey a message at all. Having failed to produce, by permutation, two complexes that are functionally distinct, we resort to the equally important test of "commutation". If, in an equivalent context, any of "ktāb", or "ēn", the constituents of "ktābēn", is commutable with a syntactic complex that can demonstrably stand in a syntactic relation in respect of the other constituent, then the relation existing between the two constituents in question is not symmetrical, and therefore not morphological but syntactic. A commutation such as:

ktābēn (two books)

ktāb lṭālib lžidīd (ṭhe new student's book)

is not valid since the commutant "lṭālib lžidīd" (ṭhe new student), and "ēn" (two), are not mutually exclusive. That is to say that one can have:

ktābēn (two books)

ktāb lṭālib lžidīd (ṭhe new student's book)

as well as:

ktābēn lṭālib lžidid (ṭhe new student's two books)

On the other hand, commuting the other constituent "ktāb" (a book) with a construction such as "ualad ubint" (a boy and a girl):

ktābēn (two books)

ualad ubintēn (a boy and two girls)

is also not valid mainly for the fact that the actual commutation has not obtained between "ktāb" (a book), and the construction "ualad ubint" (a boy and a girl), but between the two simple signa "ktāb" (a book), and "bint" (a girl):

ktābēn (two books)

bintēn (two girls)

Were it the case that the commutation had obtained between "ktāb" (a book) and "ualad ubint" (a boy and a girl), one would expect the latter construction to stand as an equivalent immediate constituent alongside with "ēn" (two), in the same manner that "ktāb" and "ēn" stand as equivalent immediate constituents on one and the same level.

A separate test shows that the immediate constituents of "ktābēn" (two books), are "ktāb" (a book) and "ēn" (two):

ktāb/ ēn

and those of "ualad ubintēn" (a boy and two girls), are "ualad" (a boy), and "ubintēn" (and two girls):

ualad/ ubintēn

And even if we, wrongly, assumed that the I.C.s of "ualad ubintēn"

(a boy and two girls) are "ualad ubint" (a boy and a girl), and "ēn" (two):

ualad ubint/ ēn

we would not be able to demonstrate that the constituent "ualad ubint" (a boy and a girl), is standing in a syntactic position in respect of the constituent "ēn" (two).

Having failed, via "permutation" and "commutation", to identify an asymmetrical relation between the constituents "ktāb" and "én", the demands of the fourth and last criterion have been fulfilled, and, therefore we may rightly conclude that the complex "ktābēn" (two books), is a self-contained simultaneous bundle of two monemes standing in a morphological relation to one another, and as such the two together constitute one minimal syntagmatic entity in grammar, i.e. a plereme.

iv) <u>The Numeral Position</u>

Complex syntagmatic items may figure as immediate constituents in the numeral position of the nominal syntagm. A complex such as "θnēn uθalāθĭn ktāb" (thirty two books), (lit: two and thirty books), is a combination of I.C.s:

θnēn uθalāθĭn/ ktāb

Roughly: thirty two/ books

of which "ktāb" (book) is the nucleus. The construction "θnēn uθalāθĭn" (thirty two) constitutes a peripheral expansion standing in a relation of sub-ordination with respect to the nucleus "ktāb". The peripheral constituent in question is analysable into three simple signa as the following commutations show:

θnēn uθalāθĭn	(lit: two and thirty)
xamsa uθalāθĭn	(lit: five and thirty)
xamsa uxamsĭn	(lit: five and fifty)
xamsa ?au xamsĭn	(lit: five or fifty)

The construction being investigated is a combination of two I.C.s:

θnēn/ uθalāθĭn (two/ and thirty)

On the next lower level "uθalāθĭn" (and thirty), (see the Functional Syntagm page 111) is analysable into two I.C.s:

u/ θalāθĭn (and/ thirty)

From the above analysis the immediate constituents of the construction "θnēn uθalāθĭn" (two and thirty), are not themselves its ultimate constituents and, therefore, one may argue that the complexity involved in this construction is not morphological but a syntactic one. The syntactic relations involved in the construction in question are represented as follows:

θnēn ⟵ [u ⟵ θalāθĭn]

A construction such as: "ʔalf umịia usittĭn" (one thousand one hundred and sixty), (lit: a thousand and hundred and sixty), may, at first sight, seem to be a combination of the following immediate constituents:

ʔalf/ umịia usittĭn

(a thousand / and a hundred and sixty)

of which "ʔalf" (a thousand), is the nucleus:

ʔalf ⟵ [umịia usittĭn]

On the next lower level, the peripheral I.C. is a combination of two I.C.s:

u/ miia usittĭn

(and/ a hundred and sixty)

of which "u" (and), is the nucleus:

u ⟵ mịia usittĭn

Further down in the syntactic hierarchy the peripheral item "mịia usittĭn" (a hundred and sixty), is analysable into two I.C.s of which "mịia" (a hundred), is the nucleus:

miia ⟵ usittĭn

(a hundred/ and sixty)

And finally the peripheral item "usittĭn" (and sixty) is analysable into two I.C.s of which "u" (and), is the nucleus:

u ⟵ sittĭn

(and/ sixty)

According to the above analysis, the hierarchy of the relations involved in the construction "?alf umiia usittĭn", (lit: a thousand and a hundred and sixty), is represented as follows:

?alf ⟵ [u ⟵ (miia ⟵ [u ⟵ sittĭn])]

On closer investigation we see that each of "umiia" (and a hundred), and "usittĭn" may combine directly with "?alf" (a thousand). Thus we may have:

?alf umiia (lit: a thousand and a hundred)

and

?alf usittĭn (lit: a thousand and sixty)

This shows that "usittĭn" (and sixty), is not, as shown by the above model, for its occurrence, dependent on "miia" (a hundred), nor on "umiia" (and a hundred), nor vice versa. And since a sub-ordinative relation implies (see page 39)either a unilateral, or a bilateral, occurrence dependency between the constituents involved in that relation, the sub-ordinative relation between "usittĭn" (and sixty), and its nucleus "miia" (a hundred), which is proposed by the previous model cannot stand. We, therefore, reject that model and the immediate constituent analyses on which it is based. In view of these observations the only plausible analysis is as follows:

?alf ⟵ [[u ⟵ miia] ↮ [u ⟵ sittĭn]]

In this syntagm, the construction "umiia usittĭn" forms a co-ordinative syntagm standing in a relation of sub-ordination with respect to the nucleus "?alf" (thousand). Being an expansion, the co-ordinative

syntagm is, for its occurrence, dependent on the nucleus but not vice versa. Within the above co-ordinative syntagm, the relation between "umiia" (and a hundred), and "usittīn" (and sixty), like the relation between any constituents standing in a relation of co-ordination to one another, is not asymmetrical. This implies that by:

ʔalf umiia usittīn

or:

ʔalf usittīn umiia

one, and only one, message, namely "one thousand, one hundred and sixty" may be conveyed.

The numeral element may itself be determined by an adverb such as "ħauāli" (nearly), as in a construction such as: "ħauāli xamsīn bāb" (nearly fifty doors). The syntactic relations involved in this syntagm are represented as follows:

$$\Big[\,[\text{ħauāli}] \longrightarrow \text{xamsīn}\,\Big] \longrightarrow \text{bāb}$$

The element "ħauāli" (nearly), commutes with another adverb such as "taqrīban" (approximately). Syntactically speaking the two commutable adverbs are equivalent, i.e. they both exhibit the same syntactic function with respect to the numeral, i.e. each as a peripheral expansion stands in a direct relation of sub-ordination with respect to the numeral nucleus. The two elements differ merely with regard to realization. The first element, "ħauāli" (nearly), always precedes the numeral which in turn precedes the nominal:

ħauāli xamsīn bāb (nearly fifty doors)

Whereas the latter, "taqrīban" (approximately), may precede or follow the numeral together with the nominal:

taqrīban xamsīn bāb (approximately fifty doors)

xamsīn bāb taqrīban (approximately fifty doors)

An element such as "ħauāli" (nearly), and "taqrīban" (approximately), sub-ordinated to a numeral, may be called a numeral determinant.

v) Realizations of the Numeral

The "numeral" in Kamali Arabic is realized as follows:

1) The numeral "uāḥid" (one) always succeeds the nominal except (see 4), when the peripheral items "sub.", "pos." or both are realized, i.e. present, e.g:

ktāb uāḥid	(one book)
lktāb luāḥid	(the one book)
ṭāula uiḥda	(one table)
lṭāula luiḥda	(the one table)

Note that the numeral is expressed in the masculine singular (uāḥid) when the nominal determined is a masculine singular, and in the feminine singular (uiḥda) when the nominal determined is a feminine singular.

2) The numeral "θnēn" (two) also succeeds the nominal which is expressed in the dual (see page144), in the same manner, and under the same conditions as in (1) above, e.g:

ktābēn θnēn	(two books)
lktābēn lθnēn	(the two books)
ṭāuiltēn θnēn	(two tables)
lṭāuiltēn lθnēn	(the two tables)

3) From "θalaθa" (three) and upwards, the numeral may freely precede or succeed the nominal under the same conditions (see 1). The forms of both the nominal and the numeral change according to their sequential order:

a) From "θalāθa" (three) to "ʕašra" (ten), each of the nominal and the numeral has two allomorphic (contextual) variants. In the constructions:

lkutub lθalāθa	(the three books)
lθalaθ kutub	(the three books)

the numeral "three" has two allomorphs the phonological forms of

which are /lθalãθa/ and /lθalaθ/, after and before the definite nominal respectively; and /lkutub/ and /kutub/ are forms of the allomorphs of the <u>definite</u> nominal (the books), before and after the numeral respectively; (see Realizations of the Definite Nominal page 131). But when the nominal is expressed by an <u>indefinite</u> element, only the numeral has allomorphic (contextual) variants:

kutub θalãθa	(three books)
θalaθ kutub	(three books)

The nominal has the form /kutub/ in the two examples, whereas the numeral has /θalãθa/ and /θalaθ/ after and before the nominal respectively. Note that the nominal is expressed in the "plural" before and after the numeral in both of the <u>definite</u> and <u>indefinite</u> nominal constructions.

b) From "ʔidaʕš" (eleven) and upwards, when the nominal succeeds the numeral, it is expressed in the singular, e.g:

ʔidaʕs ktãb	(eleven books lit: eleven book)
lʔidaʕs ktãb	(ṭhe eleven books lit: ṭhe eleven book)

But when it precedes the numeral it is expressed in the plural, e.g:

kutub ʔidaʕš	(eleven books)
lkutub lʔidaʕš	(ṭhe eleven books)

Note that the phonological form of the numeral does not change whether it occurs before or after the nominal. Thus the form of the numeral "eleven" remains /ʔidaʕš/ and /lʔidaʕš/ in the indefinite and the definite nominal syntagms respectively.

Generally speaking the numerals from "θalãθa" (three) and upto "tisʕa utisʕĩn" (ninety nine), the numerals tend to precede the indefinite nominal, and succeed the definite. Numerals such as "mi̱ia" (a hundred), "mi̱tẽn" (two hundred) etc., and "ʔalf" (a thousand), "ʔalfẽn" (two thousand) etc., also have a similar tendency; while

"miliōn" (one million), "milionēn" (two million) etc., have a stronger tendency to precede the nominal, whether it is definite or indefinite.

4) When the "substantive" and/or the "possessive" are realized in a definite nominal syntagm, the numeral always succeeds any, or both, of them, e.g:

kutub ltārix lxamsīn (the fifty history books)
(lit: books the history the fifty)

kutub lmalik lxamsīn (the king's fifty books)
(lit: books the king the fifty)

kutub tārīx lmalik lxamsīn (the king's fifty history books)
(lit: books history the king the fifty

In an <u>indefinite</u> nominal syntagm, in which a "substantive" and/or "possessive" are realized, the numeral may occur in the following sequential order:

1) numeral - nominal - substantive (five history books)
xamis kutub tārīx
(lit: five books history)

2) nominal - substantive - numeral
kutub tārīx xamsa (five history books)
(lit: books history five)

3) numeral - nominal - substantive - possessive
xamis kutub tārīx ṭālib
(lit: five books history a student)
(a student's five history books)

4) nominal - substantive - possessive - numeral
kutub tārīx ṭālib xamsa
(lit: books history a student five)
(a student's five history books)

Note that the sequence "nominal - substantive - possessive" always remains constant, and that the numerals "uāñid" (one) and "θnēn" (two), always succeed the substantive, the possessive or both, regardless whether the nominal is definite or indefinite.

vi) <u>The Adjective Position</u>

In the adjectival position of the nominal governed syntagm one may encounter constructions that themselves constitute self-contained groups of syntagmatic entities, i.e. syntagms. Within those syntagms syntactic relations of sub-ordination as well as of co-ordination may obtain. The latter type of relation is encountered in examples such as the following:

1) lualad lkbīr lšāṭir (ṭhe big clever boy)

2) lɒ̆urfa lkbīra lmurīña (ṭhe big comfortable room)

3) lmūs lñāda lrafīʕa (ṭhe sharp thin knife)

4) luarqa lsɒ̆da lxafīfa (ṭhe black light paper)

5) lbāb lkbīr lʕāli (ṭhe big high door)

The first example is analysable into two immediate constituents:

lualad/ lkbīr lšāṭir

of which "lualad" (ṭhe boy), is the nucleus. On the next lower level the peripheral immediate constituent "lkbīr lšāṭir" (ṭhe big clever), is a combination of two I.C.s:

lkbīr/ lšāṭir

On investigation we see that there is a relation of mutual functional independency between the two elements in question, i.e. neither, for its function is dependent on the other. And, as neither, for its occurrence is dependent on the other, we also recognise a mutual occurrence independency between these two elements. That is to say, the elements "lkbīr" (big), and "lšāṭir" (clever), combine together to constitute a co-ordinative syntagm. The syntagm, as a whole,

depends for its function as well as its occurrence on the nominal "lualad" (the boy), but not vice versa.

The syntactic relations involved in the syntagm "lualad lkbīr lšāṭir" (the big clever boy), may be represented as follows:

lualad ⟵ [[lkbīr] ⟷ [lšāṭir]]

The symbol " ⟷ " indicates a relation of co-ordination between the two adjectives shown. The two together constitute one syntagm standing in a direct relation of sub-ordination to the nucleus "lualad" (the boy). This analysis applies to all the examples in the earlier list as they are all equivalent as to their syntactic structures.

A relation of sub-ordination in the adjectival position of the nominal governed syntagm may be encountered in such examples as the following:

1) lualad lqalíl lnaḏar (the weak-sighted boy)

2) lktāb lkbīr ħēlumēl (the extremely big book)

3) lbint lħilua kθīr (the very beautiful girl)

The construction "lualad lqalĪl lnaḏar" (the weak-sighted boy), is a combination of two immediate constituents:

lualad/ lqalĪl lnaḏar

of which "lualad" (the boy), is the nucleus. The other immediate constituent "lqalĪl lnaḏar" (the weak-sighted), as a peripheral construction stands in a direct relation of sub-ordination to the nucleus "lualad".

lualad ⟵ [lqalĪl lnaḏar]

It is not immediately clear whether the two elements "lqalíl" and "lnaḏar" of the peripheral construction "lqalíl lnaḏar" (weak-sighted) stand in a morphological or syntactic relation to one another. As shown by the following commutations, the construction in question is a combination of two simple signa:

lqalĪl lnaḏar (weak-sighted)

lqauị lnaḍar (strong-sighted)

lqalīl lʕaqil (weak-minded)

On reversing the ordering of the two elements of the construction "lqalīl lnaḍar" (weak-sighted), another new functionally distinct construction is produced:

lqalīl lnaḍar (weak-sighted)

lnaḍar lqalīl (the weak sight)

The above permutation is sufficient for demonstrating that the two elements in question are syntactically rather than morphologically combined. Now, to determine what type of syntactic relation is holding between the two elements "lqalīl" and "lnaḍar", we shall examine the following alternative analyses:

1) lualad ← [lqalīl ← [lnaḍar]] (the weak-sighted boy)

2) lualad ← [[lqalīl] → lnaḍar] (the weak-sighted boy)

3) lualad ← [lqalīl ← lnaḍar] (the weak-sighted boy)

Other alternatives such as:

lualad ← [lqalīl → [lnaḍar]]

lualad ← [[lqalīl] ← lnaḍar]

are obviously inconsistent with the theory which lays down quite clearly that no expansion may stand as a nucleus, and therefore have to be rejected from the start. Returning to the previous three alternatives, the following observations are made: alternative (1) shows that "lnaḍar" (the sight) is a peripheral expansion, and consequently may be left out. On eliminating it one is left with "lualad lqalīl" which does not constitute a well-formed utterance, nor therefore, a potential grammatical constituent, in the data. The only denotation that can be assigned to the construction "lualad lqalīl" would be "the few boy" which is meaningless. The assumption also implies establishing a direct relation between "lqalīl" and the nominal "lualad" (the boy) which is not adequate with respect to the message conveyed. For these reasons the first structure

has to be rejected.

Similarly, on leaving out the peripheral expansion "lqalĪl" (weak), in the second alternative solution, we are left with the nonsensical construction "lualad lnaḍar" (lit: the boy the sight). According to the message conveyed by the syntagm "lualad lqalĪl lnaḍar" (the weak-sighted boy), and to our understanding of direct relation, it would be materially inadequate to maintain a direct relation, let alone a direct tactic relation, between "lualad" (the boy) and "lnaḍar" (the sight), in the syntagm in question. For this reason the second alternative has to be rejected as well.

Having rejected the first two alternatives, we are left with the third alternative as the only plausible solution. This is justified by the fact that neither "lqalĪl" (weak), nor "lnaḍar" (sight), on its own, but only the syntagm "lqalĪl lnaḍar" (weak-sighted) as a whole, may contract a direct tactic relation with the nucleus "lualad" (the boy), in the syntagm "lualad lqalĪl lnaḍar" (the weak-sighted boy). On a lower level the syntagm "lqalĪl lnaḍar" (weak-sighted), is analysable in the following manner:

lqalĪl ⟶ lnaḍar

The element "lqalĪl" (weak), stands in a relation of sub-ordination with respect to "lnaḍar" (sighted). Being a bound peripheral, the element "lqalĪl" (weak), is for its occurrence dependent on the nucleus and vice versa. That is to say there is a bilateral occurrence dependency between it and the nucleus. The latter, therefore, is said to be an "actualized" rather than a "free" nucleus.

Another interesting type of construction that may occupy the adjectival position in the definite nominal syntagm is like the one encountered in a syntagm such as: "lktāb lkbĪr ħēl umēl" (the extremely big book). The syntagm in question is a combination of two immediate constituents:

lktāb/ lkbīr ħēl umēl

of which "lktāb" (the book) is the nucleus:

lktāb ⟵ [lkbīr ħēl umēl]

The syntagm "lkbīr ħēl umēl" (extremely big), constitutes a peripheral expansion standing in relation of sub-ordination with respect to "lktāb" (the book). On the next lower level the peripheral syntagm is analysable into:

lkbīr/ ħēl umēl

of which "lkbīr" (big) is the nucleus. That "lkbīr" (big) is the nucleus is justified by the fact that it is only via "lkbīr" that the syntagm "lkbīr ħēl umēl" (extremely big), may contract a syntactic relation with "lktāb" (the book). On the other hand, the element "ħēl umēl" (extremely), but not "lkbīr" (big), is a peripheral expansion in the syntagm "lktāb lkbīr ħēl umēl" (the extremely big book). Hence the syntagm "lkbīr ħēl umēl" (extremely big), is described as follows:

lkbīr ⟵ [ħēl umēl]

It is not immediately clear whether a further grammatical complexity is involved in the above peripheral expansion, i.e. "ħēl umēl" (extremely). In order to maintain any grammatical complexity, i.e. morphological or syntactic, within a certain construction, that construction should contain, at least, two simple signa; otherwise it does not constitute a grammatical complex at all.(see: Pseudo-Composites and Pseudo-Words, by Hervey and Mulder, 1973). On the face of it the peripheral expansion "ħēl umél" seems to be a combination of three signa: "ħél" (strength), "u" (and), and "mēl" (bending). But if this were the case, then one would expect the said combination to convey the message "strength and bending". As the only message conveyed by "ħēl umēl" in the construction "lkbīr ħēl umēl", or in any other construction in the data for that matter, is "extremely"

or "very", the assumption that "ħël umël" is a combination of three simple signa cannot stand. Consequently, the element "ħël umël" (extremely), has to be treated as one simple - and therefore grammatically unanalysable - signum. This kind of phenomenon is referred to by axiomatic functionalism as "pseudo-composite"[13]. The element "ħél umël" (extremely) commutes with an element such as "židdan" (very), as shown:

lkbĭr ħël umël (extremely big)

lkbĭr židdan (very big)

The two syntagms are analysable in the same manner:

lkbĭr ⟵ [ħël umël]

lkbĭr ⟵ [židdan]

An element such as "ħël umël" (extremely), and "židdan" (very), may be called an adjective determinant.

Adjectives in the language under description may assume the functions of nominals, i.e. exhibit equivalent syntactic functions in syntactic complexes. Compare the following examples:

a) žā lualad (the boy came)

b) žā lkbĭr (the big - one m. - came)

a) šiftu lualad (I saw the boy)

b) šiftu lkbĭr (I saw the big - one m.)

a) lualad ďaki (the boy is intelligent)

b) lkbĭr ďaki (the big - one m. - is intelligent)

a) kān lualad bilbēt (the boy was at home)

b) kān lkbĭr bilbēt (the big - one m. - was at home)

a) ktāb lualad (the boy's book)

b) ktāb lkbĭr (the book of the big - one m.)

a) šiftū maʕa lualad (I saw him with the boy)

b) šiftū maʕa lkbīr (I saw him with the big - one m.)

The constituents "lualad" (the boy), and "lkbīr" (big) exhibit similar syntactic functions in each of the above pairs. The phenomenon cannot be regarded as a case of "ellipsis" (see Def. 21), for the following reasons:

a) Re-including the missing elements in the (b) examples would affect the messages conveyed.

b) Without the missing elements the (b) examples constitute well-formed syntagms in the data.

c) The missing elements in the (b) examples are not unequivocally recoverable.

vii) Realizations of the Adjectives

In realization the adjective succeeds the nominal and agrees with it in the following aspects:

a) It acquires the article "l" when the nominal is definite (conditions under which a nominal is viewed as definite have been discussed on page 131), and loses it when it is indefinite as shown by the following examples:

	Definite	Indefinite
1)	lktāb lkbīr	ktāb kbīr
	(the big book)	(a big book)
2)	lualad lkbīr	ualad kbīr
	(the big boy)	(a big boy)
3)	ktāb salwa lkbīr	ktāb bint kbīr
	(Salwa's big book)	(a girl's big book)
4)	lbint lkbīra	bint kbīra
	(the big girl)	(a big girl)

	Definite	Indefinite
5)	lbanāt lkbār	banāt kbār
	(ṭhe big girls)	(big girls)
6)	lulād lkbār	ulād kbār
	(ṭhe big boys)	(a big boy)

Note that all the adjectives in the left-hand column are prefixed by "l" while in the right-hand one they are not.

b) With respect to gender and number the adjective agrees with the nominal in the following manner:

i) When the nominal is "singular" the adjective agrees with it in gender and in number, e.g:

1)	lualad lkbĭr	uald kbĭr
	(ṭhe big boy)	(a big boy)
2)	lbint lkbĭra	bint kbĭra
	(ṭhe big girl)	(a big girl)
3)	lkursi lkbĭr	kursi kbĭr
	(ṭhe big chair - m.)	(a big chair - m.)
4)	lṭāula lkbĭra	ṭāula kbĭra
	(ṭhe big table - f.)	(a big table - f.)

ii) When the nominal is "dual", the adjective is either the masculine plural form, as in:

1)	lualadēn lkbār	ualadēn kbār
	(ṭhe two big boys)	(two big boys)
2)	lbintēn lkbār	bintēn kbār
	(ṭhe two big girls)	(two big girls)
3)	lkursiiēn lkbār	kursiiēn kbār
	(ṭhe two big chairs - m.)	(two big chairs - m.)

4) lṭāuiltēn lkbār — ṭāuiltēn kbār

(ṭhe two big tables - f.) (two big tables - f.)

or agrees with the nominal in both gender and number. That is, the adjectives "lkbīrēn" (big), may be used with lualadēn (ṭhe two boys), and "lkursiiēn" (ṭhe two chairs - m.), while "lkbīrtēn" (big) may be used with "lbintēn" (ṭhe two girls), and "lṭāuiltēn" (ṭhe two tables - f.) in the above examples. However, the plural form, i.e. "lkbār" (big), as shown by the above example is more common.

iii) When the nominal is "plural", we have to distinguish between "*human*" and "*inhuman*" nominals. If the nominal is "animate" plural, then the adjective either agrees with it in both gender and number as in:

1) lulād lkbār — 5) ulād kbār

(ṭhe big boys) (big boys)

2) lbanāt lkbīrāt — 6) banāt kbīrāt

(ṭhe big girls) (big girls)

3) lṭullāb lkbār — 7) ṭullāb kbār

(ṭhe big students - m.) (big students - m.)

4) ltālbāt lkbīrāt — 8) ṭālbāt kbīrāt

(ṭhe big students - f.) (big students - f.)

or takes the masculine plural form; that is, the adjectives in (2) and (4) become "lkbār" (big) and in (6) and (8) become "kbār" (big). If the nominal is "inanimate" plural, then the adjective either takes the masculine plural form or the feminine singular form, regardless whether that nominal is masculine or feminine:

a) lkarāsi lkbār — karāsi kbār

(ṭhe big chairs - m.) (big chairs - m.)

b) lkarāsi lkbīra — karāsi kbīra

(ṭhe big chairs - m.) (big chairs - m.)

a)	lṭāulāt lkbār	ṭāulāt kbār
	(ṭhe big tables - f.)	(big tables - f.)
b)	lṭāulāt lkbīra	ṭāulāt kbīra
	(ṭhe big tables - f.)	(big tables - f.)
a)	lklāb lkbār	klāb kbār
	(ṭhe big dogs - m.)	(big dogs -m.)
b)	lklāb lkbīra	klāb kbīra
	(ṭhe big dogs - m.)	(big dogs - m.)
a)	lkalbāt lkbār	kalbāt kbār
	(the big bitches)	(big bitches)
b)	lkalbāt lkbīra	kalbāt kbīra
	(ṭhe big bitches)	(big bitches)

The choice between (a) and (b) in the above examples is entirely free.

With regard to sequential order, the adjective succeeds and never precedes the nominal.

NOTES TO CHAPTER III : NOMINAL SYNTAGMS

1. Mulder now realizes that it is, logically speaking, possible that there are some self-contained morphological complexes that have no syntactic potential; there are, after all, semiotic systems with morphology, but not syntax. But we may ignore this point here, as such entities are not interesting for a study of syntax.

2. The construction "ulktab" (and the book) constitutes a functional syntagm which is to be discussed on page 111.

3. See the nominal syntagm, page 126.

4. There are some other factors via which the nominal, in Kamali Arabic, can be "definite". These are discussed on page 131.

5. The syntagm "kutub tarix lmalik" can be interpreted in two different ways; it is either (the king's history books) or, (the books of the king's history). With reference to the last interpretation, the construction in question involves a syntactic complexity in the possesive position. Possessive complexes will be dealt with in section 3.

6. For prefixing the definite article "l" to "kutub" see the realizations of the definite nominal syntagm at the end of this chapter.

7. In English the situation is different. For adequacy considerations a pre-nominal position is established. (See page 205.)

8. The possessive pronoun "u" (his) suffixed to a nominal constitutes a plereme as discussed on page 144.

9. More details about the realizations of the numeral will follow in a succeeding section.

10. This type of syntagm has been discussed in extenso in the preceding chapter.

11. More details about the realizations of the "numeral" will follow in a succeeding section.

12. A syntagm of the type "lfizia ulkimia" (the physics and chemistry) constitutes a functional syntagm which has been discussed in chapter II, Part 2.

13. The situation is quite similar to that of the English phrase "jack in the pulpit" which is regarded by A.F. as one simple-grammatically unanalysable-signum.

PART THREE

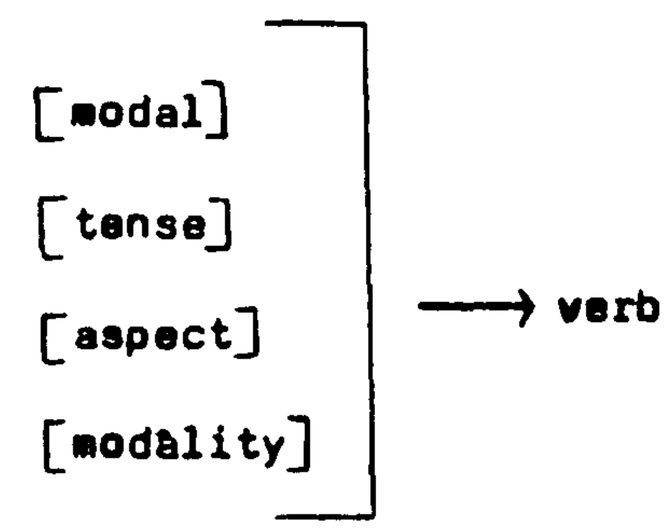
CHAPTER I : VERBAL PREDICATIVES

The present part of this work will be concerned with introducing the main models set up by Mulder for the description of the relations that may exist within the basic syntagms in English. The basic syntagms that shall be discussed in this part are "verbal predicatives", "copulative predicatives", "functionals" and "nominals".

Mulder recognises two types of predicative syntagms in English: "verbal predicatives", and "copulative predicatives".

1. Verbal Predicatives

The verbal predicative syntagm (V.P.), in English is a self-contained bundle of five positions: a verbal predicate in the nuclear position governing the tactic functions of four peripheral expansions in the positions "modal", "tense", "aspect", and "modality". The model set up to account for the whole field of relations within the syntagm in question is as follows:



Note that the term "predicative" does not refer exclusively to the nuclear element but to the syntagm as a whole. A construction such as "may not have been drinking" provides an example of a verbal predicative syntagm where all the positions in the model are filled:

"modal"	[may]	
"tense"	[have]	⟶ drinking "verb"
"aspect"[1]	[been]	
"modality"	[not]	

For their functions the peripheral elements depend on the nucleus but not vice versa. That is, they stand in a direct relation of subordination with respect to the nucleus. As for occurrence, we notice that there is a unilateral occurrence dependency between the peripheral elements and the nucleus, i.e. the peripheral elements, for their occurrence, depend on the nucleus but not vice versa. This implies that the nucleus is "free", i.e. it does not require the presence of a bound peripheral to actualize it.

The position "modal" may be filled by an element such as: "may", "might", "shall", "should", "will", "would", etc. With respect to the question of "tense", Mulder distinguishes between "morphological" and "syntactic" means of representing it. He says: "Each can change a present tense into a past one, so we can talk about morphological past and syntactic past. The former can be superimposed on the latter". (Mulder : "On the Representation of Syntactic Structures", 1978).

Examples:

morphological past	worked
syntactic past	has worked
superimposed morphological past	had worked

Elements such as "have", "has", (being allomorphs of "to have"), or "had" may occupy the "tense" position in the above model.

Elements such as "am", "is", "are", "was", "were", "been", and any other element which is mutually exclusive with any of them may be allocated to the "aspect" position. The modality position may be filled by an element such as "not". The negative element "not" usually

occurs with one, or more, of the auxiliary elements in the position "modal", "tense", and "aspect". Accordingly one may have constructions of the following type:

he may not write

he has not written

he is not writing

he has not been writing

he may not have written

he may not have been writing

But when all the auxiliary elements in the peripheral positions "modal", "tense", "aspect" are absent (i.e. have zero realizations), then the element "to do" has to be attached to the negative element "not" as in:

they do not write

he does not write

since one cannot have:

*they not write

*he not write

In view of the above observations the elements "not", "do not", and "does not" may be treated as variants of the negative sign, and any of them may occupy the modality position. The emphatic "to do", as in "they do write", can also be assigned to the modality position.

2. <u>Realizations of the Verbal Predicative Syntagm</u>

The constituents within the syntagm in question succeed one another in the following order:

	modal	-	modality	-	tense	-	aspect	-	verb
e.g.	may		not		have		been		working

When only one of the auxiliary elements in the positions "modal", "tense", or "aspect" is realized, the negative element "not" succeeds

that auxiliary as shown below:

modal	-	modality	-	verb
may		not		work

tense	-	modality	-	verb
has		not		worked

aspect	-	modality	-	verb
is		not		working

If there is more than one auxiliary element in the positions "modal", "tense", and "aspect", the element "not" succeeds the first auxiliary realized as shown below:

modal	-	modality	-	tense	-	verb
may		not		have		worked

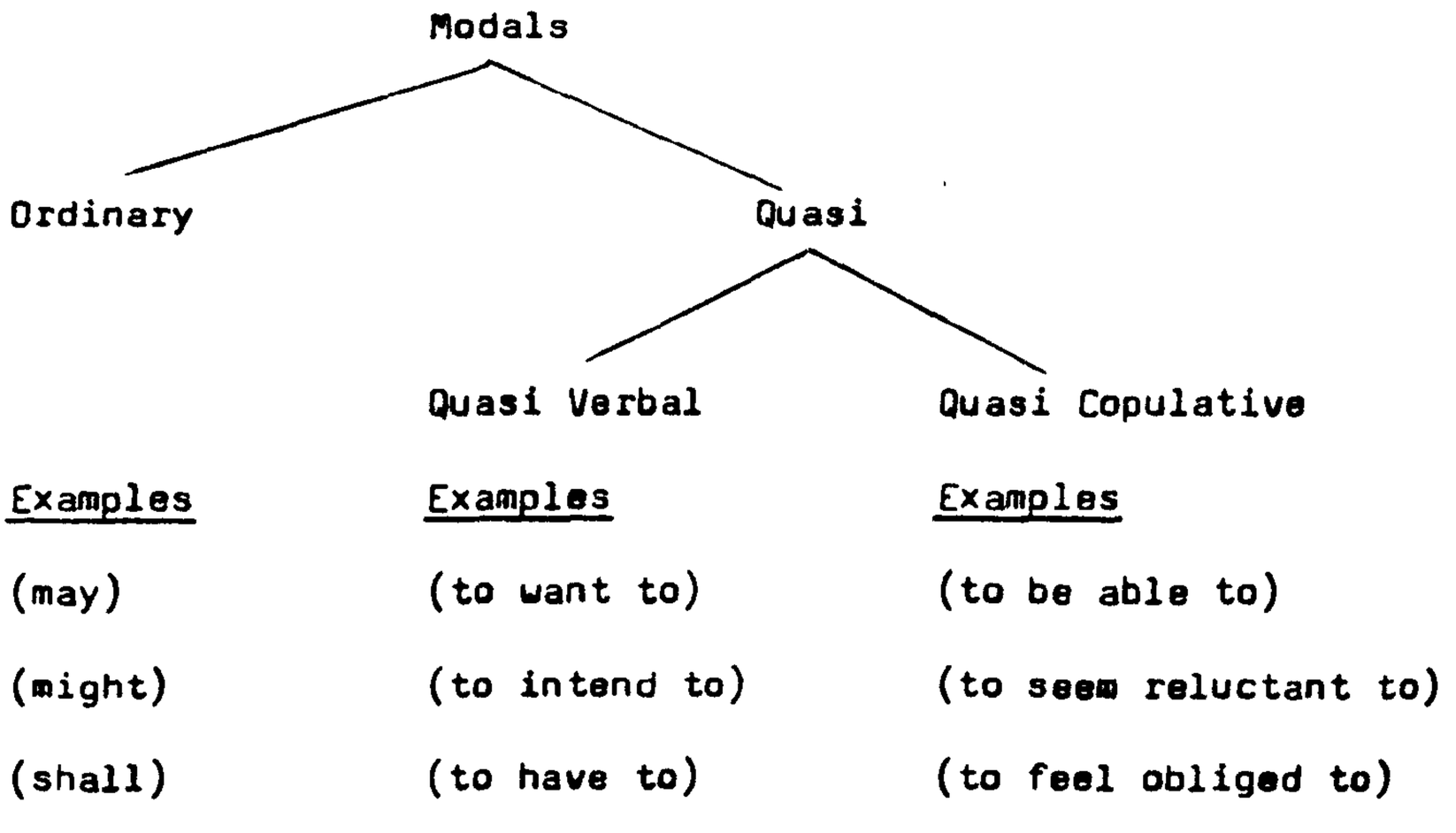
tense	-	modality	-	aspect	-	verb
has		not		been		working

One sees that the constituents of the verbal predicative syntagm always occur in a certain strict sequential order which imposes certain conditioning on the forms of the constituents within the syntagm in question. This is explained by Mulder as follows: "The occurrence of a modal causes the next item down in this order to take on the infinitive form. A tense causes the next item down to be a past participle, while aspect causes the next item down to be "progressive" (i.e. "....ing"), form". (Mulder 1978).

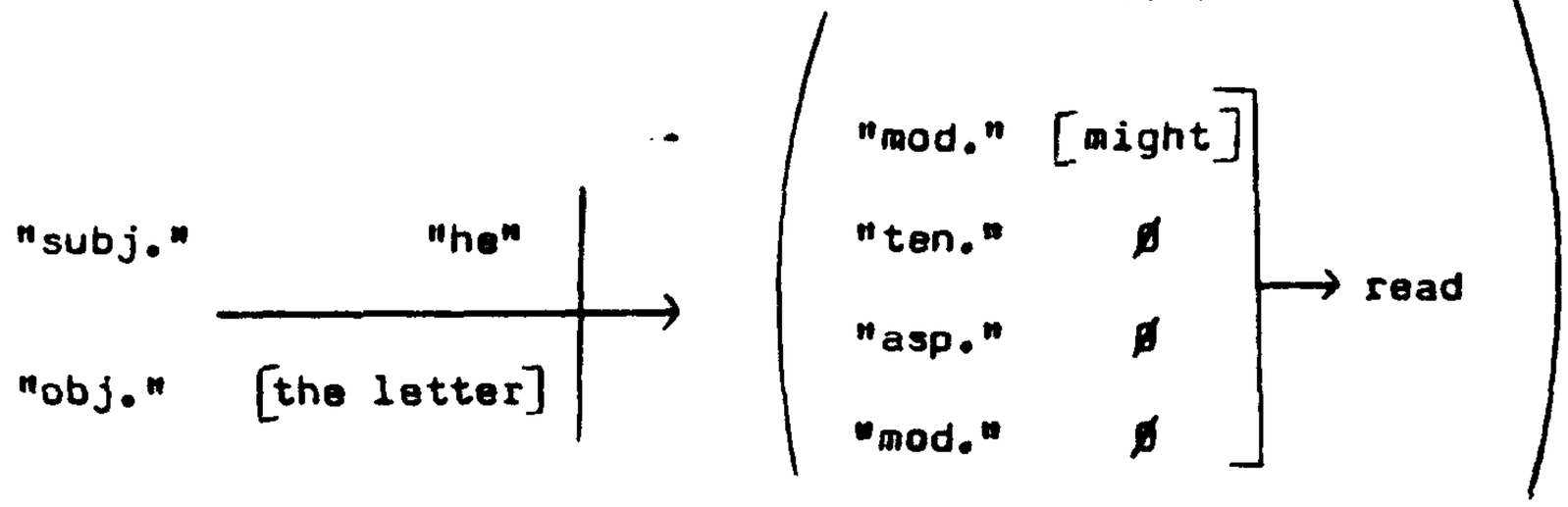
3. Quasi Verbal and Quasi Copulative Modals

Mulder recognises two types of modals in English. He says: "The modals can be described into ordinary modals on the one hand, and modals seemingly derived from ordinary verbs or from copulative predicatives. The latter two categories differ distributionally from the

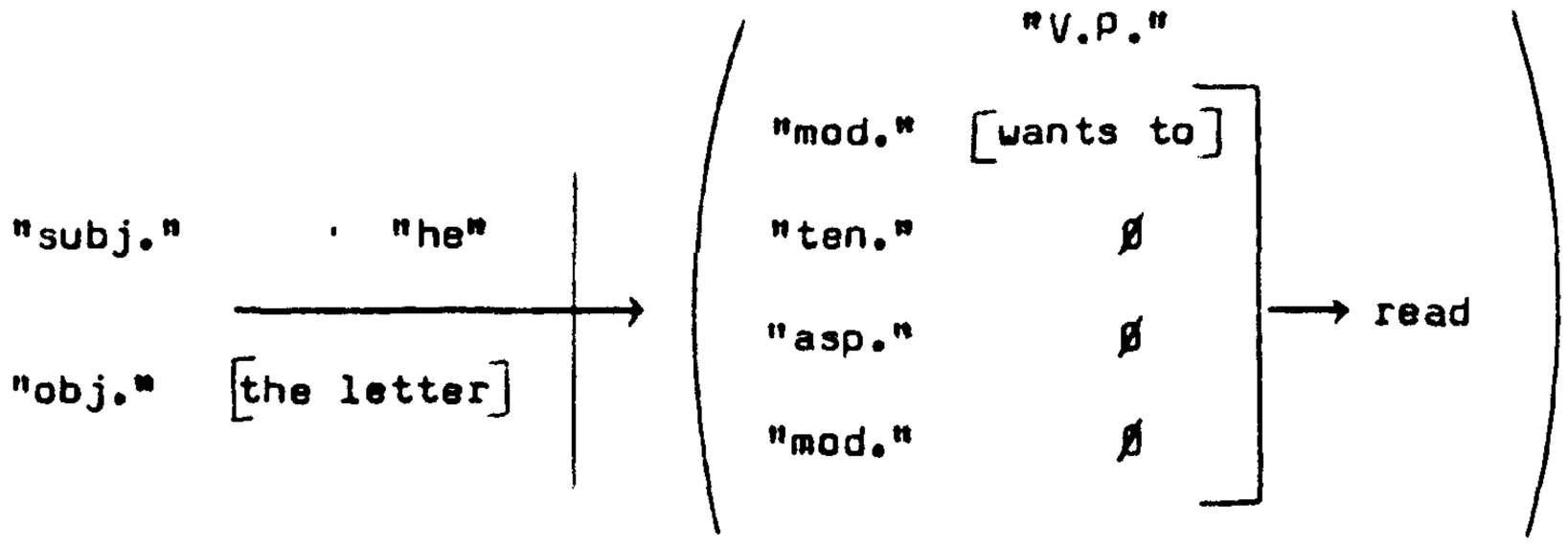
former in that they still behave like verbs or copulative predicatives in that they can, in their turn, be determined by auxiliaries. They are formally, i.e. allomorphically, characterised by "to" after the ordinary verbal or copulative predicative form". ("On the Representation of Syntactic Structures" 1978). The following diagram tabulates the two types of modals in English:



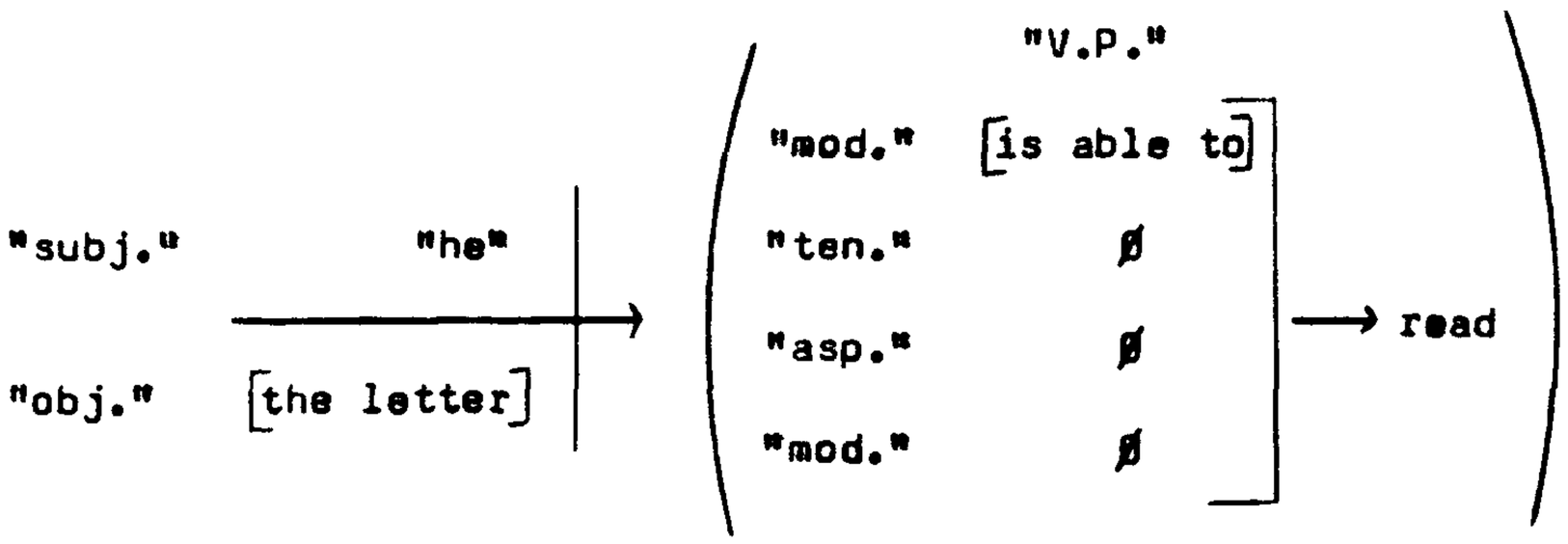
The element "might" in the syntagm "he might read the letter" provides an example of an "ordinary" modal which is projected onto the model in the following manner:



The element "wants to" in "he wants to read the letter" provides an example of a quasi verbal modal:



The element "is able to" in the syntagm "he is able to read the letter provides an example of a quasi-copulative modal:



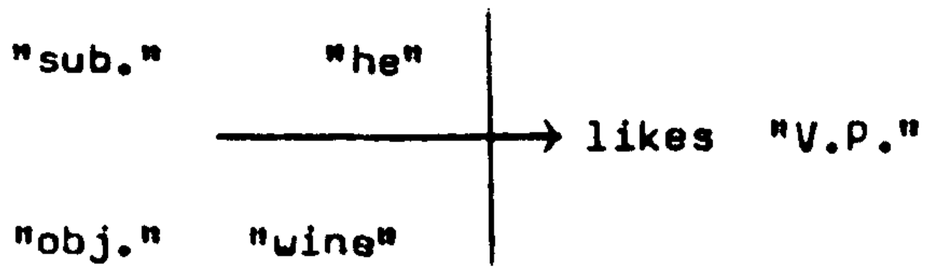
Note that the determination, or rather the actualization of the subject in each of the above models does not refer exclusively to the verbal nucleus "to read", but prevails over the predicative syntagm as a whole, i.e. the nucleus "to read", together with its peripherals: modal, tense, aspect, and modality. From this one sees that the predicative syntagm as a whole is actualized by the subject, and hence it is not a free nucleus; but on a lower level (i.e. <u>within</u> the predicative syntagm) the verbal nucleus is free.

4. <u>Verbal Predicative-Based Syntagms</u>

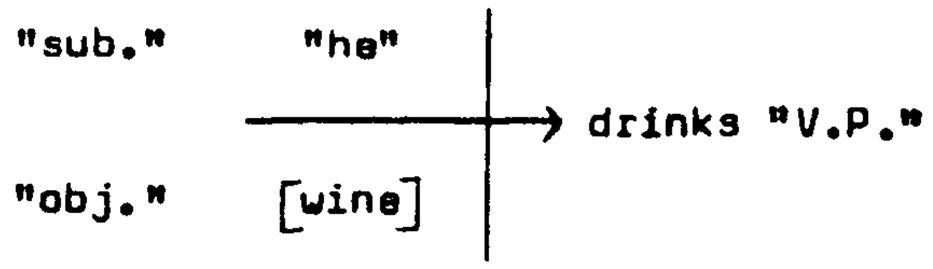
The verbal predicative (V.P.) syntagm that has been discussed in the previous chapter may figure as a nuclear immediate constituent in a larger syntagm. This larger syntagm will be called verbal predicative-based (V.P.B.). A syntagm like "he may have been drinking wine" provides an example of a V.P.B. syntagm, whereas "may have been drinking" the nucleus of the syntagm in question, is an example of a V.P. syntagm.

In this section different types of V.P.B. syntagm in English will be classified. The underlying structures of those syntagms will vary according to the nature of the nucleus in each. By the "nature of the nucleus" is meant its capacity to govern the tactic functions, and, consequently to determine the number of items that may, as immediate constituents, stand in a relation of sub-ordination with respect to that nucleus. This implies that "functional" as well as "occurrence" dependencies, and, consequently the question of "expansion" and "bound" elements, will be taken into account in the classificatory operation. One sees, for instance, that though each of the syntagm "he likes wine" and "he drinks wine" is a bundle of three immediate constituents, the underlying structures of the two syntagms are clearly not the same. The difference in the underlying structure reveals itself in the difference between the following models:

(1)



(2)



The element "wine", the peripheral item occupying the "object" position in each of the above models, is "bound" in the first, but an expansion in the second. As a bound element, "wine" is, for its occurrence, dependent on the nucleus "likes" and vice versa; whereas as an expansion it depends on the nucleus "drinks" but not vice versa.

Since single pleremes, like whole syntagms, being both syntagmatic entities, may occupy positions in grammar, I shall, for more practical convenience, employ examples the constituents of which are pleremes rather than syntagms. If, for instance, in a construction like "the three old men have been walking", the constituents "the three old men" and "have been walking" are substitutable for the elements "men" and

"walk" respectively, then it is simpler, in the exemplification, to favour the syntagm "men walk" over "the three old men have been walking". The two constructions are instances of one and the same syntagm, i.e. their underlying structure is the same on the immediate constituent level.

Mulder, in "Sets and Relations in Phonology" (1968), recognises, without claiming that this is exhaustive, seven types of verbal predicative-based syntagms in English. The definitions, or rather quasi-definitions, and the descriptive statements concerning the underlying structures of those syntagms were given primarily to show <u>how</u> the theory is applied, and consequently <u>how</u> the description is arrived at, rather than offering a consistent and adequate analysis of the synatgms in question. Having revised his theory in the "Postulates for Axiomatic Functionalism", Mulder no longer approves all the quasi-definitions and the descriptive statements connected with the terms "transitive", "intransitive", "non-transitive" etc., given in "Sets and Relations in Phonology". This, however, is not to imply that the aforementioned terms are to be abandoned altogether, rather that their analyses be based on the "Postulates". The seven types of the verbal predicative-based syntagm in English which are classified by Mulder in the above mentioned book are:

1) Intransitive
2) Non-transitive
3) Transitive
4) Indirect Transitive
5) Complementary Transitive
6) Non-direct Transitive
7) Complementary Intransitive

It is worthwhile mentioning that the above terms are meant to refer to whole syntagms rather than to what is in traditional grammar

terminology known as transitive and intransitive "verbs". Basing myself on the "postulates", each of the above listed syntagms will be discussed, and consequently a model to account adequately for the syntactic relations involved in it will be set up.

i) Intransitive

The intransitive syntagm (V.P.B1) in English is a self-contained bundle of two positions: a verbal predicative in the nuclear position governing the tactic function of a bound peripheral in the "subject" position. The model set up to account for the field of the syntagmatic relations within the syntagm in question is as follows:

"subject" ⟶ "predicative"

Examples of intransitive predicatives are:

The tree blossoms

The country flourishes

She sneezes

He coughs

They died

They slept

The first syntagm is projected onto the model in the following manner:

"subj." ⟶ "V.P."

(the ⟶ tree) ⟶ blossoms

There is a bilateral occurrence dependency between the subject and the nucleus. That is, the subject for its occurrence depends on the nucleus and vice versa. The predicative, therefore, is not a free nucleus. As for function, the subject depends on the predicative nucleus but not vice versa, i.e. the subject stands in a relation of sub-ordination with respect to the nucleus.

In realization the constituents of the "intransitive" syntagm succeed one another in the following order:

subject - predicative

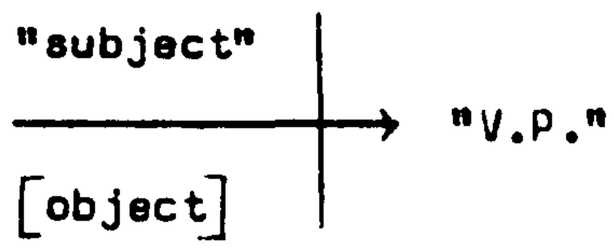
Accordingly we may have:

the tree blossoms

the country flourishes

ii) Non-transitive

The non-transitive syntagm (V.P.B2) in English is a self-contained bundle of three positions: a verbal predicative in the nuclear position governing the tactic functions of a bound peripheral in the "subject" position, and a peripheral expansion in the "object" position. The model set up to account for the field of the syntagmatic relations within the syntagm in question is as follows:



Examples of non-transitive predicatives are:

they eat meat

~~they cook meat~~

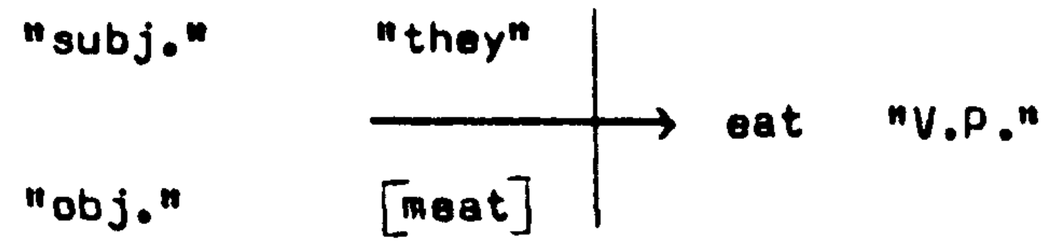
they play football

~~she reads books~~

~~she sings french songs~~

he knows the story

The first syntagm is projected onto the model as follows:



(For the occurrence and the functional dependencies of the subject, see the preceding syntagm). There is a unilateral occurrence dependency between the object and the nucleus. That is, the object for its occurrence depends on the nucleus, but not vice versa. As for function, the object is also dependent on the nucleus but not vice versa, i.e. the object stands in a relation of sub-ordination with respect to the nucleus. The nucleus is not free since it requires

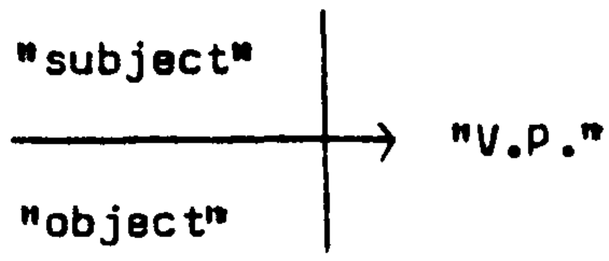
the presence of a bound peripheral to actualize it.

In realization the constituents succeed one another as follows:

subject - predicative - object

iii) Transitive

The transitive syntagm (V.P.83) in English is a self-contained bundle of three positions: a verbal predicative in the nuclear position governing the tactic functions of two bound peripherals in the positions "subject" and "object". The model set up to account for the field of the syntagmatic relations within the syntagm in question is as follows:



Examples of transitive predicatives are:

John likes Mary

they hold meetings

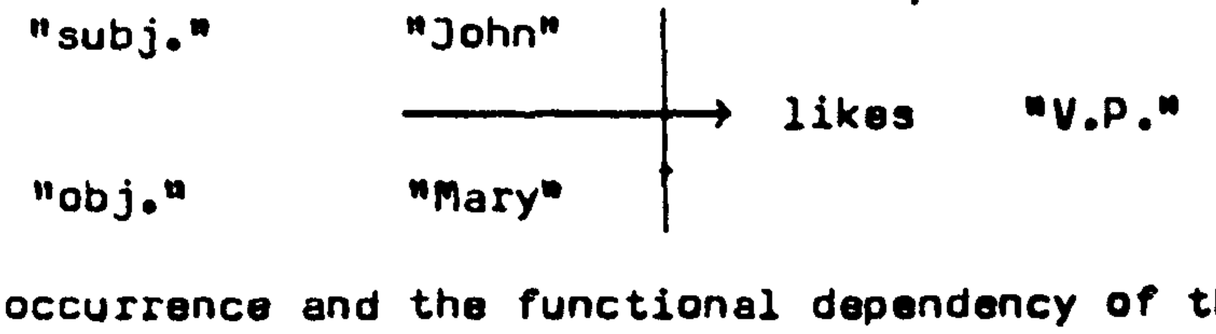
he lost his pen

she loves books

they hate travelling

they favour driving

The first syntagm is projected onto the model as follows:



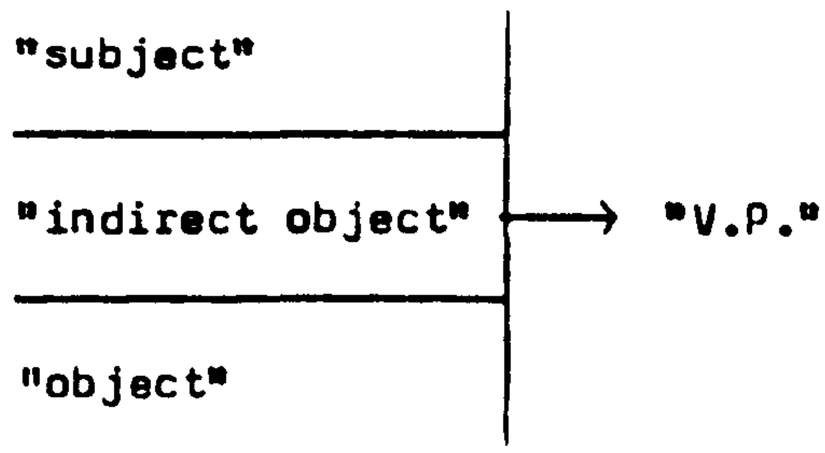
(For the occurrence and the functional dependency of the subject, see the preceding syntagm). The object, for its occurrence and function, behaves in the same manner as the subject. This implies that the predicative nucleus is not free since it requires the presence of two bound peripherals.

In realization the constituents succeed one another in the

same manner as in the "non-transitive" syntagm.

iv) Indirect Transitive

The indirect transitive syntagm (V.P.B4), in English is a self-contained bundle of four positions: a verbal predicative in the nuclear position governing the tactic functions of three bound peripherals in the positions "subject", "indirect object", and "object". The model set up to account for the syntagmatic relations within the syntagm in question is as follows:

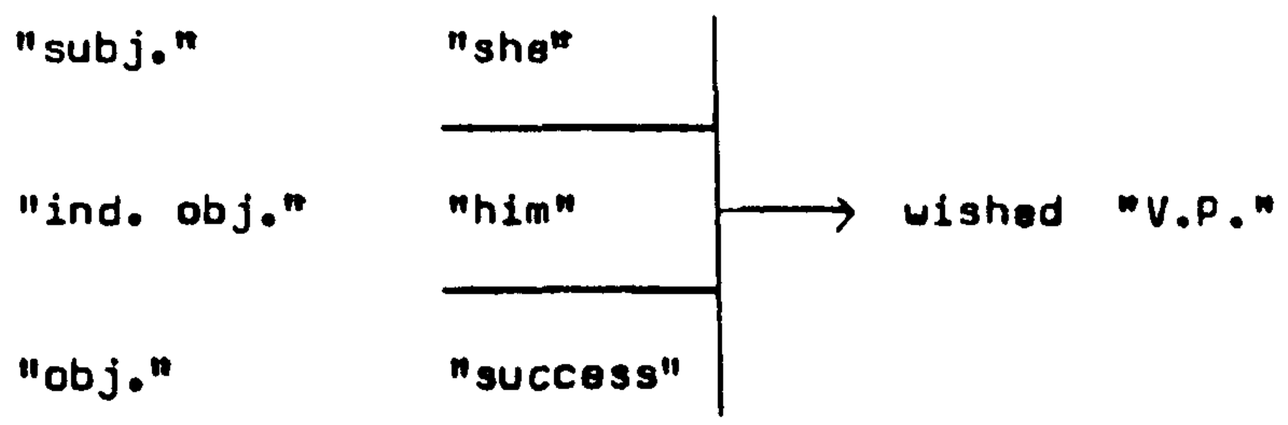


Examples of an indirect transitive syntagm are:

she wished him success

the teacher assigned them homework

The first syntagm is projected onto the model in the following manner:



Each of the peripheral items is, for its occurrence, dependent on the nucleus and vice versa. The nucleus, therefore, is not free, i.e. it is actualized by three bound peripherals. As for function, the peripheral elements depend on the nucleus but not vice versa, i.e. they stand in a relation of sub-ordination with respect to the nucleus.

In realization the constituents succeed one another as follows:

subject - predicative - indirect object - object

It is interesting to note that an indirect object such as "them" in

the syntagm "the teacher assigned them homework" may be replaced by a complementary object such as "to them" in "the teacher assigned homework to them". The two syntagms, i.e.

the teacher assigned them homework

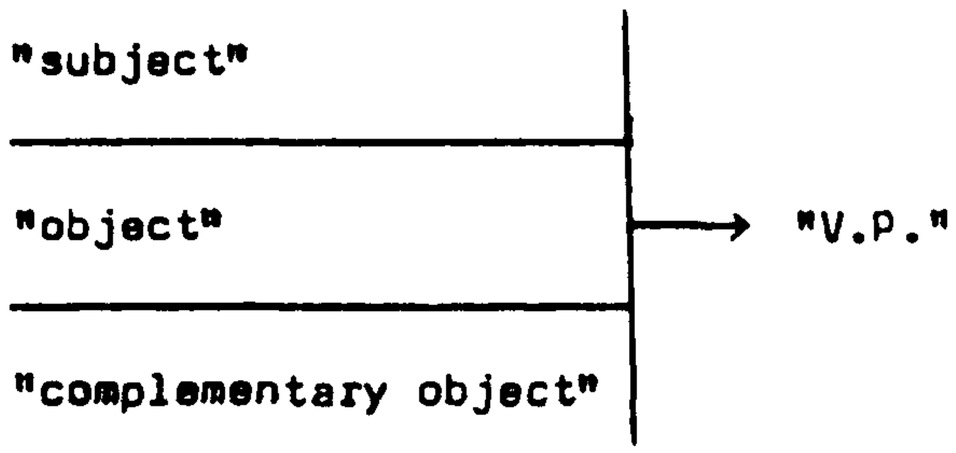
and

the teacher assigned homework to them

may be viewed as synonymous with one another. The first example corresponds to an instance of an indirect transitive syntagm which has been discussed above, while the latter corresponds to an instance of a complementary transitive syntagm which is to be dealt with in the next section.

v) Complementary Transitive

The complementary transitive (V.P.BS), in English is a self-contained bundle of four positions: a verbal predicative in the nuclear position governing the tactic functions of three bound peripherals in the positions "subject", "object", and "complementary object". The model set up to account for the field of the syntagmatic relations within the syntagm in question is as follows:



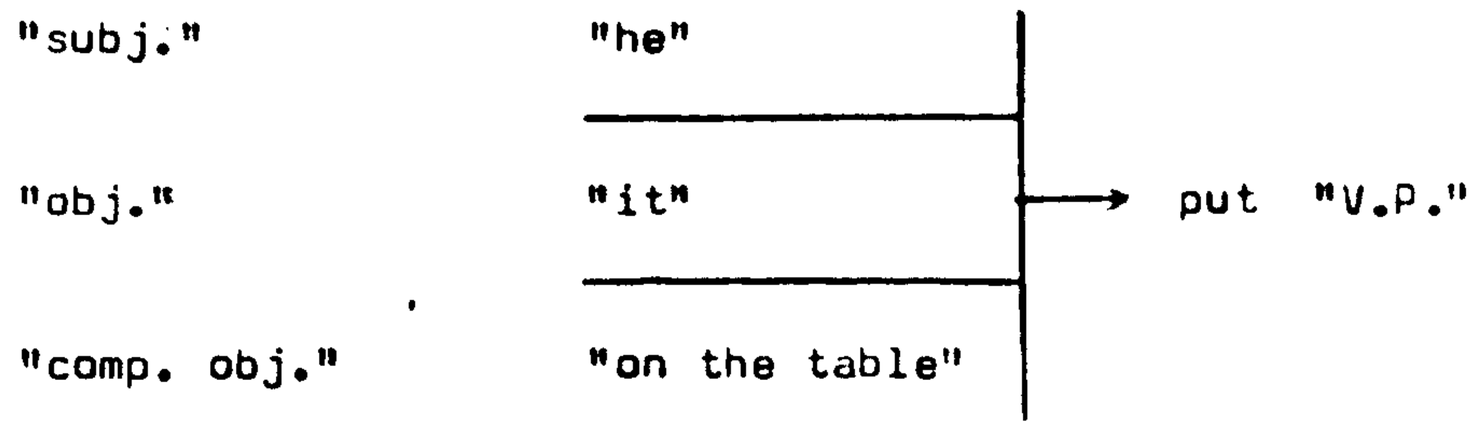
Examples of complementary transitive predicatives are:

he put it on the table

he attributed his success to his wife's support

he assigned the subject to a peripheral position

The first syntagm is projected onto the model as follows:



Each of the peripheral items stands in a direct relation of sub-ordination with respect to the nucleus, and the three peripherals are indirectly (via the nucleus) related to one another. There is a bilateral occurrence dependency between each of the peripheral items and the nucleus. This implies that the nucleus is actualized by any (or by all) the peripheral items.

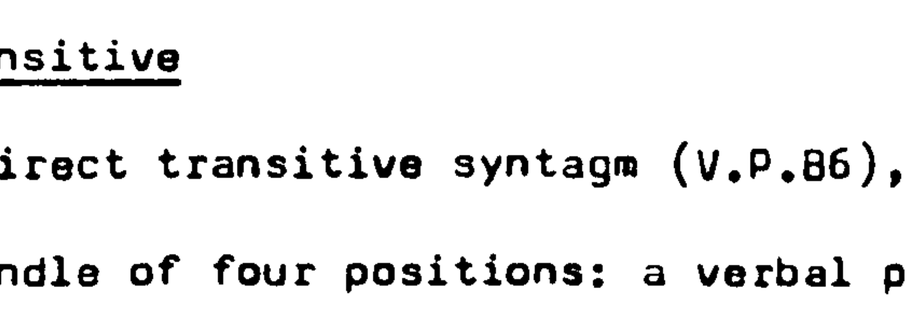
In realization the constituents in the syntagm in question succeed one another in the following order:

subject - predicative - object - complementary object

e.g.he put it on the table

vi) Non-direct Transitive

The non-direct transitive syntagm (V.P.86), in English is a self-contained bundle of four positions: a verbal predicative in the nuclear position governing the tactic functions of an expansion in the indirect object position and two bound peripherals in the position "subject" and "object". The model set up to account for the syntagmatic relations within the syntagm in question is as follows:



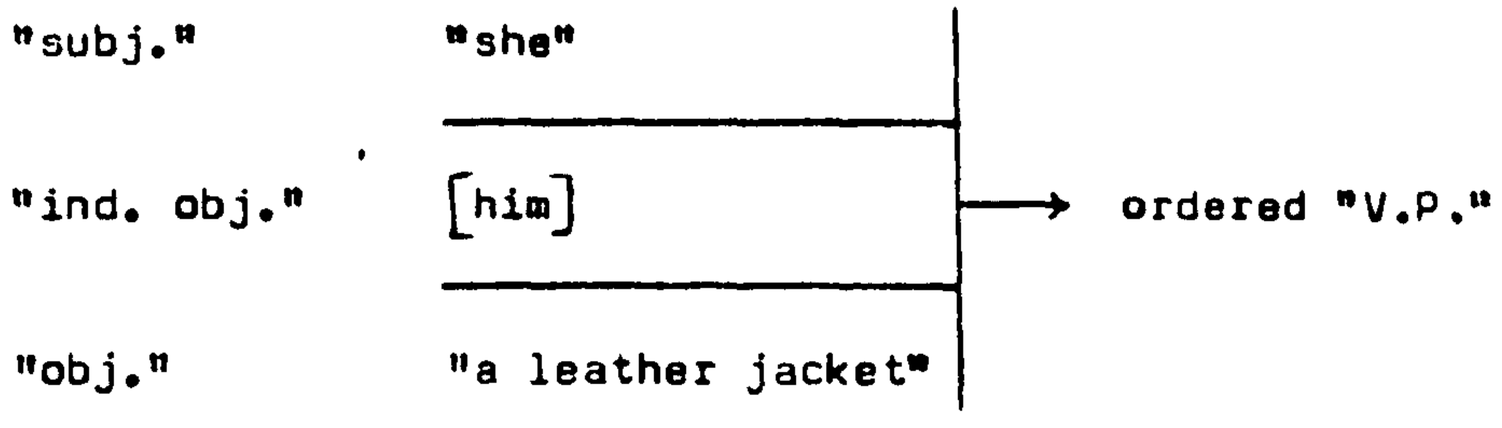
Examples of non-direct transitive predicatives are:

she ordered him a leather jacket

they passed him a message

she offered him a lift

The first syntagm is projected onto the model as follows:



There is a bilateral occurrence dependency between each of the constituents subject and object on the one hand, and the nucleus on the other. That is, both the subject and object, for their occurrence depend on the nucleus and vice versa. The indirect object, being an expansion, depends on the nucleus for its occurrence but not vice versa. As for functional dependency, the three peripheral items stand in a direct relation of sub-ordination with respect to the nucleus.

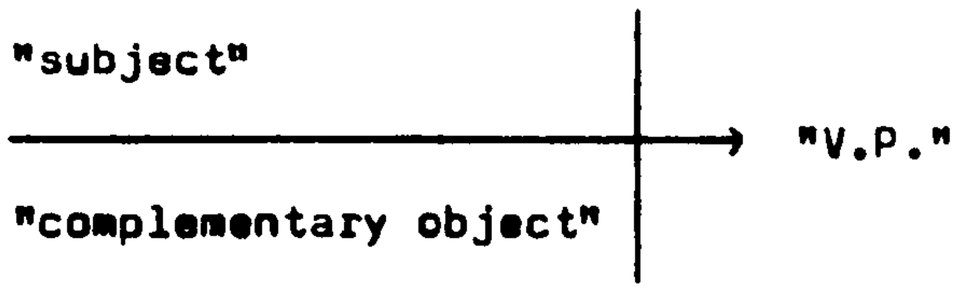
In realization the constituents in the syntagm in question succeed one another in the following manner:

subject	-	predicative	-	indirect object	-	object
she		ordered		him		a leather jacket

The non-direct transitive syntagm differs from the indirect transitive syntagm (V.P.84), in as far as the occurrence dependencies of the indirect objects in them are different. While in the syntagm under analysis the indirect object contracts a relation of a <u>unilateral</u> occurrence dependency with the predicative nucleus, the indirect object in the indirect transitive syntagm contracts a relation of a <u>bilateral</u> occurrence dependency with the predicative nucleus. According to these observations the indirect object "him" may be left out in the in the present syntagm without affecting its well-formedness; i.e. one may have "she ordered a leather jacket" as a well-formed utterance in the data, whereas in "she wished him success" (V.P.84), the indirect object "him" cannot be left out.

vii) Complementary Intransitive

The complementary intransitive syntagm (V.P.87), in English is a self-contained bundle of three positions: a verbal predicative in the nuclear position governing the tactic functions of two bound peripherals in the positions "subject" and "complementary object". The model set up to account for the whole relations within the syntagm in question is as follows:



Examples of complementary intransitive predicatives are:

he stepped into the garden

he leaned against the wall

he went to his work

The first syntagm is projected onto the model as follows:

The peripheral elements in the positions "object" and "complementary object" stand in relations of sub-ordination with respect to the nucleus. Being bound elements they both actualize the predicative. This implies that there is a bilateral occurrence dependency between each of the peripheral elements and the nucleus and consequently the nucleus is not "free".

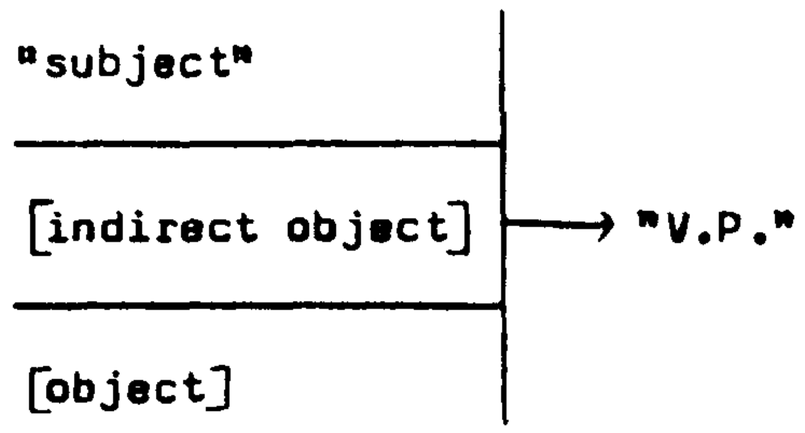
In realization the constituents in the syntagm in question succeed one another in the order "subject - predicative - complementary object" as shown by the above examples.

5. Other Predicative-Based Syntagms in English

In the previous section seven types of predicative-based syntagms in English have been discussed. To that list of predicative-based syntagms, the following six syntagms shall be added.

viii) Non-direct Non-transitive

The non-direct non-transitive syntagm (V.P.88) in English, is a self-contained bundle of four positions: a verbal predicative in the nuclear position governing the tactic functions of three peripherals; a bound peripheral in the "subject" position and two peripheral expansions in the positions "object" and "indirect object". The model set up to account for the syntagmatic relations within the syntagm in question is as follows:



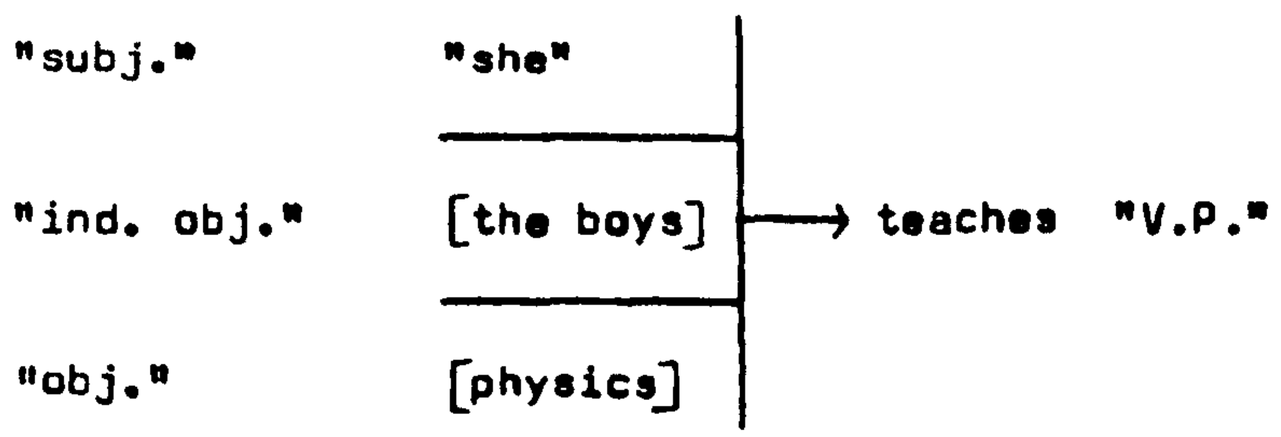
The following syntagms provide examples where all the positions in the model can be filled:

she teaches the boys physics

she read me the letter

~~she~~ ~~wrote~~ ~~him~~ several ~~letters~~

The syntagm "she teaches the boys physics" is projected onto the model as follows:



There is a bilateral occurrence dependency between the subject

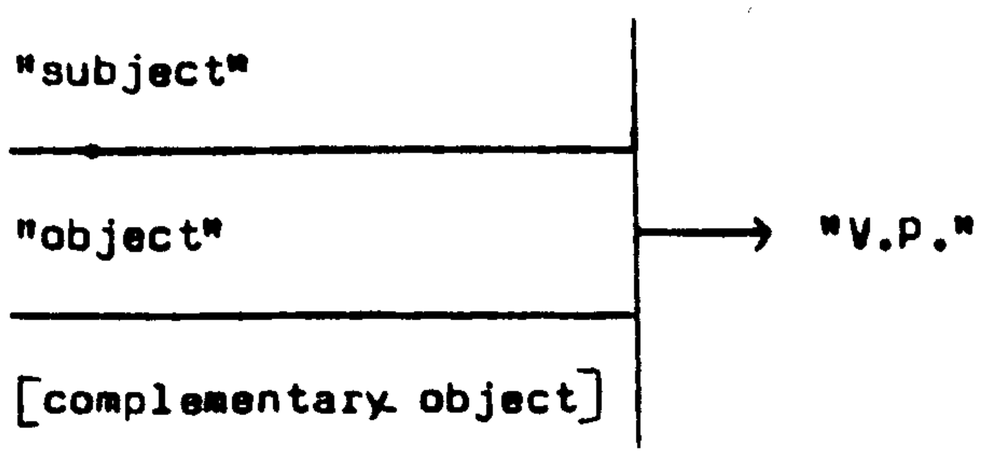
and the predicate. That is, the subject, for its occurrence, is dependent on the nucleus and vice versa. Each of the "indirect object" and "object" is, for its occurrence, dependent on the nucleus but not vice versa. The latter peripherals, being expansions, contract unilateral occurrence dependencies with the nucleus. As for functional dependency, the three peripheral items stand in a direct relation of sub-ordination to the nucleus.

In realization the constituents in the syntagm in question succeed one another in the same manner as in the "indirect transitive" syntagm, i.e.

subject - predicative - indirect object - object

ix) Non-Complementary Transitive

The non-complementary transitive syntagm (V.P.89) in English, is a self-contained bundle of four positions: a verbal predicative in the nuclear position governing the tactic functions of three peripherals: an expansion in the "complementary object" position and two bound peripherals in the positions "subject" and "object". The model set up to account for the syntagmatic relations within the syntagm in question is as follows:



The following syntagms provide examples for filling all the positions in the model:

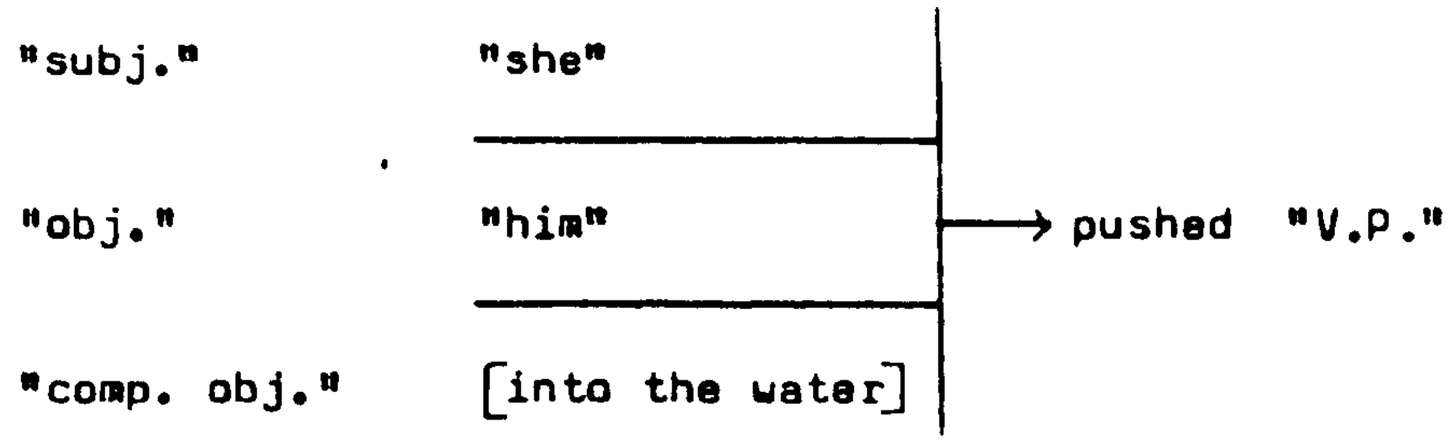
~~she~~ ~~pushed~~ ~~him~~ ~~into~~ ~~the~~ ~~water~~

she rubbed her cheek against his

she loaded the hay on the cart

The syntagm "she pushed him into the water" is projected on to the

model in the following manner:



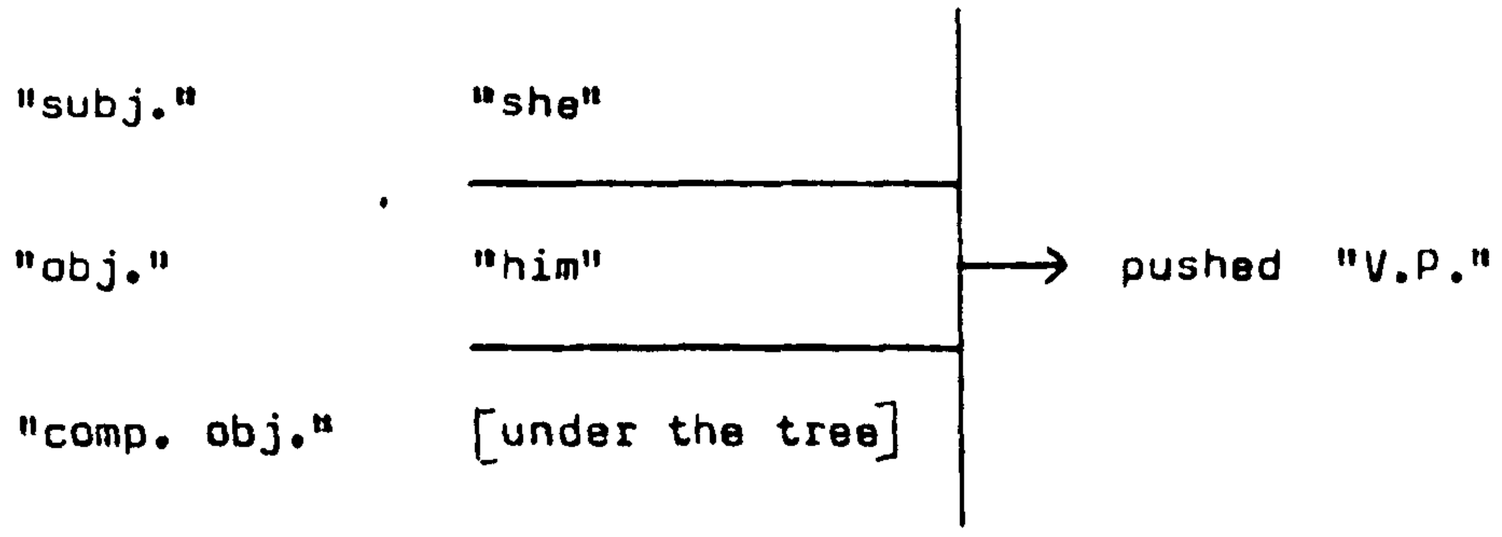
There is a unilateral occurrence dependency between the complementary object and the predicative. The complementary object, being an expansion is, for its occurrence, dependent on the nucleus but not vice versa. Each of the subject and the object is, for its occurrence, dependent on the nucleus and vice versa. The latter peripherals being "bound" constituents contract a bilateral occurrence dependency with the nucleus. As for functional dependency, the three items stand in a direct relation of sub-ordination to the predicative nucleus.

In realization the constituents of the syntagm in question succeed one another in the same manner as in the "complementary transitive" syntagm, i.e.

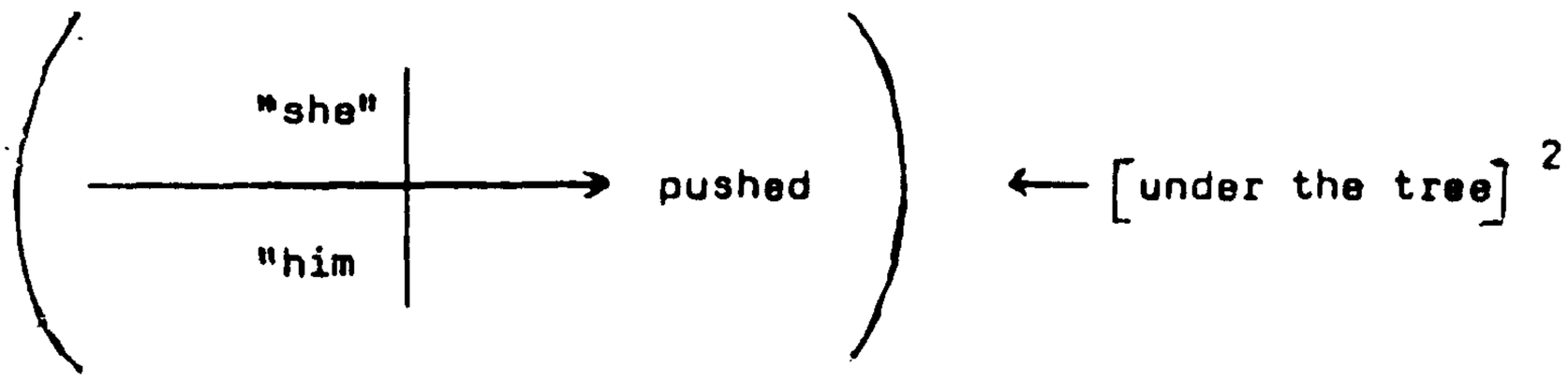
subject - predicative - object - complementary object

A syntagm such as "she pushed him under the tree" may convey two functionally different messages; one meaning "being beside the tree he was pushed under it", and the other "he was pushed while he was under the tree". The difference in denotation can be attributed to the fact that the syntagm "she pushed him under the tree" corresponds to two syntagms the syntactic structures of which are different. It cannot be attributed to the claim that "under" and "under" in the two syntagms are homonyms as this cannot be justified. (See "Some Difficult Cases in Syntactic Description", Mulder, 1978). According to the first message the syntagm "she pushed him under the tree" is a combination of four immediate constituents: "she", "him", and "under the tree" which are peripheral to the nucleus "pushed". That is, the syntactic

structure of the syntagm in question is as follows:

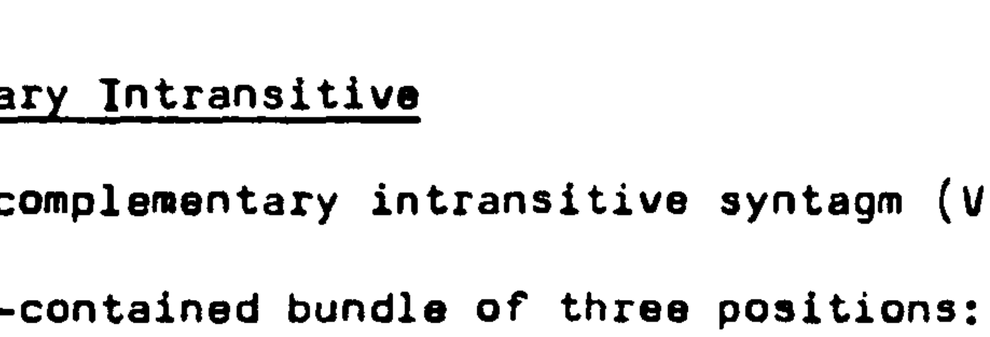


According to the second message, the syntagm "she pushed him under the tree" is a combination of two I.C.s: "under the tree" and "she pushed him". The syntagm "under the tree" stands in a direct relation of sub-ordination with respect to the predicative-basded syntagm "she pushed him" as a whole.

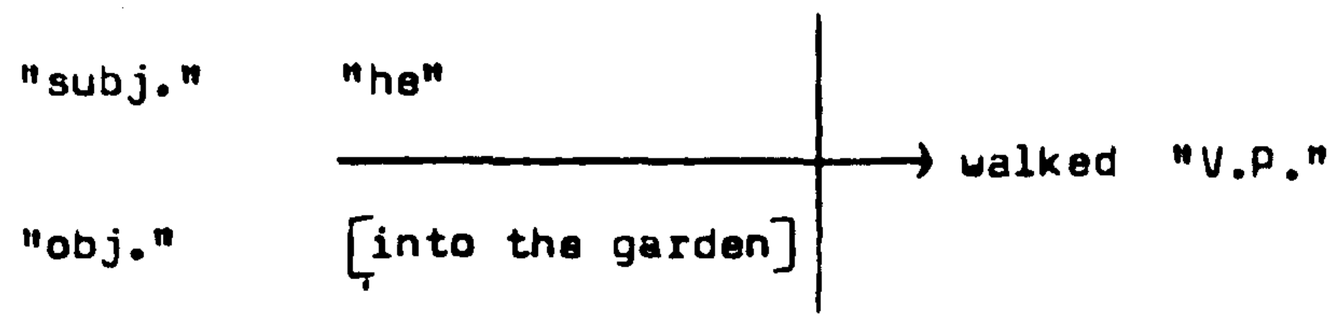


x) Non-Complementary Intransitive

The non-complementary intransitive syntagm (V.P.810) in English, is a self-contained bundle of three positions: a verbal predicative in the nuclear position governing the tactic functions of a bound peripheral in the "subject" position. The model set up to account for the syntagmatic relations within the syntagm in question is as follows:



The following syntagms provide examples with all the positions filled in the model:



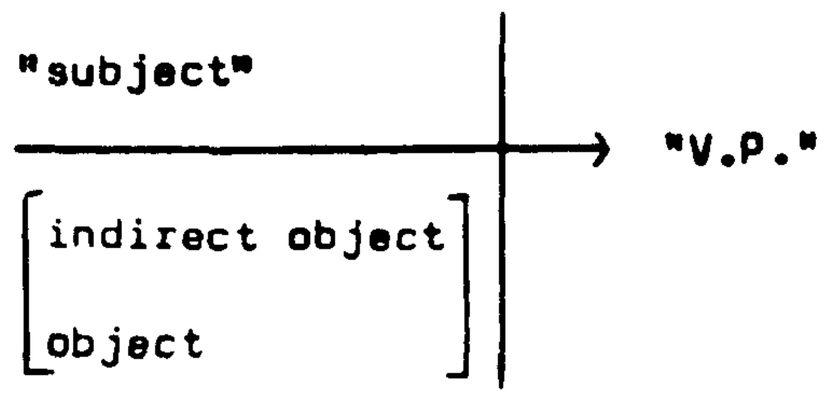
There is a bilateral occurrence dependency between the subject and the predicative and a unilateral occurrence dependency between the complementary object and the predicative. That is, the subject, for its occurrence depends on the nucleus and vice versa, while the complementary object, for its occurrence, depends on the nucleus but not vice versa. As for functional dependency the two peripheral constituents stand in a direct relation of sub-ordination with respect to the nucleus.

In realization the constituents of the syntagm in question succeed one another in the same manner as in the "complementary intransitive" syntagm, i.e.

subject - predicative - complementary object

xi) Optional Indirect Transitive

The optional indirect transitive syntagm (V.P.811) in English is a self-contained bundle of four positions: a verbal predicative in the nuclear position governing the tactic functions of a bound peripheral in the subject position, and an either/or relation between an expansion or a bound peripheral in the positions "object" and "indirect object". The model set up to account for the syntagmatic relations within the syntagm in question is as follows:

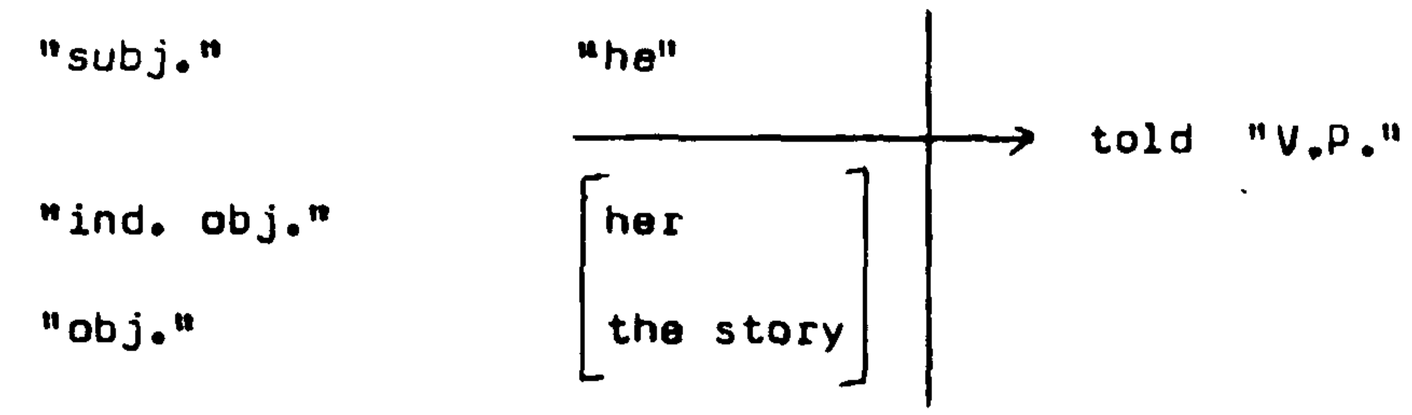


The following syntagms provide examples with all the positions filled in the above model:

he told her the story

he showed his friend the film

The syntagm "he told her the story" is projected onto the model in the following manner:



The above syntagm is a self-contained combination of four immediate constituents of which "told" is the nucleus. There is a bilateral occurrence dependency between the subject and the predicative. That is, the subject, for its occurrence, depends on the predicative and vice versa. The square brackets in the model indicate that one of the constituents "her" in the indirect object position or "the story" in the object position has to be "bound", while the other (one of the two enclosed) is an expansion. In other words, only one at a time may actualize the nucleus. The actualizer contracts a bilateral occurrence dependency with the nucleus, while the other contracts a unilateral occurrence dependency with it. As for functional dependency, the three peripheral items are, for their functions, dependent on the nucleus as they stand in direct relations of sub-ordination to it. On the basis of these observations we may have, as realizations of the syntagm in question, the following instances:

he told her

he told the story

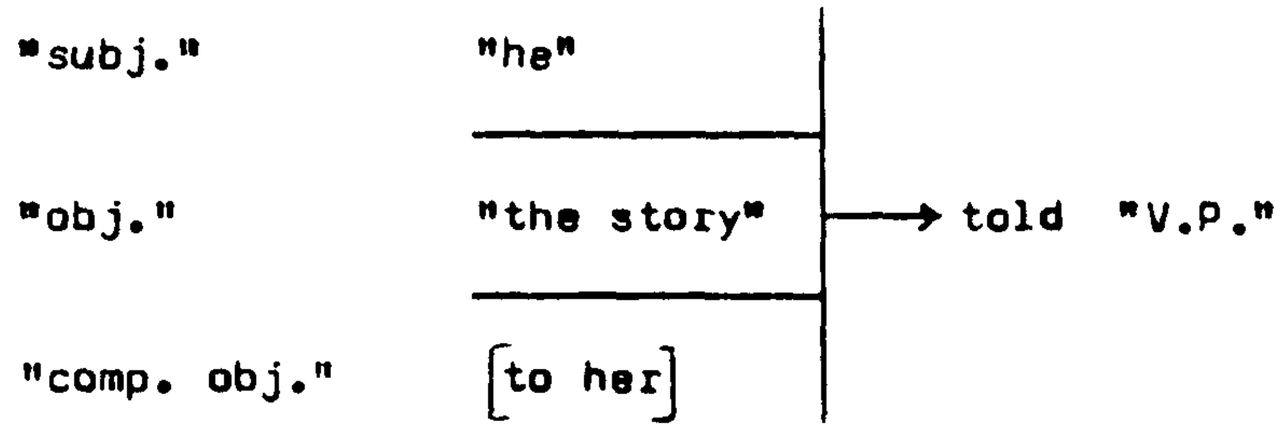
he told her the story

but not *he told

In realization the constituents of the syntagm in question succeed one another in the following order:

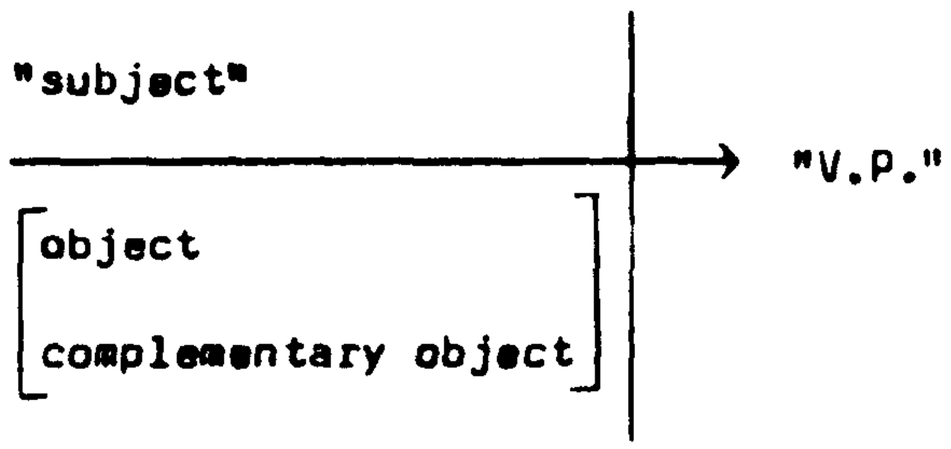
subject - predicative - indirect object - object

Note that "he told the story to her" is structurally different from "he told her the story". The former syntagm differs from the latter in that the constituent "to her" cannot by itself, like "her" in the latter, determine the predicative nucleus. That is, while one may encounter a construction such as "he told her", one may not encounter *"he told to her". The implication of these observations is that "to her" in "he told the story to her" becomes a peripheral expansion, while "the story" becomes a bound peripheral. In other words, there is no option left for us to regard one, or the other, as bound (or as an expansion). The syntagm "he told the story to her" represents an instance of a non-complementary transitive (V.P.89) which can be described in the following manner:



xii) Optional Complementary Transitive

The optional complementary transitive (V.P.812) in English is a self-contained bundle of four positions: a verbal predicative in the nuclear position governing the tactic functions of a bound peripheral in the subject position, and an either/or relation between an expansion or a bound peripheral in the positions "object" and "complementary object". The model set up to account for the syntagmatic relations within the syntagm in question is as follows:

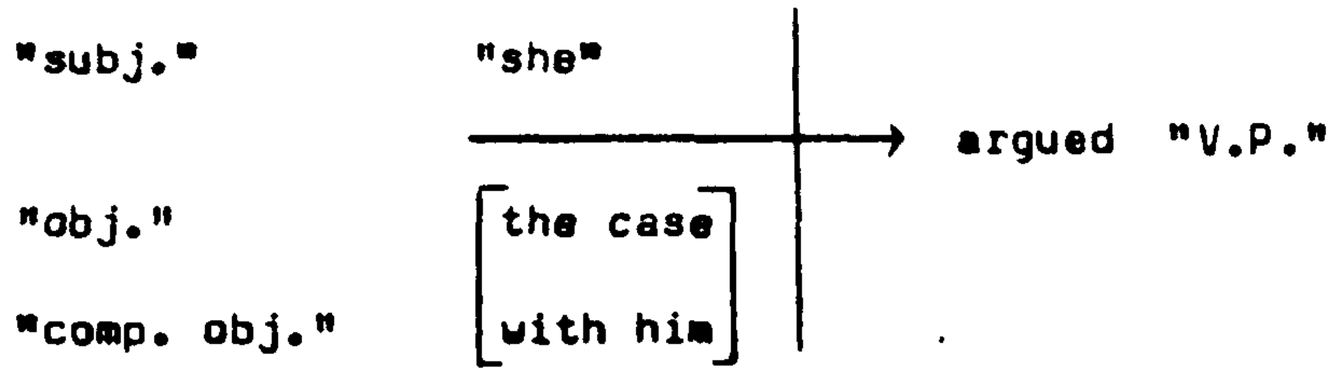


The following syntagms provide examples with all the positions filled in the above model:

she argued the case with him

she explained the situation to him

The first syntagm is projected onto the model in the following manner:



The above syntagm is a self-contained combination of four immediate constituents of which "argued" is the nucleus. Being a bound element, the subject is, for its occurrence, dependent on the nucleus and vice versa. The square brackets in the model indicate that either "the case", or "with him", but not both, is an expansion, while the other one is bound. In other words only one at a time may actualize the nucleus. The three peripheral items stand in a direct relation of sub-ordination with respect to the nucleus. In realization the constituents in the syntagm in question succeed one another in the following order:

subject - predicative - object - complementary object

According to the relations exhibited by the object and the complementary object we may have, as instances of the above syntagm, the following:

she argued the case

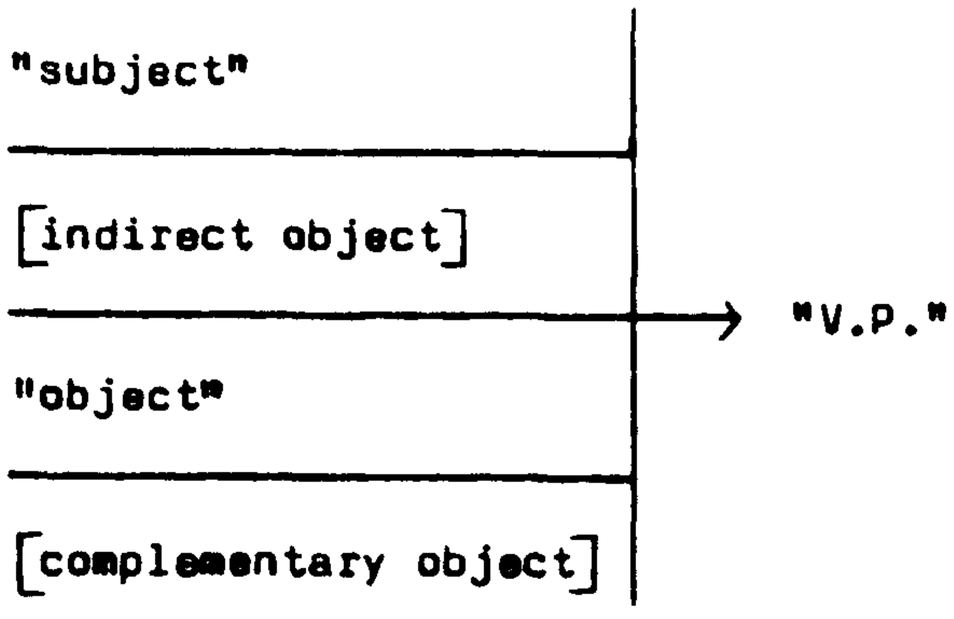
she argued with him

she argued the case with him

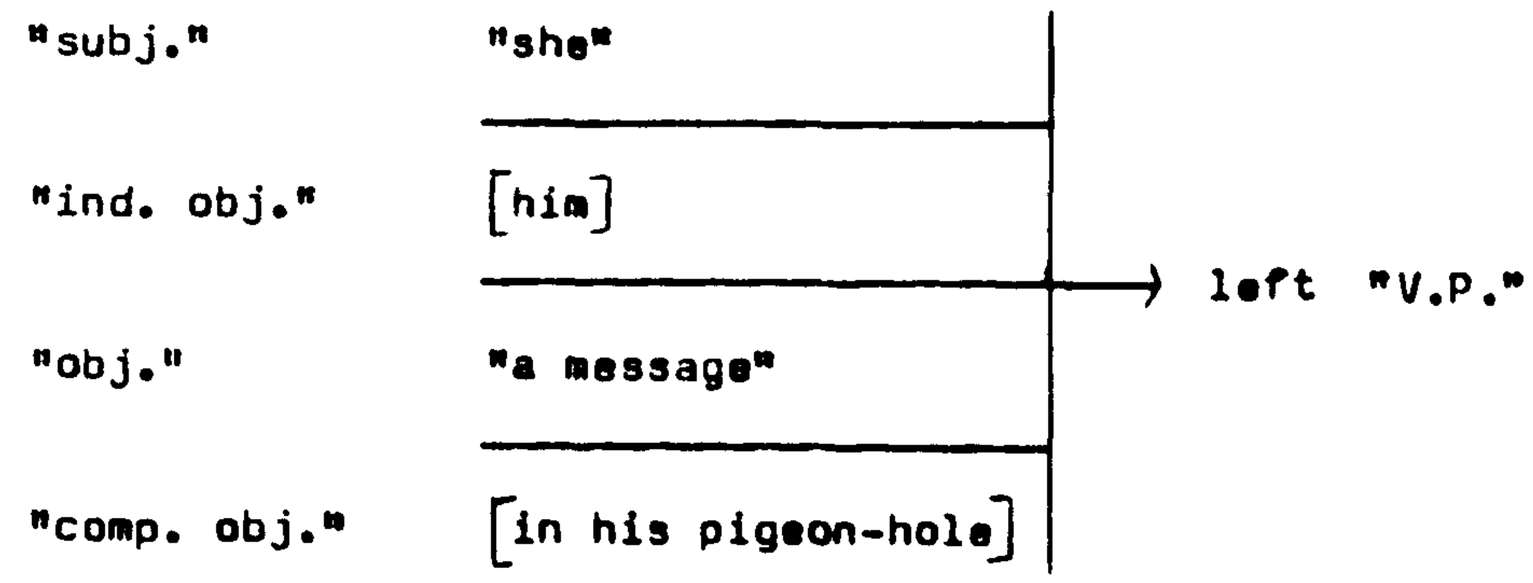
xiii) Non-direct Non-complementary Transitive

The non-direct non-complementary transitive syntagm (V.P.B13) in English is a self-contained bundle of five positions: a verbal

predicative in the nuclear position governing the tactic functions of two bound peripherals in the positions subject and object, and two peripheral expansions in the positions indirect object and complementary object. The model set up to account for the syntagmatic relations within the syntagm in question is as follows:



The syntagm "she left him a message in his pigeon-hole" provides an example of a non-direct non-complementary transitive with all the positions filled in the model:



There is a <u>bilateral</u> occurrence dependency between each of the "subject" and the "object" on the one hand, and the nucleus on the other, and a <u>unilateral</u> occurrence dependency between each of the "indirect object" and the "complementary object" on the one hand, and the nucleus on the other. As for functional dependency, all the peripheral elements depend on the nucleus, but not vice versa. The following provide instances of the syntagm under analysis:

she left a message

she left him a message

she left a message in his pigeon-hole

she left him a message in his pigeon-hole

In realization the constituents in the syntagm in question succeed one another in the following order:

subject - predicative - object - indirect object - complementary object

6. General Remarks about the Verbal Predicative-Based Syntagm in English

The verbal predicative (V.P.) syntagm which constitutes the nucleus of the verbal predicative-based (V.P.B.) syntagm consists of five positions: a verb in the nuclear position governing the tactic functions of four peripheral expansions in the positions "modal", "tense", "aspect" and "modality". The subjects and objects which may figure as peripheral immediate constituents with respect to the V.P. syntagm are characterized by certain features which may be summed up by the following remarks:

a) The subject figures as a bound peripheral standing in a direct relation of sub-ordination with respect to a verbal predicative. It may contract an indirect tactic relation with one, or more, objects within the syntagm, as shown by the element "the boys" in the following examples:

the boys like oranges (see V.P.83)

the boys put the books on the table (see V.P.85)

the boys gave him a present (see V.P.86)

Or, it may not contract any indirect tactic relation with any peripheral element as in the intransitive syntagm (see V.P.81), e.g.

the boys slept

Note that in realization the subject precedes the predicative.

b) The object figures as a peripheral element (whether

bound or expansion depends on the nature of the predicative) standing in a direct relation of sub-ordination with respect to a verbal predicative, and in an indirect tactic relation with respect to a subject, as shown by "the ball" in the following examples:

the boy hit <u>the ball</u> (see V.P.83)

the boy knows <u>the ball</u> (see V.P.82)

In addition to its indirect tactic relation to the subject, the object may also stand in an indirect tactic relation to an "indirect object", a "complementary object", or to both as shown by the following examples:

they gave him <u>the book</u> (see V.P.86)

they put <u>the book</u> on the table (see V.P.85)

they left him <u>the book</u> on the table (see V.P.813)

Note that in realization the object comes after the predicative, if there is no indirect object involved, and succeeds the indirect object which in turn succeeds the predicative.

c) The indirect object figures as a peripheral element (whether bound or expansion depends on the nature of the predicative) standing in a direct relation of sub-ordination with respect to a verbal predicative, and in indirect tactic relations with respect to a subject and an object (direct object), as shown by the underlined elements in the following examples:

she gave her sister <u>a present</u> (see V.P.86)

they wrote <u>her</u> a letter (see V.P.86)

he assigned <u>them</u> homework (see V.P.84)

they teach <u>him</u> physics (see V.P.88)

In addition to the above indirect tactic relations, the indirect object may also stand in an indirect tactic relation with a complementary object as shown by the examples below:

she left <u>him</u> a note in his pigeon-hole (see V.P.813)

In realization the indirect object comes immediately after the predicative.

d) The complementary object figures as a peripheral element (whether bound or expansion depends on the nature of the nucleus) standing in a direct relation of sub-ordination with respect to a verbal predicative, and in an indirect tactic relation with a subject as shown by the underlined elements in the following examples:

she walked <u>into the garden</u> (see V.P.B10)

he jumped <u>over the fence</u> (see V.P.B10)

he went <u>to his work</u> (see V.P.B7)

In addition to the above indirect tactic relation the complementary object may also stand in an indirect tactic relation with an object, or with both an object and an indirect object as shown below:

she put a rose <u>on her jacket</u> (see V.P.B5)

they left him a message <u>with his secretary</u> (see V.P.B13)

Note that the complementary object may occur as an immediate constituent in a syntagm without having an object as an immediate constituent in that syntagm; the indirect object cannot. In realization the complementary object succeeds the predicative, if there is no other object involved, or succeeds the object, or both the object and the indirect object. This implies that the complementary object is always realized as the final constituent in the V.P.B. syntagm.

NOTES TO CHAPTER I : VERBAL PREDICATIVES

1. The relation between the aspect and the nucleus can be represented as to [be ..... ing] → "to drink". But since this and the above representation are equally adequate, we opt for the above one as it is simpler and neater in the representation.

2. Constructions such as "under the tree" which determines the predicative-based syntagm as a whole are known by Mulder as "adjuncts". There are three peripheral adjuncts that may determine the V.P.B. syntagm in a parallel fashion, these are called "place", "time" and "manner". However, adjuncts fall beyond the scope of the present work.

CHAPTER II : COPULATIVE PREDICATIVES

The copulative predicative syntagm in English is a self-contained bundle of two positions: a copula in the nuclear position governing the tactic function of a bound peripheral in the complement position. The model set up to account for the relations within the syntagm in question is as follows:

"copula" ⟵ "complement"

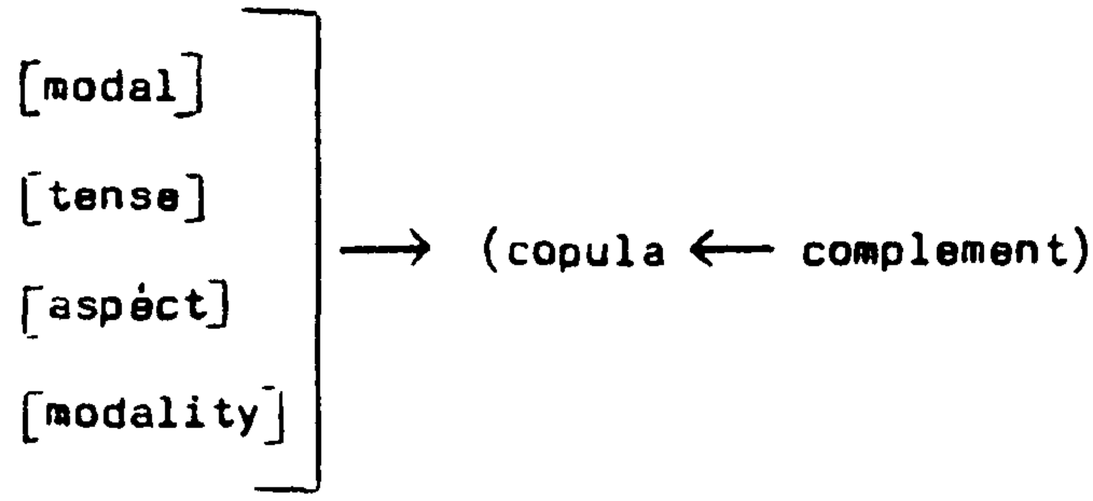
A construction such as "is silly" provides an example of a copulative predicative syntagm. It is projected onto the model in the following manner:

"copula" "complement"

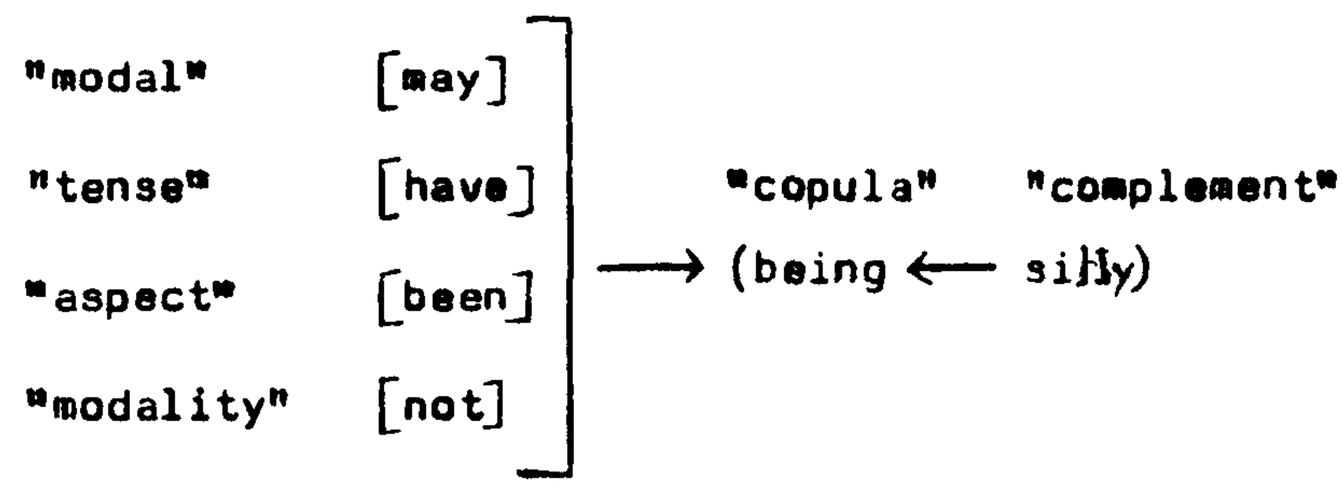
is ⟵ silly

The complement stands in a direct relation of sub-ordination with respect to the copula. And being bound, the complement for its occurrence depends on the nucleus, and vice versa. The nucleus, therefore, is not free.

On a higher level the syntagm (copula ⟵ complement) may figure as a nuclear immediate constituent in a larger syntagm to govern the tactic functions of four peripheral expansions in the positions "modal", "tense", "aspect" and "modality". The copulative predicative, together with the peripheral elements it governs, may be represented as follows:



The syntagm "may not have been being silly" fills up the positions in the above model as follows:



In this model there are four peripheral elements standing in a direct relation of sub-ordination with respect to the nucleus. The peripheral elements, as expansions, are, for their occurrence, dependent on the nucleus but not vice versa. The nucleus, therefore, is free.

The complement position in the previous model is filled by the adjective "sick". In addition to adjectival constructions the complement position may be filled by one of the following items:

a) nominal constructions

e.g. he is <u>a good teacher</u>

that man <u>is a soldier</u>

b) a numeral construction

e.g. the number of the new students is <u>about thirteen</u>

the number of the rooms is eight only

c) a functional construction

e.g. the books were <u>on the chair</u>

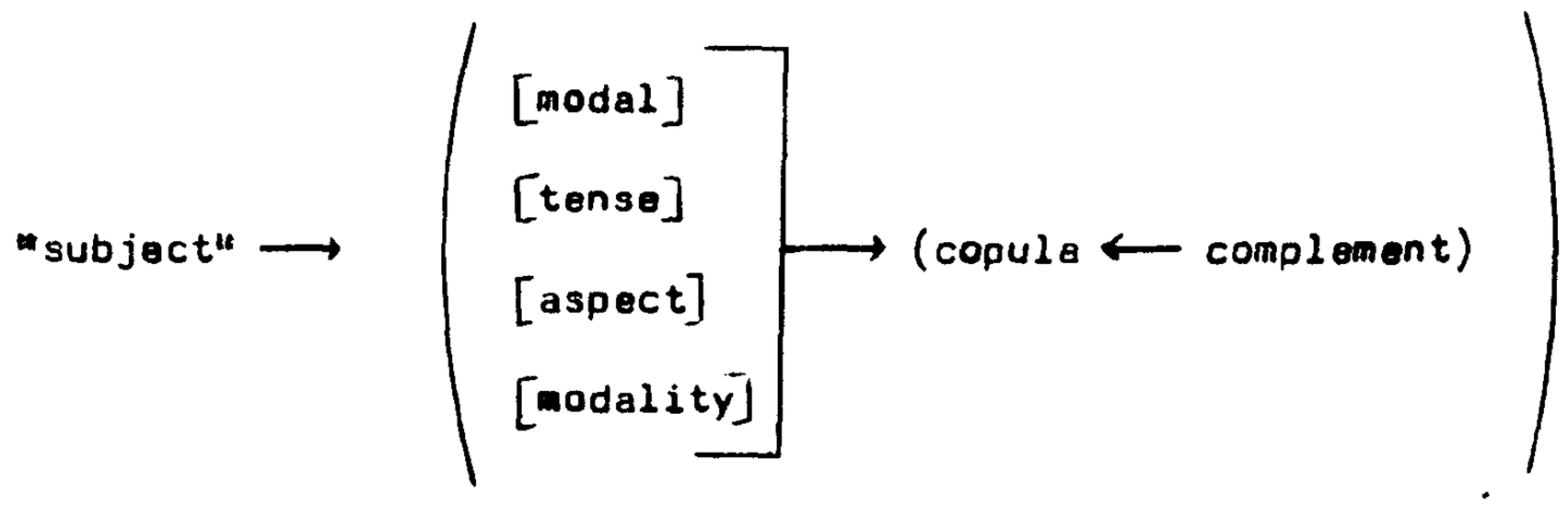
they are <u>in the garden</u>

d) past participle

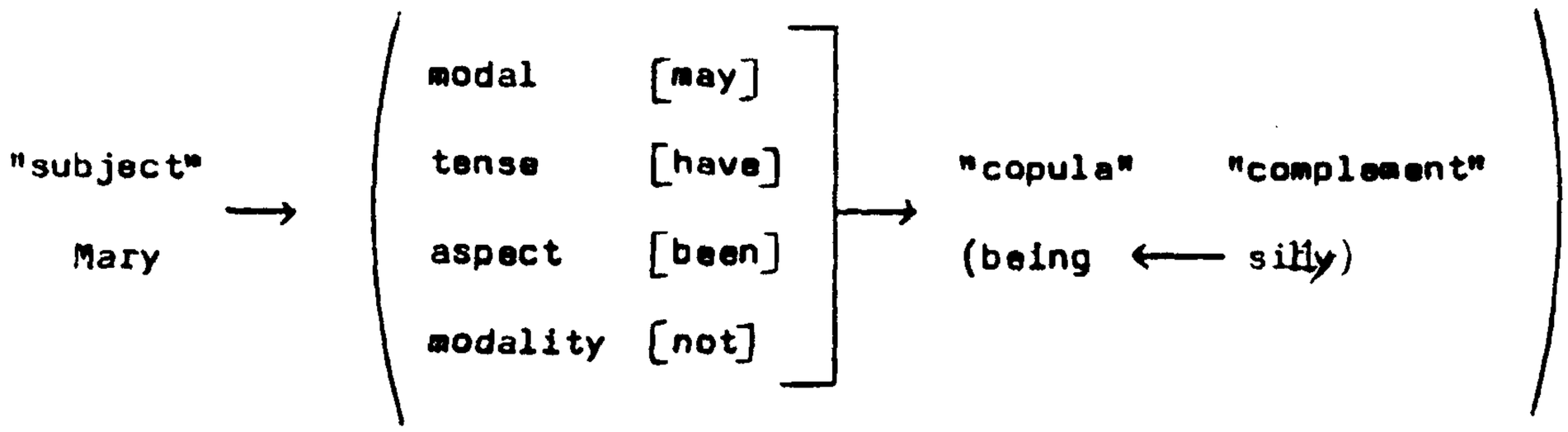
e.g. he was <u>fooled</u>

they were <u>beaten</u>

The copulative predicative syntagm, together with its peripheral determinants, may figure as a nucleus in a larger syntagm. For instance, the construction "the little boy is happy" consists of two I.C.s: "the little boy" and "is happy" of which the latter is the nucleus. That is, "the little boy", as a subject, stands in a direct relation of sub-ordination with respect to the nucleus "is happy"; alternatively we may say that the tactic function of "the little boy" is governed by the nucleus "is happy". The syntagm as a whole, i.e. the copulative predicative "is happy" together with the subject it governs may be called <u>copulative predicative-based</u>. As a bound element, the subject, for its occurrence depends on the nucleus and vice versa. The nucleus, therefore, is not "free", i.e. it requires the presence of a bound peripheral to actualize it. The overall relations involved in the copulative predicative-based syntagms may be represented by the following model:



A syntagm such as "Mary may not have been being *silly*" provides an example with all the positions filled in the above model.



1)- Realizations of Copulative Predicatives

The constituents in the copulative predicative syntagm normally (i.e. in the most "neutral" realizations) succeed one another in the following order:

	modal	-	modality	-	tense	-	aspect	-	copula	-	complement
e.g.	may		not		have		been		being		sick

In the absence of a "modal", the negative "not" succeeds "tense", and in the absence of the latter it succeeds "aspect". And in the absence of "modal", "tense", and "aspect" it succeeds the copula as shown by the examples below:

may not have been being sick

has not —— been being sick

is not —— —— being sick

is not —— —— —— sick

The constituents in the copulative predicative syntagm succeed one another in a strict order, and in that they impose certain conditioning on the forms of those constituents. The "modal" causes the "tense" to take the infinitive form, and the latter causes the "aspect" to take the past participle form. The "aspect", in its turn, makes the copula take the progressive (i.e. ...ing) form. (See the verbal predicative syntagm, page 170).

In the copulative predicative-based (C.P.B) syntagm the subject precedes the copulative syntagm (C.P) as shown by the element "they" in the examples below:

they are late

they have been late

they could have been late

they could not have been late

In interrogative constructions the "copula", the "modal", the "tense", or "aspect" may precede the subject:

is he sick

will he be sick

has he been sick

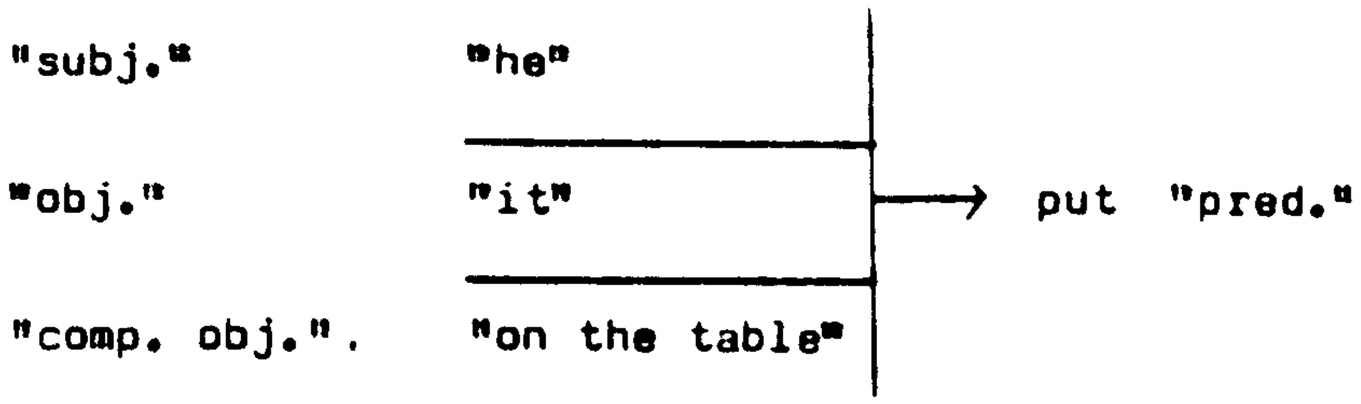
is he being sick

CHAPTER III : FUNCTIONAL[1] SYNTAGMS

The term "functional", in addition to its common use as an essential tenet in axiomatic functional linguistics, has been employed by Mulder for labelling certain types of syntagms in English. The nucleus of the syntagm under investigation is called "functional", and hence the term "functional syntagm". A functional nucleus in English is usually manifested by a single (i.e. unanalysable) syntactic entity. It roughly corresponds to what is known by traditional grammarians as "preposition", "co-ordinator", and "sub-ordinator"[2]. Apart from the fact that a functional element is itself "functional" (i.e. separately relevant to communication), it has, as it were, an additional function, and that is enabling the syntagm it governs to contract syntactic relations with other constituents in larger syntagms. By virtue of "on", for instance, the syntagm "on the table" is capable of occupying the supplement position to stand in a direct relation of sub-ordination with respect to a nominal such as "books" in the syntagm "the big books on the table". This syntagm may be described as follows:

"art."	[the]	
"num."	∅	
"adj."	[big]	⟶ books "nom."
"sup."	[on the table]	

And similarly by virtue of "on" the syntagm "on the table" may stand in a relation of sub-ordination with respect to a predicative such as "put" in the syntagm "he put on the table" which is described as follows:



The model set up to account for the relations within the functional syntagm in English is as follows:

"functional" ⟵ "complement"

The following are examples of functional syntagms in English:

on the table

in the garden

above the chair

with his pen

by the school

if he comes

The syntagm "on the table" is projected onto the model in the following manner:

"functional" "complement"

on ⟵ (the table)

The complement stands in a relation of sub-ordination with respect to the functional nucleus. There is a bilateral occurrence dependency between the functional and its complement. That is, the complement, for its occurrence, depends on the nucleus and vice versa. The nucleus, therefore, is not free, but "actualized". In realization the functional precedes its complement (except in genitive constructions, as we shall see below).

The genitive "'s" in English seems to exhibit a syntactic function similar to that of a functional. For instance, in the syntagm "the boy's hat", it is via "'s" that the syntagm "the boy's" stands in a relation of sub-ordination with respect to the nominal nucleus "hat". Without the genitive "'s", the syntagm "the boy" is

incapable of exhibiting such a syntactic function. The relations involved in the syntagm "the boy's" may be represented as follows:

"complement" "functional"

(the boy) ⟶ 's

NOTES TO CHAPTER III : FUNCTIONAL SYNTAGMS

1. The term "functional" was originally used by Martinet to mark what he calls "autonomous syntagms". See Elements of General Linguistics by A. Martinet, 1964.

2. Elements such as "and", "or" may be called co-ordinators, and elements such as "when", "if", "though", "who", etc. may be called sub-ordinators. In terms of the present approach, all these elements are recognised as "functionals".

CHAPTER IV : NOMINAL SYNTAGMS

In the preceding chapter models have been set up for the description of the predicative constructions in English. We noticed that nominal constructions, as immediate constituents, may stand in the subject, the object, and/or the indirect object positions with respect to the predicative nucleus. In this chapter we shall investigate the field of relations that may exist within the nominal constructions in English.

For the description of the whole field of relations that may exist in a plural nominal syntagm in English, Mulder sets up the following model:

[article]
[numeral]
[adjective]
[supplement] ⟶ "nominal pl."

"Having one nuclear plus four peripheral positions in this structure is justified" Mulder says "by the fact that items in each of these positions are not mutually exclusive. I.e. all these positions can be filled by one, but only one, <u>immediate</u> constituent of the syntagma this structure counts for." (On the Representation of Syntactic Structures, 1978). The above model is assumed to be adequate for the description of the relations that may exist in examples of the following type:

1) men

2) the men

3) three men

4) old men

5) men in the garden

6) the three men

7) the old men

8) the three old men

9) the men in the garden

10) the three men in the garden

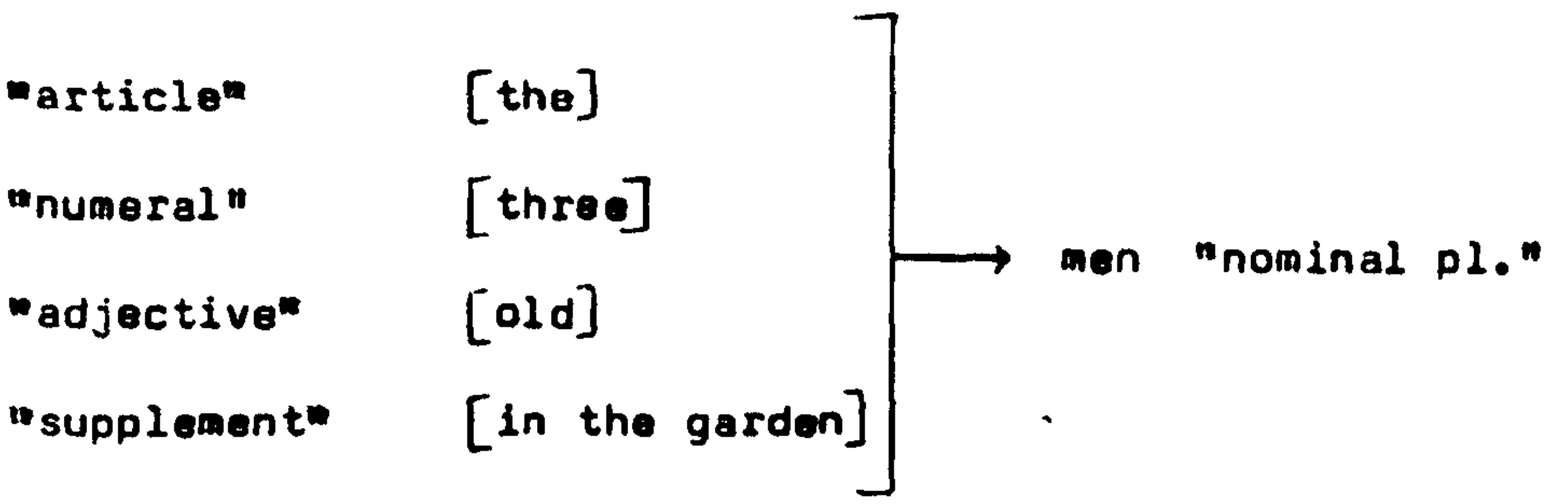
11) the old men in the garden

12) the three old men in the garden

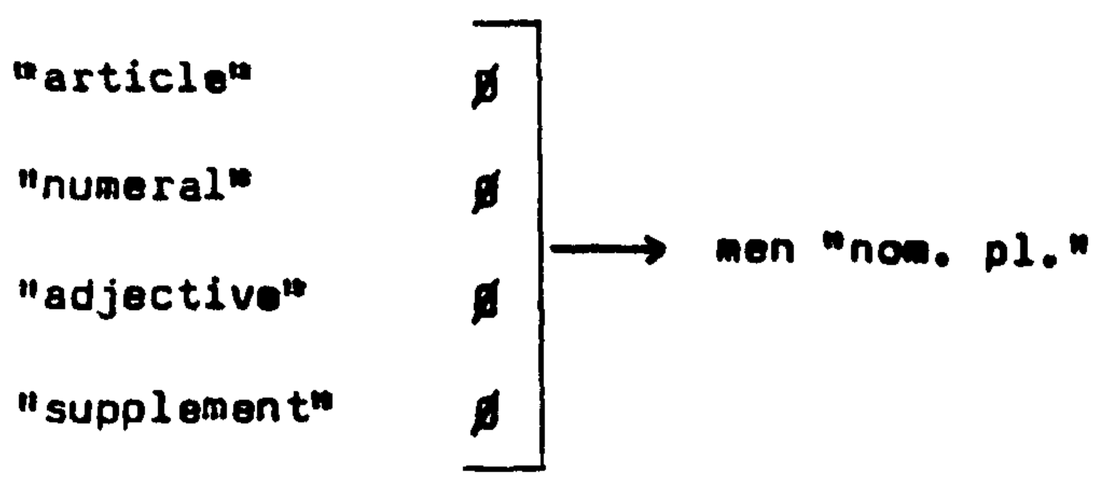
From the above list, example (12) represents an instance of the plural nominal syntagm extended to its maximal realization. On the first level the syntagm in question is analysable into the following immediate constituents:

the/ three/ old/ men/ in the garden

These constituents are allocated to the positions in the above model as follows:

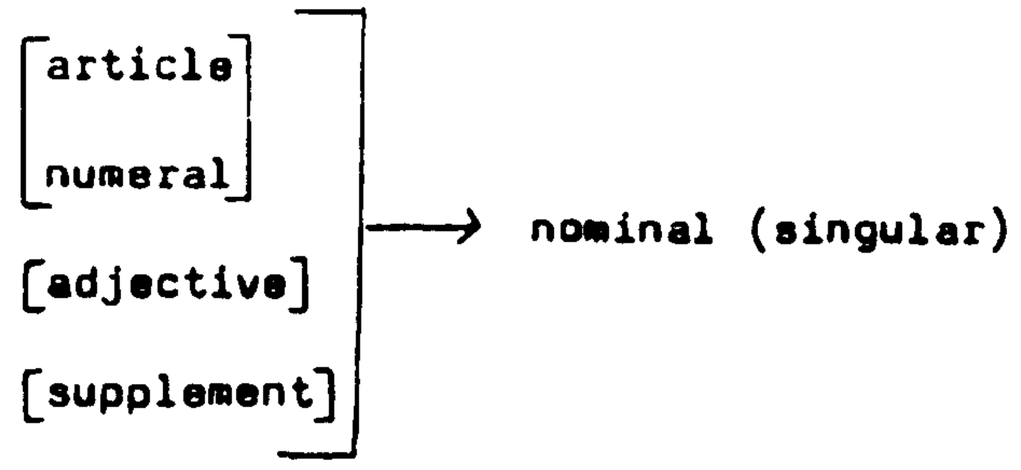


The other examples in the previous list, being all instances of a nominal syntagm, are describable in terms of the above model. The first example, contrary to the last one, represents an instance of the syntagm reduced to its minimal realization. It is projected onto the model as follows:

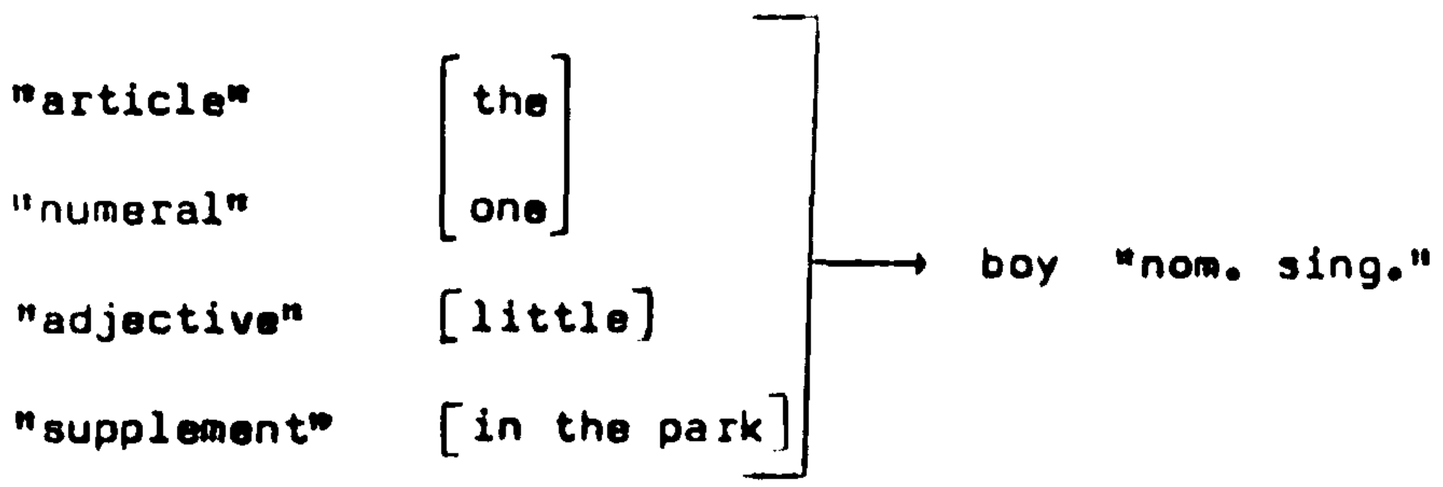


The peripheral positions are all filled by zero elements. This indicates that "men", and consequently the nucleus of the plural nominal syntagm in English, is "free". That is, the nucleus does not require the presence of a bound peripheral to actualize it.

To account for the relations within the singular nominal syntagm in English, the following model is set up:



The upper brackets in the model above indicate that either the "article" or the "numeral"[1], but not both, is "bound". Conversely, either of the two, but not both, is an "expansion". A construction such as "the one little boy in the park" provides an example where all the positions in the model can be filled:



The above syntagm may stand in the subject position as in "the one little boy in the park went home". On the basis of the either/or relation between the peripherals "article" and "numeral" shown by the model, one may have:

the boy went home

one boy went home

the one boy went home

the little boy went home

one little boy went home

the little boy in the park went home

one little boy in the park went home

the one little boy in the park went home

but not

*boy went home

*little boy went home

*boy in the park went home

*little boy in the park went home

In view of the above observations, we see that the nucleus of the singular nominal syntagm, unlike the nucleus of the plural nominal, is not free, i.e. for its occurrence it requires the presence of a bound peripheral to actualize it.

It is obvious that the singular nominal syntagm, like the plural nominal, is a bundle of five positions: a nucleus and four peripherals. The peripherals "article" and "numeral" have been bracketed together in the model only for lack of a better representation. One sees that the items "article" and "numeral", like any two, or more, peripherals in the model, are indirectly related via the nucleus; and, therefore, one should not take them as a self-contained bundle occupying one position, but as two separate immediate constituents standing in a relation of parallel determination with respect to the nominal nucleus.

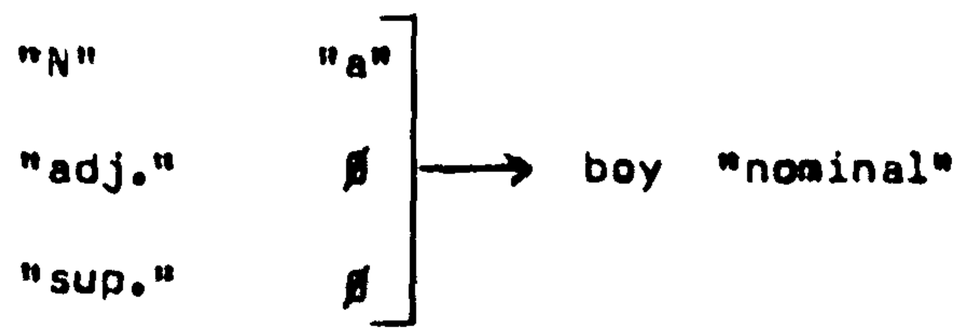
1) Neutralization within the Nominal Syntagm

Under certain conditions the contrastive functions between the positions "article" and "numeral" become neutralized. For instance, the occurrence of an indefinite article such as "a" or "an" in a nominal syntagm mutually excludes the occurrence of a numeral in that syntagm. In a situation like this the theory makes it necessary to set up an archiposition which is in effect a position

representing the suspension of the contrastive functions between the two adjacent positions "article" and "numeral", and, consequently, rejects the hypothesis that there is an "article" or/and a "numeral" position in that situation. The intersection between the position partaking in the neutralization is exemplified by the following scheme:

	article	numeral	adjective	supplement	nominal
(a)	a	*one	∅	∅	boy
(b)	*a	one	∅	∅	boy
(c)	a (one)		∅	∅	boy

The asterisks in the above model indicate the unacceptability of the marked elements in those positions. (a) shows that "one" cannot stand in the numeral position while the article position is filled by "a". Similarly, (b) shows that "a" cannot stand in the article position while the numeral position is filled by "one". In (c), the only plausible solution, either "a" or "one", may be allocated to a position, or rather an archiposition, covering the two positions "article" and "numeral" and unequivocally representing each. Labelling the archiposition in question as "N" (for neutralization), the structure of a syntagm such as "a boy" is represented in the following manner:



2) Occurrence and Functional Dependencies within the Nominal Syntagm

In the plural nominal syntagm there is a unilateral occurrence dependency between each of the peripheral elements and the nucleus. That is, the peripheral elements, for their occurrence, depend on the nucleus but not vice versa. This implies that the nucleus is "free" since it does not require the presence of a bound peripheral to actualize it. As for function, the peripheral elements depend on the nucleus but not vice versa. That is to say that the peripherals stand in relations of sub-ordination to the nucleus, i.e. they determine it. Conversely we may say that the tactic functions of the peripheral elements are governed by the nucleus.

In the singular nominal syntagm there is a unilateral occurrence dependency between each of the "adjective" and the "supplement" on the one hand, and the nucleus on the other. That is, the peripherals "adjective" and "supplement", for their occurrence, depend on the nucleus but not vice versa. As one of the peripheral elements "article" and "numeral" should be bound within the singular nominal syntagm, it follows that there is a bilateral occurrence dependency between that peripheral and the nucleus, i.e. the bound peripheral, for its occurrence, depends on the nucleus and vice versa. This implies that the nucleus of the singular nominal syntagm, unlike the nucleus of the plural nominal, is not free since it requires the presence of a bound peripheral to actualize it. As for function, we notice that the peripheral elements depend on the nucleus but not vice versa, i.e. they determine the nucleus. Or conversely the nucleus governs their tactic functions.

3) Complexes within the Nominal Syntagm

Simple as well as complex syntactic items may figure as immediate constituents within the nominal governed syntagm. Each

position within the syntagm in question can be filled by a syntactic complex as the following examples show:

1) table-lamps

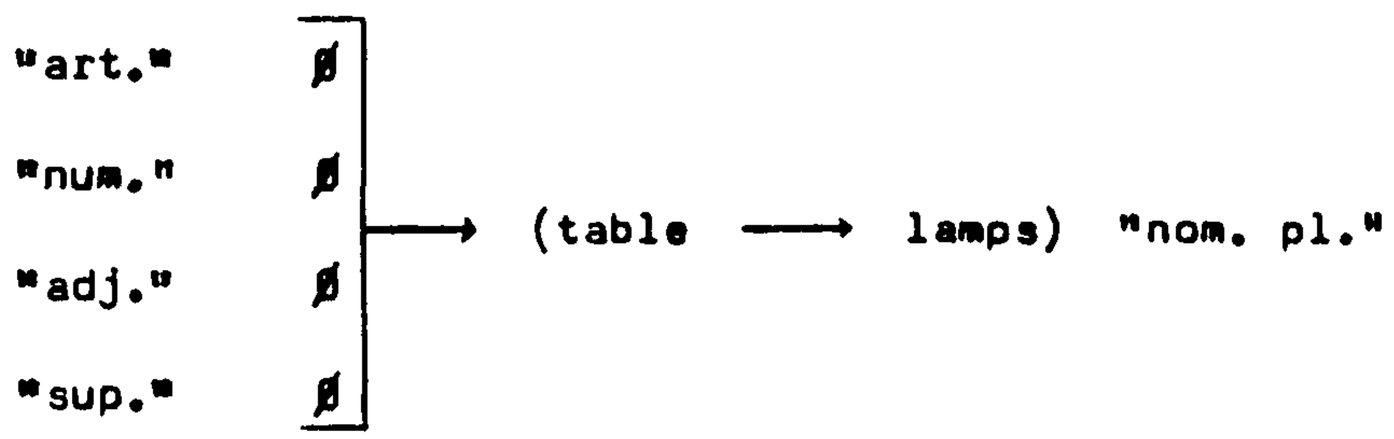
2) the boy's books

3) nearly ten students

4) very big rooms

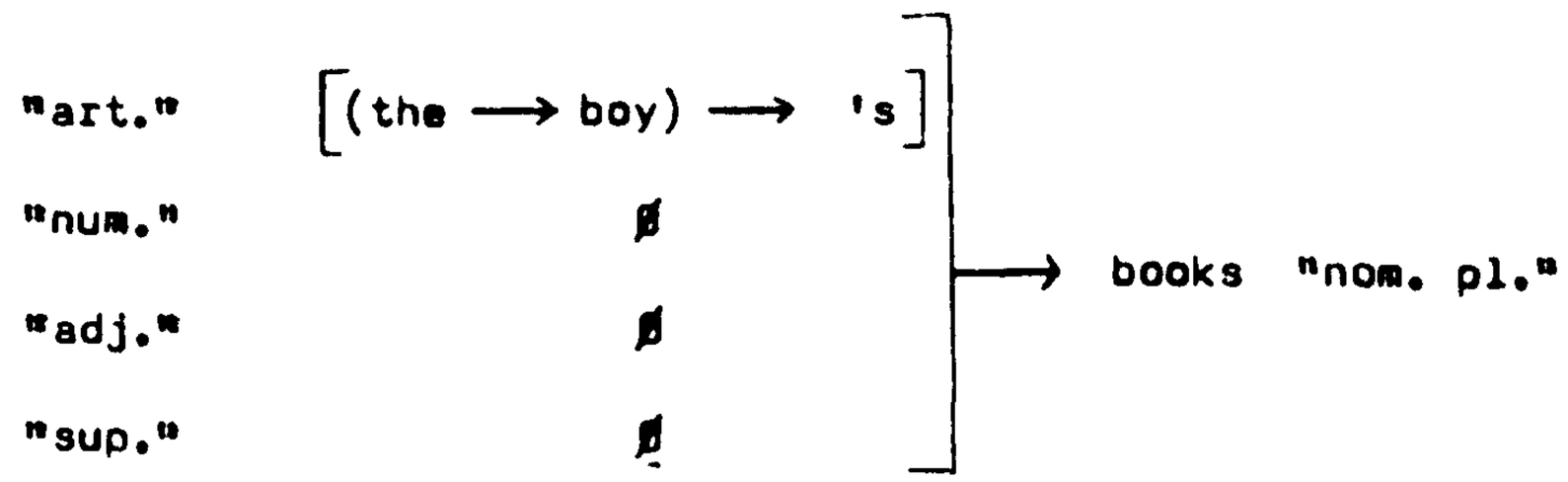
5) books on the table

Example (1) shows a syntactic complexity in the nuclear position:

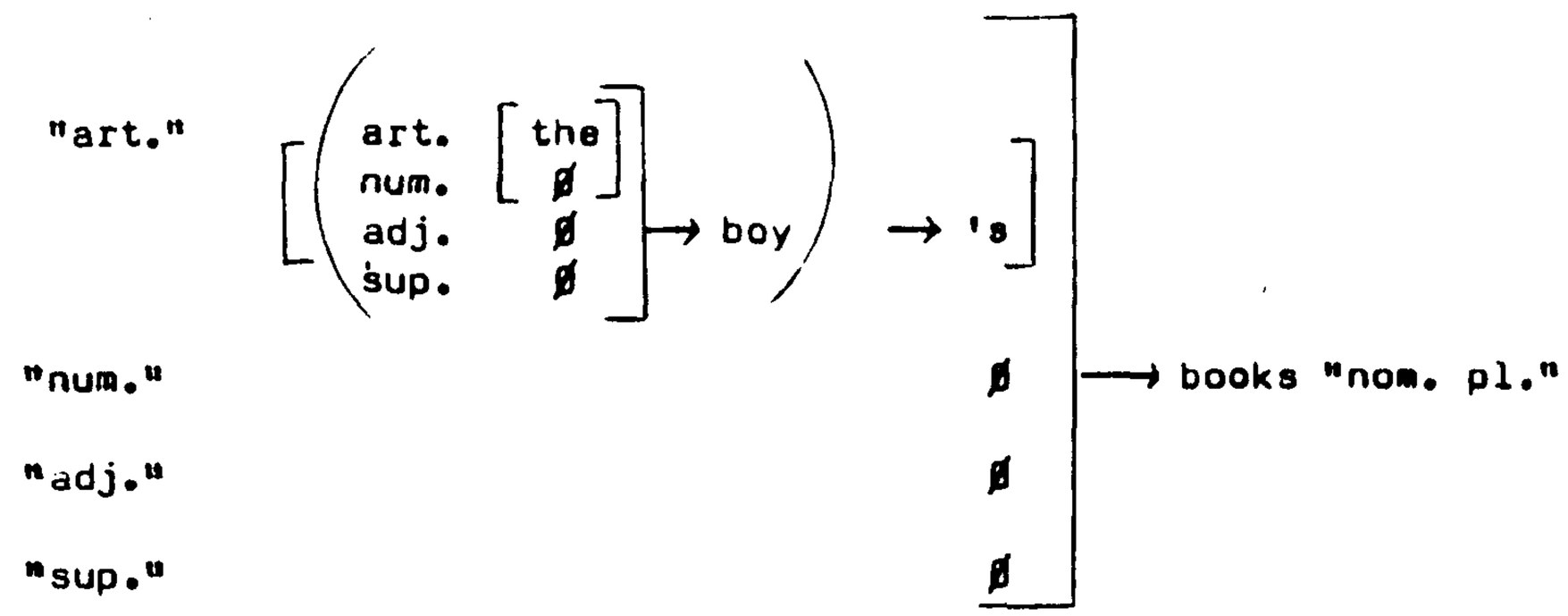


Within the nuclear complex, the element "table" stands in a direct relation of sub-ordination with respect to the nucleus "lamps". The position in which "table" stands may be called "nominal determinant".[2]

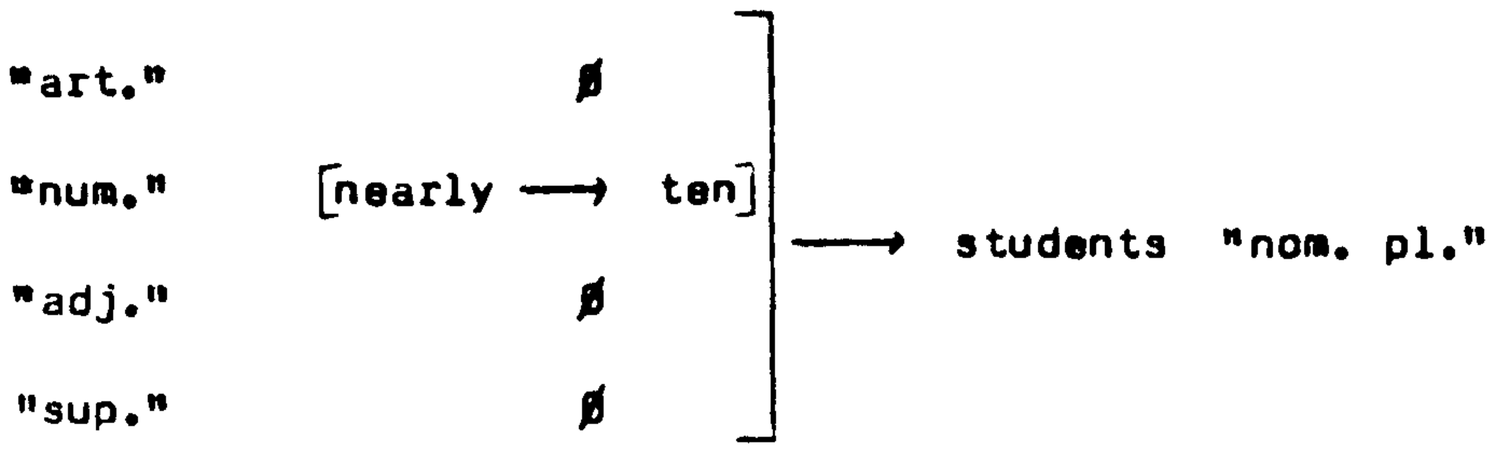
Example (2) shows a syntactic complexity in the article position:



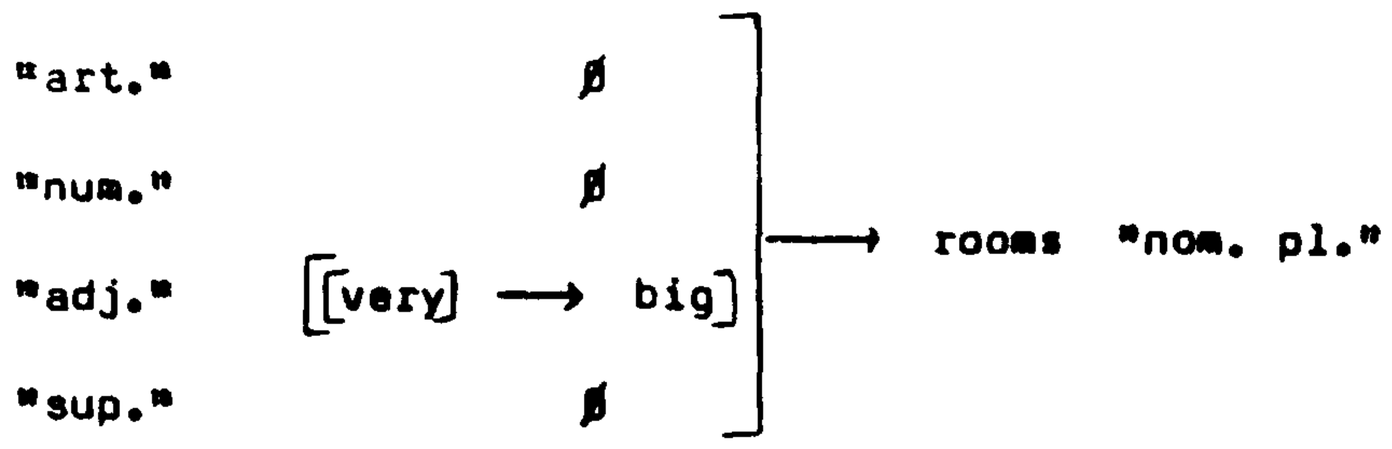
In the article position the complex "the boy" constitutes a nominal syntagm standing in a relation of sub-ordination to the nucleus "'s". On a lower level the complex "the boy" is a combination of two I.C.s, "the" and "boy". The other peripheral positions within the syntagm "the boy" are empty, i.e. they can be filled by zero elements as shown:



Example (3) shows a syntactic complexity in the numeral position:

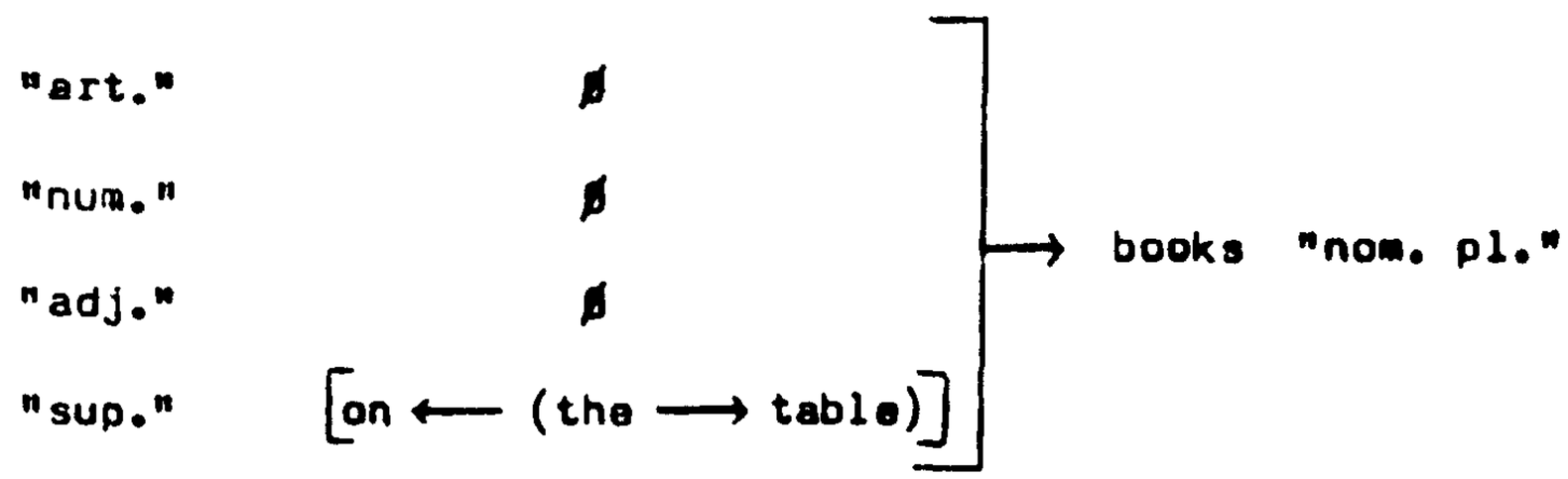


Example (4) shows a syntactic complexity in the adjective position:



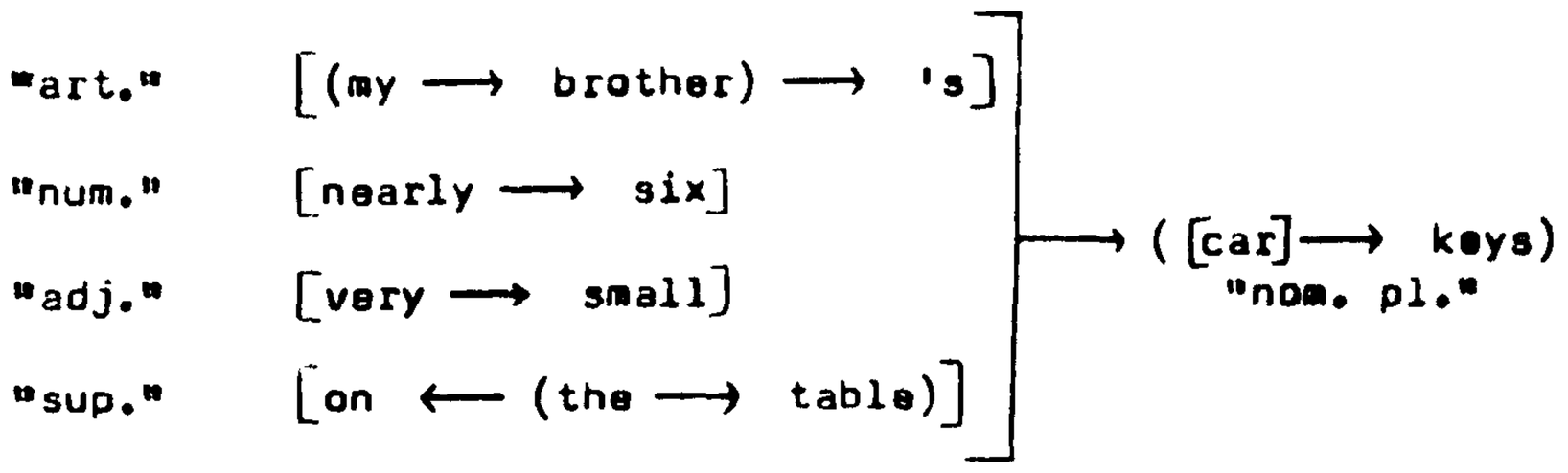
In the adjective position the element "very" stands in a relation of sub-ordination to the adjective "big".

Example (5) shows a syntactic complexity in the supplement position:



In the supplement position the syntagm "the table" stands in a direct relation of sub-ordination with respect to the nucleus "on". On a lower level "the table" constitutes a nominal syntagm, analysable into the constituents "the" and "table" of which the latter is the nucleus. The syntagm "on the table", as a whole, occupies the supplement position and stands in a direct relation of sub-ordination with respect to the nucleus "books".

Syntactic complexes may occur in one, some, or all the positions of the nominal governed syntagm simultaneously as encountered in a construction such as: "my brother's nearly six very small car keys on the table." The complexity involved in each position is shown by the following scheme:



4) Realizations of the Nominal Syntagm

There is a strict order of occurrence among the constituents of the nominal governed syntagm. The constituents succeed one another in the following order:

article - numeral - adjective - nominal - supplement

Items in the supplement position are the only constituents that occur post-nuclearly. Being expansions, the peripheral elements (some or all) may be left out. On the basis of this we may have the following as instances of a nominal plural syntagm:

article	numeral	adjective	nominal	supplement
ø	ø	ø	books	ø
the	ø	ø	books	ø
ø	three	ø	books	ø
ø	ø	big	books	ø
ø	ø	ø	books	on the shelf
the	three	ø	books	ø
the	ø	big	books	ø
the	ø	ø	books	on the shelf
ø	three	big	books	ø
ø	ø	big	books	on the shelf
ø	three	big	books	on the shelf
the	three	big	books	on the shelf

NOTES TO CHAPTER IV : NOMINAL SYNTAGMS

1. A nominal such as "gold", "milk", "water", etc., cannot perhaps be determined by a numeral. Nominals of this type may be called "generic", and may be described in terms of the following model:

$$\left.\begin{array}{l}[\text{article}]\\ [\text{adjective}]\\ [\text{supplement}]\end{array}\right] \longrightarrow \text{"generic nominal"}$$

2. Note that "nominal determinants" are expressed by ordinary nominals, and this, in certain constructions, may cause some ambiguity in regard to the message conveyed. For instance, a syntagm such as "a big table lamp" may convey two functionally different messages: (a) "a big lamp of a table", or (b) "a lamp of a big table". According to the first message the syntagm is analysable in the following manner:

$$\left.\begin{array}{ll}\text{"art."} & [\text{a}]\\ \text{"num."} & [\emptyset]\\ \text{"adj."} & [\text{big}]\\ \text{"sup."} & \emptyset\end{array}\right] \longrightarrow (\,[\text{table}] \longrightarrow \text{lamp})\ \text{"nom. sing."}$$

And according to the second message the syntagm is analysable as follows:

$$\left.\begin{array}{ll}\text{"art."} & [\text{a}]\\ \text{"num."} & [\emptyset]\\ \text{"adj."} & \emptyset\\ \text{"sup."} & \emptyset\end{array}\right] \longrightarrow (\,[\,[\text{big}] \longrightarrow \text{table}\,] \longrightarrow \text{lamp})\ \text{"nom. sing."}$$

PART FOUR

CHAPTER I : THE PREDICATIVE SYNTAGMS COMPARED

1. Introduction

Throughout the history of linguistics, scholars have tended to oscillate between two extreme views: those who believe that languages, from the point of view of linguistic descriptions, are essentially different and that points of similarity are trivial and/or accidental; and those who take an entirely opposite view. Functionalists in general, and axiomatic functionalists in particular, who lay great emphasis on a clear-cut distinction between theory and descriptions, are among the strongest current representative upholders of the first view. "Jakobsonians" (those who have great faith in Jakobson's universal inventory of binary distinctive features from which the phonemes of any language may derive their distinctive features) in general, and "transformationalists" in particular are among the strongest believers in the second view.

For a valid and explicit comparison between two, or more languages, or rather between the structures of those languages, from an axiomatic functionalist point of view, it is not only important but also essential that one and the same linguistic theory is used in the descriptions of those languages. Otherwise, one could not make sure whether the comparison is drawn on the theory level, on the description level, or on a mixture of the two.

In this part of the thesis, comparisons will be drawn between the structure of English and that of Kamali Arabic which have both been set up earlier in this work. By adopting an axiomatic funtionalist

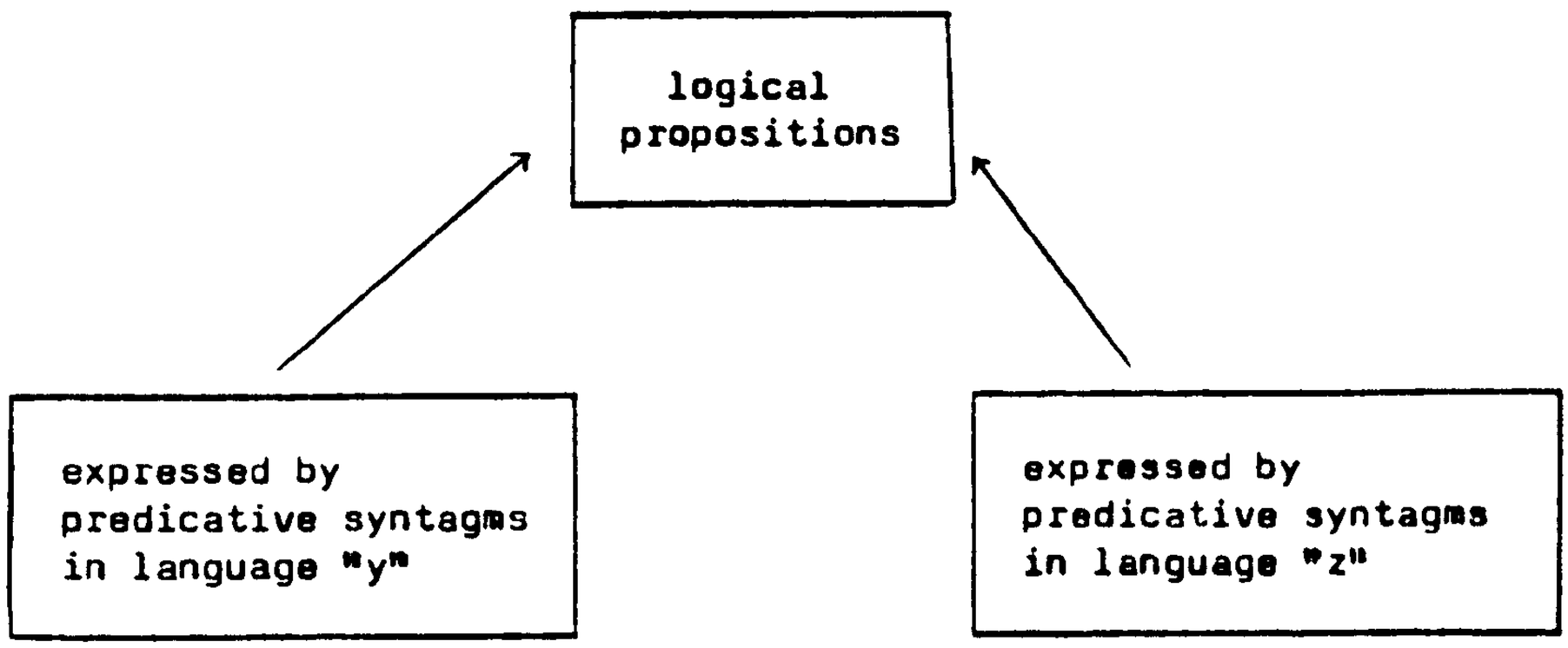
point of view in the descriptions of the two languages in question, one expects that attention will be automatically centered on differences rather than similarities. This, however, should not be taken to imply that points of similarities will, in any way, be overlooked or overshadowed in favour of points of differences, or vice versa. Rather, points that are strikingly different or strikingly similar will be listed and discussed in the most objective way possible; and this will leave the importance or the triviality of those points speak for themselves. Linguistic descriptions, after all, are expected to be "different" in as far as they are the result of the application of a particular linguistic theory to <u>different</u> fields of speech phenomena. They are, of course, expected to be "similar" insofar as they make reference to the same theoretical principles and meta-models.

Generally speaking, precision in comparisons of this kind is not easy to achieve, and so the comparisons will remain somewhat global and imprecise. This is due, among other reasons, to the lack of a well-formed methodology by the aid of which a comparison can be clearly drawn on the one hand, and perhaps to the vast difference in the history of the two languages under comparison on the other.

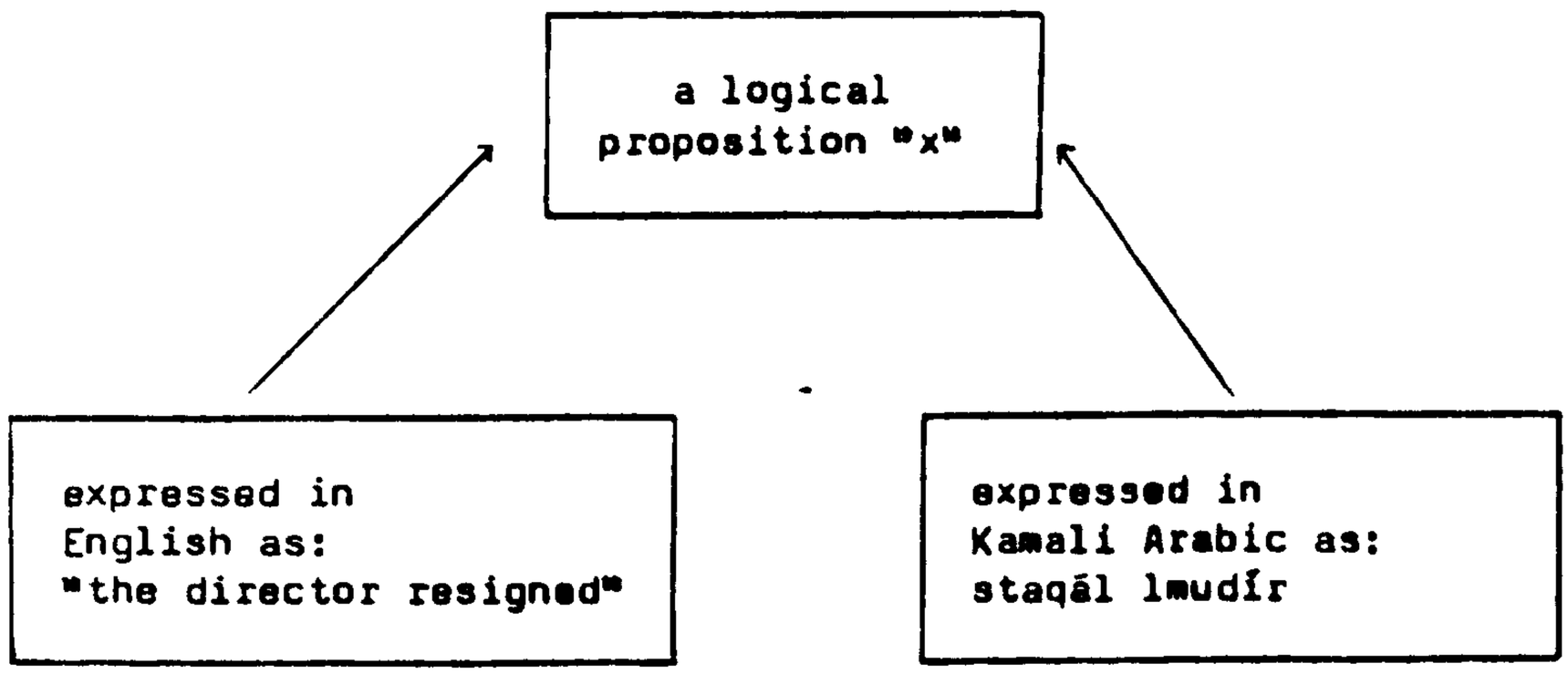
The comparisons will be carried out starting with the predicative-based syntagms, as a whole, and proceeding down to comparing the constituents of those syntagms. The main reason for choosing to do so is the underlying assumption that it is perhaps via predicative-based syntagms, rather than others, that one is more likely to find a constant point of reference with which predicatives in the two languages may be correlated, and consequently feasibly compared.[1]

Predicative-based syntagms, by virtue of their being bases (see page 18) for sentences, have the potential to serve as expressions for logical propositions. And since one and the same logical

proposition may be expressed by two different predicative syntagms conveying very similar, or possibly identical, messages in the two languages, logical propositions shall be taken as our basic point of reference for the comparisons of structures in English and Kamali Arabic. The following scheme clarifies the relations between logical propositions and predicative-based syntagms:



A single logical proposition "x" may be expressed by two predicative syntagms in the two languages under comparison:



The latter scheme represents an instance of the former. The syntagms "the director resigned" and "staqāl lmudĬr" convey the same communicative

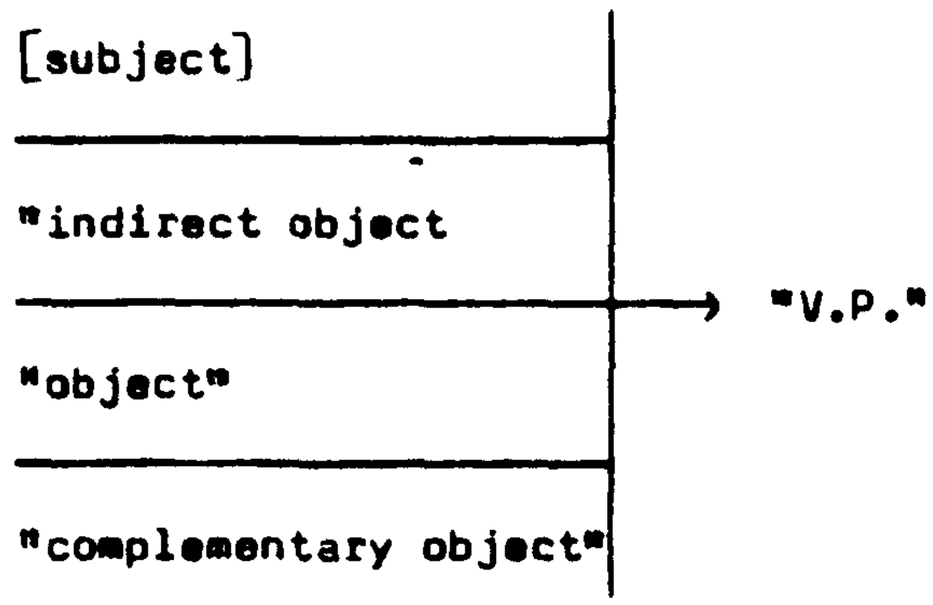
message to which the logical proposition "x" corresponds. With the above schemes as a background, the comparisons will be drawn starting with the predicative-based syntagms in the two languages.

2. The Verbal Predicative-Based Syntagms Compared

Terms such as "intransitive", "non-transitive", "transitive" etc., have been used by Mulder for labelling different structures of verbal predicative-based syntagms in English. Similar terms, in this work, have also been used for labelling certain predicatives in Kamali Arabic. The major points of difference and similarity that may be established between the above mentioned types of syntagms are as follows:

Differences

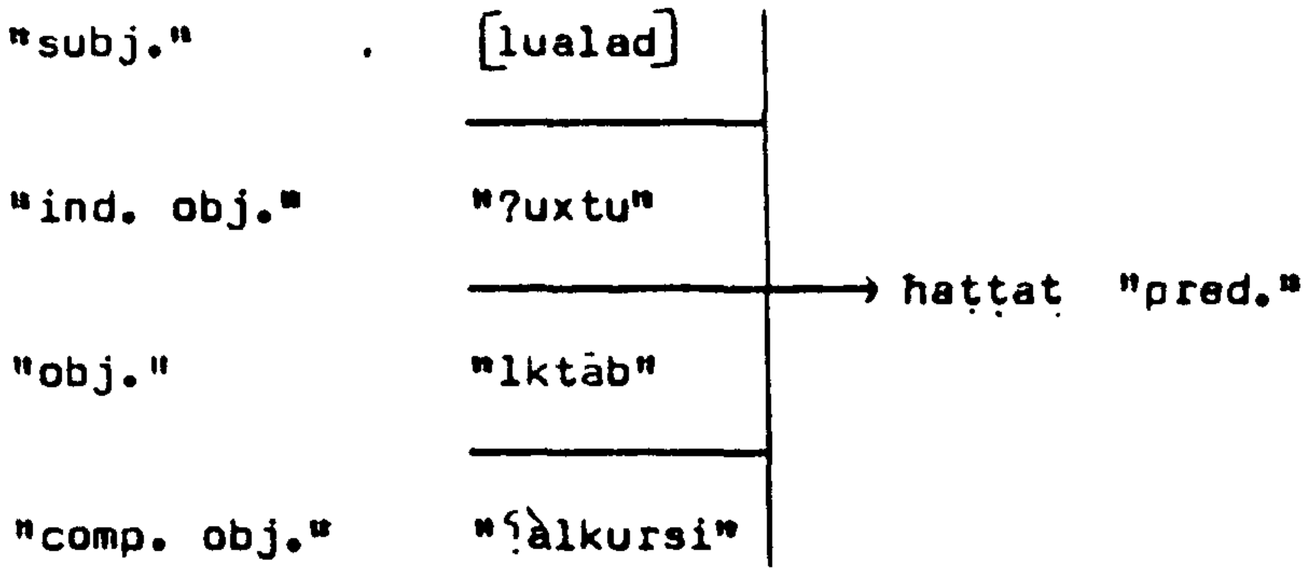
The inventory of the predicative-based syntagms "intransitive", "non-transitive", "transitive", etc. in English is different from the inventory of the predicative-based syntagms in Kamali Arabic. The importance of the difference lies not only in the number of syntagms in each, but also in the syntactic make-up of the syntagms belonging to the inventories of the predicative-based syntagms in these two languages. Kamali Arabic has, for instance, a type of syntagm called "indirect complementary transitive" the structure of which is as follows:



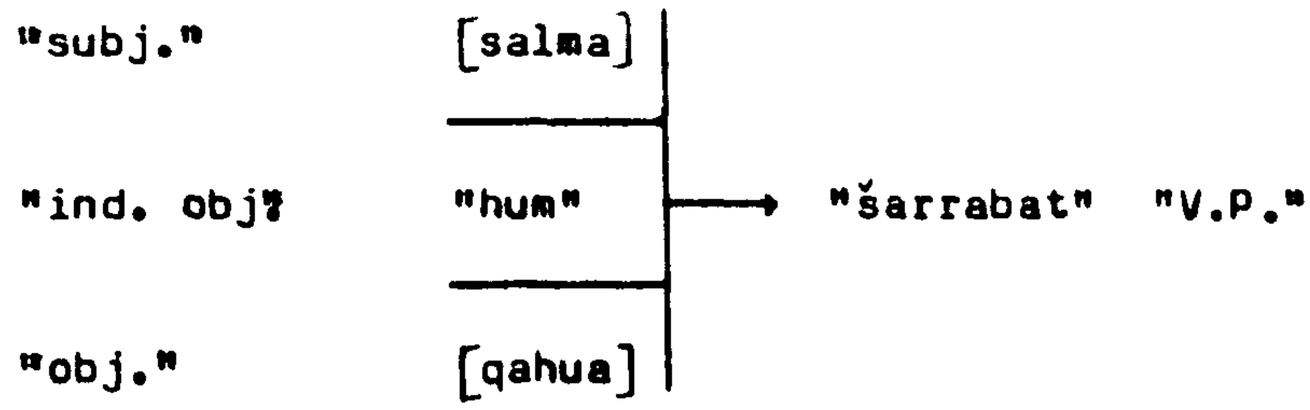
K.A. (V.P.B10)

A syntagm like "lualad ħaṭṭaṭ ʔuxtu lktāb ʕalkursi" (the boy made his

sister put the book on the chair) provides an example for filling the positions in the above model:

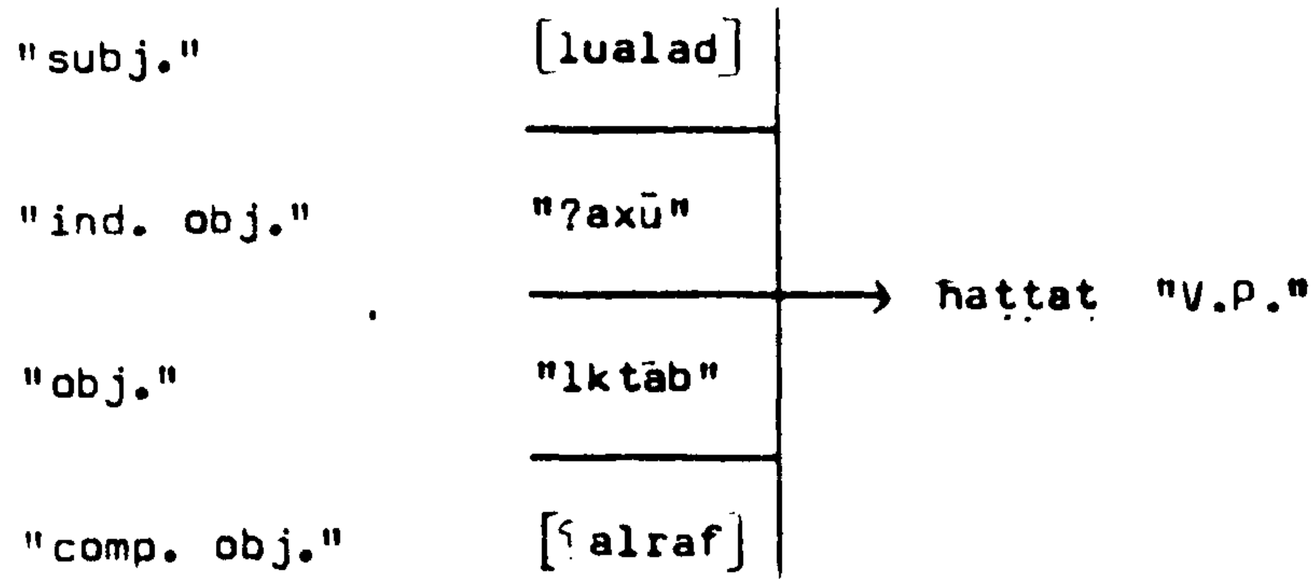


A structure of the above type does not seem to belong to the inventory of predicatives in English nor, therefore, does it partake in opposition with any of the members of that inventory. Similar considerations apply to the syntagm "indirect non-transitive" (V.P.87) which is a member of the inventory of the predicative-based syntagms in Kamali Arabic. An example of this type of syntagm is the construction "salma šarrabat-hum qahua" (Salma made them drink coffee) or (Salma gave them coffee to drink) which is represented as follows:



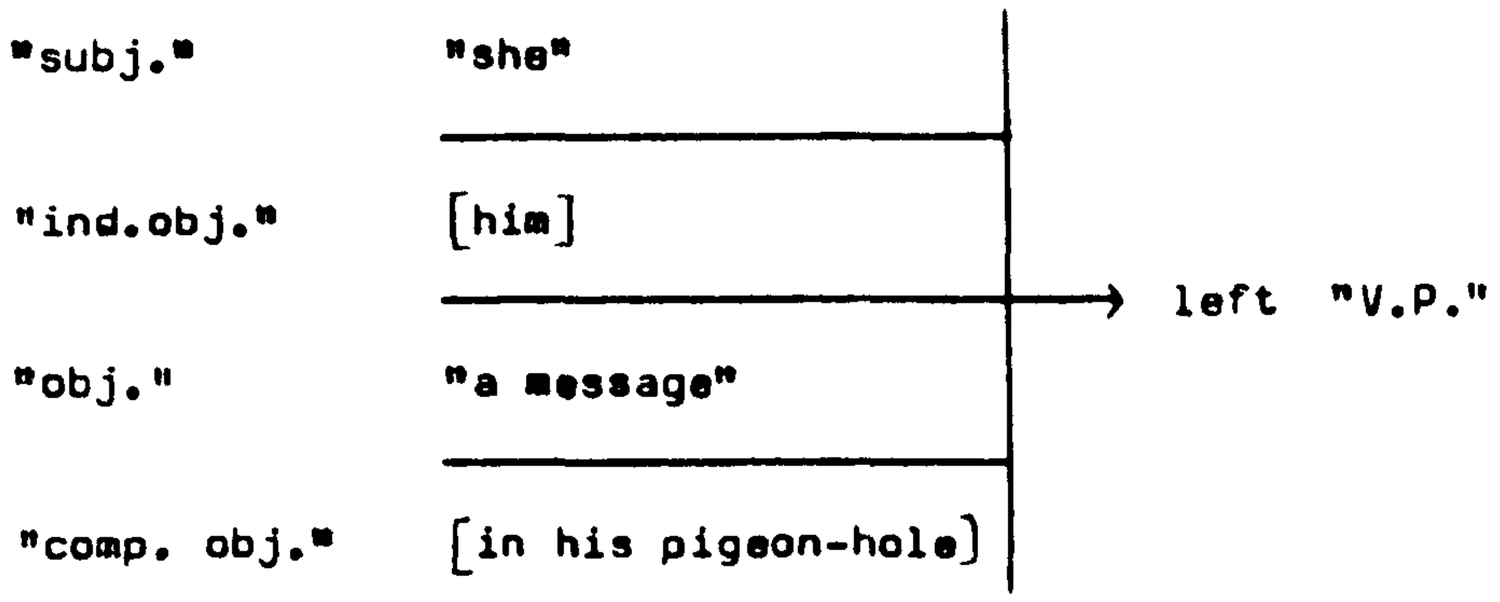
K.A. (V.P.87)

Another type of structure which exists in Kamali Arabic but not in English is the "indirect non-complementary transitive" (V.P.B11) which is instantiated by the syntagm "lualad ħaṭṭaṭ ʔaxū lktāb ʕalraf" (the boy made his brother <u>leave</u> the book on the shelf). This is represented as follows:



K.A. (V.P.B11)

Similarly, the "non-direct non-complementary transitive" (V.P.B13) which belongs to the inventory of the verbal predicative-based syntagms in English, does not seem to exist in Kamali Arabic. The syntagm "she left him a message in his pigeon-hole" provides an example of this syntagm. It is represented as follows:



E. (V.P.B13)

As to the differences in the syntactic make-up of the predicative-based syntagms in the two languages we notice:

a) Certain constituents in them may contract different occurrence dependencies. The subject/predicative occurrence dependency relations in English, for instance, is different from that of the subject/predicative in Kamali Arabic. (More details and examples about the subject and its dependencies in the two languages are to follow in a separate section.)

b) Certain positions in them may be filled by constituents that have different syntactic structures, e.g. the nominals occupying

the subject and/or the object positions in them. (More details and examples, about the syntactic structures of the nominals in the two languages are to follow in chapter III). Similarly, the nuclear positions in them may be filled by verbal predicatives that have different syntactic structures. (More details and examples about this are to follow in the succeeding section.)

c) The constituents in certain predicative-based syntagms may succeed one another in different sequential orders in the two languages. Thus, while in the "transitive" syntagm in English, for instance, the constituents succeed one another in the strict order:

subject - predicative - object

In Kamali Arabic, the constituents may be arranged in one of the following sequences:

predicative - subject - object

predicative - object - subject

or

subject - predicative - object

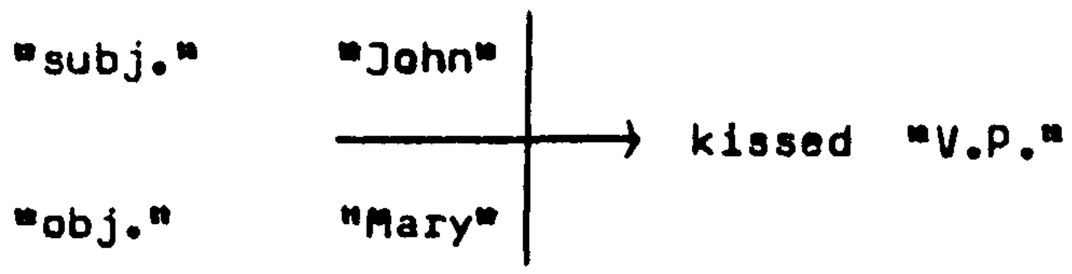
Similarities

a) The verbal predicative-based syntagms in the two languages are similar in as far as the constituents in them exhibit similar functional dependency relations. That is, all the verbal predicative-based syntagms in English are sub-ordinative syntagms, and so are all the verbal predicative-based syntagms in Kamali Arabic. They are also similar in that the peripheral elements in them are sub-ordinated to verbal predicative nuclei.

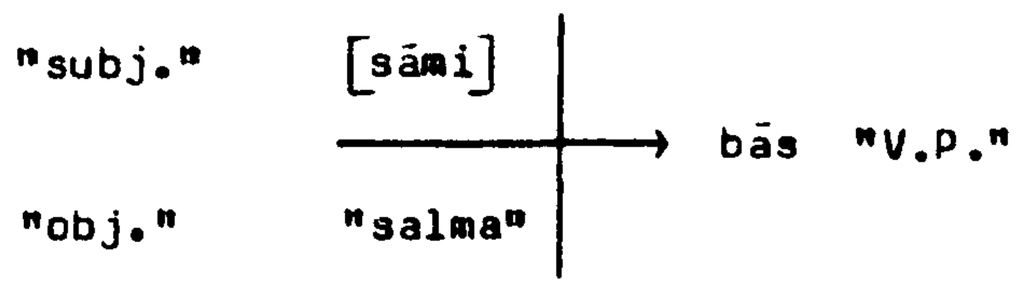
b) Positions such as "subject" and "object" in the two languages may be filled by "nominals" that have similar, or possibly identical, denotations. Certain nuclear verbs may also have identical denotations in the two languages.

c) Certain constituents in certain verbal predicative-

based syntagms, in the two languages, may contract similar occurrence dependencies. The object in the "transitive" syntagms in English, for instance, holds a bilateral occurrence dependency with the predicative nucleus, and so does the "object" in the "transitive" syntagm in Kamali Arabic. Another point of similarity that may be established between the "transitive" syntagms as a whole, for instance, is that they are both self-contained bundles of three positions. The two transitive syntagms in the two languages, with examples, are the following:



E. (V.P.B3)



K.A. (V.P.B5)

The syntagm "John kissed Mary" fills up the positions in the first model, and "sàmi bās salma" (Sami kissed Salma), in the second. Other syntagms similar in this respect (i.e. having equivalent number of positions, and the objects in them exhibit[19] similar occurrence dependency relations) are the "non-transitive", "complementary transitive", "complementary intransitive" and many others.

d) The peripheral constituents in the verbal predicative-based syntagms (i.e. the subject and the objects) are similar in the two languages in as far as they both exhibit relations of diverse determination with respect to the verbal predicative nuclei.

The tables below show the differences and the similarities between the verbal predicative-based syntagms in the two languages under comparison. The symbol x indicates a free nucleus, "x" actualized nucleus, + a bound peripheral, [+] an expansion, and " [+] " <u>either</u> bound <u>or</u> an expansion.

ENGLISH

	Pred.	Subj.	Obj.	Ind. Obj.	Comp. Obj.	Page
Intransitive	"x"	+	0	0	0	175
Non-transitive	"x"	+	[+]	0	0	176
Transitive	"x"	+	+	0	0	177
Non-direct Non-transitive	"x"	+	[+]	[+]	0	183
Non-direct transitive	"x"	+	+	[+]	0	180
Optional Indirect Transitive	"x"	+	"[+]"	"[+]"	0	187
Indirect Transitive	"x"	+	+	+	0	178
Non-complementary Intransitive	"x"	+	0	0	[+]	186
Complementary Intransitive	"x"	+	0	0	+	182
Non-complementary Transitive	"x"	+	+	0	[+]	184
~~Optional Complementary Transitive~~	~~"x"~~	~~+~~	~~"[+]"~~	~~0~~	~~"[+]"~~	189
Complementary Transitive	"x"	+	+	0	+	179
Non-direct Non-Complementary Transitive	"x"	+	+	[+]	[+]	190

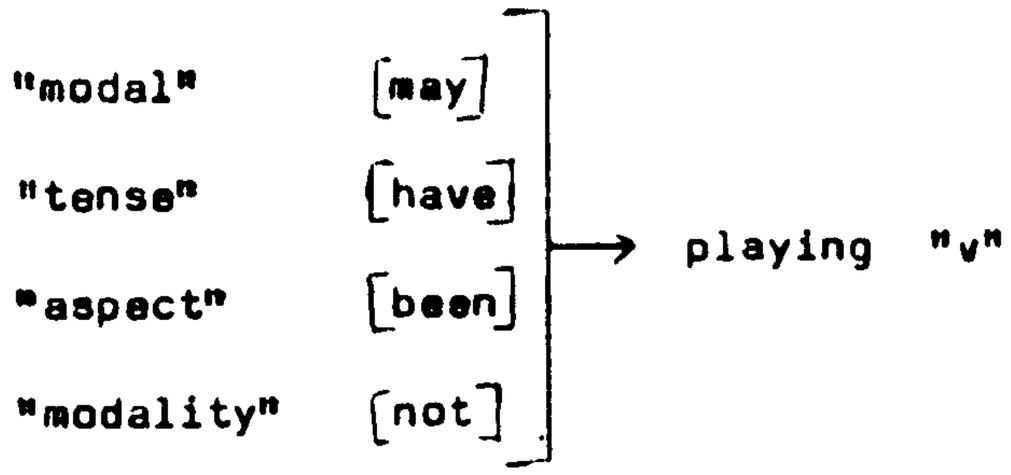
KAMALI ARABIC

	Pred.	Subj.	Obj.	Ind. Obj.	Comp. Obj.	Page
Intransitive	x	[+]	0	0	0	72
Non-transitive	x	[+]	[+]	0	0	73
Transitive	"x"	[+]	+	0	0	77
Non-direct Non-transitive	x	[+]	[+]	[+]	0	75
Indirect Non-transitive	"x"	[+]	[+]	+	0	79
Non-direct Transitive	"x"	[+]	+	[+]	0	87
Optional Indirect Transitive	"x"	[+]	"[+]"	"[+]"	0	88
Indirect Transitive	"x"	[+]	+	+	0	92
Non-complementary Intransitive	x	[+]	0	0	[+]	74
Complementary Intransitive	"x"	[+]	0	0	+	78
Non-complementary Transitive	"x"	[+]	+	0	[+]	80
Optional Complementary Transitive	"x"	[+]	"[+]"	0	"[+]"	91
Complementary Transitive	"x"	[+]	+	0	+	82
Indirect Non-complementary Transitive	"x"	[+]	+	+	[+]	85
Indirect Complementary Transitive	"x"	[+]	+	+	+	83

3. The Verbal Predicative Syntagms Compared

Syntactic complexes have been attested in the nuclear positions of the verbal predicative-based syntagms in both English and in Kamali Arabic. The models set up to account for instances of the nuclear syntagms in questions, with examples projected onto them, are as follows:

English (1)



Kamali Arabic (2)

"aux"	"v"
"kān" ⟶	iḭilʕab

The syntagms "may not have been playing", and "kān iḭilʕab" (ḥe - it - was playing), fill up the positions in the first and in the second models respectively.

Following are the major points of difference and similarity that may be established between the verbal predicative syntagms in the two languages.

Differences

a) The first structure is a self-contained bundle of five immediate constituents, while the second is a self-contained bundle of two only.

b) The above difference implies that there is a difference in regard to the syntactic capacity of the nucleus in each. Thus, while the verbal nucleus in English is capable of governing the tactic functions of four peripheral immediate constituents, the verbal

nucleus in Kamali Arabic can govern the tactic function of one peripheral only.

c) In all the predicative-based syntagms in English, structure (1), as a whole, must be "actualized" by, at least, one peripheral constituent, while structure (2), as a whole, may figure as a "free" nucleus in some predicative-based syntagms (e.g. intransitive, non-transitive) in Kamali Arabic.

d) The verbal nucleus in Kamali Arabic, but not in English, incorporates within its form an element that indicates the subject of the syntagm (see page 59).

Similarities

a) The verbal predicative syntagms are similar insofar as they constitute sub-ordinative constructions.

b) The verbal nuclei in them are "free". This implies that the peripheral elements governed by them are expansions.

c) The verbal nuclei in them may have similar, or possibly identical denotation.

d) The constituents in them may succeed one another in a similar sequential order. In both languages the peripheral constituents precede the nuclei.

4. The Subjects Compared

Following are the major points of difference and similarity that may be established between the subjects in the verbal predicative based syntagms in English and Kamali Arabic.

Differences

a) The subject in English is a bound peripheral, whereas in Kamali Arabic it is a peripheral expansion. This implies that there is a difference in the occurrence dependencies of the two subjects; in English there is a bilateral occurrence dependency

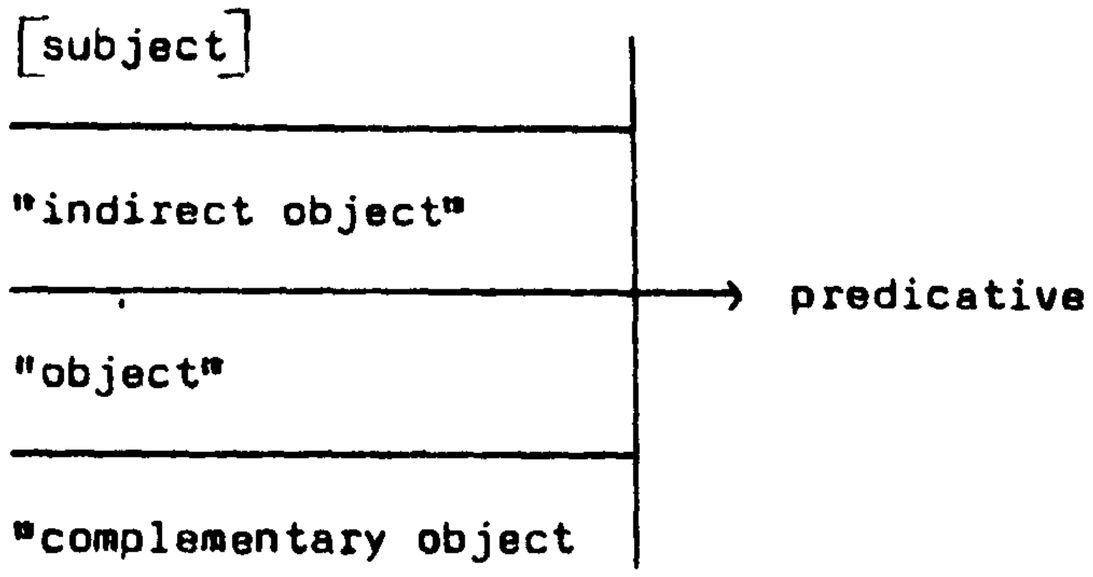
between the subject and the predicative (i.e. the subject for its occurrence depends on the predicative and vice versa), and in Kamali Arabic there is a unilateral occurrence dependency between the subject and the predicative (i.e. the subject, for its occurrence, depends on the predicative but not vice versa). A further difference implied by the above statements is that the subject in English is sub-ordinated to an actualized predicative nucleus, whereas in Kamali Arabic it is sub-ordinated to a free predicative nucleus. The models for the "intransitive" syntagms, with examples projected onto them are as follows:

"subj."	"V.P."	"subj."	"V.P."
"the manager"	⟶ died	[lmudīr]	⟶ māt

The syntagms "the manager died" and "māt lmudīr" (the manager died) fill up the positions in the first and in the second models respectively.

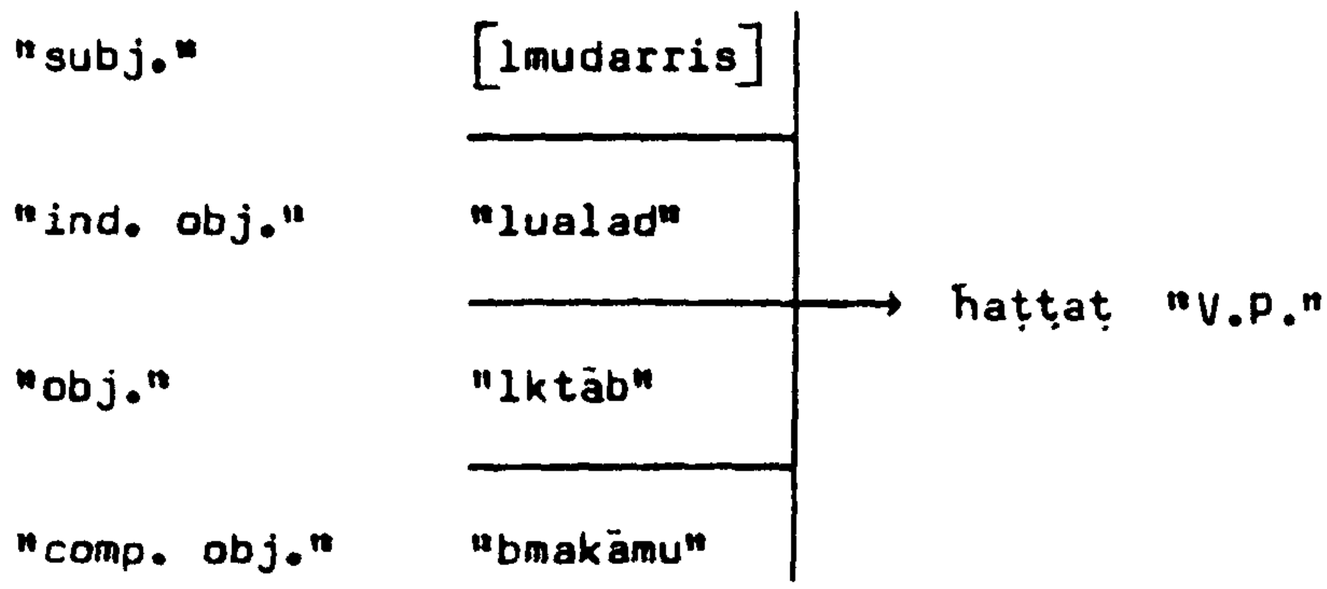
b) The subjects in the two languages are different insofar as they have different internal structures. That is, the structure of a nominal syntagm that may occupy the subject position in a syntagm in English, is different from the structure of a nominal syntagm that may occupy the subject position in a syntagm in Kamali Arabic. (For such a difference see section 9 of the present chapter.)

c) As an external property of "subject" (i.e. its tactic functions within a predicative syntagm), one notices that "subject" in one language may enter in a self-contained field of relations (i.e. a syntagm) to which no similar syntagm in the other language corresponds. For instance, in Kamali Arabic the "subject" may figure as an immediate constituent within what was called the "indirect complementary transitive" whose structure is as follows:

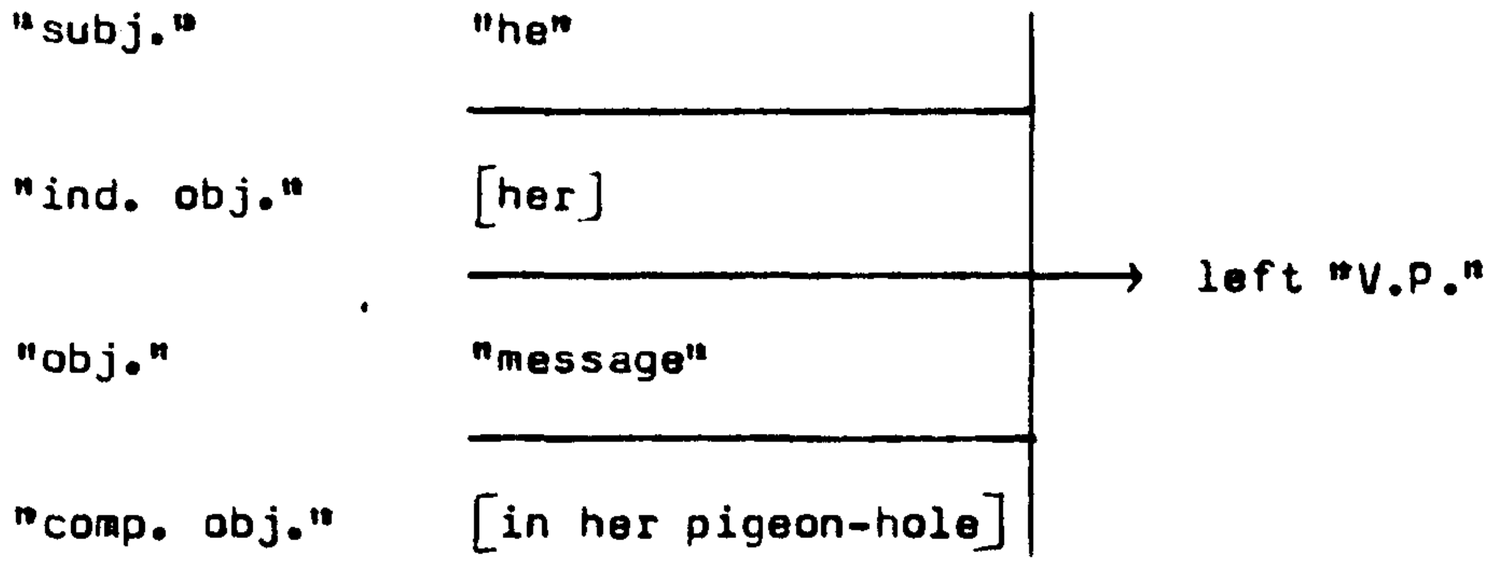


K.A. (V.P.810)

A syntagm such as "lmudarris ħaṭṭaṭ lualad lktāb bmakānu" (ṭhe teacher made ṭhe boy put ṭhe book in its place), provides an example for filling up the positions in the above model:



In English, the subject does not exhibit a syntactic function similar to that of the subject in the above model since the syntagm in question does not belong to the inventory of the verbal predicative-based syntagms in that language. Similar considerations also apply to the "indirect non-complementary transitive" (V.P.811) which exists in Kamali Arabic and not in English. The "non-direct non-complementary syntagm" (V.P.813), on the other hand, belongs to the inventory of the verbal predicatives in English, but not in Kamali Arabic. A construction such as "he left her a message in her pigeon-hole", provides an example of a V.P.813 syntagm which is projected onto the model in the following manner:



E. (V.P.813)

Similarities

a) The subjects in the two languages are similar insofar as they exhibit similar tactic funtions with respect to the predicative nuclei, i.e. each stands in a relation of sub-ordination to it.

b) The subjects in syntagms such as "transitive", "non-transitive", "indirect transitive", "complementary transitive", in the two languages, are similar insofar as they contract indirect tactic relations with the peripheral constituents "object ", "indirect object" and "complementary object". Objects in the above-mentioned syntagms in the two languages have similar occurrence as well as functional dependencies.

c) The subject positions in any of the verbal predicative-based syntagms in the two languages may be filled by nominals that have similar, or possibly identical, denotations.

d) Like the realization of the subject in English, the realization of the subject in Kamali Arabic may be restricted to its occurrence before the predicative nucleus (see page 59).

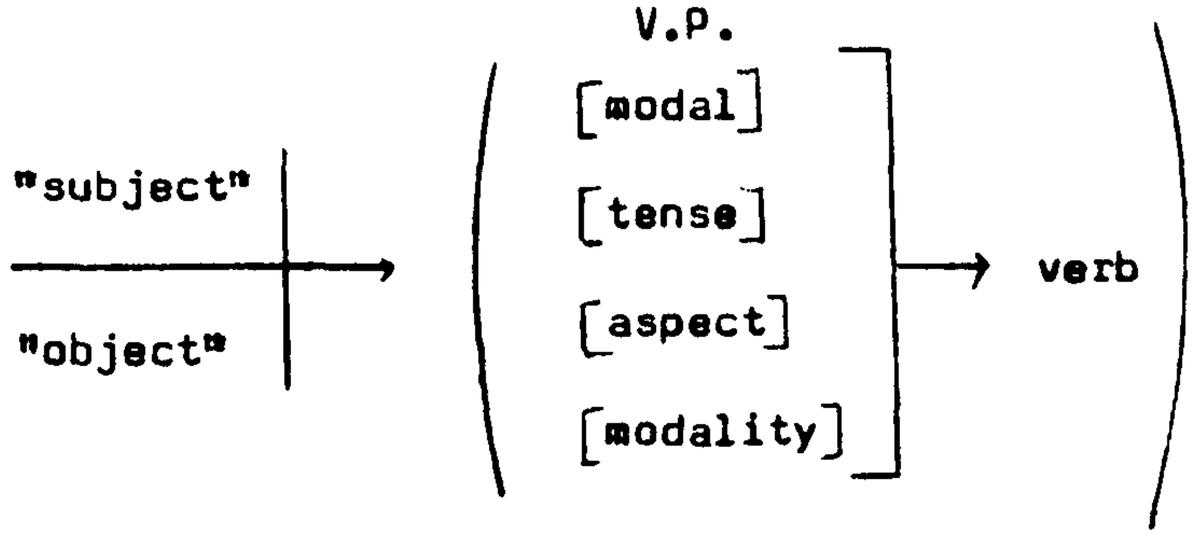
5. The Objects Compared

The three types of "object" that have been distinguished in the verbal predicative-based syntagms in both English and Kamali Arabic are: "object", "indirect object", and "complementary object".

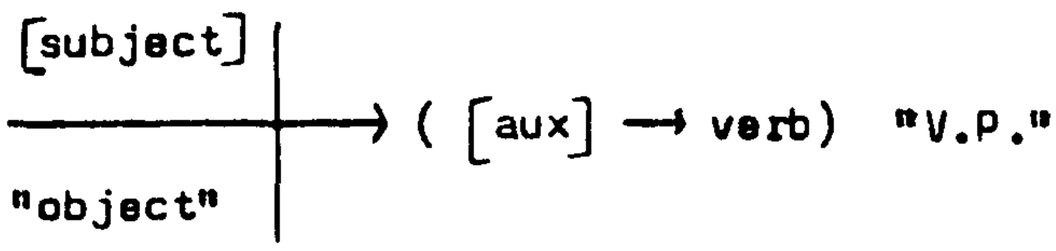
Differences

a) The objects in the two languages are different insofar as they contract functional dependency relations with two structurally different verbal predicative nuclei. The difference between the two verbal predicative nuclei is shown by the models below:

English (1)

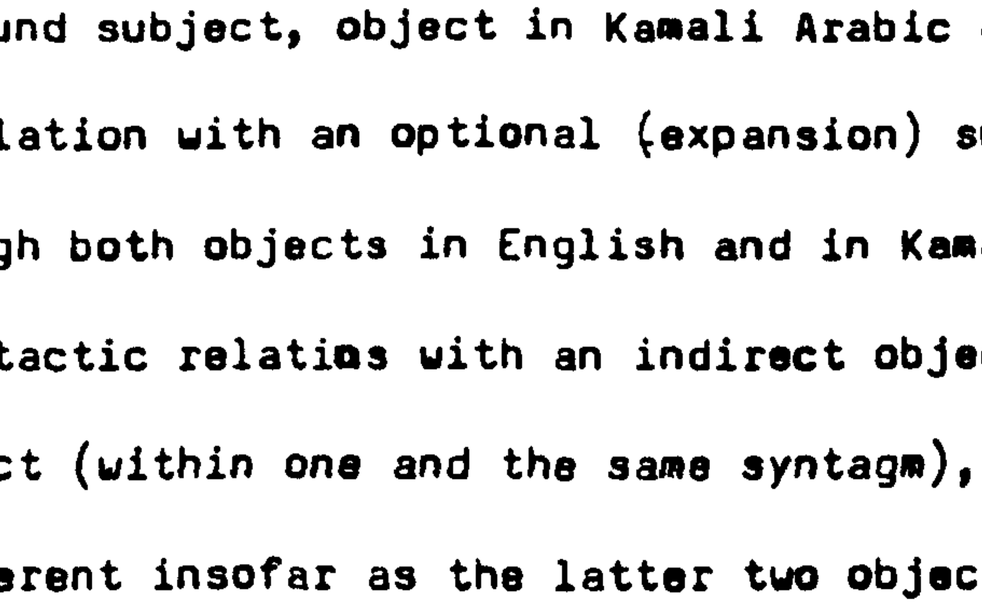


Kamali Arabic (2)

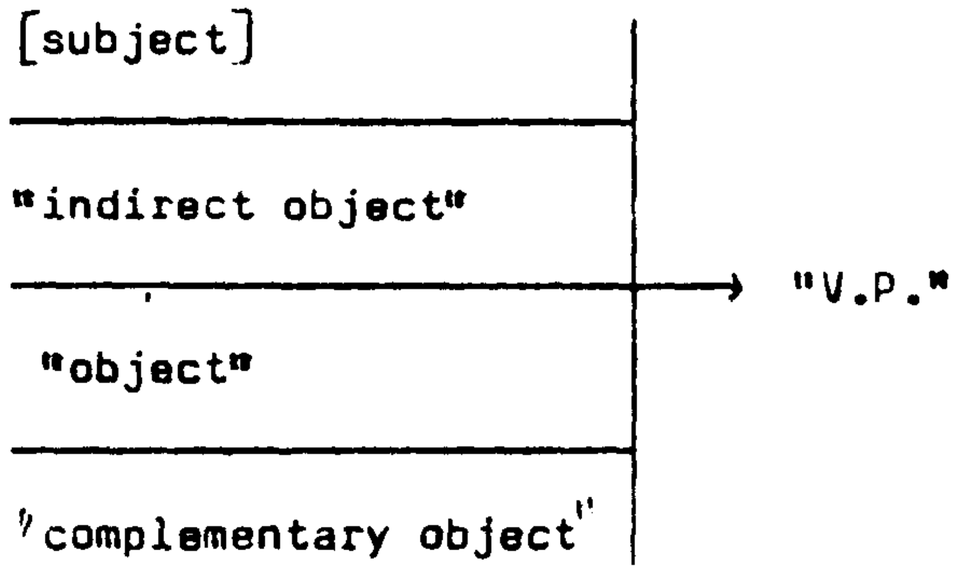


b) While object in English contracts an indirect tactic relation with a bound subject, object in Kamali Arabic contracts an indirect tactic relation with an optional (expansion) subject.

c) Though both objects in English and in Kamali Arabic contract indirect tactic relations with an indirect object and a complementary object (within one and the same syntagm), yet these relations are different insofar as the latter two object constituents are expansions in one language, and bound in the other, as shown by the models below:

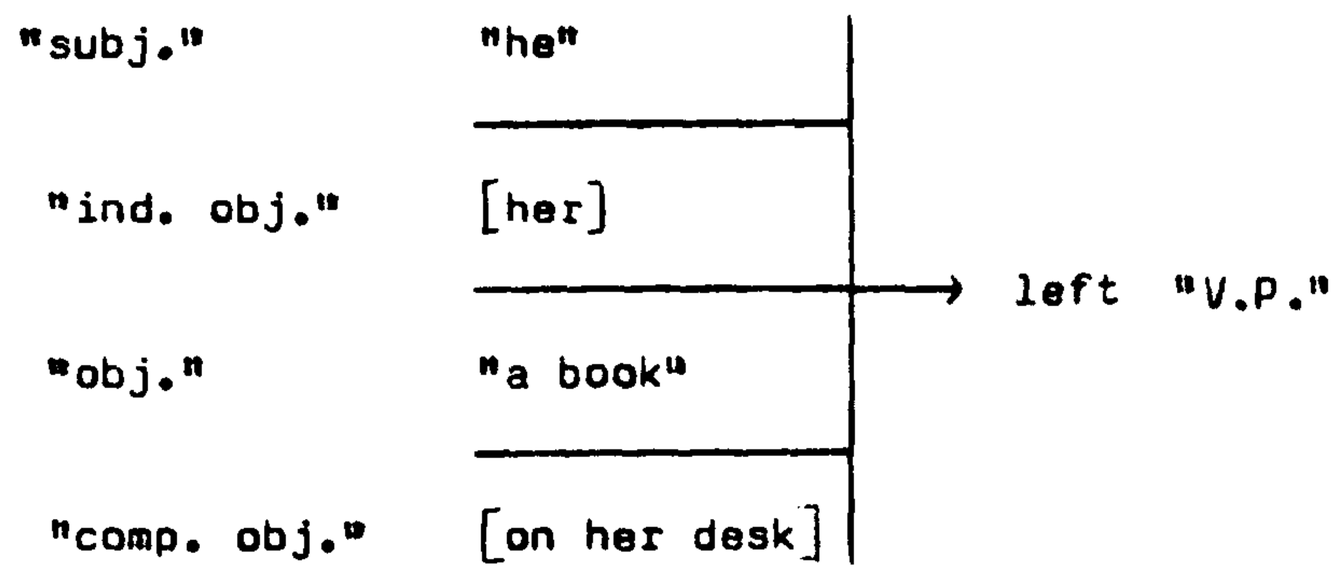


E. (V.P.813)

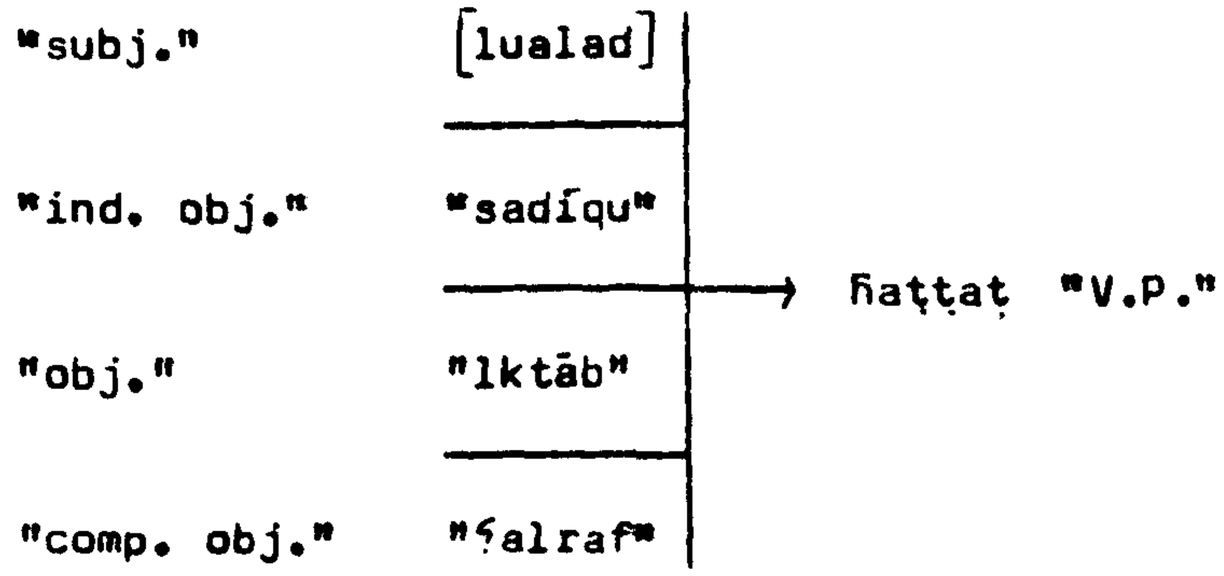


K.A. (V.P.810)

The syntagms "he left her a book on her desk", and "lualad ħaṭṭaṭ sadíqu lktāb ʕalraf" (ṭhe boy made his friend put ṭhe book on ṭhe shelf) fill up the positions in the previous models as shown:



E. (V.P.813)



K.A. (V.P.810)

d) While the occurrence of object in English is restricted (in three position syntagms) to the sequential order:

subject - predicative - object

Object in Kamali Arabic in similar syntagms (i.e. three position syntagms) may occur in sequences of the following type:

predicative - subject - object

predicative - object - subject

or

object - predicative - subject

Similarities

a) The objects in the two languages are similar insofar as they both actualize the verbal predicative nucleus as in the "transitive", "indirect transitive", "complementary transitive" syntagms in the two languages.

b) The objects in the two languages are similar insofar as they can figure as peripheral expansions, as in the "non-transitive" syntagms in both languages.

c) The objects are similar insofar as they may contract indirect tactic relations with indirect objects; as in the "indirect transitive" syntagms, and indirect tactic relations with complementary objects; as in the "complementary transitive" syntagms in the two languages.

d) The object positions in the two languages can be filled by nominals that may have similar, or possibly, identical denotations. Thus, "the boy" in "she saw the boy" and "lualad" (the boy) in "šāfat lualad" (she - it - saw the boy) have similar, or possibly, identical denotations.

e) The objects may occur in a similar sequential order in the two languages. Examples:

	Subject	-	Predicative	-	Object
English:	she		saw		the boy
Kamali Arabic:	hịia		šāfat		lualad
	(she		saw		the boy)

6. <u>The Indirect and the Complementary Objects Compared</u>

<u>Differences</u>

a) The indirect objects in the two languages are different insofar as they are sub-ordinated to different verbal predicative nuclei (see page 227). The same applies to the complementary objects in the two languages in question.

b) The indirect object in English contracts an indirect tactic relation with a bound subject, while in Kamali Arabic it contracts an indirect tactic relation with an optional (expansion) subject. The "indirect transitive" syntagms in the two languages show the difference:

"subject"
"indirect object" ⟶ "V.P."
"object"

E. (V.P.84)

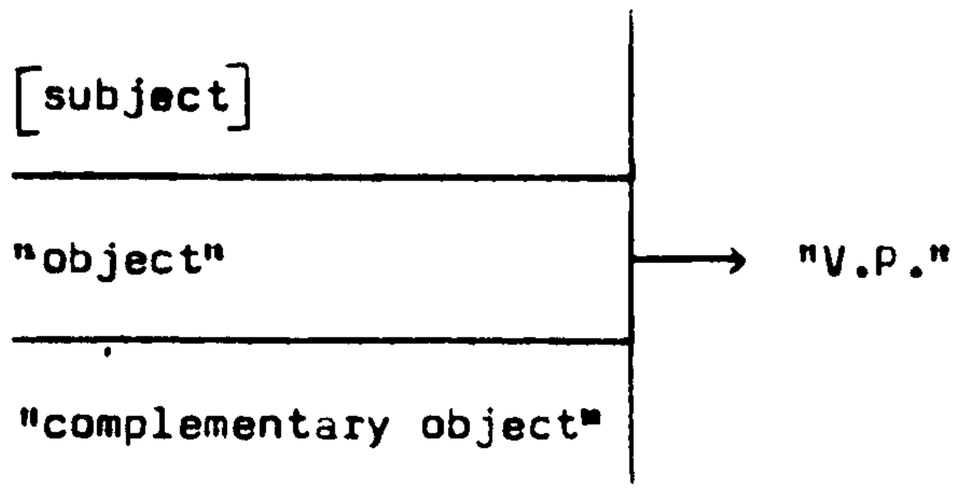
[subject]
"indirect object" ⟶ "V.P."
"object"

K.A. (V.P.815)

The same applies to the "complementary object" as shown by the "complementary transitive" syntagms in the two languages:

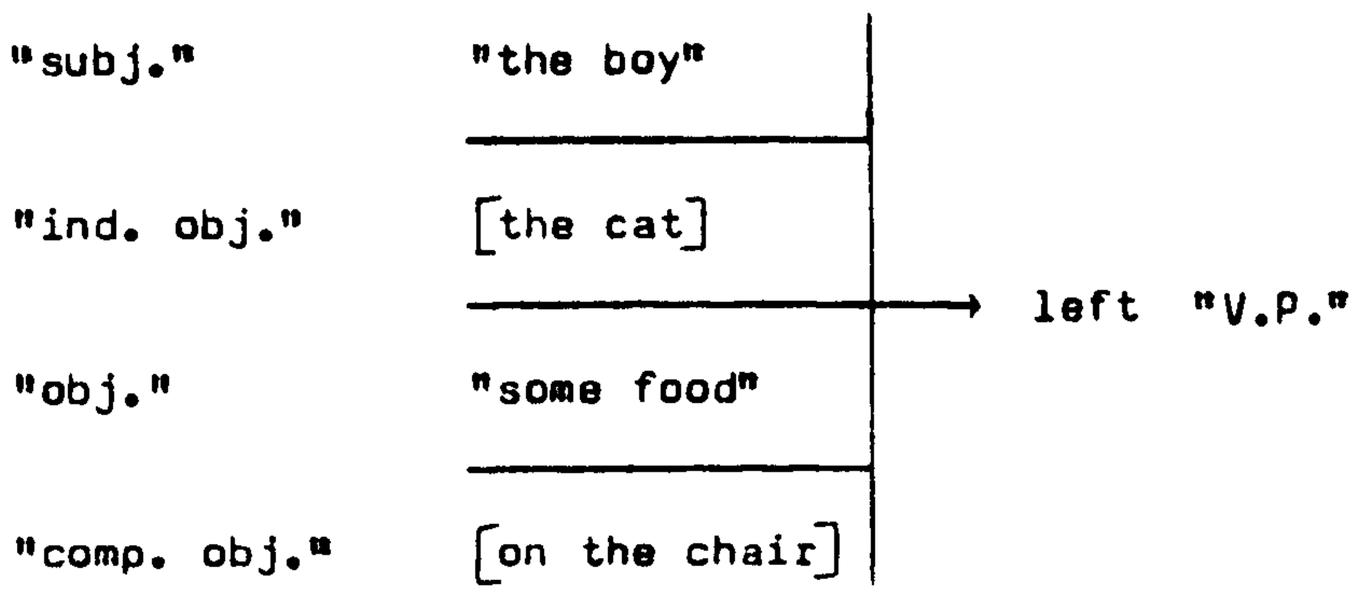
"subject"
"object" ⟶ "V.P."
"complementary object"

E. (V.P.85)

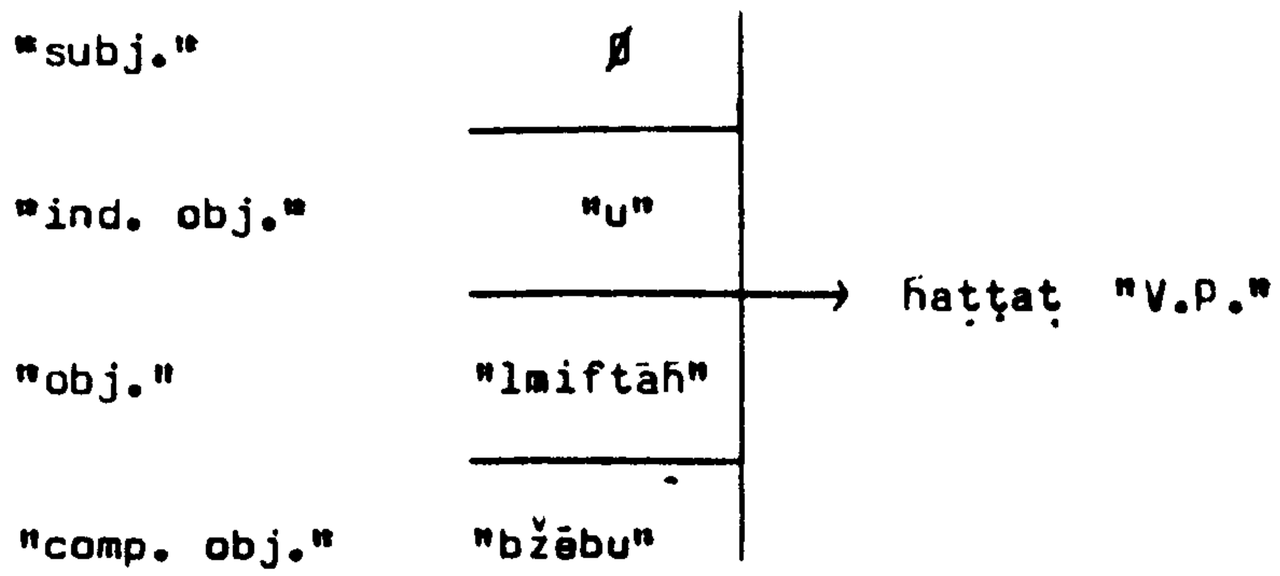


K.A. (V.P.89)

c) While both indirect objects in English and in Kamali Arabic contract indirect tactic relations with complementary objects the two indirect relations are different in that the terms partaking in the relations exhibit different occurrence dependencies as shown by the examples below:



E. (V.P.813)



K.A. (V.P.810)

Note that the indirect and the complementary objects "the cat" and "on the chair" are <u>expansions</u>, while "u" (him), and "bžēbu" (in his pocket) in "ħaṭṭaṭu lmiftāħ bžēbu" (he made him put the key in his pocket), are <u>bound</u>.

d) While the occurrence of the indirect object is restricted to the sequential order:

subject - predicative - indirect object - object

as in the syntagm:

"the boy gave his friend the book"

the indirect object in Kamali Arabic may occur in a sequence like:

predicative - subject - indirect object - object

as in the syntagm:

ʕaṭa	lualad	ṣadīqu	lktāb
(gave	the boy	his friend	the book)

Similar considerations apply to the complementary objects in the two languages as shown by the following examples:

English:

subject - predicative - object - comp. object

as in the syntagm:

he	put	the pen	on the table

Kamali Arabic:

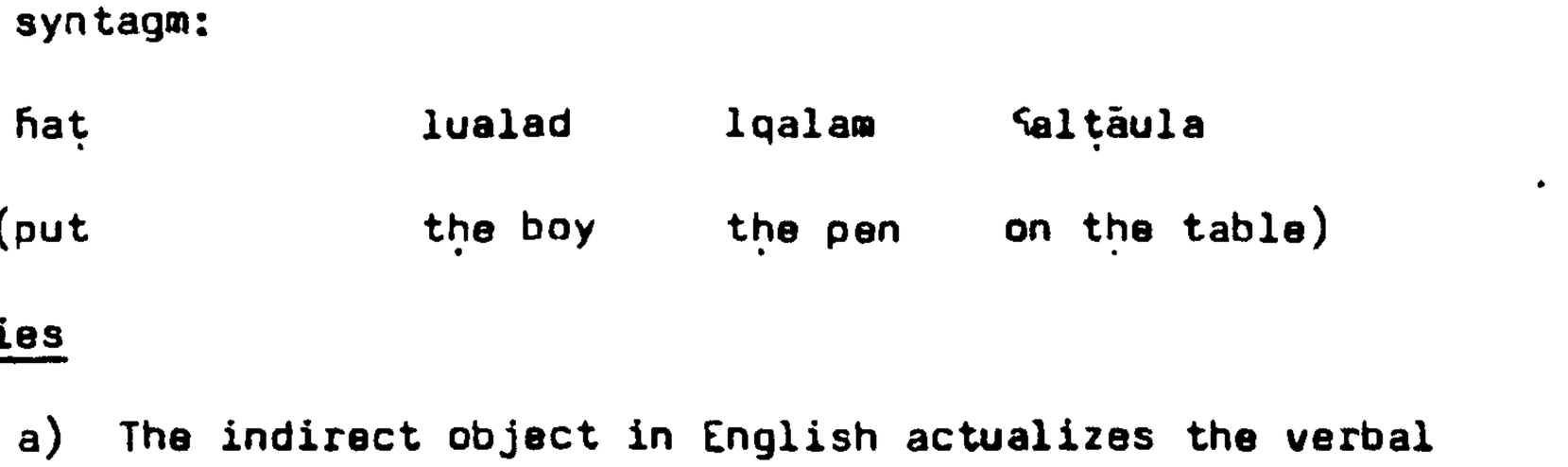
predicative - subject - object - comp. object

as in the syntagm:

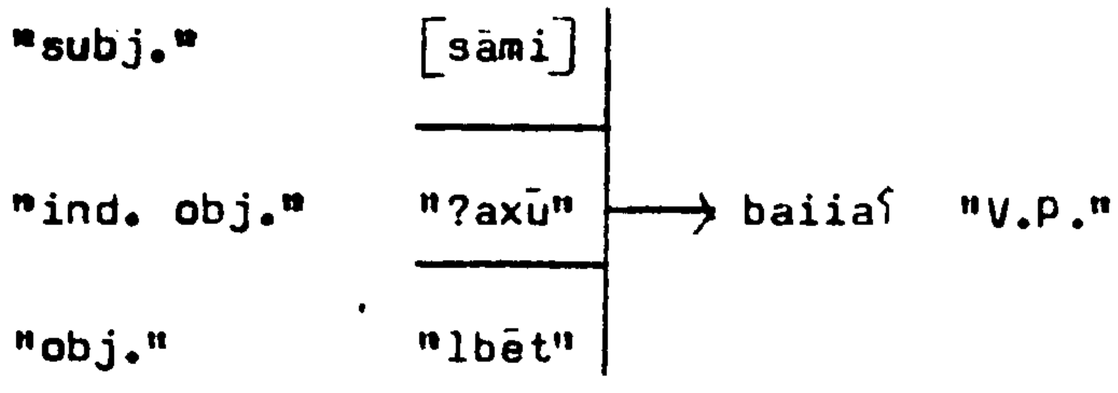
ħaṭ	lualad	lqalam	ʕalṭāula
(put	the boy	the pen	on the table)

Similarities

a) The indirect object in English actualizes the verbal predicative nucleus in, for instance, the "indirect transitive" syntagm, and so does the indirect object in Kamali Arabic as shown by the examples below:



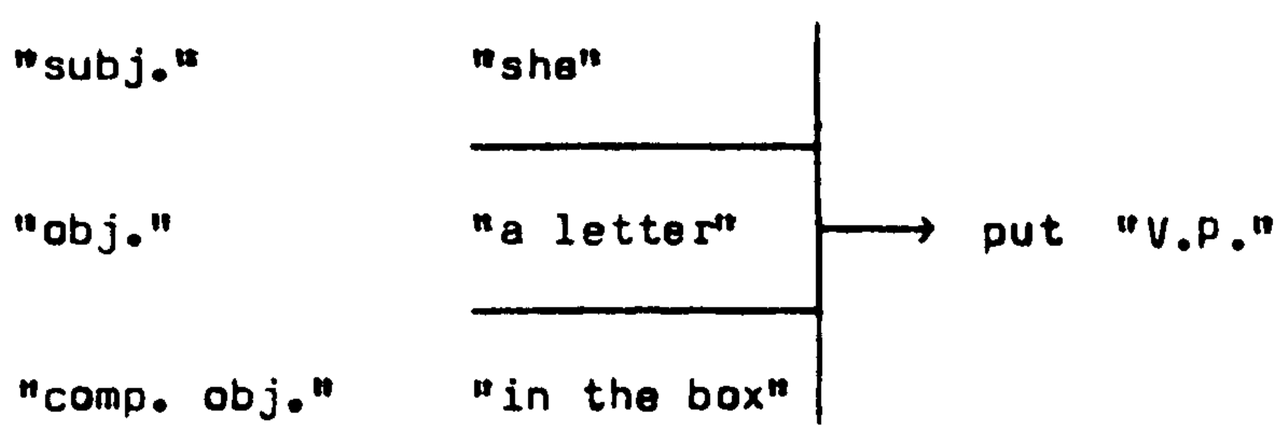
E. (V.P.B4)



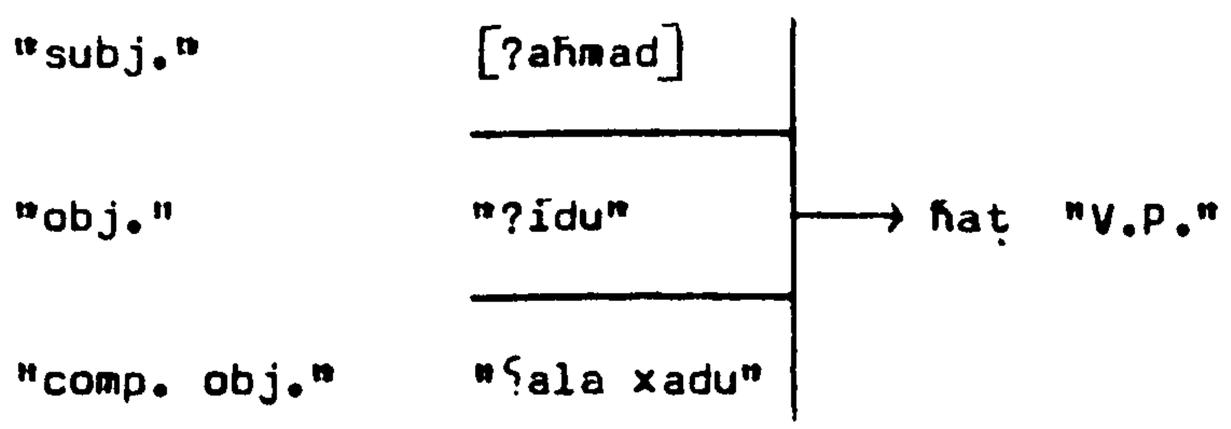
K.A. (V.P.B15)

The syntagms projected onto the models are: "he wished her a nice trip", and "sāmi baiiaʃ ʔaxū lbēt" (Sami made his brother sell the house).

The complementary objects may also actualize the verbal predicative nuclei as shown by the examples below:

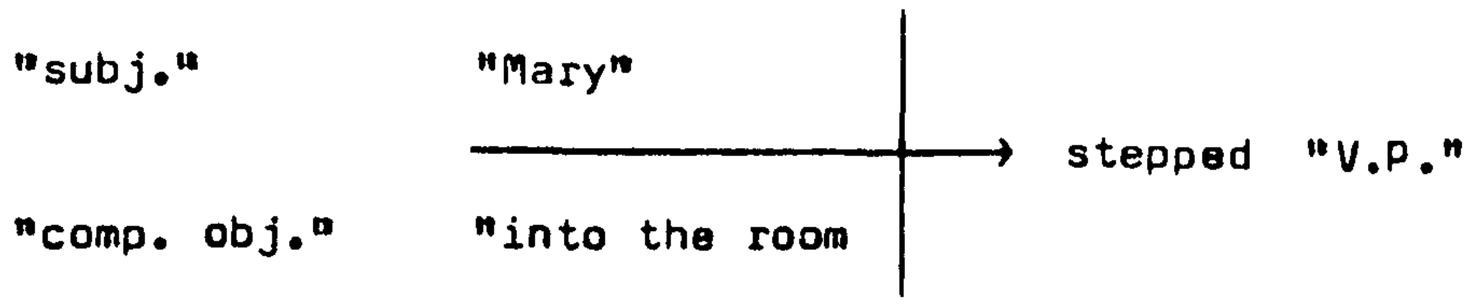


E. (V.P.85)

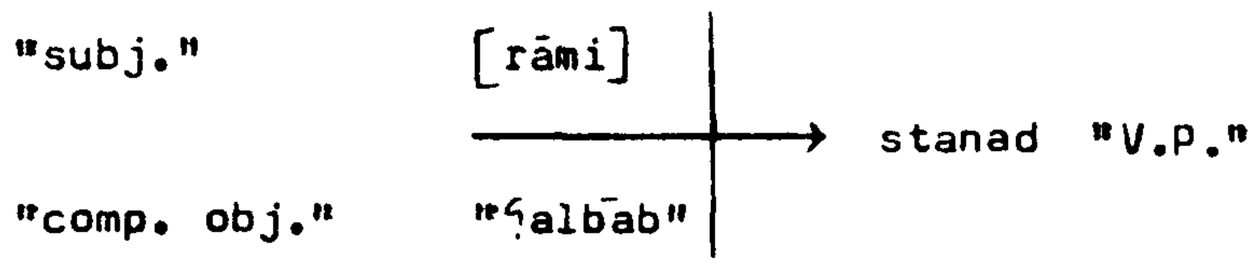


K.A. (V.P.89)

The syntagms projected onto the models are: "she put a letter in the box", and "ʔaħmad ħaṭ ʔīdu ʕala xadu" (Ahmad put his hand on his cheek). Other examples from the two languages in which the complementary objects actualize the verbal predicative are:



E. (V.P.87)

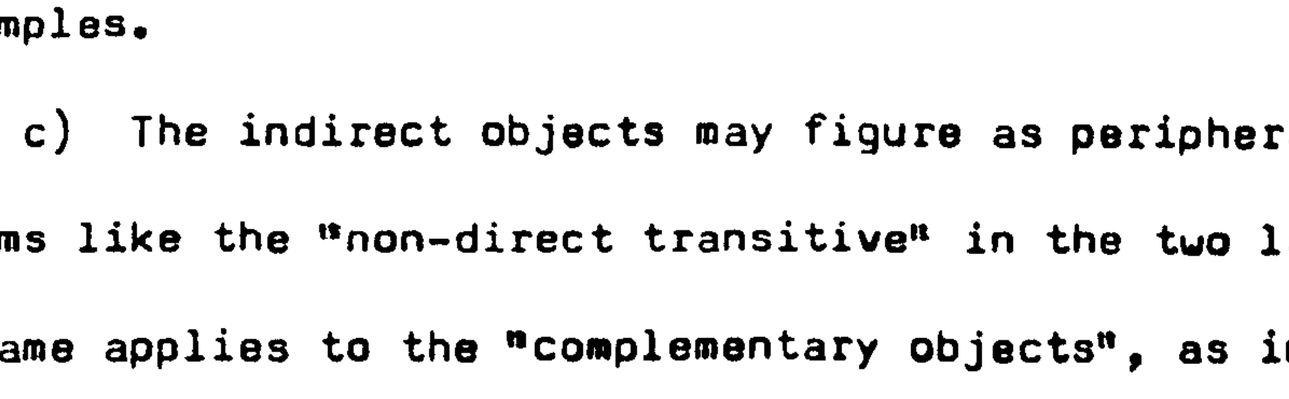


K.A. (V.P.86)

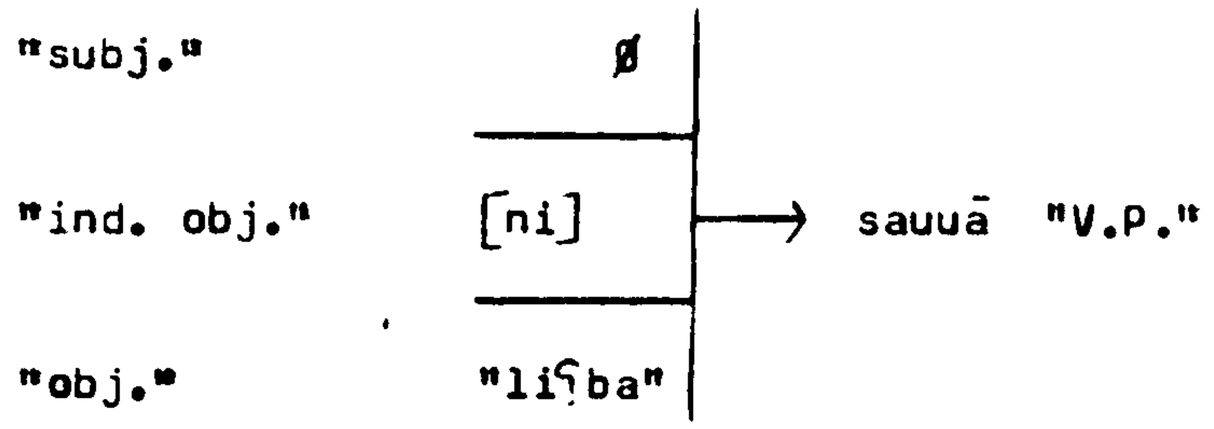
The syntagms projected onto the above models are: "Mary stepped into the room", and "rāmi stanad ʕalbāb" (Rami leaned against the door).

b) The indirect object in English contracts an indirect tactic relation with a bound object, and so does the indirect object in Kamali Arabic. Similar considerations apply to the complementary objects in the two languages in question as shown by the above examples.

c) The indirect objects may figure as peripheral expansions in syntagms like the "non-direct transitive" in the two languages. And the same applies to the "complementary objects", as in the "non-complementary transitive" syntagms. Thus, "me" in "he offered me a lift" and "ni" (me), in "sauuāni liʕba" (he made me a toy)[2] stand as optional indirect objects as shown below:

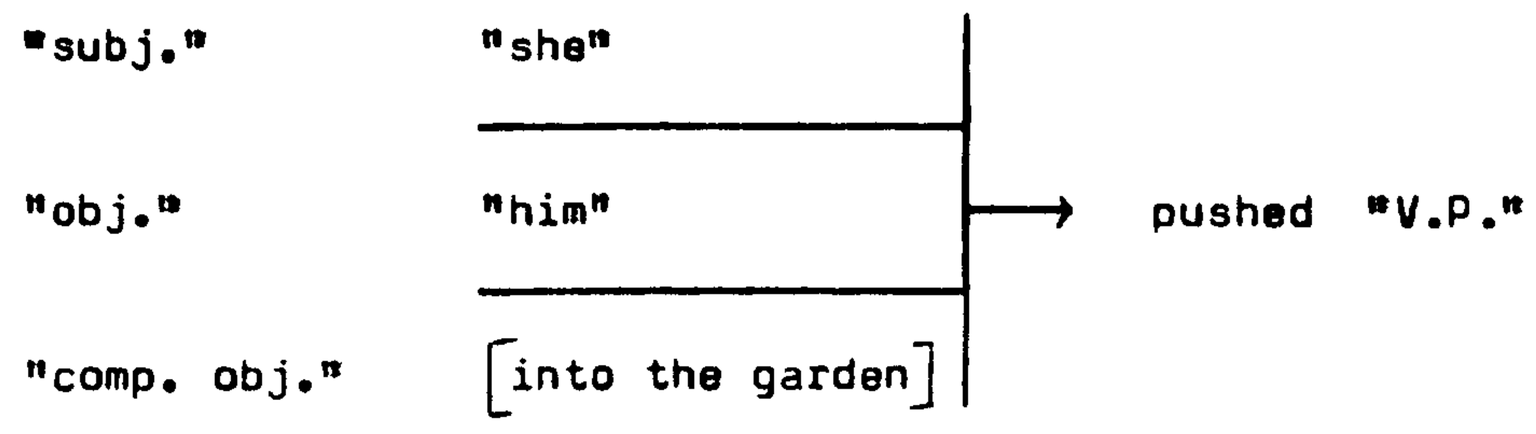


E. (V.P.86)

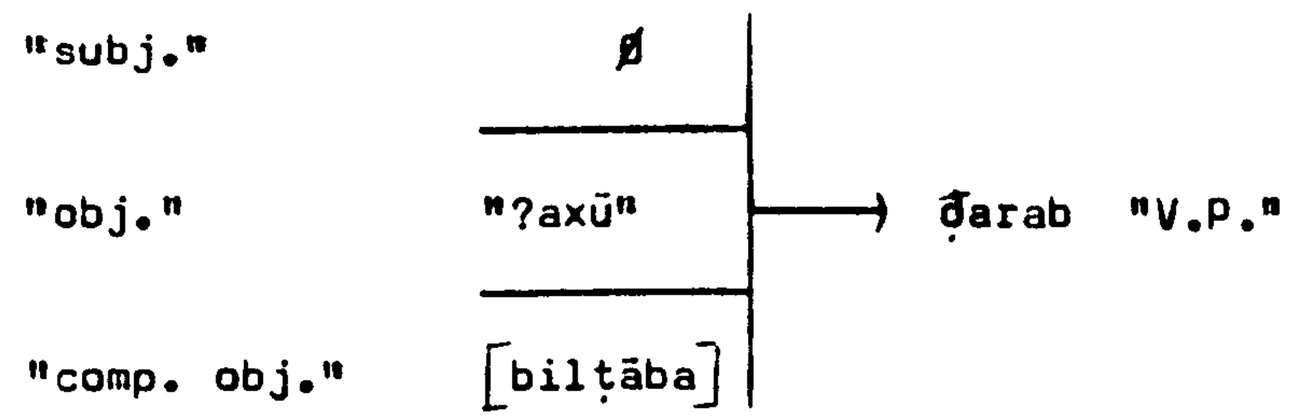


K.A. (V.P.812)

Similarly, the complementary objects: "into the garden" in "she pushed him into the garden", and "biltāba" (with the ball) in "ḍarab ʔaxū biltāba" (he hit his brother with the ball) stand as optional peripherals as shown:



E. (V.P.89)



K.A. (V.P.88)

d) The indirect object positions in the indirect transitive syntagms in the two languages can be filled by two elements that may have similar, or possibly identical denotations. And similar considerations apply to the complementary object positions in the two languages in question.

e) The indirect objects may occur in a similar sequential order in the two languages. Examples:

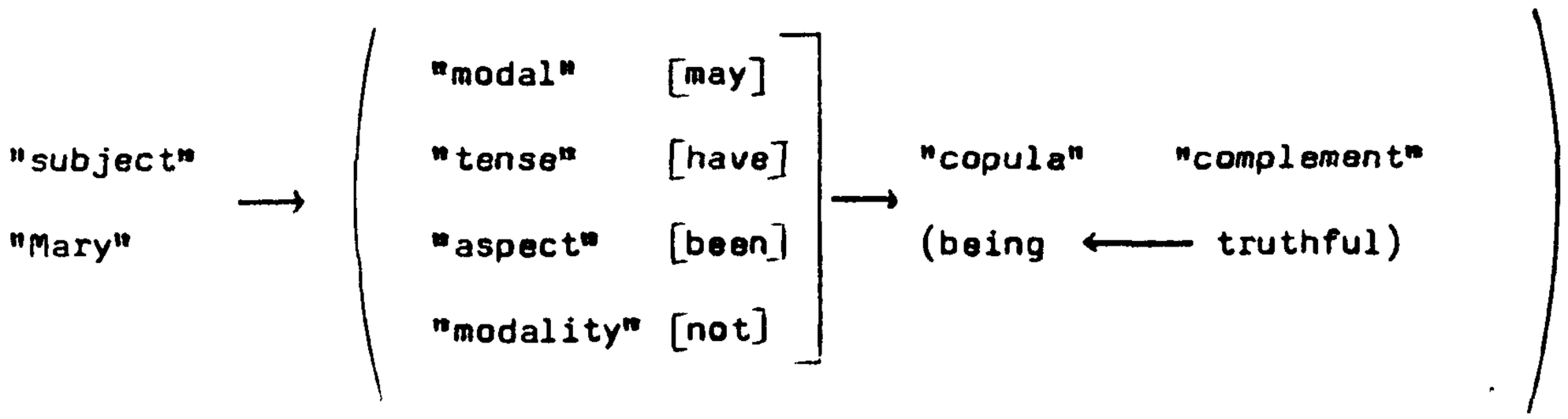
	subject	-	predicative	-	indirect object	-	object
English:	he		gave		me		a lift
Kamali Arabic:	lualad		sauuā		ni		liʕba
	(the boy		made		me		a toy)

The complementary objects in the two languages also occur in a similar sequence as shown by the examples below:

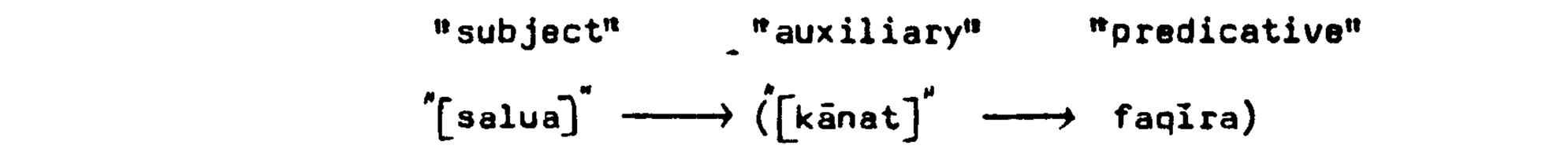
	subject	-	predicative	-	object	-	comp. object
English:	he		put		it		on the table
Kamali Arabic:	lualad		ħaṭ		lktāb		ʕalkursi
	(the boy		put		the book		on the chair)

7. The Non-Verbal Predicative-Based Syntagms Compared

The models set up to account for the overall syntagmatic relations in the non-verbal predicative syntagms in English and in Kamali Arabic, with examples, are as follows:



English (Page 169)



Kamali Arabic (Page 95)

The syntagms projected onto the above models are: "Mary may not have been being truthful", and "salua kānat faqīra" (Salwa was poor). The major differences and similarities that may be established between the above two structures are the following:

Differences

a) On the highest level in the syntactic hierarchy each syntagm has a subject as an immediate constituent. The subjects in the two syntagms are different insofar as their functional and occurrence dependencies are concerned. They exhibit two different functional dependencies since their tactic functions are governed by two structurally different non-verbal predicative nuclei. With regard to their occurrence dependency relations, the subjects are different in that in English the subject contracts a bilateral occurrence dependency with the predicative nucleus, whereas in Kamali Arabic it does not. In the latter language the subject is in an either/or relation with the "auxiliary" element as shown by the above model. That is to say that either the "subject" or the "auxiliary", but not both, has to be bound while the other is an expansion. Accordingly, the subject may be regarded as an expansion in which case it contracts a unilateral occurrence dependency relation with the predicative nucleus.

b) On the next lower level (i.e. within the predicative nucleus which is determined by the subject), in English there are four auxiliary elements (i.e modal, tense, aspect, and modality) which stand as immediate constituents in relations of parallel determinations with respect to the nucleus, whereas in Kamali Arabic the nucleus is determined by one peripheral auxiliary element. The latter auxiliary exhibits a relation of occurrence dependency which is different from the occurrence dependency exhibited by any peripheral auxiliary in the English model. Each of the auxiliaries "modal", "tense", "aspect", and "modality" being an expansion, contracts a unilateral occurrence dependency with the nucleus (to which it is sub-ordinated), whereas the auxiliary in Kamali Arabic (which can be bound) may contract a bilateral occurrence dependency with the nucleus (to which it is sub-ordinated).

c) The auxiliary element in Kamali Arabic, unlike any of

the auxiliaries in English, agrees with the subject in gender and number as shown by the examples below:

ṣirtu	(I became)
ṣirit	(you m. sing. became)
ṣirti	(you f. sing. became)
ṣār	(he - it - became)
ṣārat	(she - it - became)
ṣirna	(we became)
ṣirtu	(you pl. became)
ṣāru	(they became)

d) The non-verbal predicative-based syntagms in the two languages are different insofar as they have different realizations. Thus, while the realization of the subject in English is restricted to its occurrence at the beginning of the syntagm (in indicative constructions), as shown by "she" in "she was at home", the subject in Kamali Arabic may be realized initially, medially, or finally as shown by the element "lbint" (the girl) in the examples below:

lbint kānat bilbēt	(the girl was at home)
kānat lbint bilbēt	(the girl was at home)
bilbēt kānat lbint	(the girl was at home)

<u>Similarities</u>

a) The subjects are similar insofar as they exhibit similar dependency relations. That is each stands in a direct relation of sub-ordination with respect to a non-verbal predicative nucleus. The sub-jects may also be similar in that they may be expressed by nominals that have similar, or possibly, identical denotations.

b) On the first level of the immediate constituent analysis, each of the non-verbal predicative-based syntagms in the two languages constitutes a sub-ordinative syntagm consisting of two positions: a "subject" and a "predicative" nucleus.

c) In certain contexts, e.g. in the absence of an auxiliary element, the subject in Kamali Arabic, like the subject in English, usually precedes its predicative nucleus. The element "lkalb" (ṭhe dog), in "lkalb žūʕān" (ṭhe dog is hungry), precedes the predicative nucleus "žūʕān" (is hungry), like "ṭhe boy" in English which precedes its predicative nucleus in "ṭhe boy is hungry".

NOTES TO CHAPTER I : THE PREDICATIVE SYNTAGMS COMPARED

1. Starting with predicative syntagms would, on the other hand, be practically more convenient and perhaps more elegant in the presentation.

2. Note that "sauuāni liʃba" has to be interpreted as "he made a toy out of me" and never as "he made a toy for me".

CHAPTER II : THE FUNCTIONAL SYNTAGMS COMPARED

The models that have been set up to account for instances of the functional syntagm in English and in Kamali Arabic are as follows:

English (1)	Kamali Arabic (2)
"functional" ⟵ "complement"	"functional" ⟵ "complement"

The main points of difference and similarity that may be established between the above syntagms are the following:

Differences

a) Nominals that may stand in the complement positions in the two models have different syntactic structures. (See the following chapter.)

b) The two syntagms in question may form immediate constituents in larger syntagms that have different syntactic structures. The functional syntagms in Kamali Arabic, for instance, may figure as an immediate constituent in the "indirect complementary transitive" syntagm, while the functional syntagm in English may not, ~~for~~ given the absence of the said syntagm from the set of predicatives in the latter language. Similarly, the functional syntagm may figure as an immediate constituent in the non-direct non-complementary transitive in English, and not in Kamali Arabic ~~for~~ given the absence of the syntagm in question from the set of predicatives in the latter language.

c) The functional syntagms in the two languages are different inasfar as their sequential orders, with respect to other constituents in larger syntagms, are concerned. In English, for instance, functional

syntagms in copulative predicative-based syntagms occur in the following sequence:

	subject	-	copula	-	complement
e.g.	he		was		in the garden

The functional syntagm "in the garden" succeeds the copula which in turn succeeds the subject. However, when the functional has to be emphasised it may precede the other consitituents in the sequence shown:

	complement	-	subject	-	copula
e.g.	in the garden		he		was

Note that in both of the above mentioned examples the sequential order "subject - copula" is kept constant. This is different from the situation in Kamali Arabic where the constituents may succeed one another in one of the following sequences:

lualad kān bilħadīqa (ṭhe boy was in ṭhe garden)

lit: ṭhe boy was in ṭhe garden

kān lualad bilħadīqa (ṭhe boy was in ṭhe garden)

lit: was ṭhe boy in ṭhe garden

kān bilħadīqa lualad (ṭhe boy was in ṭhe garden)

lit: was in ṭhe garden ṭhe boy

And on leaving out the subject one may have:

kān bilħadīqa (ḥe was in ṭhe garden)

lit: ḥe was in ṭhe garden

or: bilħadīqa kān (ḥe was in ṭhe garden)

lit: in ṭhe garden he was

Similarities

The functional syntagms in the two languages are similar insofar as:

a) They constitute sub-ordinative syntagms of two positions.

b) The functional nuclei in them are simple syntagmatic entities (i.e. pleremes).

c) The functional and the occurrence dependencies of the complements in them are similar.

d) The nominals that may occupy the complement positions in them may have similar, or possibly identical, denotations.

e) The constituents "functional - complement" succeed one another in the same order, e.g:

	functional	-	complement
English:	in		the house
Kamali Arabic:	bi		lbēt
	(in		the house)

f) Their sequential orders in larger syntagms may be similar, e.g:

English:	the boy	was	at home
Kamali Arabic:	lualad	kān	bilbēt
	(the boy	was	at home)

CHAPTER III : THE NOMINAL SYNTAGMS COMPARED

In the predicative syntagms in English and in Kamali Arabic we noticed that the subject and/or the object positions are quite often filled by nominal syntagms. The models that have been set up earlier to account for the whole fields of relations within the syntagms in question are as follows:

English (1)

[article]
[numeral]
[adjective]
[supplement]
→ pl. nominal

(Page 205)

Kamali Arabic (2)

[partitive]
[substantive]
[possessive]
[numeral]
[adjective]
[demonstrative]
[supplement]
→ def. nominal

(Page 129)

The major points of difference and similarity that can be established between the nominal syntagms in the two languages are as follows:

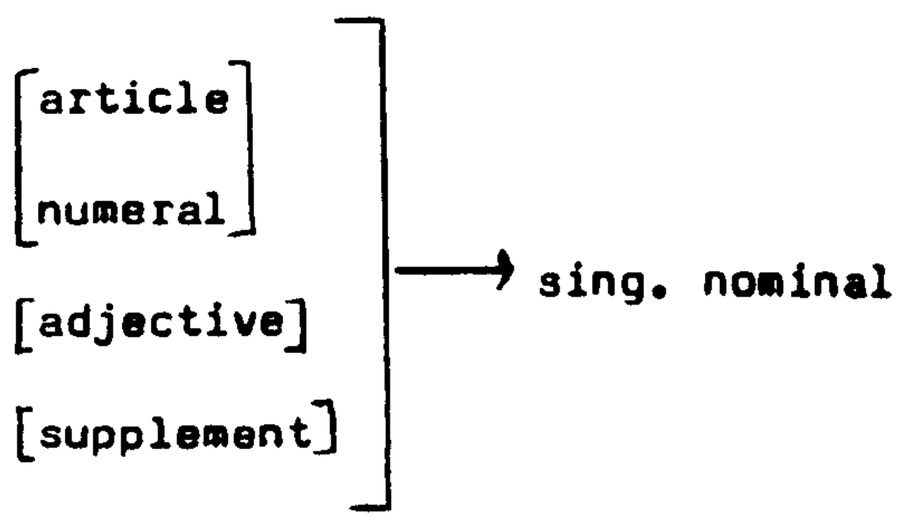
Differences

a) The two syntagms are different insofar as they exhibit different syntactic functions. A nominal syntagm in Kamali Arabic, for instance, may stand in the subject position in an "indirect complementary transitive" syntagm, while in English it does not, since that type of syntagm does not exist in that language. And similarly the subject position in a non-direct non-complementary transitive syntagm in English may be filled by a nominal syntagm, whereas in Kamali Arabic it does not ~~for~~ given the absence of this syntagm from the set of predicatives in the latter language.

b) They are different insofar as their structural (syntactic) make-ups are different. That is, while the nominal syntagm in English is a self-contained bundle of five positions, the nominal syntagm in Kamali Arabic is a self-contained bundle of eight.

c) The nuclei are different insofar as they have different syntactic capacities. That is, while in English the nominal nucleus can govern the tactic functions of four, and only four, peripheral I.C.s, the capacity of the nominal nucleus in Kamali Arabic extends to govern the tactic functions of seven peripherals.

d) In singular nominal syntagms, the nucleus in English is "actualized", while in Kamali Arabic it is "free". The previous model (2) applies to singular as well as plural definite nominal syntagms in Kamali Arabic. Model (1) applies to "plural" nominal syntagms in English, and the model set up for the "singular" nominal syntagm is as follows:



E. (Page 207)

The upper brackets indicate that one of the two items enclosed is "bound" while the other is an "expansion". A corollary to this point is that the nominal nucleus is "actualized" since it requires the presence of one peripheral item. Contrariwise, the nominal nucleus in Kamali Arabic, whether singular or plural, is "free" since all the peripheral items sub-ordinated to it are "expansions".

e) The peripheral I.C.s in the two syntagms are different insofar as they contract different tactic relations. With reference to the singular nominal syntagms in English and in Kamali Arabic, we notice, for instance, that the "adjective" in the first contracts a direct tactic relation with an "actualized" nucleus, and indirect tactic relations with three peripherals, one of which is "bound", while "adjective" in the second contracts a direct tactic relation with a "free" nucleus, and indirect tactic relations with six peripheral items, none of which is "bound".

f) The difference in the number of the peripheral I.C.s implies, among other things, that there is a difference in their syntactic functions. For instance, if adjective in English is, for its syntactic function (position), dependent on being not mutually exclusive with "article", "numeral", "supplement" and "nominal", adjective in Kamali Arabic is, for its syntactic function, dependent on being not mutually exclusive with "partitive", "substantive", "possessive", "numeral", "demonstrative", "supplement" and "nominal".

The same argument applies to any two items from the two nominal syntagms that might appear to be similar.

g) The nominal syntagms in the two languages are different insofar as they have different realizations. (See page 131 and 213).

Similarities

a) The nominal syntagms are similar insofar as they can exhibit similar syntactic functions in similar syntagms. For instance,

they both can stand in the subject and/or object position in similar predicative syntagms (e.g. in "transitive", "non-transitive", "intransitive" syntagms in both languages).

c) The nuclear positions in both syntagms may be filled by nominals that have similar, or possibly identical denotations. Similar considerations apply to the positions "numeral" and "supplement".

d) The plural nominal syntagms in the two languages are similar insofar as the nuclei in them are "free", and all the peripheral items are "expansions".

The above differences and similarities also apply to the Kamali Arabic <u>indefinite</u> nominal syntagms in comparison with the nominals plural and/or singular in English. The indefinite nominal syntagm is a self-contained bundle of six positions: an indefinite nominal nucleus governing the tactic functions of five peripheral items in the positions "substantive", "possessive", "numeral", "adjective" and "supplement". The model set up to account for the relations within the indefinite nominal syntagm in Kamali Arabic is as follows:

[substantive]
[possessive]
[numeral] ⟶ indef. nominal
[adjective]
[supplement]

K.A. (Page 135)

APPENDIX A

Postulates for Axiomatic Functionalism

by Jan W.F. Mulder

The present set of Postulates is not meant to be read as an article in the usual sense, but rather as a point of reference to be used in conjunction with the other papers in this volume.* Initially I only hope that the reader will glance over it in order to see what an axiomatic theory may look like. Of course, I also hope that, ultimately, the reader may return to the Postulates for more intensive study.

An excellent introduction to these postulates (in French) has been given by Paul Rastall in La Linguistique, 1977, I. Other references to the postulational method are to be found in several of the papers, especially those preceding the postulates, in the present work. As Rastall has pointed out, our use of axiomatisation is a matter of material axiomatisation. That is to say, the axioms, which are in themselves meaningless, are accompanied by a set of definitions, that provide what philosophers call the "semantics" of the system. Except for the primitive terms used in the axioms, nothing in them has any meaning before the relevant chain of definitions has been exhausted, even though the non-primitive terms used in the axioms are chosen in anticipation of the definition they will later receive. By the term "postulate" is meant any non-theorematic theoretical statement. The term includes, therefore, definitions as well as axioms. The first attempt at a set of postulates, including a very small set indeed, was published in 1968 in my book Sets and Relations in Phonology. Between about 1971 and 1973 a considerably enlarged set circulated among staff and students of the Department of Linguistics at St. Andrews under the name "A revised set of postulates". This set was actually in a constant state of revision, and it goes withou saying that I owe much to the discussions that this created. The present version was completed in 1974, and presented in June of that year to the "Premier Colloque International de Linguistique Fonctionnelle", together with Sándor Hervey's set of postulates for semantics, which is represented on page 203 of this volume. A translation of the present set of postulates, with an introduction by Paul Rastall, was published in La

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* 'volume' here refers to Mulder and Hervey's The Strategy of Linguistics from which the present revised version of Mulder's "Postulates" has been taken.

Linguistique, 1977, I.

The form and order of the postulates reflects purely practical considerations, and is also influenced by purely historical factors, i.e. its history outlined above, and the fact that, in the meantime, several publications had appeared in which some of the definitions had already been used, albeit sometimes in a slightly different form, or implicitly rather than explicitly. Had the study resulting in the publication of my paper "The strategy of Linguistics", Estudios ofrecidos a Emilio Alarcos Llorach, Vol. 3, reproduced on page 1 of this volume, been conducted before the study resulting in the postulates, the postulates themselves would probably have appeared in a different, though equivalent shape. However, also in the present version, two of the three components of the linguistic theory, i.e. the ontology (signum-theory) and the systemology (phonology and grammar), are represented in the axioms and ensuing definitions, withou leaving any residue. Hervey's axiom and definitions - published, in French translation, in La Linguistique, 1980 - present the third component, i.e. semantics.

Axiom A states the main point of view, pervading all three components, i.e. the functional principle. The notion "distinctive function", which follows from the functional principle, is, for practical reasons, defined much further down (Def. 8a[3]). This notion, together with Axiom E and ensuing definitions, covers the signum-theory, also slightly misleadingly called sign-theory. Though the notion "distinctive function" is, of course, relevant to all sections of the theory, it is separately relevant as an operator for the signum-theory. The signum-theory develops from the notion "image" (Def. 22), by a successive and repeated application of the notions "member-to-class relation", "self-containedness" and "distinctive function" all the ontological distinctions relevant to the theory, with the exception of the distinction, within signum, between sign and symbol. The latter distinction is only relevant to "semantics", and is developed there, within the "theory of indices", which belongs to semantics. A particular natural class of images is a phonetic form. A particular phonetic form with a particular distinctice function is an allophone. A self-contained class of allophones is a phonological form. A particular phonological form with a particular distinctive function is an allomorph, and a self-contained class of allomorphs is a signum. Some other notions are developed within the signum-theory, but these do not require any special operators other than those belonging to ordinary logic. Axiom B, and

related definitions, covers the systemology, with the exception of the para-tactic levels, which are covered by axioms C and D, and the definitions relevant to them. Definitions under a particular axiom are not always relevant to that part of the theory (i.e. covered by the axiom in question) alone. They are introduced at those points that seemed the most convenient at the time.

The following are the postulates:

Axiom A. All features in semiotic sets are functional

Def. 1a "Functional" for "separately relevant to the purport of the whole of which it is a part".

Def. 1b "System" for "self-contained set of features with a common purport".

1b[1] "Self-contained" for "representing all relative dependencies of its members, as members of the set in question". In order to avoid a common confusion, it should be noted that a set is not a member, though it is a sub-set, of itself, and nor is any other of its sub-sets (i.e. members of the power-set of that set) a member of the set as such. Of course, some sub-sets may be self-contained themselves. The notions "functional" (Def. 1a) and "self-contained" can be applied to "combination (of items)" as well as to "sets". In the case of "self-contained" applied to "combinations", the term "members" has to be replaced by "constituents", and the term "set" by "combination".

Def. 1c "Semiotic system" for "system of conventions for communication". That is to say all features of such a system are conventional, and their common purport is "communication".

1c[1] "Features" for "elements, analytical properties of elements, or[1] relations between elements or properties of elements".

1c[2] "Entity" for "element or discrete disjunct analytical property of element".

1c[3] "Semiotic entity" for "entity in semiotic system".

Axiom B. Semiotic systems contain simple, and may contain complex unordered, or[1] complex ordered signa and figurae.

"Information-value" for "specific set of potential interpretations".

2a "Sign" or "symbol" for "semiotic entity with both <u>form</u> and <u>information-value</u>", simply called "<u>signum</u>".

$2a^1$ "Sign" for "<u>signum</u> with wholly fixed conventional information-value".

$2a^2$ "Symbol" for "<u>signum</u> with not wholly fixed conventional information-value, i.e. to which a temporary item of information-value can be attached by a definition".

$2a^{2a}$ "Proper symbol" for "symbol with partially fixed conventional information-value" (the latter being partially dependent on occasional definitions of an explicit or tacit nature). Examples to be found in algebra, symbolic logic, etc. Also "proper names" are proper symbols.

$2a^{2b}$ "Nonce symbol" for "symbol with no fixed conventional information-value" (the latter being wholly dependent on occasional definitions of an explicit or tacit nature).

$2a^3$ "Plerological entity" or "grammatical entity" for "<u>signum</u> in grammar (plerology)".

$2a^{3a}$ "Grammar" or "plerology" for "morphology (plerematics) or syntax (plerotactics)". Alternative definition: "complex plerological system" (see <u>complex system</u> and <u>plerological system</u> below).

$2a^{3b}$ "Morphology" or "plerematics" for "complex <u>unordered</u> plerological system" (see <u>unordered system</u> below).

$2a^{3c}$ "Syntax" or "plerotactics" for "complex <u>ordered</u> plerological system" (see <u>ordered system</u> below).

$2a^{3d}$ "plerological system" for "system of <u>signa</u>". This may be a simple or a complex system (see <u>simple system</u> and <u>complex system</u> below).

$2a^{3e}$ "Plerology" or "grammar" for "complex system of signa" (alternative definition to Def. $2a^{3e}$).

Def. 2b "Figura" for "semiotic entity which has only form".

$2b^1$ "Cenological entity" for "<u>figura</u> in a semiotic system that has a cenology".

$2b^{1a}$ "Cenology" for "cenematics or cenotactics". Alternative definition: "complex cenological system" (see <u>complex system</u> and <u>cenological system</u> below).

$2b^{1b}$ "Cenematics" for "complex <u>unordered</u> cenological system" (see <u>unordered system</u> below).

$2b^{1c}$ "Cenotactics" for "complex <u>ordered</u> cenological system"

(see ordered system below).

$2b^{1d}$ "Cenological system" for "system of figurae". This is not necessarily a cenology, i.e. it may be a simple system (see below and compare with Def. $2a^{3d}$).

$2b^{1e}$ "Cenology" for "complex system of figurae" (alternative definition to Def. $2b^{1a}$).

Def. 3a "Phonology" for "Cenology in natural language".

$3a^{1}$ "Phonematics" for "cenematics in natural language".

$3a^{2}$ "Phonotactics" for "cenotactics in natural language".

$3a^{3}$ "Phonological system" for "cenological system in natural language".

$3a^{4}$ "Phonological form" for "feature belonging to phonological system".

Def. 3b "Articulation" for "cenotactics or syntax (plerotactics)".

Def. 3c "Double Articulation" for "both cenotactics and syntax (plerotactics).

$3c^{1}$ "Language" for "semiotic system with double articulation".

$3c^{2}$ "Proper language" for "semiotic system with a cenology containing both a cenematics and a cenotactics, and a grammar containing both a morphology and a syntax". All natural languages, known to date, are proper languages, but not necessarily vice versa. Natural languages, in addition, incorporate a para-phonotactic and a para-syntactic system (see below), but also other semiotic systems may incorporate para-tactic systems (see below).

$3c^{2a}$ "Proper cenology (or proper phonology, in the case of natural language)" for "system constituted by the interlocking of one cenematics (or phonematics) and one cenotactics (or phonotactics)".

$3c^{2b}$ "Proper plerology" or "proper grammar" for "system constituted by the interlocking of one morphology and one syntax". Note that a proper language is constituted by a proper cenology and a proper grammar.

$3c^{2c}$ "Interlocking" for "the one system providing the forms of the entities of the other system" (a cenology and a grammar interlock in this way), or for "the one system providing the basic elements of the other system" (a cenematics and a cenotactics, as well as a morphology and a syntax interlock in this way).

Def. 4a "Simple system" for "system without combinations of elements".

4b "Complex system" for "system with combinations of elements".

$4b^1$ "Unordered system" for "complex system without ordering relations between elements" (see ordering relations below).

$4b^2$ "Ordered system" for "complex system with ordering relations between elements" (see ordering relations below).

Def. 5 "Semiotic system" for "system constituted by the interlocking of one plerological system and one cenological system" (alternative definition to Def. $1b^1$). We can, therefore, have semiotic systems, where either the plerological system, or the cenological system, or both are simple, unordered, or ordered. This, in its turn, leads to various types of simple, unordered, or ordered semiotic systems; e.g. ordered systems that are cenologically simple but plerologically ordered, e.g. algebra or the reverse of this, e.g. the Morse-code, etc.

Def. 6a "Ordering relations" for "asymmetrical relations between entities in combinations". This does not necessarily refer to linear, or other spatial, ordering, as this is a matter of "realisation".

Def. 6b "Relations of simultaneity" for "symmetrical relations between entities in combinations". By axiom A, only functional criteria can be brought to bear in deciding whether a relation is symmetrical or asymmetrical.

Def. 7a "Paradigmatic" for "the" oppositional or distinctive aspect of semiotic entities.

$7a^1$ "Paradigmatic relations" for "relations of opposition between members of sets".

$7a^2$ "Commutation" for "alternation between semiotic entities (or 'zero' and semiotic entities) in functional opposition as immediate constituents, in a given context."

$7a^3$ "Distinctive function" for "the set of commutations in which a semiotic entity may partake". Alternative definition: "the set of oppositions into which a particular semiotic entity enters". In symbols: $a \sim (b \sim c \sim d)$, which states the distinctive function of a, in case the set of oppositions a enters in is: $(a \sim b, a \sim c, a \sim d)$,

and no others. In fact, a ~ (b ~ c ~ d) = a ~ b ∪ a ~ c ∪ a ~ d. Suspension of opposition in given contexts, and governed by those contexts, is called <u>neutralisation</u>. A phoneme (as a simultaneous bundle of distinctive features) exhibiting a suspension of opposition between distinctive features - in which case it simply does not possess those features - is called an <u>archiphoneme</u>. An archiphoneme is a self-contained simultaneous bundle of distinctive features common to one or more phonemes. An example is the last phoneme of German "Hand", phonemically /hanD/ (or /hanT/), in which there is suspension of opposition between the distinctive features "voiced" and "unvoiced". The archiphoneme /D/ (or /T/) is a self-contained bundle of distinctive features "apical" and "occlusive", and it has those two features (taken together) in common with German /d/ and /t/, but with no other phonemes of German.

Def. 7b "Syntagmatic" for "the ordering aspect of semiotic entities".

7b[1] "Syntagmatic relations" for "ordering relations between semiotic entities in combinations".

7b[2] "Syntagmatic entity" for "entity <u>capable of</u> standing in ordering relations with other entities or having an internal structure such that it is capable of containing - as constituents - entities capable of standing in ordering relations with other entities". In other words, to be a syntagmatic entity, an entity should be itself orderable, or have **something** in its structure that allows it to have orderable constituents. The implication for language is that distinctive features (narrow sense) and monemes are not syntagmatic entities, whereas phonemes, words or grammatemes (pleremes), and syntagms are (cf. Def. 7b) (for "phonemes", "words" etc. see defs. below).

Def. 7c "Tactic" for "Cenotactic or Syntactic". An alternative term for "syntactic" is "plerotactic".

7c[1] "Cenotactic entity" for "syntagmatic entity in cenology".

7c[2] "Phonotactic entity" for "cenotactic entity in natural language".

7c[3] "Tactic relations" for "constructional relations (whether ordering or not) between syntagmatic entities, as immediate constituents (see below), in combinations". Note that

tactic relations are not necessarily syntagmatic (i.e. ordering) but they are between syntagmatic entities.

Def. 7d "Syntactic entity" for "syntagmatic entity in grammar".

7d[1] "Syntactic relations" for "tactic relations in grammar".

Def. 7e "Cenotactic/phonotactic relations" for "tactic relations in cenology/phonology".

Def. 7f "Constructional relations" for "relations between immediate constituents".

7f[1] "Constituents" for "entities (of the same kind, i.e. of the same level of abstraction) in self-contained combinations".

7f[1a] "Immediate constituents" for "constituents that are not constituents of constituents within the combination in question".

7f[1b] "Ultimate constituents" for "the last analytical entities of a self-contained combination of entities". It is theorematic that in cenematics and morphology (pleremat ics), in contradistinction with cenotactics and syntax (plerotactics), immediate constituents are always at the same time ultimate constituents.

Def. 7g "Positions" for "divisions within a chain (see below), such that in every such division an entity, as an immediate constituent of that chain, can stand and alternate (i.e. commute) with other entities, or with zero". Alternative definitions: "points on a chain (see below) corresponding to relata of direct tactic relations" and "points of intersection between paradigms (visualised as a vertical straight line, called paradigmatic axis and a chain (visualised as a vertical straight line, called paradigmatic axis and a chain (visualised as a horizontal straight line, called syntagmatic axis)".

Def. 7g[1] "Paradigm" for "set of entities in functional opposition in a given context, within a chain (see below)".

Def. 8a "Ceneme" for "self-contained bundle of one or more distinctive features as its immediate (and at the same time: ultimate) constituents". Alternative definitions: "self-contained simultaneous bundle of one or more distinctive features" (cf. Martinet), "minimum syntagmatic element in cenology", minimum cenotactic element".

8a[1] "Cenematic complex" for "complex ceneme". A complex ceneme is a cenematic complex, as opposed to a cenotactic complex. A complex cenological entity is either cenematically or cenotactically complex".

8a^2 "Phoneme" for "ceneme in natural language". Hence, of course, "phonematic complex" for "complex phoneme". Resulting further definitions for "phoneme" are those of Def. 8a, with "cene-" and "ceno-" changed into "phone-" and "phono-" respectively.

8a^3 "Distinctive feature" for "minimum cenematic entity". In natural language, therefore, "minimum phonematic entity". This implies "minimum cenological/phonological entity". The term "distinctive feature" is also used, in a wider sense, for any functional feature, i.e. "feature or complex of features that is separately relevant to the purport of the whole of which it is a part" (cf. Def. 1a). Note, however, that "the whole" should here be taken to mean "a complex semiotic entity", rather than "the semiotic system". This implies, in fact, that any semiotic feature can at one time or another be regarded as a distinctive feature, i.e. when it is regarded as <u>a feature of</u> a semiotic entity. In a theoretically trivial, but operationally not always trivial sense, any feature is in the first place a feature of itself, i.e. we may recognise bundles of one feature only. If one wants to distinguish between the only feature of an object and the object itself, as separate entities, one may call the former <u>x</u>-"ness", e.g. the only distinctive feature of the phoneme/l/ in English can be called"/l/-ness". At any rate, it may be necessary to distinguish in a consistent description between, say, the phoneme /l/ and its only distinctive feature, or between the word (see below) "cat", and its only moneme (see below). Whenever the term "distinctive feature" is used in a wider sense, i.e. for "any feature that is distinctive (i.e. functional)", rather than for "minimum cenematic entity", this should be entirely clear from the context, or it should be separately indicated.

Def. 8b "Plereme" for "word or grammateme".

8b^1 "Word or grammateme" for "self-contained (by definition: simultaneous) bundle of one or more monemes as its immediate (and at the same time: ultimate) constituents". Alternative definitions: "minimum syntagmatic entity in grammar" "minimum syntactic (plerotactic) entity". It goes without saying that it is irrelevant <u>for syntax</u> (plerotactics)

whether the form of a word or grammateme is confined to a particular uninterrupted "space" within realisations of a chain, or whether it is even "all over the place", as it may be in systems that exhibit a great degree of "concord". This is a matter of allomorphy (see below), not of this, more abstract, syntactic (plerotactic) level. The distinction between "word" and "grammateme", which is intensional not extensional, will be dealt with in definitions below.

8b^2 "Plerematic complex" or "morphological complex" for "complex plereme". A complex plereme (i.e. a complex word or a complex grammateme) is a morphological (plerematic) complex as opposed to a syntactic (plerotactic) complex.

8b^3 "Moneme" for "minimum morphological (plerematic) entity". This implies "minimum grammatical entity". Monemes are the grammatical analogues of "distinctive features" (cf. Def. 8a^3).

Def. 9 "Distributional unit (wider sense)" or "field of relations" or "chain" for "self-contained bundle of positions". The term "chain" is also used in a less abstract sense for "instance of a self-contained bundle of positions", etc. i.e. for "a self-contained combination of one or more syntagmatic entities". The syntagmatic entities stand, in that case, in positions of the conceived underlying structure, i.e. the self-contained bundle of positions.

Def. 9a "Distributional unit (narrow sense)" or "cenotagm (in natural language: "phonotagm")" for "self-contained bundle of positions in cenology (or: phonology)", or for "instance of a self-contained bundle of positions in cenology (phonology)". Alternative definition: "minimum type of structure within which the distribution of cenotactic (phonotactics) entities can be described completely and exhaustively." This is to say that nothing outside such a structure can determine the distribution of immediate constituent entities within the structure. But see Def. 9b for possible further distribution of phonotagms themselves.

9a^1 "Distribution" for "the set of occurrences of an entity in constructional relations with other entities".

Def. 9b "Syntagm" for "self-contained bundle of positions in grammar", or for "instance of a self-contained bundle of positions in

grammar". In practice, in natural languages, the parallelism with "distributional unit (narrow sense)" or "phonotagm" is not complete, as, in grammar, one can have syntagms within syntagms, those again within syntagms etc. For an exhaustive description of the distribution of a syntactic (plerotactic) entity one has to consider all structures (syntagms) in which that element can occur, and then one has to describe the distribution of these structures themselves in a similar way, and so on. In practice, in phonology such complications are few, and generally of a different, i.e. not hierarchical nature. In phonology one may have to describe the distribution of <u>types</u> of distributional unit, with respect to one another, in order to supplement the description referred to under 9a. In past publications I have also used the term "phrase" as an alternative to syntagm. As this term may, however, be confusing for French functionalists (French <u>phrase</u> = sentence) I am dropping that term.

Def. 10 "Syntagmeme" for "ordered pair consisting of a paradigmeme and the position in which it stands", i.e. "member of a chain (cenotagm or syntagm)" (cf. Def. 9a, 9b and 10b).

Def. 10a "Paradigmeme" for "member of a set of entities in functional opposition in a given context, within a chain", i.e. "member of a paradigm" (cf. Def. 7g[1]).

Def. 10b "Instance of a chain (also simply called: chain; cf. Def. 9)" for "self-contained simultaneous bundle of syntagmemes". Ordering relations may be between paradigmemes, but not between syntagmemes, as the latter already <u>include</u> the ordering relations.

Def. 11a "Relation of sub-ordination" or "determination" for "direct tactic asymmetrical relation of functional dependency (see <u>direct relation</u> below). Its converse is <u>super-ordination</u> or "government". If <u>a</u> and <u>b</u> are in a direct tactic relation, and <u>a</u> is for its tactic function (i.e. "position") dependent on <u>b</u>, but not <u>vice versa</u> (in symbols: a ⟶ b), <u>a</u> is said to be sub-ordinate to <u>b</u>, and <u>b</u> super-ordinate to <u>a</u>. Furthermore, <u>a</u> is said to be standing in <u>peripheral</u>, and <u>b</u> in <u>nuclear</u> position in the chain (i.e. self-contained bundle of positions).

Def. 11b "Relation of coordination" for "direct tactic (by implication;

symmetrical) relation of mutual functional independency". If a and b are in a direct tactic relation, and a is for its tactic function (i.e. "position") independent of b, and vice versa, a and b are said to be coordinated (in symbols a ↔/→ b). This definition, implies that, for instance, in the phrase "John and Paul" there is no relation of coordination between "John" and "and Paul" (there is no mutual functional independency here), nor between "John" and "Paul" (there is no direct tactic relation between these elements here), but there is, for instance, coordination between "big" and "black" in "a big black box".

Def. 11c "Relation of inter-ordination" for "direct tactic (by implication: symmetrical) relation of mutual functional dependency" (i.e. functional interdependency). If a and b are in a direct tactic relation, and a is for its tactic function (i.e. "position") dependent on b, as well as vice versa, a and b aresaid to be inter-ordinated (in symbols: a ⟷ b). It means, in fact, that the relation between a and b is both one of sub-ordination and of super-ordination, and the same goes for the converse of the relation. Compared with coordination we may say that in inter-ordination a and b are both nuclear and peripheral, whereas in coordination they are neither nuclear, nor peripheral.

Def. 11d "Relation of apposition" or "quasi-syntactic relation" for "direct non-constructional - and, therefore, non-grammatical - relation between qua tactic function, equivalent immediate constituents of a chain. If a and b are in a direct non-constructional relation, but each of them separately is, or corresponds to, an immediate constituent of a more complex entity, a and b are said to be in a relation of apposition (in symbols: a —— b). This implies, of course, that such entities, though in a direct relation, cannot together constitute a sub-chain of a chain, though each of them, independently can. In the case of apposition each of the elements in apposition is a separate, qua tactic function equivalent, immediate constituent in relation to other immediate constituents (e.g. "John, the fool, stayed behind"). The difference between coordination and apposition is that the relation in the former is constructional (i.e. is not

merely "juxtaposition", and has, therefore, semantic import as such) and results, therefore, in a construction (i.e. chain), whereas apposition is non-constructional. The term "quasi-syntactic" is appropriate, as, especially in proper languages, the entities involved may exhibit the phenomenon of "contextual" or "partly contextual" variance, and bear, therefore, some superficial similarity with entities in constructions.[2]

Def. 12a "Occurrence interdependency" or "bilateral (or mutual) occurrence dependency" for "relation such that neither of two entities in direct relation (see below Def. 15) which are immediate constituents of a chain can occur in the chain in question whilst the other is zero". In symbols: ab. This may be either a case of sub-ordination, or of inter-ordination, but not of coordination.

Def. 12b "Unilateral occurrence independency" or "unilateral occurrence dependency" for "relation such that one of two entities in direct relation (see below) which are immediate constituents of a chain can occur in the chain in question whilst the other is zero, but the other one cannot". In symbols [a]b or a[b], the square brackets indicating the occurrence-dependent entity: i.e. it requires the other entity for its occurrence, but not vice versa. Such an entity between square brackets is called an "expansion" (see below). This is always a case of sub-ordination.

Def. 12c "Bilateral (or mutual) occurrence independency" for "relation such that each of two entities in direct relation (see below) which are immediate constituents of a chain can occur in the chain in question whilst the other is zero". In symbols [a] [b]. Occurrence dependency, etc., has to be carefully distinguished from functional dependency, etc. Bilateral occurrence independency is always a case of coordination.

Def. 13a "Nucleus" or "governing entity" for "entity in nuclear position (see Def. 11a)". In symbols b ⟶ a, [b] ⟶ a, a ⟵ b, or a ⟵ [b], in which a is the nucleus. The nucleus is the "identity-element" in the chain in question, i.e. the tactic functions of all other elements depend on their relation towards the nucleus.

Def. 13b "Peripheral entity" or "governed entity" or "determinant

entity" for "entity in peripheral position (see Def. 11a)". In symbols b ⟵ a, b ⟵ [a] , a ⟶ b, or [a] ⟶ b, in which a or [a] , is peripheral.

Def. 13c "Expansion" for "immediate constituent that commutes with zero". In symbols: [a] ⟶ b, in which [a] is an expansion; also [a] ↔ [b], in which both [a] and [b] are expansions. Complex expansions may contain entities that are themselves not expansions, e.g. [[a] ⟶ b] ⟶ c, or even [a ⟶ b] → c.

Def. 13d "Bound entity" or "actualiser" (cf. Martinet's concept of "actualisation; see below) for "peripheral immediate constituent that does not commute with zero". In symbols: a ⟶ b, in which a is a bound entity.

Def. 13e "Free nucleus" for "nuclear immediate constituent that does not require the presence of a non-zero peripheral constituent. In symbols a ⟵ [b] , in which a is a free nucleus.

Def. 13f "Actualisation" for "situation in which a nuclear immediate constituent requires the presence of a non-zero peripheral constituent." In symbols a ⟵ b, where a is said to be actualised, and b is said to be a bound entity (Def. 13d) or actualiser. There is a resemblance here with Martinet's concept of "actualisation", but my use of this term is not confined to the actualisation of predicates.

Def. 14a "Disjunctive or diverse determination" for "complex tactic relation such that two or more peripheral immediate constituents are subordinated to the same nucleus, but in different ways". I.e. a R_x c and b R_y c, where a and b are peripheral, c is nuclear, and R_x and R_y are different tactic relations (relators). In symbols:

$\frac{a}{b} \Big| \longrightarrow c$ Example: $\frac{he}{him} \Big| \longrightarrow$ hit "he hit him".

Def. 14b "Conjunctive or parallel determination" for "complex tactic relation such that two or more peripheral immediate constituents are subordinated to the same nucleus, but it cannot be ascertained that they are so in different ways". I.e. a R_x c and b R_y c, where, as far as we know, $(x \neq y)$, i.e. $x = y$. In symbols:

$\left.\begin{matrix} a \\ b \end{matrix}\right] \longrightarrow c$ Example: $\left.\begin{matrix} the \\ old \end{matrix}\right] \longrightarrow$ man "the old man".

This situation differs from certain cases of coordination,

i.e. $(a \not\leftrightarrow b) \longrightarrow c$, which, indeed, implies $a\ R_x\ c$ and $b\ R_y\ c$, where $x = y$, but where a and b stand in a direct tactic relation, and hence are together one immediate constituent (rather than two separate ones) in respect to c. Because in cenotactics (phonotactics) all relations must involve time or space in a functional capacity, parallel determination cannot obtain in cenotactics (phonotactics), only in syntax, e.g.

$$/pit/ = p \longrightarrow i \longleftarrow t = \left.\begin{matrix} p \\ t \end{matrix}\right| \longrightarrow i, \text{ rather than } \left[\begin{matrix} {}^{*}p \\ t \end{matrix}\right] \longrightarrow i.$$

Various adaptations and combinations within this type of presentation are feasible, especially in syntax. For instance, one can use this type of notation for the abstract presentation of a chain in terms of position only, or combine this with a presentation of an instance of such a chain, and further combine this with an indication of occurrence dependency, e.g.

$$\left.\begin{matrix} a,x \\ b,y \end{matrix}\right| \longrightarrow c,z, \quad \left[\begin{matrix} a,x \\ b,y \end{matrix}\right] \longrightarrow c,z, \quad \left.\begin{matrix} [a],x \\ b,y \end{matrix}\right| \longrightarrow c,z, \text{ or } \left[\begin{matrix} [a],x \\ b,y \end{matrix}\right] \longrightarrow c,z,$$

as the case may be, where x, y and z are positions and a, b and c are entities (or 'zero') in those positions. Furthermore, terms, e.g. a, b and c, if syntactically complex, may be represented themselves in this way whenever feasible, and so on, just as, say, in ordinary algebra. Round brackets or other devices may have to be used in such cases in order to show the immediate constituent structure, just as, say, in ordinary algebra. A useful further convention with respect to occurrence dependency could be: one pair of brackets enclosing more than one item (in separate positions), in those cases where either one, but not, say, both, in the case of two items, is an expansion, e.g.

$$\left[\begin{matrix} [\text{the}] \\ [\text{one}] \\ \text{old} \end{matrix}\right] \longrightarrow \text{man}$$

This formula accounts for "the man", "the old man", "one man", "one old man", "the one man", "the one old man", but it excludes "old man".

Def. 14c "Underlying structure" for "abstract representation of a chain in terms of positions with or without indication of functional dependencies, or occurrence dependencies". E.g.

$$\left.\begin{matrix}x\\y\end{matrix}\right| \rightarrow z, \quad \left]\begin{matrix}x\\y\end{matrix}\right. \rightarrow z, \quad \left.\begin{matrix}[x]\\y\end{matrix}\right| \rightarrow z, \quad \left]\begin{matrix}[x]\\y\end{matrix}\right. \rightarrow z,\ xyz,\ [x]\ yz,$$

where x, y and z indicate positions, and are in the presentation of the underlying structure usually replaced by convenient labels indicating the positions, e.g.

$$\left.\begin{matrix}\text{subject}\\\text{object}\end{matrix}\right| \rightarrow \text{predicative}, \quad \left.\begin{matrix}\text{subject}\\[\text{object}]\end{matrix}\right| \rightarrow \text{predicative}$$

Def. 15 "Direct relation" for "relation between constituents (not necessarily immediate constituents) that is not a relation via other constituents". The relation of "being in relation with", if not further qualified, is transitive. I.e. a R b and b R c implies a R c. When also the converse is true, i.e. a R c implies a R b and b R c, the relation a R c, is by virtue of a R b and b R c - in fact a R b and b R c, on the one hand, and a R c on the other, are in that case equivalent. We may, then, say that the relation a R c is via b, a R c is, consequently, not a direct relation. In all other cases, it is a direct relation. In semiotic systems there are direct relations between peripheral immediate constituents and the nucleus, and between the immediate constituents in coordinative and in inter-ordinative constructions. As these are relations between immediate constituents, they are at the same time tactic relations, and, consequently, they are direct tactic relations. There are also direct relations between the nuclei of peripheral constituents and the nucleus of the corresponding nuclear constituent - the nuclei constitute, as it were, the joints in multiply complex constructions - but as the nuclei in that case are mere constituents, not immediate constituents, such relations are direct, but not tactic, relations, i.e. direct non-tactic relations. Relations between peripheral immediate constituents in a subordinative construction are tactic, but not direct, i.e. they are indirect tactic relations. All other relations between constituents are indirect non-tactic relations, and as such uninteresting. Also in the case of quasi-tactic relations (apposition) which are, of course, non-tactic,

we may, in the case of appositional complexes, distinguish between direct and indirect relations, i.e. "John, a carpenter in Crail, a little town in Fife, Scotland" there is a direct quasi-tactic relation between the first and the second, between "Crail" and the third, and between "Fife" and the fourth part. The relation between "John" and "carpenter", that between "Crail" and "town", and that between "Fife" and "Scotland" is direct but not even quasi-tactic, and therefore of little interest, and all the other relations are even less interesting, as they are not direct nor even quasi-constructional.

Axiom C. Figurae may have para-cenotactic features and signa may have para-syntactic features

Def. 16 "Para-tactic features" for "para-cenotactic or para-syntactic features". In natural language these are usually, but (from a functional point of view) inappropriately, lumped together under the term "prosody". This is because their phonetic substance is usually simple "pitch" or "amplitude", or a mixture of the two. The lack of variation in substance leads to a great deal of amalgamation (physical simultaneity) and layering at the phonetic level, and disentanglement at this level is usually impossible. The following definitions make disentanglement possible at both the cenological and the grammatical, and within these at the contrastive, as well as distinctive levels. Another type of para-tactic feature, frequently encountered in natural language, is differences in sequential order, i.e. permutation of the tactic entities involved. E.g. "can he do it" versus "he can do it". This should not be confused with permutation as a means of expressing syntactic relations, e.g. "he hit me" versus "I hit him". The latter are inherent in the tactic construction and, therefore, not para-tactic.

Def. 17 "Para-cenotactic features" for "cenological (phonological) features accompanying, but not determining the identity of, cenotactic (phonotactic) entities". Of course, a cenotactic entity in combination with such features assumes an identity of its own on another level of analysis.

Def. 17a "Contrastive para-cenotactic features" for "features with

the sole function of groupment over and above cenotactic groupment". I.e. para-cenotactic (para-phonotactic) features that give form and unity to cenotactic (phonotactic) complexes as such (i.e. form over and above the inherent form of the cenotactic entities themselves). Typical examples are "juncture", and normal unit-accent, e.g. so-called "word accent", "word-group or phrase accent", etc. Juncture, especially when not always realised by "pause", is frequently a function of accent. To be distinguished from unit-accent, which - after Martinet - I prefer to call "contrastive accent", is "connotative stress" and other features fulfilling the same function, which may be considered as (usually non-discrete) features of an auxiliary semiotic system used to draw attention to specific parts of an utterance, at the cost of others, and so adds connotation to the denotation, which remains constant. Examples of connotative stress are seen, for example in the difference between "he hit him", "he hit him", and "he hit him" (the stressed parts are in italics), which have the same denotation, but which are different as to connotation. Of a similar nature, and often occurring in conjunction with the former, is what one might call "connotative modulation", which usually takes the form of pitch-modulation", similar to appearance to, but to be distinguished from, the phonetic forms according to intonation (see below).

Def. 17b "Distinctive para-cenotactic features" for "para-cenotactic features that are in a relation of commutation (see Def. $7a^2$) with one or more other para-cenotactic features, or with 'zero'". A typical example in natural language is "tone", as, for instance in Chinese. Also the phonological forms (see below) of distinctive intonations (see below) are distinctive para-phonotactic features, whilst the intonation themselves are distinctive para-syntactic features (see below).

Def. 18 "Para-syntactic features" for "features accompanying, but not determining the identity of, syntactic entities". Of course, a syntactic entity in combination with such features assumes an identity of its own on another level of analysis.

Def. 18a "Contrastive para-syntactic features" for "features with the sole function of groupment over and above syntactic groupment". I.e. para-syntactic features that add further organisation to syntactic complexes as such. Typical examples in natural language are cases of "suspensive" clause intonation, usually in writing, symbolised by a comma, which may help to distinguish between say, "John bought a horse, Peter sold it again." (one sentence), and "John bought a horse. Peter sold it again." (two sentences), and cases of so-called "thème and propos" (or "topic and comment") arrangement, e.g. "John, is not a bad guy", as opposed to "John is not a bad guy". Such features may also affect variance, e.g. "John, he is not a bad guy.", but not "John he is not a bad guy.", or "It was Napoleon, who lost at Waterloo." as opposed to "the one who lost at Waterloo was Napoleon." The items "he" and "it" are here not functional, but allomorphic (see Def. 24a[1]). Also cases of "apposition" (see Def. 11d) are often formally marked by such features. The latter example involves permutation and lexical allomorphy simultaneously. The permutation itself is here also a type of allomorphy, or rather it contributes to the allomorphy of the whole at the syntactic level. But at the para-syntactic level it constitutes a contrastive para-syntactic feature in its own right.

Def. 18b "Distinctive para-syntactic features" for "para-syntactic features (of a plerematic nature, i.e. involving both form and information-value) that are in a relation of commutation (see Def. 7a[2]) with one or more other para-syntactic features. A typical example in natural language is "sentence-intonation". Note, for instance, the difference between "John goes home.", "John goes home?" and "John goes home!." It has to be distinguished from the clause-intonation in "John goes home, ...". which is contrastive, rather than distinctive. Nevertheless, sentence-intonation is at the same time clause-intonation, and therefore contrastive, as it is a para-syntactic feature of the last, or the only, clause in the sentence (for "clause" and "sentence", see below). However, this is not the sole function of sentence-intonation, and the latter is, therefore, a distinctive,

rather than a contrastive, para-syntactic feature. There are several complications with respect to "intonation", owing to the fact that the systems involved are infinite, i.e. there is no discrete set of members. This is not the place to go into all of them. Suffice it to say that, as far as I know, all systems exhibit a cline from suspensive [,], to final [.], and, within this, from non-emphatic [,] or [.], to emphatic [?] or [!] respectively. We can represent this by the following square (Fig. 1):

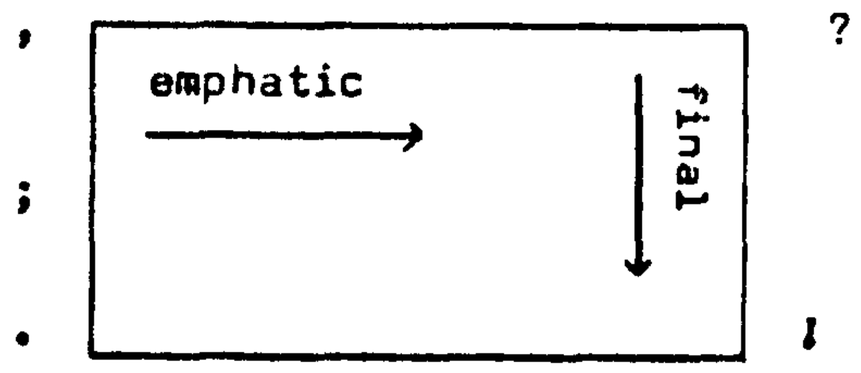


FIG. 1

The most common situation seems to be that "suspensive" is phonetically mainly characterised by a rising pitch, "final" by a falling pitch, whereas the degree of emphasis is characterised by the steepness of the rise or fall in pitch, often accompanied by an increase of amplitude. The "form" of an intonation may correspond to any point on this square, and the information-value of the intonation stands in a direct relation to its relative form (i.e. "relative" within its potential range of variation within the above square).

Def. 19 "Para-tactic (i.e. para-cenotactic or para-syntactic) unit" for "Self-contained entity constituted by tactic (i.e. cenotactic or syntactic) entities, together with accompanying para-tactic features". The tactic entities involved are called the "base" of the unit. For instance, in natural language, a sentence is constituted by its base (one or more syntactic entities) and a sentence intonation (a distinctive para-syntactic feature). Similarly a clause is constituted by its base (one or more syntactic entities) and a clause-intonation (a contrastive para-syntactic feature). In phonology, a word-accent-group consists of a base (the complex of one or more phonotactic entities, usually roughly corresponding with the phonological form of a word in terms of phonemes) and a so-called word-accent. A phrase-accent-group is a complex of the latter, together

with a superimposed so-called phrase-accent, or a combination of phrase-accent-groups together with a further phrase-accent, and so on. A tone-unit, e.g. tone-syllables in Chinese, is a phonotagm, together with its tone. E.g. in Pekingese, where there is distinctive opposition between four tones and "zero", "ma^{1}", "ma^{2}", "ma^{3}", "ma^{4}", and "ma" correspond to one and the same phonotagm, but are different para-phonotactic units. Of a similar nature are such cases as, for instance, in English, "contract" "contract", i.e. distinctive place of accent.

Def. 19a "Complex para-tactic unit" for "self-contained entity constituted by two or more para-tactic units, together with further accompanying para-tactic features". Because of amalagmation these "further" features may be superimposed on para-tactic features of one or more of the constituents themselves. An example in phonology has already been mentioned under Def. 19, i.e. a phrase-accent group.

Axiom D. All semiotic systems contain sentences

Def. 20 "Sentence" for "signum with such features that it cannot be a feature (constituent, or other feature) of another signum". Alternative definition: "signum such that it is a self-contained vehicle for conveying messages". It should be noted that other signa, even though they have information-value, can only convey messages if and when belonging to, or constituting the base of, a sentence. That is, the notions "information-value" and "message" have to be distinguished.

Def. 20a "Clause" for "potential constituent (perhaps the only one) of a sentence". "Constituent" should, of course, not be confused with "feature". Sentence-base (see below), and intonation, for instance, may both be "features" of a sentence, but not "constituents". Constituents (Def. 7f^{1}) are entities of equivalent status within a self-contained combination of such entities. In semiotic systems where sentences are para-syntactic units (as in natural language), clauses must, therefore, be para-syntactic units as well.

Def. 20b "Base" for "in a para-tactic unit, the total complex of

those features that corresponds (on another level) to tactic entities". E.g. in Pekingnese /ma/^{2} (i.e. the syllabic /ma/ under the rising tone), the base is the phoneme-complex (phonotagm) /ma/. Example from syntax: the sentence-base of "I believe he is a good chap." is the corresponding syntagm (i.e. without the intonation). Of course, in semiotic systems with no para-syntactic features, i.e. where the sentential level is part (the highest) of the hierarchy of the syntactic level (this would imply that there is no extensional difference between sentence, base, and syntagm) these distinctions can be ignored. Sentences in such a system are just certain types of syntagm. Similar considerations hold for systems with no syntax, let alone for systems with no grammar.

Def. 20c "Sentential features" for "such features - belonging to the base, or additional to the base (in the latter case they are by definition para-syntactic) - as determine particular signa to be sentences, or constituents of sentences".

Def. 20c^{1} "Sentential markers (sentence markers or clause-markers)" for "sentential features belonging to the base of sentential entities (i.e. sentences or clauses)". Alternative definition "sentential features that are not para-syntactic features". Examples in English are such syntagms as "isn't he", etc., at the end of a sentence-base, or clause-base.

Def. 21 "Ellipsis" for "realisation of a syntagm, such that one or more of its constituents are not realised at the utterance level". This implies that ellipsis belongs to realisation, rather than to the form of a signum. It does not have to be accounted for, except at the utterance-level, and the phenomenon can therefore be ignored in syntax, i.e. in syntax one regards the constituents as being present. Still it is sometimes difficult to recognise ellipsis for what it is. The following are mere rules-of-thumb for solving the problem. In the first place, it is typical for ellipsis that the message would not be affected if the "missing" element(s) were to be reincluded. Consider "John eats" versus "John eats soup". The addition of "soup" may change the message, if only by making it more specific, and "John

eats" is, therefore not elliptical. An utterance such as "John hit, and Peter pushed him" is elliptical. In the first place it satisfies the necessary condition just mentioned, i.e. the addition of "him" after "hit" cannot change the message. A second necessary condition for ellipsis is satisfied as well, i.e. without the "missing" element it is not a well-formed syntagm. That is "John hit" is not a syntactic constituent. To describe it as:

" $\left(\text{John} \longrightarrow \text{hit}\right) \longleftarrow \left[\text{and} \longleftarrow \left(\frac{\text{Peter}}{\text{him}} \,\middle|\, \longrightarrow \text{pushed}\right)\right]$ ",

would imply that "John hit" alone commutes with the whole, which in its turn would imply that "John hit" is well-formed. This is obviously not the case. The above two necessary conditions, taken together, constitute a sufficent condition for regarding utterances as elliptical from a syntactic point of view. Compare this with "young elephants and monkeys" in the sense of "young elephants and young monkeys". The first necessary condition is fulfilled, but not the second. The part "elephants and monkeys" i.e. "elephants $\longleftarrow$ [and $\longleftarrow$ monkeys]", is syntactically well-formed, and so is the whole of young $\rightarrow$ [elephants $\longleftarrow$ [and $\longleftarrow$ monkeys]] . I should like to add a third necessary condition for recognising true ellipsis, i.e. the missing element(s) should be unequivocally recoverable. Otherwise one might also include such cases as, e.g. "No, not a cow, a horse", as an answer to, say, "Did he buy a cow?" It is clear that the criterion of unequivocal recoverability is not satisfied here. There is little point in recognising a separate type of ellipsis, to be called, perhaps, "sentential" ellipsis.[3] It would even be absurd to call it ellipsis, as a legitimate question would then be: "What does it stand for?" The answer to this could then only be that it can stand for any number of different sentences, e.g. "No, what he bought was not a cow, but a horse", "No, he did not buy a cow, but a horse", etc. This exposes the absurdity of the question by the absurdity of the answer. At the sentential level we must, therefore, consider ellipsis to play no role at all, and the only

analyses possible at that level are one into constituents, the clauses, and one into base and para-syntactic features. It is, as I said, irrelevant at the sentence level whether the base corresponds to a well-formed realisation of a syntactic structure. It is only at a different level, i.e. the syntactic one, that ellipsis becomes an issue, and from the point of view of that level we may say that it is merely a matter of "defective" realisation of a syntactic entity as an utterance. The fact that, in normal communication, all realisation presupposes utterances of sentences, is, analytically speaking, irrelevant. There is no reason why one could not recognise the realisation of something to be not well-formed at one level, but perfectly well-formed at another. After all, a similar discrepancy may occur between phonological and grammatical well-formedness, morphological and syntactic well-formedness, syntactic and semantic well-formedness etc. In this theory - I should like to stress this - the syntactic and the sentential levels are regarded as entirely different levels. The latter occupies an important position in the whole of linguistic analysis, because all realisation, as I said already, presupposes sentences, and actual sentences (but not necessarily the abstract sentential level) have, therefore, constantly to be referred to, especially when decisions as to matters of identity (on all other levels) are concerned. It is, indeed, via sentences that the ultimate identity of any semiotic feature is to be established, but once established such a feature has become a member of its proper inventory of features, and is, from that moment onwards, independent of the sentence-utterances it may be instanced in. In order to avoid a common confusion, it should be noted that there are no ill-formed entities in language, i.e. "well-formedness" or "not well-formedness" is always a matter of realisation with respect to a particular level of analysis, not of entities at the level in question. As true ellipsis is such a common feature, and in many cases even the realisational norm, rather than the exception, one might wish to have a formal notation for constructions such as "John hit and Peter pushed him". Such a notation could be:

$$\left(\frac{\text{John}}{\boxed{\text{him}}} \;\middle|\; \longrightarrow \text{hit}\right) \longleftarrow \left[\text{and} \longleftarrow \left(\frac{\text{Peter}}{\text{him}} \;\middle|\; \longrightarrow \text{pushed}\right)\right],$$

the box indicating the suppressed part in the realisation. One might be tempted to call ellipsis: "conflation", were it not that this term is equally applicable to such cases as "young elephants and monkeys", when meaning "young elephants and young monkeys". In the case of conflation, covering both the latter case and ellipsis, the element that could have been inserted without affecting the message is clearly separately relevant to the denotation of the whole. But in the case of ellipsis this is <u>directly</u> the case, whereas in the other cases the conflation is a function of the semantic import of the syntactic structure, or of the denotation of some of the parts or both, i.e. the conflation is ultimately a matter of semantics. That is, suppressed "him" in "John hit and Peter pushed him" has full and separate denotational force, and we can, therefore, truly say that structurally it is there, but that it is <u>suppressed</u> in realisation. In "young elephants and monkeys", "young" determines the whole complex "elephants and monkeys", i.e. "young ⟶ (elephants ⟵ [and ⟵ monkeys])" and , therefore everything in it. We cannot say here that anything is "suppressed". Compare this with the other reading of "young elephants and monkeys" (i.e. monkeys young and old) which can syntactically be represented as "(young ⟶ elephants) ⟵ (and ⟵ monkeys)," which does not involve conflation.

<u>Axiom E.</u> <u>"There may be a many-to-one relation between realisation form and</u> figura (<u>allophony), and between cenological form and</u> signum (<u>allomorphy), and</u> vice versa (<u>homophony and homomorphy respectively</u>)"

Def. 22 "Realisation form (symbolisation: $\int$)" or "substance form" for "generalised model for a class of impressionistically similar phenomena that may correspond to one or more figurae". Because of the generalisation involved, a realisation-form is already a <u>class</u> of what one could call "images", these being "models" of the unique form of a single realisation.

If we symbolise image as i, i.e. $\int$ = i , we may, in anticipation of what follows, define "utterance" as "i R s", (where "s" stands for the distinctive function of a particular signum), i.e. as "a model (image) for the specific form of a single realisation in its capacity of standing in a relation with the particular distinctive function of a particular signum." This is in agreement with Hervey's definition of "utterance" as "a model for a single realisation of a signum", and with his tenet that a signum, is a class of utterances. The same considerations of "equivalence", mentioned below with regard to "signum", "expression", and "content", apply here too.

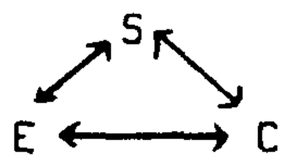
Def. 22a "Phonetic form" for "realisation form in natural language". A phonetic form is, for instance, the phonetic feature "labiodental", or the class of denotata corresponding to a "letter" in the International Phonetic Alphabet, duly defined within Phonetics. In general, all phonetic features that may be the realisations of figurae are phonetic forms. As far as linguistics (phonology) is concerned, phonetic forms (as all realisation forms) have the status of mere generalised "protocols", i.e. statements of fact, notwithstanding that there exists a highly developed science (phonetics) that provides us with those "protocols".

Def. 23 "Phonological form (symbolisation: p; formally defined as $\{f\}^x$ R d^x, see below)" for "a particular self-contained class of one or more phonetic forms $\{f\}$, each member f in its capacity of standing in a relation with a particular distinctive function d". Alternative definitions: "A class of all and only the phonetic forms able to be, and in their capacity of being, distinctive, in a particular way, with respect to a message, in the language in question", "self-contained class of allophones". Mutatis mutandis, with a change of terminology, these definitions can be applied to other Semiotic Systems as well. The same holds for the remainder of the definitions.

Def. 23a "Allophone or "phone" (formally defined as f^x R d^x , where f^x e $\{f\}^x$, and it is the case that $\{f\}^x$ R d^x) for " a particular phonetic form f, member of a particular class of phonetic forms $\{f\}$, in its capacity of standing in a

relation with a particular distinctive function d".
Alternative definitions: "A particular phonetic form f in its capacity of having a particular distinctive function d", "member of a phonological form (as a class)". Though "allophone" is partly derived from Greek "allos" (different) and, strictly speaking, the term, therefore, is only appropriate in the case of a class having more than one member, by convention the term "allophone" is used also in those cases where the term "phone" would seem to be more appropriate. The same goes for "allomorph" and "morph". The relation of allophony can be defined as: f^x R d^x ~ f^y R d^x, where $x \neq y$.

Def. 24 "Signum" (formally defined as E & C, or as $\{p\}^x$ R s^x & s^x R $\{p\}^x$)" for "the conjunction of a particular expression and a particular content, which mutually imply one another" (alternative definition to Def. 2a). As also a particular signum and a particular expression, and, therefore, a particular signum and a particular content mutually imply one another, we can represent this as follows:



As this implies equivalence between signum (S), expression (E) and content (C) in any statement using any of these terms, we can, in practice, ignore the difference between S, E and C. Though, if we define (see below) E as $\{p\}^x$ R s^x, C as s^x $\breve{R}$ $\{p\}^x$, we have to define S as $\{p\}^x$ R s^x & s^x $\breve{R}$ $\{p\}^x$, we are allowed, for reasons of simplicity, to act as if S were simply $\{p\}^x$ R s^x.

Def. 24a "Expression (symbolised E, formally defined as $\{p\}^x$ R s^x)" for "a particular self-contained class of one or more phonological forms $\{p\}$, each member p in its capacity of standing in a relation with a particular distinctive function s". Alternative definitions: "A class of all and only the phonological forms able to be, and in their capacity of being, a phonological form of an instance of a particular signum", "self-contained class of allomorphs". The latter definition by equivalence (see above), is also appropriate for defining content, and signum. The symbol s, standing for the

distinctive function of a signum, is chosen in order to distinguish it from d, which stands for the distinctive function of a figura. Distinctive function s (in the case of "signs") is properly included in "semantic function", from which it has to be distinguished. The difference is, however, only important in the case of "synonyms", which have the same semantic function, but - as they are different signs - different distinctive functions.

Def. 24a[1] "Allomorph" or "morph" (formally defined as p^x R s^x, where p^x e $\{p\}^x$, and it is the case that $\{p\}^x$ R s^x) for "a particular phonological form p, member of a particular class of phonological forms $\{p\}$, in its capacity of standing in a relation with a particular distinctive function s". Alternative definitions: "A particular phonological form p, in its capacity of having a particular distinctive function d", "member of an expression (or, by equivalence, of a content or a signum) (as a class)". The relation of allomorphy can be defined as: p^x R $s^x \sim p^y$ R s^x, where $x \neq y$.

Def. 24b "Content (symbolised C, formally defined as s^x $\breve{R}$ $\{p\}^x$)" for "a particular distinctive function s, in its capacity of being the particular distinctive function s of each member of a particular class of phonological forms $\{p\}$. Alternative definition: "the converse of expression".

Def. 25 "Homophone" for "allophone of one figura having the same phonetic form as an allophone of another figura". Formalised definition: f^x R $d^x \sim f^x$ R d^y, where $x \neq y$.

Def. 26 "Homomorph" for "allomorph of one signum and having the same phonological form as an allomorph of another signum". Formalised definition: p^x R $s^x \sim p^x$ R s^y, where $x \neq y$.

Def. 27 "Homonym" for "total class of allomorphs of one signum, in comparison with and its members having the same phonological forms as those of the total class of allomorphs of another signum". Formalised definition: $\{p\}^x$ R $s^x \sim \{p\}^x$ R s^y, where $x \neq y$. One could define "homonymy", informally, as "total homomorphy between signa".

Def. 28 "Synonym" for "signum, in comparison with and having the same intrinsic information value (denotation) as another signum". By implication these signa differ from one another in the class of phonological forms of their allomorphs.

Formalised definition: $(\{p\}^x\ R\ s^x)\ R\ D^x \sim (\{p\}^y\ R\ s^y)\ R\ D^x$, where $x \neq y$, D = "denotation". It goes without saying that, if we speak about "different signa", we mean "different signa belonging to the same Semiotic System", as comparison of signa from different systems with respect to their distinctive functions and, consequentially, their identities, is meaningless, even though signa of different systems may conceivably have the same denotation (i.e. referential correspondence with the same class of denotables).

Def. 29a "Word" for "plereme, as a class of allomorphs, established in such a fashion that all its members have a continuous (i.e. uninterrupted) phonological form".

Def. 29b "Grammateme" for "plereme, as a class of allomorphs, established in such a fashion that some of its members have a non-continuous (i.e. interrupted) phonological form". The problem of having to distinguish between "word" and "grammateme" arises especially in languages that exhibit the feature of so-called "concord", i.e. contextual variance with regard to allomorphs of words, which variance is governed by the use of another constituent in the construction. A classical example of this is so-called "gender", as, for instance, in French or German. In French, for instance, we may say that "la grande montagne blanche", /la grãd mõtañ blãš/, contains as constituents, four pleremes. Now, it is equally correct to say that the phonological form of these pleremes, in this particular instance, is /la/, grãd/, /mõtañ/, and /blãš/ respectively, as it is to say that their phonological form is /l/, /grã/, /a...d mõtañ...š/, and /blã/ respectively. In the first case we have to add that /la/, /grãd/, and /blãš/, are affected by "concord", i.e. that their variance is governed by the fact that they are in construction with a so-called masculine "noun", as this is not immediately clear that "motan" governs the variance, but we have separately to account for the fact that the particular phonological form the other entities assume is governed rather by the identity of the pleremes "la", "grand", and "blanc", and only the fact that they assume that form is governed by their being in construction with the plereme "montagne". The two ways of presentation are, therefore, complementary,

rather than being in competition. As the difference between the two modes is intensional, rather than extensional, i.e. it does not affect the identity of the pleremes in question, one can use either, or both, according to the convenience, or according to the emphasis on the one, or the other, aspect of the case. The term "grammateme" can also be used, irrespective of whether there is "concord" involved, in other cases where the phonological form of a plereme is discontinuous, or crosses boundaries of what is normally the phonological form of a word. E.g., in English, the plereme "can afford to" can be called a grammateme, rather than a word, and so can, say, the plereme "umbringen" in German, in view of allomorphs having such phonological forms as /brin...um/, etc. In the last two examples, the pleremes in question can only be set up as "grammatemes", not as "words". In the earlier examples, they can be set up in both ways. Some pleremes can only be "words", as they cannot be set up in such a way that some of their allomorphs have discontinuous phonological forms. Some languages may have only one type of plereme, others may have only two of the three (i.e. only establishable as words, only as grammatemes, and both as words and as grammatemes).possible types of pleremes one may find in a language. Of course, by definition every language has pleremes. Any semiotic system that has a syntax must have minimum syntactic entities, i.e. pleremes. Cf. Def. 8b[1]. Pleremes are the grammatical analogues of cenemes (phonemes), just as monemes are the grammatical analogues of distinctive features (cf. Def. 8b[3]).

NOTES

1. "or" in formal postulates has to be understood as "and/or".

2. For much of the syntactic part of the theory I owe gratitude to A.H.C. Ward, in Toronto, with whom I had extensive correspondence and many discussions about this topic. Professor Ward was working on a syntax for Ancient Chinese along axiomatic functionalist lines.

3. My attention was drawn to the fact that this would be redundant by a student of the 1977/78 Syntax Seminar at St. Andrew's, Carmel Fogarty. She made similar useful observations with regard to it being redundant to recognise <u>apposition</u> (Def. 11d) at the sentential level.

APPENDIX B

Phonemes of Kamali Arabic and their Realizations

The phonemes of Kamali Arabic and their realizations (as described by S. Hadj-Mohamed in "A Phonological Description of Kamali Arabic", St. Andrews M. Litt. thesis, 1976) are listed below. The different realizations of a phoneme depend to a large extent on the phonetic context in which it occurs. For the purpose of the present work, however, it is sufficient to give the general and most common realization of each phoneme with an example from the data.

phoneme /b/ occlusive labial realized as [b] in [bas] 'enough'.

phoneme /f/ fricative labial realized as [f] in [fa:t] 'he entered'.

phoneme /m/ labial nasal, realized as [m] in [ma:t] 'he died'.

phoneme /n/ apical nasal realized as [n] in [na:s] 'people'.

phoneme /t/ occlusive apical unvoiced realized as [t] in [ti:n] 'figs'.

phoneme /d/ occlusive apical voiced realized as [d] in [di:n] 'religion'.

phoneme /ṭ/ occlusive apical emphatic realized as [ṭ] in [ṭi:n] 'mud'.

phoneme /θ/ occlusive fricative unvoiced realized as [θ] in [θa:r] 'he rebelled'.

phoneme /ð/ occlusive fricative voiced realized as [ð] in [ðar] 'he sprinkled'.

phoneme /ð̣/ occlusive fricative emphatic realized as [ð̣] in [ð̣ar] 'he harmed'.

phoneme /č/ occlusive hushing unvoiced realized as [č] in [čo:l] 'desert'.

phoneme /ž/ occlusive hushing voiced/emphasis realized as [ż] or [dž] in [ža:b] 'he brought'.

phoneme /š/ fricative hushing realized as [š] or [ʃ] in [ʃar] 'evil'.

phoneme /k/ occlusive dorsal unvoiced realized as [k] in [kta:b] 'a book'.

phoneme /g/ occlusive dorsal voiced realized as [g] in [ga:s] 'he touched'.

phoneme /q/ occlusive dorsal emphatic realized as [q] in [qa:l] 'he said'.

phoneme /x/ fricative dorsal unvoiced realized as [x] in [xa:l] 'uncle'.

phoneme /ɣ/ fricative dorsal voiced/emphatic realized as [ɣ] in [ɣa:li] 'expensive'.

phoneme /ʔ/ occlusive glottal unvoiced realized as [ʔ] in [ʔa:li] 'mechanical'.

phoneme /ʕ/ occlusive glottal voiced/emphatic realized as [ʕ] in [ʕa:li] 'high'.

phoneme /h/ occlusive glottal unvoiced realized as [h] in [had] 'he knocked down'.

phoneme /ħ/ occlusive glottal voiced/emphatic realized as [ħ] in [ħad] 'limit'.

phoneme /s/ hissing unvoiced realized as [s] in [sam] 'poison'.

phoneme /z/ hissing voiced realized as [z] in [zam] 'he held'.

phoneme /ṣ/ hissing emphatic realized as [ṣ] in [ṣam] 'he closed'.

phoneme /l/ lateral unvoiced/voiced realized as [l] in [ʷalla] 'he went away'.

phoneme /l̩/ lateral emphatic realized as [l̩] in [ualla] 'by God'.

phoneme /r/ apical rolled realized as [r] in [ra:s] 'a head'.

phoneme /a/ short neutral realized as [a] in [mal] 'he got bored'.

phoneme /ā/ long neutral realized as [a:] in [ma:l] 'it tilted'.

phoneme /i/ short spread realized in nuclear position as [i] in [sin] 'a tooth', and in peripheral position as [j] in [ja:bis] 'dry' and [ča:j] 'tea'.

phoneme /ī/ long spread realized as [i:] in [si:m] 'wire'.

phoneme /u/ short rounded realized in nuclear position as [u] in [mur] 'bitter', and in peripheral position as [w] in [wa:di] 'a valley' and [law] 'if'.

phoneme /ū/ long rounded realized as [u:] in [bju:t] 'houses'.

phoneme /ē/ long front mid-high realized as [e:] in [be:t] 'a house'.

phoneme /ō/ long back rounded realized as [o:] in |mōz| 'banana'.

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ADDENDA

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71 (1) The prefix "in" indicates complete absence of object, and by implication absence of an indirect object; e.g. "intransitive" has no object at all.

77 The syntagm "lbint thib lsafar"(the girl likes travelling) should be used instead of "lmara tbi li ab"(the woman sells toys).

92 The syntagm "sani habbab ?axu saiiartu"(Sami made his brother like his car) should be used instead of "sami baiia ?axu saiiartu"(Sami made his brother sell his car)

190 The syntagm "she explained the situation to him" is a better example of an "optional complementary transitive" (xii). But even this syntagm seems to be a marginal example. And since no other syntagm in English could be found to fill up the positions in the model in question in an adequate manner, the syntagm (xii) may have to be rejected.

196 Use "sill" instead of "sick" throughout the chapter.

208 Use "Suspension of Contrastive Functions within the Nominal Syntagm" instead of "Neutralization within the Nominal Syntagm"; the term "suspension" should be used instead of "neutralization" throughout this section

NB. It is more appropriate to use the term "direct object" instead of "object", and "non-indirect object" instead of "non-direct" throughout this work.