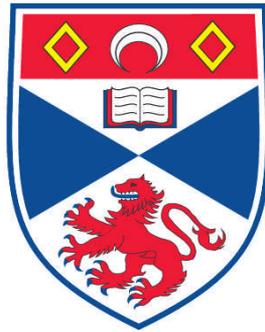


A DESCRIPTION OF 'ASPECTUAL' PHENOMENA IN ARABIC

Sami J. Sitrak

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



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A DESCRIPTION OF 'ASPECTUAL' PHENOMENA
IN ARABIC

By

SAMI J. SITRAK

A thesis submitted for the Degree of Doctor of
Philosophy in the University of St. Andrews

May 1986

ABSTRACT

The present work is mainly concerned with a description of the morphological and syntactic analyses of the predicative aspectual phenomena in Modern Standard Arabic using Axiomatic Functionalism as its theoretical framework.

The thesis consists of an introduction, three major parts, and a conclusion. The introduction deals with a brief overview of the Axiomatic Functionalist theory. Part one, which comprises four chapters, offers a brief account of the theoretical background of this work as well as presenting the predicative (verbal and non-verbal) aspectual phenomena in MSA. Chapter I discusses the term 'aspect', and the relation between lexical and grammatical aspect. Chapter II discusses the Arabic language, particularly the category of 'aspect'. Chapter III discusses the interaction between punctuality and aspect. Chapter IV is exclusively devoted to methodology; it explains an explanation of the essential and relevant theoretical notions in grammar, uniting the description to the theory. It also provides a step-by-step application of successive criteria for discriminating between morphological complexes and syntactic complexes.

The second part (Chaps. V & VI), deals with morphological analysis. Chapter V analyses the category of verb in Arabic. For this purpose the following paradigms are set up: Verb-root, Aspect, Voice, Person, Gender, and Number. Each of these contains monemes which

which are constituents of the verbal entity. These monemes commute with each other yielding a difference in the message conveyed. The chapter concludes that entities of the verb category in Arabic may contain the constituent monemes, verb-root, perfective, imperfective, active, passive, first person, second person, third person, masculine, feminine, singular, dual, and plural. Chapter VI deals with the realisational aspect of the constituent monemes of the complex pleremes in chapter V. It also deals with the distribution of the allomorphs of the constituent monemes in question.

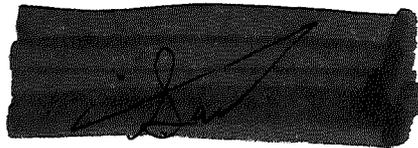
Part three, (Chaps. VII - IX), deals with the syntactic description of the aspectual phenomena in MSA. Chapter VII sets up the distributional unit (model) which accounts for the relations within the VPB syntagm. This chapter tests the adequacy of the model by establishing all the VPB syntagms which map onto it. These syntagms vary according to the type of the verbal nucleus in each of them, (transitive or intransitive and of what kind). It further deals with types of non-verbal nucleus, and the realisations of the predicative based syntagms (verbal and non-verbal). Chapter VIII deals in detail with the syntactic relations within the predicative syntagms. It also deals with the syntactic structures of various aspectual phenomena in MSA. Chapter IX discusses the syntactic relation within the functional syntagm in MSA which may form an immediate constituent in a predicative based syntagm.

A final brief "Conclusion" points out the need for further research and development in Axiomatic Functionalism in the field of "semantic syntagm-analysis".

DECLARATION

- (A) I, Sami J. Sitrak, hereby declare that this thesis which is approximately 81,250 words in length has been written by me, that it is the record of work carried out by me, and that it has not been submitted in any previous application for a higher degree.

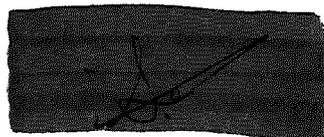
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I HEREBY CERTIFY that the candidate has fulfilled the conditions of the Resolution and Regulations appropriate to the degree of Doctor of Philosophy of the University of St. Andrews and that he is qualified to submit this thesis in application for that degree.

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Supervisor.

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I would like to address a special word of thanks to the Ministry of Education of Iraq for giving me the opportunity to pursue my higher education.

Last, but not least, I am grateful to Mrs. E. Kerr for typing this manuscript.

Table of Modern Standard Arabic Phonemes⁽¹⁾

The following table lists the phonemes of Modern Standard Arabic, together with their major phonetic realisations and examples from the data, as used throughout this thesis.

<u>phoneme</u>	<u>phonetic realisation</u>	<u>example</u>
/b/	labial occlusive [b]	/bāb/ 'a door'
/f/	labial fricative [f]	/fam/ 'a month'
/m/	labial nasal [m]	/māl/ 'money'
/n/	apical nasal [n]	/nār/ 'fire'
/t̤/	apical, occlusive, unvoiced, emphatic [t̤]	/t̤āl/ 'become longer'
/t/	apical, occlusive, unvoiced, non-emphatic [t]	/tāž/ 'crown'
/ḏ/	apical, occlusive, voiced, emphatic [ḏ]	/ḏār/ 'harmful'
/d/	apical, occlusive, voiced, non-emphatic [d]	/dār/ 'house'
/ḏ̤/	apical, fricative, voiced, emphatic [ḏ̤]	/ḏ̤abi/ 'deer'
/ḏ̤/	apical, fricative, voiced, non-emphatic [ḏ̤]	/ḏ̤āq/ 'to test'
/θ/	apical, fricative, unvoiced [θ]	/θar/ 'to rise up'
/ž/	hushing, occlusive [ž]	/žār/ 'neighbour'
/s/	hushing, fricative [š]	/šāb/ 'become grey-haired'

(1) Cf. S.J. Sitrak, A Phonological Description of Modern Standard Arabic, St. Andrews, M.Litt. thesis, 1981.

<u>phoneme</u>	<u>phonetic realisation</u>	<u>example</u>
/ʔ/	glottal, occlusive [ʔ]	/ʔum/ 'a mother'
/h/	glottal, fricative [h]	/ham/ 'anxiety'
/z/	hissing, voiced [z]	/zir/ 'button'
/ṣ/	hissing, unvoiced, emphatic [ṣ]	/ṣām/ 'to fast'
/s/	hissing, unvoiced, non-emphatic [s]	/sār/ 'to walk'
/ġ/	pharyngal, voiced [ġ]	/ġār/ 'shame'
/ħ/	pharyngal, unvoiced [ħ]	/ħāl/ 'condition'
/ḡ/	velar, voiced [ḡ]	/ḡāb/ 'to disappear'
/x/	velar, unvoiced [x]	/xālid/ 'everlasting'
/q/	dorsal emphatic [q]	/qār/ 'tar'
/k/	dorsal, non-emphatic [k]	/kāl/ 'to measure'
/ḷ/	lateral, emphatic [ḷ]	/ualḷāh/ 'by God'
/l/	lateral, non-emphatic [l]	/lā/ 'not'
/r/	r-ness [r]	/rāḥ/ 'to go'
/a/	short, neutral [a]	/ʔab/ 'a father'
/ā/	long, neutral [a:]	/dār/ 'a house'
/i/	short, spread [i]	/min/ 'from'
/ī/	long, spread [i:]	/fīl/ 'an elephant'
/u/	short, rounded [u]	/ḥub/ 'love'
/ū/	long, rounded [u:]	/sūr/ 'a wall'

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INTRODUCTION

The aim of the present work is to provide a relatively exhaustive morphological and syntactic description of verbal aspect and related concepts in MSA, which is the standard language used in conferences, on radio and television newscasts and by educated people on almost all but the very informal occasions as well as in formal speeches. It differs from most other studies on aspect in that it is concerned with one particular language and not a comparison of various individual languages.

The description of the morphological and syntactic relations of the aspectual phenomena in MSA offered here has little in common with any other description of the phenomena in question on account of the theory used (Axiomatic Functionalism) which is based on a different philosophical principle and linguistic outlook. Morphology and syntax are two sub-disciplines of grammar. Both of these sub-disciplines are covered in Axiomatic Functionalism by 'systemology'. It must be pointed out, however, that this theory which is primarily descriptive covers also phonology and semantics. The first extensive public exposition of this theory came in 1968 in Mulder's book Sets and Relations in Phonology: An Axiomatic Approach to the Description of Speech. The term 'axiomatic' in the sub-title of this book designates one of the chief methodological features of this theory, namely the employment of the axiomatic method of theory construction in the

presentation of the set of axioms and definitions that constitute the theory. Axiomatic Functionalism embraces a version of the hypothetico-deductive approach to linguistics. The theory is deductively organised and the description is hypothetical, i.e. the statements in the description are hypotheses about the phenomena which lie within its own scope. As the statements in the description are mere hypotheses, they, therefore, are subject to refutation by confronting them with the data. On the other hand, the statements in the theory are not hypothetical, in that they cannot be tested by confrontation with empirical facts. In this sense, the theory is said to include no "existence postulates" (Hjelmslev, 1969:14).

The axiomatic functionalist theory contains two types of explicitly listed statement: axioms and definitions. The set of axioms and definitions constitute the basic premises or principles of the theory. Theorems are deductively derived from these basic premises. However, these theorematic statements are not necessarily explicitly spelt out in the exposition of the main body of the theory. As there is a virtually unlimited number of such statements, listing them all in the theory becomes a practical impossibility.

The axioms of the theory are basic statements which cannot be evaluated or criticised on grounds of empirical 'truth' or 'falsity'. "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"

(Mulder, 1980, (b):23). The axioms of the theory are logically prior to anything else in that theory.

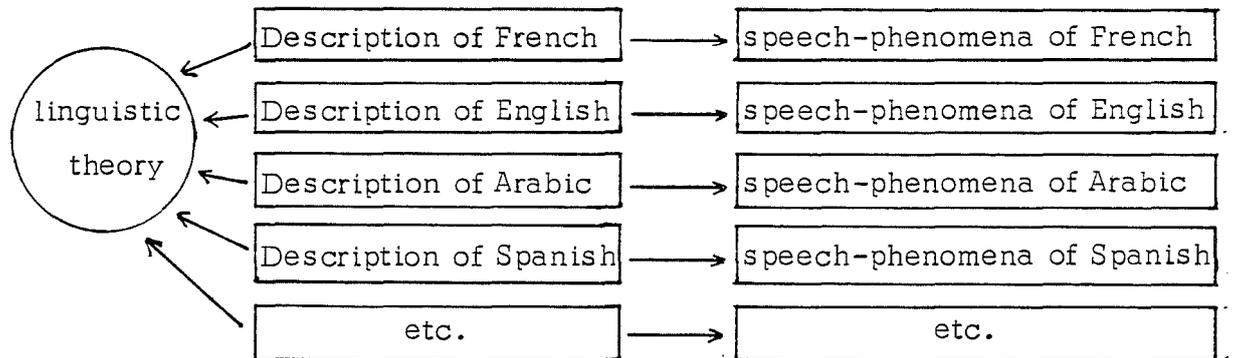
The second type of statements in the theory is 'definitions'. The main task of definitions is to attach meaning to non-primitive terms used in the axioms or in other definitions. The process of defining terms in the theory, goes on until nothing is left but primitive terms. The other task of definitions is to introduce notions of the theory, such as the notions 'commutation', 'distinctive function', 'plereme', etc.

According to Axiomatic Functionalism, linguistic description is "the application of a particular linguistic theory to a selected field of linguistic phenomena" (Ibid:17). The statements in the description imply both the theory and the field of speech-phenomena. These statements, as mentioned above, are hypotheses in the true sense of the term, because they can be confronted with empirical facts to test their adequacy and appropriateness.

The description contains 'models'. Descriptive models are notions which refer to entities in description. These models are not objects or entities in the speech-phenomena of the language they aim to describe. Such models are justified by the theory in the sense that they are said to correspond to meta-models in the theory, for instance, the notions 'moneme', 'syntagm', etc. The notion descriptive model may be exemplified by the signum "plural" in Arabic which corresponds to the meta-model 'moneme'.

In addition to models, a description also contains 'labels' which are language specific. Such labels are to be established for each language separately. Examples of labels in, say, a description of Arabic are such things as 'verbal predicative', 'subject', 'object', etc.

From the Axiomatic Functionalism point of view, a description results from the application of the theory to a selected field of speech-phenomena. From this it is clear that a given description is logically dependent on both the theory and the field of speech phenomena which it aims to describe. The relation between the theory, descriptions and fields of speech-phenomena may be represented by the following scheme:



If we interpret the arrow in the above diagram as 'implies' or 'pre-supposes', then we may say that there is a one-to-one relation of unilateral implication between each description and the field of speech-phenomena it describes. We may also say that there is one-to-many relation between the theory and the description resulting from the application of that theory. Each description implies both the theory and a given field of speech-phenomena. The possibility of a description

without both the theory and a given field of speech-phenomena is ruled out. The absence of any arrows between the theory and the field of speech-phenomena signifies the mutual independence which hold between them, i.e. the theory may not have been applied or the field of speech-phenomena may not have been described by the theory.

As far as the evaluation of a linguistic theory and a linguistic description is concerned, both of them should be consistent, adequate and simple. To be consistent, the theory should not contain contradictory statements, nor should such statements derived from it. The statements of the theory must be appropriate, though arbitrary ones. To be adequate, the theory must be capable of rendering an unlimited number of consistent, adequate and simple descriptions that are based on it. The requirement of simplicity in the theory, which also holds for the description, can be maintained by not having any redundant elements in it. It should also avoid, as far as possible, any undue complexity in its statements.

Consistency of the description implies that every statement in the description must be consistent with other statements in the same description. At the same time, the description should be consistent with the theory it is based upon, in the sense that every statement in the description should be justified by the theory. Otherwise, the description will be said to be arbitrary. To be adequate, the description should account for all relevant phenomena (both actual and potential) within its own scope. This accounts for the fact that the

description is both 'descriptive' and 'generative'.

With respect to this thesis, we are going to give a general account of the relevant theoretical background with a brief explanation of the essential notions in grammar which have a particular relevance for a morphological and a syntactic analysis. This will enable us to analyse morphologically the verbal aspectual phenomena in MSA in a consistent and adequate way. It will also pave the way for a consistent and adequate syntactic description of any relations which may exist between the constituents of the predicative based syntagm (verbal and non-verbal). This will also enable us to set up hypothetical models to accommodate these constituents (whether pleremes or syntagms) in a consistent and adequate manner.

PART ONE

CHAPTER I

A General Survey Of 'Aspect' as a Grammatical Category

We have chosen to approach Arabic in terms of the notion of 'aspect', using this as a means of delimiting the scope of the phenomena to be described. Hence we must begin by considering what is covered by the term 'aspect'.

'Aspect' has been given various definitions and qualifications by both linguists and grammarians whether they were traditionalists, structuralists, functionalists or transformationalists. In addition, a large and heterogeneous literature has been written in the field of 'aspect' as a grammatical category. Thus, a short summary would be expedient here. As a rule, in general, 'aspect' is seen as in close contrastive relation with the category of 'tense', both being concerned with the correlation between grammatical form and the concept of time. 'Tense' is perhaps first and foremost a matter of location in time, it relates the time of the situation referred to to some other time, usually to the moment of speaking,⁽¹⁾ whereas 'aspect' deals with continuity in time, i.e. signifies the relative duration or punctuality along a time line that may inhere in words or constructions. In this respect, the two grammatical categories

(1) For further discussion, see, for instance, Lyons (1968:304-6).

'aspect' and 'tense' must be distinguished from each other, though the traditional grammatical terminology confuses them,⁽¹⁾ the main source of confusion being that both of them, as mentioned above, relate verbal forms to the concept of time. It is important, for this reason, to give a brief idea of the familiar verbal category of 'tense' before tackling the less familiar verbal category of 'aspect'.

The concept of 'tense' is the creation of Stoic grammarians.⁽²⁾ These grammarians had seized on the fundamentally important point that the verbal category of 'tense' involves two functions: time reference and aspect, i.e. incomplete - complete. In other words, from the Stoics' point of view, 'tense' may denote something more than simple time relations: it may mark an activity not merely as past, present or future, but also as in progress or as completed, i.e. it may indicate the stage of development as well as the time of the activity. The tense of the progressive action was described by the Stoics as 'extending along side' or as 'not completed'; those of completed action as 'having reached their end'. Moreover, the Stoics distinguished between two tenses: a 'definite' tense that denotes the time and the stage of action at the same time, and an 'indefinite' tense which does not define the action as either in progress or completed but marks only its time, past or future. The Stoics, then, conceived of 'tense' as indicating time, with or without an indication of other aspects of the activity.

(1) An explanation for the traditional confusion between 'aspect' and 'tense' is suggested by Comrie (1976:chapter 5).

(2) cf. Jespersen, O. (1924).

Traditional grammarians often believed that the category of 'tense' has to do with time-relations, as these are expressed by the systematic grammatical contrasts. Three such contrasts were recognised by those grammarians in the analysis of Greek and Latin: 'past', 'present' and 'future'. They also implied that the distinction of past, present and future is essential to the notion of 'tense'.

The number of different views of 'tense' in circulation at present is indicative of the lack of precision as to what the category of 'tense' entails. Some of these views or conceptions of tense, can be regarded as idiosyncratic since they do not seem to have acquired substantial support from linguists. ⁽¹⁾

However, it is generally agreed, explicitly or implicitly, that 'tense', in languages which have this category, e.g. English, is a verbal inflexion which locates the action/state expressed by the verb at a time relative to the moment of speaking. ⁽²⁾ An essential characteristic of the category of 'tense' as Lyons (1968) has pointed out, is that "it relates the time of the action, event or state of affairs referred to in the sentence to the time of utterance (the time of utterance being 'now')." A situation described in the present

(1) Examples of these are the proposals put forward by P. Kiparsky (1968), R. Huddleston (1969) and H. Weinrich (1970).

(2) cf. J. Lyons (1968:304-5), E. Traugott (1972:43), R. Quirk and S. Greenbaun (1973:40), F. Palmer (1974:43), B. Comrie (1976: 1-2), R.P. Stockwell (1977:39).

tense is located temporally as simultaneous with the moment of speaking, e.g. 'Jean is writing'; one described in the past as located prior to the moment of speaking, e.g. 'Jean wrote', 'Jean was writing'; one described in the future as located subsequent to the moment of speaking, e.g. 'Jean will write', 'Jean will be writing'. Since the concept of 'tense' locates the time of utterance, then it might be described as a deictic category. (1)

Since 'time' is normally thought of in terms of the subdivisions past, present and future, we must quickly add that time is, of course, a nonlinguistic concept. In the traditional analysis of the grammatical category of 'tense', it is frequently declared that the concept of tense encodes distinctions parallel to the three subdivisions of time, i.e. past, present and future. But in contrast to the old, i.e. traditional, grammarians, almost all modern linguists, notably those referred to previously, (2) divide the concept of tense into two sub-categories commonly designated 'past' and non-past'. (3) Thus, for instance, Traugott (1972:43) says:

-
- (1) "Deictic", is introduced by J. Lyons to handle the 'orientational' features of language which are relative to the time and place of utterance (Lyons, 1968).
- (2) See footnote (2) in the previous page.
- (3) This view is not to be taken for the descriptions of all languages, but for many various languages, e.g. English, Russian, etc.

Conceptually, we think of time relations as a three way system of past, present and future. As far as the syntactic structure of English is concerned, however, there is a two way distinction. As expressed by the so-called "tense-inflections", which are attached to the verb (or to the auxiliary verb, depending on the structure of the sentence), the distinction is between past (for example, He ran) and non-past (for example, He runs).

The past tense in a simple sentence, usually locates the action/state expressed by the verb in the past time with regard to the moment of speaking, e.g. 'He broke the glass'. However, there is no inherent one-to-one correspondence between past tense and past time, i.e. past tense does not always coincide with conceptual past (time prior to the moment of utterance). This can be shown by the following examples:

1. If she came tomorrow, I would be glad to meet her.
2. I wish she knew they were coming next Friday.

Nor does the use of the non-past tense generally locate the action/state indicated by the verb at a time contemporaneous with the moment of speaking, consider:

3. Joan likes oranges.
4. The sun rises in the east.
5. Cats mew.

Time is normally specified by linguistic forms other than of verbal tense, e.g. by temporal adverbs. This point is embodied in the following quotation from Jespersen (1924:254):

... time is often indicated by means of other words than verbs, and this way of indicating time is often much more precise than that effected by means of verbal forms can ever be, as when we say "on the third of February, 1923 at 11.23 p.m."

Perhaps it is fair to say that whereas tense-subcategories, as illustrated above, do not signal time references in a consistent way, aspectual categories, on the other hand, by virtue of being concerned with the continuity of the action/state in time, exhibit a consistent set of internal temporal relationships. Friedrich (1974) pointed out that despite differences of opinion regarding the definition, structure, and historical role of 'aspect', many scholars today would agree with the position explicated by Holt (1943) which, greatly simplified, may be summed up as saying that 'aspect' is "a way of conceiving the passage of action." Or, if that is not clear, 'aspect', in the words of Sapir (1921:108, footnote 22), "indicates the lapse of action, its nature from the stand point of continuity".

Hirtle (1975) distinguishes between 'tense' and 'aspect' in much the same terms as those mentioned in the previous paragraph. Thus, from his point of view, 'tense' situates an event in its place in universe time, which, in regard to tense, constitutes a limit for the event, whereas 'aspect' involves "not the time that contains the event, but the time contained in the event". In addition, he mentioned that this opposition between a universe time which contains and an event time which is contained, is an opposition that corresponds to a difference not of nature (because time is always time), but of position,

i.e. time in the position of container and time in the position of content, is the key to all problems of aspect.

On the same issue (of distinguishing between tense and aspect) and to much the same effect, Comrie (1976:5) sums this point up by saying:

As noted above, tense is a deictic category, i.e. locates situations in time, usually with reference to the present moment, though also with reference to other situations. Aspect is not concerned with relating the time of the situation to any other time-point, but rather with the internal temporal constituency of the one situation; one could state the difference as one between situation-internal time (aspect) and situation-external time (tense).

Having given a brief idea of the grammatical category of 'tense' and shown how it is distinguished from 'aspect', we can now turn our attention to the grammatical category of 'aspect' to try to give a general survey of this issue from the view points of some prominent contemporary linguists.

In the work of the American descriptivists, one can feel the very imperfect reflection of the typological frequency of 'aspect'. For example, the classic survey edited by Hoijer⁽¹⁾ and the more thorough examinations of individual languages attest that aspect categories are widespread and that some aspect structures are complex. In their attempts to characterise everything from the phonetics to the grammar and lexicon of a language, the semantics of aspect has played

(1) Hoijer, H. et al., Linguistic structures of Native America, VPPA, No. 6 (New York: Viking Fund, 1946).

little or no role. The American descriptivists dealt with single pairs such as perfect/progressive or durational/non-durational, consider

- | | | |
|----------------------------|---|---------------|
| 6. She ate the food. |) | |
| |) | (perfect) |
| 7. I had read the book. |) | |
| 8. She is eating the food. |) | |
| |) | (progressive) |
| 9. I was reading the book. |) | |

In brief, these descriptivists left largely unexplored the underlying subcategories of inherent aspectual categories.

In contrast to much of the aspectual analysis just referred to, the European linguists, for their part, showed a deep and absolute interest in this area. The Slavonic and other linguists of various persuasions in Europe have demonstrated a serious commitment to the study of 'aspect'. Nevertheless, the term 'aspect' is still controversial, as will be shown presently.

Jespersen (1924:286) does not really provide a specific definition of aspect but suggests that in languages other than Slavic, 'aspect' can be expressed by: (1) the ordinary meaning of the verb itself, e.g. He writes a letter / He wrote a letter; (2) the occasional meaning of the verb as occasioned by context or situation, e.g. She often kissed John / she kissed John; (3) a derivational suffix, where many English verbs in -er belong: chatter, totter, etc. . . .; consider for instance: the women chatterer in the dining room; or (4) a tense form, e.g. He read a book " (if the speaker wants in his presentation

of the facts to hurry on towards the present moment)" / he was reading a book "(if the speaker lingers and takes a look around)" (cf. Jespersen, 1924: chapter XX). Jakobson (1957:493) states that aspect characterises "the narrated event itself without involving its participants and without reference to the speech event". Hockett (1958:277) indicates that "aspects have to do not with the location of an event in time, but with its temporal distribution or contour".

Regarding the use of the term 'aspect', Lyons (1968:313) tells us that the term aspect (which is a translation of the Russian vid) "was used to refer to the distinction of 'perfective' and 'imperfective' in the inflexion of verbs in Russian and other Slavonic languages". The distinction between the 'perfective' and 'imperfective' in Russian may be illustrated by means of the following two sentences: on pročitai (he read), and on čital (he was reading), respectively. From his point of view, Lyons indicates that the former opposition, i.e. 'perfective/imperfective', is similar to the opposition 'complete/incomplete' used by the Stoic grammarians in their attempts to describe Classical Greek.

Isačenko (1962) considers the opposition of 'perfective' and 'imperfective' aspect in Prague school terms. Perfective aspect, which definitely denotes an action conceived as a completed whole,

is the marked⁽¹⁾ member of the opposition, and imperfective aspect, which may or may not refer to a completed action, is the unmarked member. Isačenko also explains the opposition more graphically. The viewpoint of the speaker who uses an imperfective verb is like the viewpoint of a person taking part in a parade, in that the latter can see neither the beginning nor the end of the parade but is in the thick of things. On the other hand, the viewpoint of the speaker who uses a perfective verb is like the viewpoint of the people reviewing the parade, in that the latter can see the parade as a whole, its beginning, middle and end.

During the seventies we find that the definition and the understanding of 'aspect' acquire new dimensions. Palmer (1971:93) says that "in many languages there is what is called 'aspect' as well as, or instead of, tense, tense supposedly referring to time and aspect to completion, duration and similar concepts". But it is not mentioned how duration, for instance, supposedly does not "refer to time". As far as the morphology of the English verb phrase is

(1) Markedness was first introduced into linguistics by the Prague School phonologists; see for instance Trubetzkoy (1969: chapter III). This notion was introduced into discussion of syntactic and semantic oppositions by Jakobson (1971). The idea of the notion of markedness in linguistics is that, where we have an opposition with two or more members, e.g. perfective versus imperfective, it is often the case that one member of the opposition which is felt to be more usual, more normal, less specific than the other, is called the 'unmarked', the other is called 'marked'. For more details concerning the notion of 'markedness', the reader is referred to Comrie (1976:chapter 6), Lyons (1968).

concerned, Palmer (1974:34) states that "... a distinction in terms of aspect, progressive and non-progressive, may be made, progressive forms being those that contain both a form of BE and -ing form ... The terms 'continuous' and 'non-continuous' are sometimes used. So too are 'habitual' and 'non-habitual' but these are to be rejected as quite misleading". "Perfect/non-perfect" is treated by Palmer under a category of "phase"⁽¹⁾ which is not generally used elsewhere. The perfect is used to indicate a period of time preceding but continuing up to a later point of time (either present or past, according to the tense), while the non-perfect refers to a period of time either in the past or in the present. Consider:

10. I am writing at the moment.
11. I have been writing for an hour.
12. I was writing when he came.
13. I had been writing for an hour when he came.

Sentences (11) and (13) above present the perfect; in (11) the activity began an hour before and continued right up to the present, whereas in (13) the activity began an hour before, and continued

(1) The untraditional name 'phase' was first used by George L. Trager and Henry Lee Smith, Jr., An Outline of English Structure, 1949. The name derives from the special relation between cause and effect signified by verbs in the perfect phase, i.e. any event is not only sure to have a cause, but it is likely to have effect too. For example a finite verb will hardly be used to specify an event unless there are effects. For a detailed discussion on the category of 'phase', the reader is referred to Joos, M., 1964, and Palmer, F.R., 1974.

right up to the past point of time indicated by the adverbial clause. On the other hand, sentences (10) and (12) present the non-perfect; in (10) the non-perfect refers to a period of time in the present, whereas in (12) it refers to a period of time in the past, which may overlap an indicated point of time in the past, and does not extend to the present.

J. Anderson (1973:5) looks at things from a different angle, he proposes "a localist theory of aspect in that various aspectual distinctions are interpreted as involving crucially the notions of location and direction". This view is partly approved by D. Bolinger.⁽¹⁾ In his book, Anderson shows the overt similarity, in a wide range of languages, between locative expressions on the one hand and progressive aspect and/or contingent state on the other. In Irish, for example, progressive aspect is expressed by means of the basically locative preposition ag, literally 'at', and the verbal noun of the appropriate verb, e.g. ta' Seán ag marú an choinín, 'John is killing the rabbit', literally 'is John at killing of the rabbit' (p.18). In Spanish, contingent state⁽²⁾ is expressed by using the locative verb estar 'to be (somewhere)' rather than ser which is used

(1) For more details, see Bolinger, D. (1971), 'The Nominal in the Progressive', Linguistic Inquiry 2, 246-250.

(2) A Contingent state expresses a temporary aspect, e.g. you are not feeling well? (cf. Anderson (1973)).

for absolute state, thus giving a distinction, for example, between Juan es enfermo (John is ill), i.e. he is an invalid, and Juan está enfermo (John is ill 'at the moment'), i.e. he is now ill, but can be expected to recover. Moreover, although it is less frequent, there is some similarity between motion to and from⁽¹⁾ on the one hand, and entry into a state, i.e. ingressive, and exit from a state or action on the other, e.g. I am going to leave, or I am going to write a letter, in English, je viens d'arriver (I have just arrived) in French (p.58).

While the traditional approaches view 'aspect' as a linguistic phenomenon pertaining to Slavic languages whose morphology has the potentiality of making finer aspectual distinctions, Friedrich (1974:Sl) defines 'aspect' as "the relative duration or punctuality along a time line that may inhere in words and constructions". He also argues that aspect is a universal semantic category that exists in every natural language.

Aspect categories are part of the underlying meaning of many verbal expressions in all natural languages, and in some verbal systems aspect dominates both in terms of underlying features and overt forms.

(Friedrich op.cit. p.51)

This viewpoint is shared with Cook (1981:105) who points out that "Aspect is a semantic category which indicates the temporal values in the verbal system exclusive of tense".

(1) Motion towards is serving as the model for prospective meaning, and motion from as model for perfect meaning (cf. Comrie, 1976).

B. Comrie (1976:3) defines 'aspect' as "different ways of viewing the internal temporal constituency of a situation". This definition might be briefly illustrated by considering one of the differences between the following aspectual forms as examples of aspectual distinctions, 'perfective' versus 'imperfective', respectively (see below), since in all the cases we have an absolute past tense:

14. John read a book / John was reading a book (English)
15. Ivan pročitá knihu / Ivan čítal knihu (Russian) 'roughly:
John read a book / John was reading a book'
16. Jean lut une livre / Jean lisait une livre (French) 'John
read a book / John was reading a book'

Comrie recognises (op.cit:16) two major aspects, 'perfective' and 'imperfective', attributable to a number of natural languages so that "perfectivity indicates the view of a situation as a single whole, without distinction of the various separate phases that make up the situation; while the imperfective pays essential attention to the internal structure of the situation". In examples (14), (15) and (16) above, the verbs 'read', 'pročitá' and 'lut' present the totality of the situation, here the process of reading, without reference to its internal temporal constituency. That is, the whole of the situation is shown as a single unanalysable whole, with beginning, middle and end shaped into one, i.e. no attempt is made to divide this situation up into the various individual stages that make up the

process of reading. Thus, verbal forms of a language with such a meaning will be referred to as having perfective meaning; we shall, then, conclude that the language in question has perfective aspect. (1)

On the other hand, examples (14b), (15b) and (16b) show that the verbs are also referring to the situation of John's reading, but present the situation in another way. They make clear reference to the internal temporal constituency of the situation. In the examples given above, it is obvious that there is no clear reference to the beginning or to the end of 'John's reading', while there is explicit reference to an internal portion of John's reading. Verbal forms with this meaning are classified as having imperfective meanings and a language which has special verbal forms to indicate this is said to have imperfective aspect. (2)

From what is said above, we can generally see that the difference between perfective and imperfective meaning is that the perfective looks at the situation from outside, without necessarily distinguishing any of the internal structures of the situation, whereas the imperfective looks at the situation from inside, and as such is concerned with the internal structure of the situation. The reason for that is because it can both look backwards to the start of the

(1) Comrie, B. (1976), Aspect, Cambridge University Press.

(2) *Ibid.*

situation, and look forwards to the end of the situation.⁽¹⁾ Thus, it will be apparent that 'aspect' is connected with time, but this does not mean that the distinction between 'aspect' and 'tense' is perverted. Though both 'aspect' and 'tense' are concerned with time, their concern is different. While 'tense' locates situations in time, 'aspect' does not; rather it deals with the internal temporal constituency of the one situation. This difference between 'aspect' and 'tense' could be stated as situation-internal time for the former and situation-external time for the latter.⁽²⁾ Consider, for instance:

17. Jim was sleeping when Sheena entered.

In this example, it might seem that the verbal forms here have a deictic function of locating Sheena's entry with respect to Jim's sleeping, but this function is not primarily one in respect to how the internal constituency of a situation referred to is viewed. Comrie (1976) explains it thus, 'since "was sleeping" places us internally to the sleeping situation, therefore, naturally when we are presented with another situation given to us as a unified whole without internal constituency, this new situation is located

(1) In discussing 'aspect' it is important to note that the difference between perfectivity and imperfectivity is not necessarily a difference between one situation or another, nor is it necessarily a difference that is shown by the speaker as being objective, i.e. it is possible that the same speaker could refer to the same situation once with a perfective form, then with an imperfective, without being self-contradictory, e.g. Joan played cards yesterday; while she was playing Ruth arrived.

(2) Comrie, B. (1976), Aspect, Cambridge University Press.

temporally at that point in time where we already are, namely internally to "Jim's sleeping" '.

J. Lyons (1978), taking into account the notion of markedness, ⁽¹⁾ suggested a list of the most widely occurring aspectual distinctions which consists of seven potential two-term systems of which three would seem to be quite common, i.e. grammaticalised in various languages. These three two-term systems are:

1. progressive vs. non-progressive
2. durative vs. non-durative
3. punctual vs. non punctual

From Lyons point of view, English is one of the several European languages that exemplifies the first opposition, e.g. He is writing vs. He writes. In these examples 'writing' is distinct from 'write' in that it has an imperfective meaning whereas 'write' has perfective meaning. That is, it is not necessary for anyone to have noticed the beginning and/or end of 'writing' but only the middle, whereas with 'writes' the sense is that someone followed the whole act of writing without dividing it up into separate beginning, middle and end, but presenting it as a single complete whole. Literary French and many other languages, exemplify the second opposition, in the imperfect and the simple past, e.g. il régnait trente ans (imperfect)

(1) For the notion of "markedness", see footnote (1), p.16.

vs. il régna trente ans (past) both translatable into English as (he reigned for thirty years). The former example shows that any point during those thirty years he was indeed reigning, i.e. it is connected more with the internal structuring of the reign, while the second gathers the whole period of thirty years into a single complete whole corresponding roughly to the English 'he had a reign of thirty years', i.e. one single reign. Russian exemplifies the third opposition, i.e. punctual vs. non-punctual⁽¹⁾, e.g. on zaper dver' (he locked the door) vs. on pozapiral vse dveri (he locked each of the doors individually, locked them one after the other), "in that the so-called perfective positively represents a situation as an event,⁽²⁾ whereas the corresponding imperfective, being the unmarked⁽³⁾ term, simply fails to represent it as an event and therefore only negatively, as it were, has anything to do with durativity" (Lyons, 1978:708). Lyons points out that the difference between the latter two possibilities, i.e. (2) and (3) above, is complicated. The main source of complication is the fact "that

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- (1) In some terminological systems, the opposition 'punctual vs. non-punctual' is used in essentially the same sense as the opposition 'perfective vs. imperfective' which seems to be the major aspectual contrast recognised in Slavonic languages by many linguists interested in 'aspect'; among them the Russianists Forsyth (1970) and Comrie (1976).
- (2) "Events" 'are non-extended dynamic situations that occur, momentarily, in time' (Lyons, 1978:707).
- (3) The perfective is generally taken to be the semantically marked member of the 'perfective vs. imperfective' opposition in Russian and the other Slavonic languages (cf. Comrie, 1976:112).

what is the marked member of an aspectual opposition in the experiential mode of description may be the unmarked member in the historical⁽¹⁾ mode, and conversely" (ibid.). Nevertheless, Lyons also points out that the aforementioned aspects, i.e. the English progressive, the French imperfect, and the Russian imperfective, "may all be used, in the historical mode of description, to represent one situation as a state or process within which some other situation, represented as an event, is temporally located" (Lyons, 1978). This possibility may be exemplified by the following instances⁽²⁾:

18. John was writing when I entered.

19. Jean écrivait quand j'entrai.

20. Ivan pisal, kogda ja vošel.

The above examples represent my entry as an event occurring at some point within the period during which John's writing was going on.

It is understood from this short exposition of 'tense' and 'aspect' that they are separate grammatico-semantic categories which may co-occur in some instances in various languages. The

(1) The term 'historical' is intended 'to suggest the narration of events, ordered in terms of successivity and presented dispassionately with the minimum of subjective involvement. ... The term 'experiential', on the other hand, is suggestive of the kind of description that might be given by someone who is personally involved in what he is describing' (Lyons, 1978, p.688).

(2) cf. Comrie (1976:3).

function of 'tense' is deictic: it locates the action/state expressed by the verb at a time relative to the time of utterance, while the function of 'aspect' is non-deictic and concerns the different ways of representing the internal temporal constituency of a situation.

1.1. The Relation between lexical aspect and grammatical aspect

Aspect as a grammatical category, just like any other grammatical category, may be expressed by means of the inflectional morphology of the language in question, as with Spanish leyó and leía in sentences like Juan leyó el libro (John read the book) vs. Juan leía el libro (John was reading the book); it may also be indirectly expressed as with English he was reading, the periphrastic progressive, as opposed to the simple verb form he read.

The relation between grammatical categories of individual languages and semantic categories is a complex one, i.e. semantic categories are not either grammaticalised or not in particular languages. Such complication happens because language-particular categories often combine 'aspect' with some other category, most usually 'tense'. Consider, for instance, the Spanish Imperfect Juan leía (John was reading, John used to read) which combines both imperfective meaning and past time reference, i.e. combines both aspect and tense (Comrie, 1976). Moreover, it is often found that language-particular categories correspond closely, but not exactly, to semantic distinctions. The English progressive, for example, expresses progressive meaning, although its range is in fact somewhat

wider than is stated by the general semantic definition of progressive meaning, i.e. as the combination of continuous meaning and non-stativity. Depending on the particular meaning it has in a given sentence, the verb 'to be' is treated sometimes as stative, sometimes as non-stative. The sentences Bill is foolish and Bill is being foolish exemplify the above statement. The second sentence can be paraphrased by 'Bill is acting in a foolish manner', with the non-stative verb 'act', whereas this is not possible in the first example. The first sentence does not imply that Bill is doing anything foolish at the moment, he may be behaving wisely at the moment, but in general he is foolish; the second example refers explicitly to the way Bill is behaving at the moment.

In relating language particular-categories to language independent semantic characterisations, and as far as 'aspect' is concerned, it is more feasible to start from the semantic distinctions and see how these are grammaticalised in the individual language. In other words, it is preferable to start from meaning to form, since the centre of interest is not the particular forms that exist in any one particular language (Comrie, 1976). For instance, since perfectivity involves lack of explicit reference to the internal temporal constituency of a situation, therefore, it is quite possible for perfective forms to be used for situations that are internally complex, such as those that last for a considerable period of time

provided only that the whole of the situation is considered as a single whole. It is obvious that the internal structure of such situations cannot be referred to directly by the choice of a perfective form, because this is precisely what perfective forms cannot indicate, but such reference can be clearly expressed by other means, such as the lexical meaning of the verb involved. In this respect, consider the following Russian example which contains perfective verb form:

21. on postojal / prostojal tam čas (he stood there for an hour).⁽¹⁾

What is interesting in this example is that the only function of the perfectivising prefixes po- and pro- with verbs of this class is to indicate a temporally restricted, but non-punctual, situation,⁽²⁾ i.e. it is the lexical meaning of the verb in po- or pro- that explicitly expresses duration. In what follows we shall look briefly at semantic aspectual properties of various classes of lexical items and see how these interact with other aspectual oppositions.

From what was said in the previous paragraph, it is quite possible to have perfective forms of verbs describing situations that must inherently last for a certain period of time. In this respect, a distinction between imperfectivity and durativity should be made.

(1) This example is taken from Comrie (1976).

(2) For further details, see Isačenko (1962:391-4) who uses the terms 'delimitative' for such verbs in po-, and the term 'perdurative' for such verbs in pro-.

Imperfectivity views a situation with regard to its internal structure, while durativity refers to the fact that the given situation lasts for a certain period of time (Comrie, 1976). In this sense the verb postojal (stood) in (21), or the verb žil (lived) in 22. On žil tam dvadcat' let (he lived there for twenty years) are durative, although not imperfective. Since we have granted that there are durative situations, we should now turn our attention to the punctual situations, i.e. the ones that take place momentarily, because durativity is the opposite of punctuality. A punctual situation "has no internal structure" (Ibid:42), and as such punctuality and imperfectivity are incompatible. Consider, for example, the punctual verb⁽¹⁾ sneeze which refers to a single sneeze rather than a series of sneezes. It is inappropriate with this verb, i.e. 'sneeze', to use the progressive, e.g. he was sneezing (which has the meaning of the imperfective) to refer to a situation where there is one single sneeze. When the situation of sneezing is repeated, i.e. more than one sneeze, that situation is called 'iterative'.⁽²⁾

1.1.1. Telic vs. atelic situation

In many discussions of aspect and related categories, a semantic distinction is made between the so-called 'telic' and 'atelic'

(1) Vendler (1967:chapter 4) refers to the class of verbs that occur at a single moment of time by the term 'achievements'.

(2) cf. Comrie (1976:42).

situations.⁽¹⁾ Comrie (1976:44) defines a telic situation as the one that 'involves a process that leads up to a well-defined point, beyond which the process cannot continue.' This definition may be interpreted as involving either one or both of the following conditions (cf. Dahl, 1981): There is a terminal point x such that

- a - if x is reached, the process cannot continue,
- b - x will be reached in the normal course of events.

To show what is meant by the above definition and its interpretation, consider

- 23. Joan is writing.
- 24. Joan is writing a novel.

Both instances refer to durative situations as it is possible for both of them to last for a period of time. However, the difference between the two situations can be manifested when we take their internal structure into consideration. In the first example Joan can stop writing at any point, in which case we can say that she has written, whether she finished what she was intending to write or not. The second situation is different from the first one in that the

(1) This semantic distinction, which was formulated by Aristotle (Kenny, 1963; Taylor, 1977), has subsequently been 'rediscovered' and renamed several times. As a result the terminology is chaotic. Some of the terms that has been used so far are as follows: atelic vs. telic (Garey, 1957); non-cyclic vs. cyclic (Bull, 1963); activity vs. performance (Kenny, 1963); non-bounded vs. bounded (Allen, 1966); activity vs. accomplishment (Vendler, 1967), and as such the term 'telic situation' used by Comrie corresponds to the term 'accomplishment' used by Vendler (1967:102).

situation of writing comes to a point at which Joan finishes the action of writing a novel, and at this point the described situation must come to an end; however, it must be kept in mind that until this point is reached, the situation described by writing a novel cannot come to an end, but can only be stopped before completion. Thus, this situation has built into it a well-defined terminal point, namely that point at which Joan comes to the end of the novel in question. On the other hand, the first situation described by 'write' has no such terminal point, and can be prolonged or broken off at any point. In this respect, the first situation, i.e. the one described by 'write' is called 'atelic', whereas the second situation, i.e. the one described by 'writing a novel' is called 'telic'. Comrie (1976) suggests a test by which the telic nature of a situation can be recognised: "if a sentence referring to this situation in a form with imperfective meaning implies the sentence referring to the same situation in a form with perfect^{ive} meaning, then the situation is atelic; otherwise it is telic". Accordingly, we can deduce Joan has written from Joan is writing, whereas we cannot infer Joan has written a novel from Joan is writing a novel.⁽¹⁾

It is worth noting that in expressions referring to telic

(1) cf. Klein (1974:6) who exemplifies the opposition 'atelic versus telic' in the following manner, respectively: 'If someone was playing, and while playing was interrupted, has he played? Yes, he has played, 'versus' If someone was drowning, and while drowning was interrupted, has he drowned? No, he hasn't drowned'.

situations it is important that there should be both a process leading up to the terminal point as well as to the terminal point itself, i.e. the point at which the process is complete (Ibid).

In other words, a telic situation involves a process that leads up to a well-defined terminal point, beyond which the process cannot continue. Thus an instance such as Christopher reached the hill top, which Vendler calls an 'achievement',⁽¹⁾ is not telic as it is inappropriate to speak of the process leading up to Christopher's reaching the hill top by saying Christopher is reaching the hilltop. At this juncture, telic situations should be distinguished from those which Vendler calls achievements. With a telic situation, one can use a verbal form with imperfective meaning, whereas achievements prevent the use of specifically imperfective forms, e.g. *Christopher was reaching the hill top when he died.

1.1.2. Stative and dynamic situation

The distinction between stative and dynamic situations is a matter of classification of lexical items into disjoint sets (see below). This lexical distinction is relevant to the analysis of the grammatical category of 'aspect' in many languages. In discussing this issue it seems more appropriate to start with what is meant by 'static' and 'dynamic' situations. Any situation that is conceived of as

(1) Since the reference in this example is to the end-point of a process only, such situation is punctual.

existing, rather than happening, continuous and unchanging throughout its duration, is called a static situation. A dynamic situation, on the other hand, is something that happens whether that something is momentary or enduring (Lyons, 1978). The above statements indicate that static situations may involve no change, whereas dynamic situations involve change. Moreover, to remain in a state requires no effort whereas to remain in a dynamic situation does require effort. The difference between the two situations can explicitly be shown by the verbs understand and run which refer to a static and dynamic situations, respectively. The verb understand shows that all the successive homogeneous phases of the situation I understand you are identical, i.e. throughout all points of time the situation of 'my understanding' is always the same. In the case of the verb run, the situation of 'running' in, for instance, I am running presents different situations, i.e. this situation involves necessarily change as well as effort.

There is yet another distinction between static and dynamic situations: whereas dynamic verbs are compatible with progressivity, e.g. Sheena is running, stative verbs are not, i.e. stativity does not allow progressivity, e.g. *Sheena is knowing. The incompatibility of stativity and progressivity is explicable, however, in terms of the language-independent distinction of static and dynamic situations. Consider, for instance, the stative:

25. She has a headache

and the non-stative:

26. She is having a headache (or she is having one of her headaches)

which can be given several different interpretations according to the context in which it occurs, i.e. depending on the particular meaning they have in the given sentence, but which must necessarily be interpreted as describing a dynamic, rather than a static, situation. In other words, in the example given above, with the progressive of have, however, this verb here refers not to a state, but to a developing process whose individual phases are essentially different from one another.

In the linguistic literature, one also comes across the terms 'events' and 'process' referring to situations. Both refer to dynamic situations. If a dynamic situation is extended in time, it is a process. Put differently, 'process' refers to the internal structure of a dynamic situation, and thus, there are no punctual processes; examples for processes are walking, swimming, running. An 'event' on the other hand, is a non-extended dynamic situation that occurs, momentarily in time.⁽¹⁾ That is, it refers to a dynamic situation as a single complete whole. Examples of 'events' include: took place,

(1) For further discussion, see Lakoff (1966), Vendler (1967:107-21), Lyons (1978).

start, stop, be born. Thus, we may conclude that the term 'process' means a dynamic situation viewed imperfectly, and the term 'event' means a dynamic situation viewed perfectly.

1.1.3. Perfect vs. perfectivity

Concerning the category of 'perfect', Comrie (1976:52) asserts that the 'perfect' is an aspect but it is rather different from other aspects dealt with so far, i.e. the ones concerned with the different ways of representing the internal temporal constitution of a situation, 'since it tells us nothing directly about the situation in itself, but rather relates some other state to a preceding situation.' For example, a possible difference between:

27. I have lost my watch (perfect) and,

28. I lost my watch (non-perfect)

is that with the 'perfect', there is an implication that the watch is still lost, whereas with the 'non-perfect' there is no such implication. Generally speaking, the 'perfect' indicates the continued present relevance of a past situation, and thus, the perfect expresses "a relation between two time-points, on the one hand the time of the state resulting from a prior situation, and on the other hand the time of that prior situation" (Ibid.). Consequently, an instance such as:

29. He has drunk

which represents the present perfect in English, ⁽¹⁾ participates in both the present and the past. In this manner, we can treat the 'perfect' in wholly different terms from 'imperfectivity' ⁽²⁾ which views a situation as a single whole without distinction of the various separate phases that make up that situation, i.e. it indicates a completed action (cf. 28 above).

1.2. Vendler's verb classification

The aim of this section is to give a short summary of the verb classification established by Zeno Vendler (1967) as this classification received much attention in the literature.

In an attempt to account for various uses of English verbs, Vendler presented a fourfold distinction of verb types based on "time schemata": activities, accomplishments, achievements and states. Those verbs that occur in the progressive were said to be a "process going on in time". They are of two types: activities and accomplishments. 'Activities' are those processes that go on in time. The essential features of 'activities' is that they are homogeneous. Examples of activities include run, push a cart, cry. Thus, for instance, if the boy is running for half an hour,

(1) It should be noted that the present perfect is only one of the possible tenses of the perfect aspect, the one that expresses a relation between present state and past situation.

(2) For more details concerning the perfect aspect and perfectivity the reader is referred to Comrie (1976: chapters 1 and 3).

then it must be true that he is running for every time stretch within that period. Vendler (1967:101) comments: "any part of the process is of the same nature as the whole". Moreover, at each moment it is correct to say both the boy is running and the boy has run. For activities, the question "For how long?" is meaningful; "How long did it take?" is somewhat odd:

30.a For how long did he push the cart?

b ? How long did it take to push the cart?

'Accomplishments' "also go on in time, but they proceed towards a terminus which is logically necessary to their being what they are". Examples of accomplishments are: run a mile, draw a circle, recover from the measles. The question "How long did it take" is significant for accomplishments whereas "For how long" is odd:

31.a How long did he take to recover from the measles?

b ? For how long did he recover from the measles?

Moreover, accomplishments are not "homogeneous". To quote Vendler "in case I wrote a letter in an hour, I did not write it, say, in the first quarter of that hour (p.101)". Furthermore, although accomplishments have a built-in end point, it is not necessarily always the case that that end point is reached. Some instances of accomplishment verbs carry the implication that the terminus is reached, e.g. John wrote the letter, which implies the letter is finished; other instances do not carry such implication, e.g. John

was writing the letter when Jim knocked him out with a brick,
does not imply that the letter was completed.

Verbs that do not occur in the progressive are also divided into types: achievements and states. 'Achievements' are those verbs that "occur at a single moment" and "can be predicted only for a single moment of time" (p.103). Examples of achievements include reach the mountain top, win the race, crossing the border, recognise. Achievements are appropriate with a question "At what time?" but not with "For how long?"

32.a At what time did you reach the top?

b ? For how long did you reach the top?

Finally, 'states which may endure or persist over stretches of time, i.e. last for a period of time. They "can be predicated for shorter or longer periods of time". States differ from accomplishments and activities in that they "cannot be qualified as actions at all" (p.106). Moreover, verbs expressing states do not have progressive forms, e.g. *I am knowing. Examples of states are love someone, know the answer, hate, be cold. A state would be appropriate with the question "For how long?"

33. For how long did you love her?

Although Vendler was classifying instances of English verbs and his criteria for classification are particular for English, there is something potentially universal about such a schema.

1.3 Aspect and Aktionsart

The German term 'Aktionsart' (kind of action), which is used by earlier scholars such as Leskien and Streiberg (see Isačenko, 1962), is not new in linguistic theory, although the notion itself was not defined explicitly until the publication of Agrell's work on Polish (1908). Agrell described the *préverbes* pleins of Russian as 'aktionsartbildend' (lit. forming types of action) and distinguished two main types of prefix: (1) prefixes which give the verb a completely new (usually spatial) meaning such as ot (from) e.g. dat' (give), ot 'from' + dat' (give away); (2) prefixes which do not give the verb absolutely new meaning but simply indicate that the action is finished. Such prefixes can be subdivided into two groups: (a) prefixes which simply change the aspect of the verb, i.e. which indicate that the action is finished but do not say how; (b) prefixes which specify how the action is completed. Agrell uses the term 'Aktionsart' for the 'semantic functions of prefixed verbs which specify how an action is completed'.

Mazon, a contemporary of Agrell's, holds much the same view. He asserts that one constant function of verbal prefixes is to turn an imperfective form into a perfective form (Mazon, 1963).

Isačenko (1962) proposes the terms 'modifying prefix' and 'qualifying prefix' corresponding to '*préverbe vide*' and '*préverbe plein*' in French, respectively. The former corresponds to a verbal prefix which is a member of perfective aspect whereas the latter carry

a meaning of its own. He describes the effect of a *préverbe plein* in slightly different terms from those used by Mazon and Agrell.

A verb formed by the addition of a *preverbe plein* to a simple verb becomes independent of the simple verb. This independence is formally marked by the tendency to form a complete verbal paradigm, which, for example, in Russian means that the perfective form consisting of a prefix and a root acquires a corresponding imperfective form, usually by suffixation, and that the same meaning is expressed in both aspects, e.g. čitat'/pročitat' - pročityvat' in Russian.

Consider:

- 34.a Ja čitat knigu (I read / was reading the book).
 b Ja čitat ves' den' (I was reading all day).
- 35.a Ja pročitat knigu (I read through the book).
 b Ja ne budu pročityvat' vse knigi (I am not going to read through all the books).

The form čitat (read) is imperfective and co-occurs with durative and habitual time adverbs like ves' den' (all day) and často (often).

The form pročitat' which consists of the prefix pro plus the root čitat, is regarded in many grammars and dictionaries as the perfective form of čitat', that is čitat' and pročitat' are taken to be identical in meaning apart from the difference in aspect. Concerning the imperfective form pročityvat', it would be difficult to explain the existence of this form in a sentence such as:

36. On budet pročityvat' dokumenty (He is going to read through the documents).

The fact that čítat' and pročítývát' both occur after budet (will) and často (often) leads one at least to suspect a contrast in meaning, especially when one compares these two forms with a pair of imperfective/perfective forms like pisat' (write) / napisat' (wrote). The prefix na- is generally taken to be simply a marker of perfective aspect, and there is no imperfect form *napisývát'. The crucial point is that, whereas pasit' and napisat' are different forms of the same lexical item, čítat' (read) is one lexical item and pročítat' - pročítývát' are two forms of another lexical item. Isačenko gives three criteria for determining when a verb form expresses an aktionsart. (1) The meaning of an aktionsart form represents a modification of the meaning of the root to which the prefix is added. (2) A modifying suffix or prefix is added to an independently existing verb; this verb is usually a root. (3) A form which expresses an aktionsart is not a member of an aspectual pair, i. e. its members must be synonymous apart from aspect.⁽¹⁾ In this respect, the Aktionsarten in Russian are general verb meanings which concerns the 'manner' in which the process or action develops (Miller, 1970).

On the other hand, Comrie (1976) and Lyons (1978) reject the idea of using the term 'Aktionsart', because of the confusion that can be caused by one or other of two more general distinctions between 'aspect' and 'aktionsart'. The first distinction is between

(1) For a detailed discussion of aspectual pairs, see Forsyth, J. (1970:32-58).

grammaticalisation and lexicalisation, i.e. between 'aspect' as grammaticalisation of the relevant semantic distinctions, while 'aktionsart' represents lexicalisation of the distinction, irrespective of how these distinctions are lexicalised. The second distinction, which is used by most Slavists, ⁽¹⁾ is, within morphology, between inflexion and derivation, i.e. between aspect as grammaticalisation of the semantic distinction, and aktionsart as lexicalisation of the distinction, provided that the lexicalisation is by means of derivational morphology. ⁽²⁾ The fact that neither of these two distinctions is itself clearcut, in addition to another fact that they are partially coincident, makes some scholars operate with the one and some scholars with the other. This treatment has been responsible for a good deal of confusion in the use of the term 'Aktionsart' (cf. Comrie, 1976).

In rejecting the use of the term 'Aktionsart', Lyons (op.cit.) introduce a new term which he called 'aspectual character'. 'The aspectual character of a verb, or more simply its character, will be that part of its meaning whereby it (normally) denotes one kind of situation rather than another' (p.706). For example 'know' differ

(1) For a comprehensive account of the use of the term 'aktionsart', see Agrell (1908), Isačenko (1962), Ivanova (1974).

(2) For a general discussion of derivational morphology, see Mathews, 1974: chapter III, where it is referred to as lexical morphology.

from 'recognise' in English, by virtue of its aspectual character, where the verb 'know' normally denotes a state whereas the verb 'recognise' denotes an event.

In view of what is said above, concerning the confusion that can be caused by the different senses of 'Aktionsart', this term will not be used in the present work.

CHAPTER II

A GENERAL VIEW OF THE ARABIC LANGUAGE

2.1. Introduction

Arabic belongs to the Semitic group of languages. The most characteristic feature of this group of languages is that the great majority of their words are built up from roots which generally have a tri-consonantal form, although there are some roots with two or four consonants in their form save for a few prefixes and suffixes. Derivational and inflectional morphology depend largely on the identity and position of vowels within the consonantal root. Traditionally the tri-consonantal root is loosely equated with the third person masculine singular perfective of the verb which is the citation form (see below). Moreover, a given root has generally associated with it a basic meaning which is relatable to all forms derived from it. Thus, from the root /-d-r-s-/ which is cited as /darasa/ (3MS, pf) 'he studied', for example, we derive /darsun/ 'a lesson, a thing studied'; /dirāsātun/ 'study, the activity of studying'; /madrasa/ 'school'; /darrasa/ (3MS, pf) 'he taught, he made (someone) study'; /mudarris/ (masc.) and /mudarrisa/ (fem.) 'teacher'. Roots may be conveniently symbolised with the letters FML (F standing for the First consonant of any root, M for the Middle consonant, and L for the Last consonant), e.g. the verb /darasa/ 'he studied' has the stem pattern FaMaL (-a). That is,

it begins with a consonant, then the vowel /a/, then the second consonant, another vowel /a/, and then a third consonant. The final vowel /-a/ refers to the third person sign (see chapter V).

The term 'Arabic' is used to cover: (a) Classical Arabic, (b) Modern Standard Arabic, (c) Colloquial or Dialectal Arabic. Classical Arabic dates from the 6th century A.D., if not earlier. It is the language of Qurʾān and of the great Arab grammarians, poets and others. The Modern Standard language is that variety of Arabic which is found in contemporary books, newspapers, and magazines, and which is used orally in formal speeches, public lectures, learned debates, religious ceremonials and in news broadcasts over radio and television. It varies in idiom and vocabulary from the Classical, but the differences are small. This is because Classical Arabic was hallowed as the vehicle of God's Revelation in the Qurʾān, and was therefore not permitted to change to any marked extent. Consequently, though some usages have become obsolete, the grammar of the 6th century Arabic still applies largely to Modern Standard Arabic. The dialectal language consists of a large number of dialects, each of which has features unique to it, and other features which are characteristic of other varieties of Arabic.

Concerning the present work, the examples we are going to use are from what is generally known as Modern Standard Arabic (henceforth, MSA).

2.2. Relevant Grammatical Categories (parts of speech)

Orthodox Arabic grammarians recognise only three parts of speech: verbs, nouns, and particles. The Aristotelian concept of a verb is the same in Arabic as in English; but adjectives, adverbs, and pronouns, in addition to nouns proper, are classified as nouns; particles include conjunctions, prepositions, and interjections. In what follows, we shall give a brief idea about some of the relevant grammatical categories and parts of speech to outline the basic structure of the language and to give the reader some understanding of the language to help with the examples and the discussion.

2.2.1. The Article

Traditional grammarians assert that, in Arabic, there is no indefinite article, but the presence of 'nunation'⁽¹⁾ at the end of a noun indicates indefiniteness. Thus, /baitun/ means 'a house', /raʒulun/ means 'a man'. The only definite article for all cases, number and gender is /ʔal/ 'the'. This /ʔal/ is prefixed to the word it defines. In this case, the defined noun or adjective loses its nunation, e.g. /kitābun/ 'a book' becomes /ʔalkitābu/ 'the book'.

(1) At the ends of nouns and adjectives, when indefinite, the vowels /u/, /a/ and /i/ are to be pronounced with a final /n/: /un/, /an/ and /in/. This is called tanween or 'nunation' corresponding in general to the English indefinite article "a, an" as in 'a door', e.g. /bābun/, /bāban/, /bābin/ 'a door' (cf. 2.2.2). Moreover, it should be noted that names of cities, countries and female persons do not take nunation; examples are /bairūtu/ 'Beirut', /lubnānu/ 'Lebanon', and /mariamu/ 'Mary'.

It is worth mentioning that, in Arabic, the words /ʔalqamar/ 'the moon' and /ʔaššams/ 'the sun' are conventionally used to label two groups of consonants: 'sun-letters' and 'moon-letters'. There are fourteen 'sun-letters': /t/, /θ/, /d/, /ð/, /r/, /z/, /s/, /š/, /ṣ/, /ḍ/, /ṭ/, /ḫ/, /l/, /n/. The remaining are 'moon-letters'. Accordingly, any noun or adjective defined by /ʔal/ 'the' begins with one of the 'sun-letters', the consonant /l/ of the definite article /ʔal/ is assimilated to the 'sun-letter' in question which is at the same time doubled, e.g. /raḫulun/ 'a man' becomes /ʔarraḫulu/ 'the man'; /ḫadīdun/ (adj.) 'new' becomes /ʔaḫḫadīdu/ 'the new'. With respect to the 'moon-letters' this is not the case, the definite article /ʔal/ is used in its proper manner, thus /mudīrun/ 'a director' becomes /ʔalmudīru/ 'the director'.

2.2.2. Case

Arabic has three cases: nominative, accusative, and genitive. The difference between one case and another lies in the vowel endings of the noun; the vowel /-u/ for the nominative case, /-a/ for the accusative case, and /-i/ for the genitive case, e.g.

Nom.	/baitun/ 'a house';	/ʔalbaitu/ 'the house'
Acc.	/baitan/ " ;	/ʔalbaitu/ "
Gen.	/baitin/ " ;	/ʔalbaiti/ "

Each case is used for a different sentence function:

a. A noun functioning as the subject is in the nominative case;

1. /ʒāʔa zaidun/ 'Zaid came'⁽¹⁾
(3MS, pf.) 'come' (Zaid)

b. A noun, an adjective or an adverb functioning as an object, direct or indirect is in the accusative case;

2. /ḍaraba zaidun hindan/ 'Zaid beat Hind'.
(3MS, pf.) 'beat' (Zaid) (Hind)
3. /šāhadat laila filman qadīman/ 'Layla saw an old movie'.
(3FS, pf.) 'see' (layla) (movie) (an + old)

c. The object of a preposition is in the genitive case;

4. /sāfara ʔalmudarrisu ʔila ʔalqāhirati/ 'the teacher travelled to Cairo'
(3MS, pf.) 'travel' (the + teacher) (to) (the + Cairo)

2.2.3. Gender and Number

Arabic has only two genders conventionally called: masculine and feminine. If the noun refers to an animate being, then its gender agrees with the natural gender of the referent. Thus, the following nouns are masculine: /ʔustāḏun/ 'professor', /samīr/ 'Samir', /tālibun/ 'a student (male)'; and the following are feminine: /mariam/ 'Mary', /tālibatun/ 'a student (female)'.

The gender of names of cities and countries⁽²⁾ is almost entirely predictable. Names of cities and countries are feminine,

(1) Please note that throughout the present work, the literal translation of Arabic words used in sentences, are in parenthesis immediately under the phonological transcription.

(2) The common exception being /lubnānu/ 'Lebanon', /ʔalʔirāqu/ 'Iraq', /ʔalʔurdunu/ 'Jordan'.

e.g. /bairutu/ 'Beirut', /miṣru/ 'Egypt'. The gender of almost all other nouns depends on the form of the word itself. The suffix /-a(t)-/ indicates feminine gender; a noun without this suffix is masculine. Thus, /uaraqatun/ 'a sheet of paper', and /ṭāuilatun/ 'a table' are feminine, while /kitābun/ 'a book' and /bābun/ 'a door' are masculine.

The feminine suffix /-at-/ is also used to derive a feminine noun from a masculine one, as in /tālibun/ (M) - /tālibatun/ (F) 'a student'; pairs of this type are exceedingly common. It is a general rule that whatever comes in male-female pairs in the real world, like kings and queens, male teachers and female teachers, etc... are expressed in Arabic by pairs of words of the same above pattern. (1)

Arabic has three numbers: singular, dual, and plural. The singular denotes one referent, the dual denotes two (exactly), and the plural refers to three or more. The inflections for the dual are /-āni/ for the nominative, e.g. /raḏulāni/ (masc., dual, Nom.) 'two men'; and /-aini/ for the accusative and genitive, e.g. /raḏulaini/ (masc., dual, Acc. & Gen.) 'two men'.

Arabic has various ways of making nouns or adjectives plurals. The plurals are formed by adding special suffixes, e.g. /mudarisun/ 'teacher', /mudarrisūna/ 'teachers'; and by vowel change, e.g.

(1) The same arrangement holds also for the adjectives.

/ṭālībun/ 'student', /ṭullābun/ 'students', /ḏadīdun/, /ḏududun/ 'new'; or a combination of a vowel change and suffix as in /ʔustāḏun/ 'professor', /ʔasātiḏatun/ 'professors'. Arabic plurals formed by means of vowel change, with or without suffixes are called "broken" plurals, and those that are formed by means of certain suffixes are called "sound" plurals. Sound plurals show distinctions in gender and case. The suffixes are:

	Masculine	Feminine
Nom.	/-ūna/	/-ātun/
Gen. & Acc.	/-īna/	/-ātin/

Broken plural, on the other hand, can be illustrated by the following common examples ⁽¹⁾:

/qalbun/	'heart'	/qulūbun/	'hearts'
/uʔaladun/	'boy'	/ʔaulādun/	'boys'
/filmun/	'film'	/ʔaflāmun/	'films'
/kitābun/	'book'	/kutubun/	'books'
etc.		etc.	

2.2.4. Personal Pronouns

Arabic personal pronouns are of two types: independent and attached pronouns. The following table illustrates the independent personal pronouns:

(1) The "broken" plural is analogous to the English 'irregulars'.
cf. the English word 'men' which is formed by changing the vowel of the singular 'man'.

	Singular	Dual	Plural
3M	/huua/ 'he'	/humā/ 'they'	/hum/ 'they'
3F	/hiia/ 'she'		/hunna/ 'they'
2M	/ʔanta/ 'you'	/ʔantumā/ 'you'	/ʔantum/ 'you'
2F	/ʔanti/ 'you'		/ʔantunna/ 'you'
1 M & F	/ʔana/ 'I'	—	/naḥnu/ 'we'

The attached personal pronouns are:

	Singular	Dual	Plural
3M	/-hu/	/-humā/	/-hum/
3F	/-ha/		/-hunna/
2M	/-ka/	/-kumā/	/-kum/
2F	/-ki/		/-kunna/
1 M & F	/-ī/ /-nī/ (when attached to a verb)	—	/-nā/

The attached personal pronouns are used in the following manners:

- a. Suffixed to a noun to indicate possession, e.g. /kitābī/ 'my book'.
- b. When attached to a verb, it functions as a direct object, e.g.

/fataḥahu/ 'he opened it'
(3MS, pf.) 'open' + it

2.2.5. The Verb

As mentioned earlier, Arabic verbs are mostly tri-consonantal. Thus, the basic meaning of 'writing', for example, is

given by the three consonants /-k-t-b-/. Moreover, as has been stated above, the simplest form of a verb is the third person masculine singular of the perfective, e.g. /kataba/ 'to write'.⁽¹⁾

An Arabic verb in the perfective consists of a perfective stem FaM $\begin{pmatrix} a \\ u \\ i \end{pmatrix}$ L- and a subject marker, (the first vowel is always /a/, the second is either /a/, /u/ or /i/). For example in /darastu/ (1S, pf) 'study', the stem is /daras-/, the root is /d-r-s-/ and the subject marker is /-tu/. The pattern of the stem /daras-/ is the simplest pattern of all verb stems. All verbs with stems of the same pattern, i.e. consisting of CVCVC, are labelled Form I verbs, also called simple verbs.

The imperfective stem of the first Form has the pattern -aFM $\begin{pmatrix} a \\ u \\ i \end{pmatrix}$ L-. The first vowel is always /a/ whereas the second is either /a/, /u/ or /i/, as in /iaqraʔu/ (3MS, impf.) 'read', /iaktubu/ (3MS, impf.) 'write', and /iaḍribu/ (3MS, impf.) 'beat', respectively.

In the simple tri-consonantal verb of the third masculine singular perfective, the first and the third consonants of the root⁽²⁾ must be followed by the vowel /a/, but the second consonant may be

- (1) In dictionaries and vocabularies, Arabic verbs are customarily listed in the third, masculine, singular form of the perfective as in /kataba/ 'to write', because this is the shortest of all forms. This is literally 'he wrote', but the English equivalent is usually listed as an infinitive 'to write'.
- (2) Roots are conveniently symbolised with the letters FML (F standing for the First consonant of any root, M for the Middle consonant, and L for the Last consonant).

followed by /a/, /i/ or /u/, e.g.

/fataḥa/ 'to open' (literally, 'he opened')

/ḥazina/ 'to be sad' (literally, 'he was or become sad')

/kabura/ 'to be old' (literally, 'he was or became old or big')

Verbs having the vowel /i/ or /u/ after the second consonant, generally denote a state, or the entering of a state. The vowel /i/, in this position, frequently denotes a temporary state, the vowel /u/ a more permanent one. But this can only be taken as a general guide.

In addition to the simple verb, each root has the potentiality of expanding, by the systematic addition of one or more affixes into any one of ten⁽¹⁾ various derived forms. All forms have identifiable structure and discrete ranges of meaning. Moreover, each of these derived forms bears a specific semantic relationship to the simple verb. Thus, the verb /qatala/ (3MS, pf.) 'to kill', literally means 'he killed', whereas /qattala/ (3MS, pf.) 'with doubling of the middle consonant' means 'he massacred', for when the middle consonant is doubled, the meaning of the root is intensified. Similarly, /taqātalā/ (3MD, pf.), 'with a prefixed /ta-/ and a long vowel /-ā/ after the first and the last consonant' means 'fight one another', for when these changes are made in the simple verb, the action signified by the verb acquires a reciprocal meaning. It should be noted, however, that we

(1) There are actually fifteen derived forms, but only ten are in common use. Moreover, there is an additional fact to be noted about the derived verb forms. It is seldom in actual practice that all the derived forms of a given root are used.

are concerned solely with the Axiomatic Functionalism description of form I, since other forms will not influence the resulting description except in terms of extending statements of allomorphy.

2.2.5.1. Tense

Arabic, in common with other Semitic languages, is deficient in tenses. Moreover, the so-called tenses do not have accurate time-significances as in Indo-European languages. Actually, there are two sets of forms which are distinguished either as 'perfect' and 'imperfect', or 'perfective' and 'imperfective'.⁽¹⁾ Traditionally, these two sets are referred to variously as tenses, aspects or states, which indicate whether the action is complete or not. The perfective denotes completed action, whereas the imperfective denotes an action which has not taken place or has not been completed - irrespective of time.⁽²⁾

Like nouns (cf. 2.2.3.), all types of verbs are inflected according to person (first, second, third), number (singular, dual, plural), and gender (masculine, feminine) as can be seen from the following table:

(1) In this study, the terms 'perfective' and 'imperfective' are used.

(2) For the uses of the perfective and imperfective, see (2.3.1.).

Form	Person & Gender	Number		
		Singular	Dual	Plural
Perfective	3rd. masc.	kataba <u>̄</u>	katabā <u>̄</u>	katabū <u>̄</u>
	3rd. fem.	katabat <u>̄</u>	katabatā <u>̄</u>	katabna <u>̄</u>
	2nd. masc.	katabta <u>̄</u>	katabtumā <u>̄</u>	katabtum <u>̄</u>
	2nd. fem.	katabti <u>̄</u>	katabtumā <u>̄</u>	katabtunna <u>̄</u>
	1st. common	kabtu <u>̄</u>	-	kabnā <u>̄</u>
Imperfective	3rd. masc.	ia <u>̄</u> ktubu <u>̄</u>	ia <u>̄</u> ktubā <u>̄</u> ni	ia <u>̄</u> ktubū <u>̄</u> na
	3rd. fem.	ta <u>̄</u> ktubu <u>̄</u>	ta <u>̄</u> ktubā <u>̄</u> ni	ia <u>̄</u> ktubna <u>̄</u>
	2nd. masc.	ta <u>̄</u> ktubu <u>̄</u>	ta <u>̄</u> ktubā <u>̄</u> ni	ta <u>̄</u> ktubū <u>̄</u> na
	2nd. fem.	ta <u>̄</u> ktubina <u>̄</u>	ta <u>̄</u> ktubā <u>̄</u> ni	ta <u>̄</u> ktubna <u>̄</u>
	1st. common	?a <u>̄</u> ktubu <u>̄</u>	-	na <u>̄</u> ktubu <u>̄</u>

The verb used for illustration in the table above is /kataba/ (3MS, pf.) 'to write' (lit: he wrote). It is represented in its perfective and imperfective form. The root of the perfective form is CVCVC, and the root of the imperfective form is CCVC. The underlined portions constitute the affixes (prefixes and suffixes) that are used as markers of person, number and gender.

It should be noted, however, that each of the above forms, i.e. "perfective" and "imperfective", has several different uses and meanings. The perfective form refers to an action completed at the past time; an action which has just finished. It also refers to a habitual action in the past. With the particle /qad/ it shows that the action has taken place, as expected, just a little before the time of speaking. It can also be preceded by the auxiliary verb /kāna/

(3MS, pf.) 'be' and the particle /qad/ to denote that the event happened prior to a past time, i.e. with pluperfect meaning⁽¹⁾ (cf. 2.3.). The imperfective, on the other hand, expresses a habitual action; a specific fact; a simple future when it combines with the particle /saufa/ 'will'. It can also combine with /kāna/ (3MS, pf.) 'be' to correspond to a progressive action in the past (cf. Ibid.).

2.2.5.1.1. Moods

The imperfective includes four moods: 'indicative', 'subjunctive', 'jussive' and 'imperative'. The imperfective indicative is usually referred to as simply the "imperfective"; the other moods are also part of the imperfective but they are referred to by their mood names "subjunctive", "jussive" and "imperative".

The "subjunctive" differs from the "imperfective" in two ways: (1) final vowel /u/ mood marker is changed to /a/, e.g. /iadrusu/ and /iadrusa/ (3MS, impf.) 'to study'. (2) The final /na/ after a long vowel is dropped, e.g. /iadrusūna/ and /iadrusū/ (3MP, impf.) 'to study'; /tadrusīna/ and /tadrusī/ (2FS, impf.) 'to study'.

The subjunctive is used only when required by a particular expression in the sentence. Three such particles are /lan/ 'will not',

(1) For a detailed discussion and examples concerning the uses/ meanings of the perfective and imperfective forms, see 2.3.

/ḥatta/ 'until, up to the point that, in order to', and /li/ 'in order that'. Consider,

5. /lan iaḥhaba ʿalī ʔila ʔalmadrasati/ 'Ali will not go to school'
(will + not) (3MS, impf.) (Ali) (to) (the + school)
6. /ḥaḍarū ʔila bariṭānia ḥatta iuṣāhidū ʔalmatāḥifa/
(3MP, pf.) (to) (Britain) (in order to) (3MP, impf.) (the + museums)
'they came to Britain in order to see the museums'.
7. /qaddama ṭalaban li-ia ʿmala fi ʔažžarīdati/
(3MS, pf.) (a + request) (in order that + 3MS, impf.) (in) (the + newspaper)
'he submitted a request to work (in order that he works) in the newspaper'.

The "jussive" has the same forms as the "subjunctive" except that final /-a/ of the (first person singular and plural), (second person masculine singular), and (third person masculine and feminine singular) is lacking. In all other forms it has the same prefixes of the "imperfective" and the "subjunctive" moods.

The function of the "jussive" is to negate a completed action (see 2.2.5.2.). The following chart compares the three moods of /darasa/ (3MS, pf.) 'to study':

Moods	Singular				
	1st. Common	2nd. masc.	2nd. fem.	3rd. masc.	3rd. fem.
Indicative	ʔadrusu	tadrusu	tadrusīna	iadrusu	tadrusu
Subjunctive	ʔadrusa	tadrusa	tadrusī	iadrusa	tadrusa
Jussive	ʔadrus	tadrus	tadrusī	iadrus	tadrus
Plural					
	1st. Common	2nd. masc.	2nd. fem.	3rd. masc.	3rd. fem.
	Indicative	nadrusu	tadrusūna	tadrusna	iadrusūna
Subjunctive	nadrusa	tadrusū	tadrusna	iadrusū	iadrusna
Jussive	nadrus	tadrusū	tadrusna	iadrusū	iadrusna

Regarding the "imperative", this form is used in giving someone a positive command or request, e.g.

8. /ʔuktub hāʔihi ʔaʒʒumla/ 'write this sentence'
(2MS, impf.) 'write' (this) (the + sentence)

The "imperative" is formed from the second person "jussive" forms by taking away the pronominal prefix and replacing it by the prefix /ʔu-/ or /ʔi-/ according to the middle consonant of the verb. If the vowel /u/ follows the middle consonant, the "imperative" begins with /ʔu-;/ if it is followed by the vowel /a/ or /i/, the "imperative" begins with /ʔi-/, e.g.

/iaktub/ (3MS, impf.) 'to write' (lit: he writes) becomes /ʔuktub/
(2MS, impf.) 'write!'

/iadrib/ (3MS, impf.) 'to strike' (lit: he strikes) becomes /ʔidrib/
(2MS, impf.) 'strike!'

The chart below shows the five second person "jussive" and "imperative" forms of /kataba/ (3MS, pf.) 'to write':

Person, Gender & Number	Jussive	Imperative
2MS	taktub	ʔuktub
2FS	taktubī	ʔuktubī
2D	taktubā	ʔuktubā
2MP	taktubū	ʔuktubū
2FP	taktubna	ʔuktubna

2.2.5.2. Verb negation

The Arabic perfective, as pointed out above, is used to refer to completed actions. The negation of these actions is most commonly expressed by the negative particle /lam/ 'not' and a verb form in the jussive mood;

9.a. /ʔakala ʔalʔasadu ʔallaḥma/ 'the lion ate the meat'
(3MS, pf.) 'eat' (the + lion) (the + meat)

b. /lam iaʔkul ʔalʔasadu ʔallaḥma/ 'the lion did not eat the meat'
(not) (3MS, juss.) 'eat' (the + lion) (the + meat)

As far as the negation of the imperfective is concerned, three different particles are used: /lā/ 'not', /lan/ 'will not', and /lam/ 'not'. The particle /lā/ 'not' has two different functions: (a) it negates the indicative mood;

10.a. /farīd iabḥaḥu ʔan ʔamalīn/ 'Farid is looking for work'
(Farid) (3MS, impf.) 'look for' (for) (work)

b. /farīd lā iabḥaḥu ʔan ʔamalīn/ 'Farid is not looking for work'
(Farid) (not) (3MS, impf.) 'look' (for) (work)

(b) it gives a negative command or request, i.e. it negates the imperative mood. The following examples show the contrast between positive commands (for which imperative forms are used) and negative commands, i.e. /lā/ plus "jussive" forms:

<u>positive</u>	<u>negative</u>
/ʔuktub/ 'write!'	/lā taktub/ 'do not write'
/ʔiṣrab/ 'drink!'	/lā taṣrab/ 'do not drink'

An illustrative example containing a negative imperative is:

11. /lā taqra ʔi risālatahu/ 'do not read his letter'
(not) (2FS, impf.) 'read' (letter + his)

The negation of the "subjunctive" mood is expressed by the negative particle /lan/ 'will not' which negates the future; for example:

- 12.a. /taštari karīma hiṣā ʔan ṣadan/ 'Karima will buy shoes tomorrow'
(3FS, impf.) 'buy' (Karima) (shoes) (tomorrow)
- b. /lan taštari karīma hiṣā ʔan ṣadan/ 'Karima will not buy shoes tomorrow'
(not) (3FS, impf.) 'buy' (Karima) (shoes) (tomorrow)

The function of the particle /lam/ 'not' with the jussive mood is, as mentioned above (cf. 2.2.5.1.1.), to negate a completed action.

2.2.5.3. Active and Passive voice

In addition to the active voice of the verb, e.g. /kasara/ (3MS, pf.) 'to break', Arabic, also, possesses a passive voice. The principal difference between active and passive voice is, in brief, that the subject of the passive verb is acted upon by some other agent, while this is not the case with the subject of an active verb. Compare:

- 13.a. /šariba ʔalkalbu ʔalmā ʔa/ 'the dog drank the water' (Active)
 (3MS, pf.) 'drink' (the + dog) (the + water)
- b. /šuriba ʔalmā ʔa/ 'the water was drunk' (Passive)
 (3MS, pf.) 'drink' (the + water)

The subject of the active verb 'performed' the act, while the subject of the passive verb 'underwent' the action.

The passive voice in Arabic is indicated by special vowel patterns in the stem of the verb. In the perfective form, the active-passive contrast is illustrated as follows:

Form I	Active voice	Passive voice
pattern	FaM ^ā L-	FuMiL-
	/darasa/ (3MS, pf.) 'to study'	/durisa/ (3MS, pf.) 'to study'
	/šariba/ (3MS, pf.) 'to drink'	/šuriba/ (3MS, pf.) 'to drink'

All verbs that have the stem vowel /u/ in the perfective form, e.g. /qabuha/ (3MS, pf.) 'to be ugly' are intransitive and therefore do not form a passive.

The rule for the formation of the passive of the perfective form in all verb Forms is:

- (a) change the stem vowel, i.e. the vowel before the last consonant L, to the vowel /i/.
- (b) change all the preceding vowels to /u/ if short or /ū/ if long.

In the imperfective, the essence of the vowel pattern for the passive voice is basically /u/ - /a/: the vowel /-u/ comes first in

all verb Forms, and all the following vowels of the stem are either /a/ or /ā/. The active-passive contrast of the imperfective is illustrated below using the verb /manaḥa/ (3MS, pf.) 'to grant' as an example:

Form I	Active voice	Passive voice
Pattern	iaFMaL-	iuFMaL-
	/iamnaḥu/'to grant'	/iumnaḥu/'to be granted'

It is noteworthy that the conjugation of the passive, perfective or imperfective, is exactly like that of the active (cf. 2.2.5.1.), since only an internal vowel change is involved. The conjugation of all passive perfective and imperfective forms are illustrated below with the passive verb /ḍuriba/ (3MS, pf.) 'be beaten' from /ḍaraba/ (3MS, pf.) 'beat'

Form	Person & Gender	Number		
		Singular	Dual	Plural
Perfective	3rd masc.	ḍuriba	ḍuribā	ḍuribū
	3rd fem.	ḍuribat	ḍuribatā	ḍuribna
	2nd masc.	ḍuribta	ḍuribtumā	ḍuribtum
	2nd fem.	ḍuribti	ḍuribtumā	ḍuribtunna
	1st common	ḍuribtu	-	ḍuribnā
Imperfective	3rd masc.	iḍrabu	iḍrabāni	iḍrabūna
	3rd fem.	tuḍrabu	tuḍrabāni	tuḍrabna
	2nd masc.	tuḍrabu	tuḍrabāni	tuḍrabūna
	2nd fem.	tuḍrabina	tuḍrabāni	tuḍrabna
	1st common	?uḍrabu	-	nudrabu

2.2.5.4. The verb /kāna/ 'to be'

The verb /kāna/ (3MS, pf.) 'be' (lit: he was) can be used in two different ways:

(a) As an auxiliary verb /kāna/ (3MS, pf.) 'be' uses the two forms: perfective and imperfective;⁽¹⁾ consider for instance

14. /kāna zaidun qad kataba risālatan/ 'Zaid had written a letter'
(3MS, pf.) 'be' (Zaid) (3MS, pf.) 'write' (a letter)

15. /iakūnu zaidun iaktubu risālatan/ 'Zaid will be writing a letter'
(3MS, impf.) 'be' (Zaid) (3MS, impf.) 'write' (a letter)

(b) As a fully-fledged verb, /kāna/ (3MS, pf.) 'be' is used with a predicate (noun or adjective), and like any verb, the subject of /kāna/ takes the nominative case, but the predicate takes the accusative; consider:

16. /kānat xulūdun ṭālibatan/ 'Kholoud was a student'
(3FS, pf.) 'be' (Kholoud) (a student)

17. /kāna tāžiran/ 'he was a merchant'
(3MS, pf.) 'be' (a merchant)

The verb /kāna/ 'to be' has the same distinction of person, gender, and number and it agrees with its subject as any verb in the perfective and imperfective forms. The table below illustrates the conjugation of /kāna/ 'to be':

(1) For the usages of /kāna/ see (2.3.1.)

Form	Person & Gender	Number		
		Singular	Dual	Plural
Perfective	3rd masc.	/kāna/	/kānā/	/kānū/
	3rd fem.	/kānat/	/kānatā/	/kunna/
	2nd masc.	/kunta/	/kuntumā/	/kuntum/
	2nd fem.	/kunti/	/kuntumā/	/kuntunna/
	1st Common	/kuntu/	-	/kunnā/
Imperfective	3rd masc.	/iakūnu/	/iakūnāni/	/iakūnūna/
	3rd fem.	/takūnu/	/takūnāni/	/iakunna/
	2nd masc.	/takūnu/	/takūnāni/	/takūnūna/
	2nd fem.	/takūnīna/	/takūnāni/	/takunna/
	1st common	/ʔakūnu/	-	/nakūnu/

2.2.5.5. The Aspectual verbs

Modern Standard Arabic has several aspectual verbs, these include /ʔalla/ (3MS, pf.) 'continue', /baqīa/ (3MS, pf.) 'remain', /māzāla/ (3MS, pf.) 'still' which give the idea of duration; /badaʔa/ (3MS, pf.), /ʔaxaʕa/ (3MS, pf.) 'begin', indicate the beginning or commencement of the process or action; /šāra/ (3MS, pf.), /ʔašbaḥa/ (3MS, pf.) 'become' express the idea of coming about of states; and /kāda/ (3MS, pf.), /ʔaušaka/ (3MS, pf.) 'be on the point of', refer to the imminent occurrence of a process or action. Like /kāna/ (3MS, pf.) 'be' (cf. 2.2.5.4.), the subject which follows any aspectual verb takes the nominative case, whereas the object takes the accusative case; consider the following instances:

18. /ʔalla ʔalmudarrisu iaqraʔu ʔalkitāba/ 'the teacher continued to (3MS, pf.) 'continue' (the + teacher) (3MS, impf.) 'read' (the + book) read/reading the book'

19. /baqiia ?almā ?u iažrī/ 'the water remained running'
(3MS, pf.) 'remain' (the + water) (3MS, impf.) 'run'
20. /māzāla ?aṣṣabbāxu iaṣbuṣu ?albaita/ 'the painter is still
(3MS, pf.) 'still' (the + painter) (3MS, impf.) 'paint' (the + house)
painting the house
21. /bada?a/ ?axaʕa ?ažžaišu iazḥafu/ 'the army began to advance'
(3MS, pf.) 'begin' (the + army) (3MS, impf.) 'advance'
22. /ṣāra/ ?aṣbaḥa uazīru ?addāxiliati ra?īsan/ 'the minister of
(3MS, pf.) 'become' (minister) (the + interior) (president)
interior has become president
23. /kāda/ ?auṣaka ?annahru iaḥīdu/ 'the river was about to overflow'
(3MS, pf.) 'be on the point of' (the + river) (3MS, impf.) 'overflow'

Note that as /kāna/ (3MS, pf.) 'be' is an auxiliary verb of time, there are also aspectual distinctions, i.e. the distinction between:

24. /kāna qad ?akala/ 'he had eaten' and,
(3MS, pf.) 'be' (3MS, pf.) 'eat'
25. /kāna ia?kulu/ 'he was eating'
(3MS, pf.) 'be' (3MS, impf.) 'eat'

Moreover, it should be noted that the inflected forms of verbs after /kāna/ (3MS, pf.) 'be' and the aforementioned aspectual auxiliaries agree with the form of these auxiliaries in person, gender and number, e.g.

26. /kānat ?albintu talʕabu/ 'the girl was playing'
(3FS, pf.) 'be' (the + girl) (3FS, impf.) 'play'
27. /māzālū iaktubūna/ 'they are still writing'
(3MP, pf.) 'still' (3MP, impf.) 'write'

28. /badaʔat ʔamal tarkuḏu/ 'Amal began to run'
 (3FS, pf.) 'begin' (Amal) (3FS, impf.) 'run'

2.2.5.6. The Participles

A participle in Arabic is a form derived from a simple tri-consonantal verb, and having a meaning closely associated with that of the verb. A participle may be active or passive. The Form of the active participle has the pattern FāMiL-, whereas the passive participle has the pattern maFMūL-, e.g. /dārisun/ (3MS, impf.) 'study' and /madrūsun/ (3MS, pf.) 'study', respectively.

A - Active participle (ʔism ʔalfāʔil)

The general meaning of an active participle is "performing the action indicated by the verb", e.g.

29. /hal ʔanta ʔāhibun/ 'Are you going?'
 (interrogative particle) (you) (2MS, impf.) 'go'

Active participles may have several specific meanings, but these differ from verb to verb. For some verbs, the active participle has 'progressive' meaning. These include verbs indicating a change of location such as /qādimun/ 'coming', /ʔāhibun/ 'going', /māšīian/ 'walking', /musāfirun/ 'travelling' and the like; and verbs indicating absence of change, i.e. stative, such as /uāqifun/ 'to stop', /bāqīian/ 'to stay', /ʔārifun/ 'to know'; consider:

30. /zainab qādīmatun min baḡ dād/ 'Zainab is coming from Baghdad'⁽¹⁾
(Zainab) (3FS, impf.) 'come' (from) (Baghdad)
31. /ʔaxī uāqifun hunāk/ 'my brother is standing there'
(brother + my) (3MS, impf.) 'stand' (there)
32. /ra ʔaitu ʕalī rākibun ḥiṣānan/ 'I saw Ali riding a horse'
(IS, pf.) 'see' (Ali) (3MS, impf.) 'ride' (a horse)

The active participle may also have 'future' meaning, according to context:

33. /naḥnu musafirūnu ḡadan/ 'we are leaving (or 'going to leave') tomorrow'
(we) (3MP, impf.) 'leave' (tomorrow)

Moreover, the active participle preceded by the perfective or imperfective of /kāna/ 'to be' is used to express the past or future progressive, respectively:

34. /kāna xāriḡan min baitihi/ 'he was going out of his house'
(3MS, pf.) 'be' (3MS, impf.) 'going out' (from) (house + his)
35. /iakūnu nāzilan ʕindi/ 'he will be staying with me'
(3MS, impf.) 'be' (3MS, impf.) 'stay' (with + me)

B - The Passive participle

The passive participle is also formed from the simple tri-consonantal verb. Thus, from /qaraʔa/ (3MS, pf.) 'to read', for instance, the passive participle form /maqrūʔun/ (3MS, pf.) 'read' is derived.

(1) It should be noted, however, that Arabic lacks an equivalent of "am/is/are" forms and it is understood from the context that the imperfective meaning indicates the aspect of continuity.

The basic meaning of the passive participle is "undergoing or having undergone the action denoted by the verb", which is equivalent to the English past participle of a transitive verb, e.g.

36. /ʔalmaqālatu ʔalmanšūratu/ 'the published article'
(the + article) (the + 3FS, pf.) 'publish'

Furthermore, when the passive participle follows the perfective of /kāna/ 'to be', it refers to a completed action and resulting state:

37. /kāna ʔaṣṣaḥnu maksūran/ 'the plate was broken'
(3MS, pf.) 'be' (the + plate) (3MS, pf.) 'break'

2.2.5.7. Sentence Structure

Arabic has two major types of sentences: verbal and nominal. The verbal sentence contains a verb which features as its basic element. In its simplest form a verbal sentence consists of only one word, the verb itself, the subject being indicated by the form of the verb, e.g.

38. /raʔiʔat/ (3FS, pf.) 'to return' (lit: she returned)

Depending on a verb type, a verbal sentence may have an overt subject, object and prepositional phrase:

39. /raʔiʔat ʔaṭṭāliba/ 'the (female) student returned'
(3FS, pf.) 'return' (the + student)
40. /raʔiʔat ʔaṭṭālibatu ʔaʔṣṣadīdatu/ 'the new student returned'
(3FS, pf.) 'return' (the " student) (the + new)
41. /darasat uidād ʔalluṣata ʔalʔarabiia/ 'Widad studied Arabic'
(3FS, pf.) 'study' (Widad) (the + language) (the + Arabic)

- 42.a. /qara ?a xālid ?arrisālata fi ?alqitāri/ 'Khalid read the letter
(3MS, pf.) 'read' (Khalid) (the + letter) (in) (the + train)
in the train'

The normal word-order in an Arabic verbal sentence is:

Verb - Subject - Object - Complement, as in (42), but the following word order of the above sentence are equally acceptable:

- b. /xālid qara ?a ?arrisālata fi ?alqitāri/ 'Khalid read the letter
in the train'
- c. /qara ?a ?arrisālata xālid fi ?alqitāri/ 'Khalid read the letter
in the train'
- d. /?arrisālata qara ?a xālid fi ?alqitāri/ 'Khalid read the letter
in the train'
- e. fi ?alqitāri qara ?a xālid ?arrisālata/ 'Khalid read the letter in
the train'

Apart from the verbal sentence, Arabic has the so-called nominal/equational sentence. This sentence consists of two parts, a subject and a predicate, which describes the subject, e.g.

43. /?aṭṭaqsu bāridun/ 'the weather is cold'
(the + weather) (cold)
44. /kāna ?aṭṭaqsu bāridan/ 'the weather was cold'⁽¹⁾
(3MS, pf.) 'be' (the + weather) (cold)

(1) It should be noted that when /kāna/ 'to be' is used, a predicate noun or adjective is in the accusative case.

2.3. General views on the category of Aspect in Arabic

Arabic language is a potentially fruitful field for the study of perfective/imperfective contrasts, as its verb paradigm is much elaborated, and the two principal forms, i.e. perfective and imperfective, are remarkably fertile in contrasted forms. Each form is a paradigm of morphologically related forms closely associated with the categories of 'person', 'gender', and 'number'. Moreover, each form is congruent with the system of personal pronouns. Traditionally, the perfective/imperfective forms are termed 'past' and 'non-past', respectively. The former refers to past acts, events, processes or developments, whereas the latter refers to progressive or habitual acts.

2.3.1. Arab Grammarians Views

Some of the most prominent Arab grammarians⁽¹⁾ agreed that the verb, which is one of the basic elements in the structure of the Arabic sentence has two main forms: the 'perfect(ive)' and the 'imperfect(ive)'. The former denotes a completed action, whereas the latter expresses an action that is just commencing or in progress. Some of those grammarians indicate that the Arabic perfective or imperfective has, in and of itself, no reference to the temporal relations of the event related to the speaker's point of temporal location, whereas others say that the verb form expresses an action in relation to time.

(1) cf. Sībawaih (1316, 1/2); Al-Saiiūti (1327); Azzamaxšari (1879), Ibn iaqīs (1970); Hassan (1960), Al-Maxzūmī (1964); Al-Ghalāini (1966); Assamarrāʿi (1966).

Before proceeding to the uses of the two forms, perfective and imperfective, it is worthwhile to review the writings of some of the major scholars on the subject of aspect in Arabic, particularly those of Sībauiah, ʔazzamaxšari, and Hassan in order to point out their relevance. The works of the other writers were almost all based directly or indirectly on the contributions of the above scholars. Therefore, there is no need to include them in this review.

Sībauiah is unanimously regarded as the first grammarian who tried to present the syntactic structures of Arabic in a systematic manner. At the beginning of his book, ʔal-kitāb, and in the context of his discussion of the parts of speech, Sībauiah (1316:2) says that the verb expresses an action which is either complete or incomplete. The perfective form expresses an action deemed complete;

45. /ʔahaba xālīd ʔilā ʔalqariati/ 'Khalid went to the village'
(3MS, pf.) 'go' (Khalid) (to) (the + village)
46. /ħaraqa xālīd ʔalʔaurāqa/ 'Khalid burnt the papers'
(3MS, pf.) 'burn' (Khalid) (the + papers)

The imperfective form expresses an action deemed incomplete; consider

47. /ia ʔkulu ʔalualadu tuffāḥatan/ 'the boy eats an apple'
(3MS, impf.) 'eat' (the + boy) (an apple)
48. /taʔhabu ʔalbintu ʔila ʔalmdrasati/ 'the girl goes to school'
(3FS, impf.) 'go' (the + girl) (to) (the + school)

According to Azzamaxšari, ʔal-mufaṣṣal, quoted and explained by Ibn Yaʔīs (1970:1-6), the verb has two forms, perfective and imperfective. The perfective form refers to an action that took place

in the past, i.e. a distinction is made between the present time reference and past time reference of the Arabic verb.

49. /ʔarsala rasūlan ʔila ʔaxīhi/ 'he sent a messenger to his brother'
(3MS, pf.) 'send' (a+ messenger) (to) (brother + his)

The imperfective form expresses an action that may take place in the present or the future:

50. /iarsilu rasūlan ʔila ʔaxīhi/ 'he sends/is sending a messenger
(3MS, impf.) 'send' (a + messenger) (to) (brother + his)
to his brother, or he will send a messenger to his brother'

Hassan (1960:30-36) discusses the characteristics of the Arabic verb and defines it as a word that indicates two things at the same time, meaning (action) and time. He divides the verb into three forms, past, present and future. The past form expresses an action that occurred in the past:

51. /ʔaqbalat suhād/ 'Suhad came'
(3FS, pf.) 'come' (Suhad)

The present form expresses an action that takes place in the present or the future:

52. /iaʔkulu tamran/ 'he eats dates'
(3MS, impf.) 'eat' (dates)
53. /saufa iaḥḍaru ʔalḥārisu/ 'the watchman will come'
(future) (3MS, impf.) 'come' (the + watchman)

Concerning the uses of these two aspects of the Arabic verb,

the Arab grammarians said that the 'perfective' indicates:

I.a. An action completed at some past time;

54. /darasa zaidun/ 'Zaid studied'
(3MS, pf.) 'study' (Zaid)

b. A past action, of which it can be said that it often took place,

i.e. habitual action:

55. /ṣahaba ʔilā ʔažžāmi^ḡ ʔi kulla žum^ḡ latin ʔal^ḡ āma ʔalmādī/
(3MS, pf.) 'go' (to) (the + mosque) (every) (Friday) (year) (last)
'he went to the mosque every Friday last year'

c. Something which we hope may be done or may happen. Hence, the perfective is constantly used in wishes, prayers and curses:

56. /raḥimahu ʔallāh/ 'may God have mercy upon him'
(3MS, pf. + him) 'mercy' (God)

d. An action which is just completed at the moment, and by the very act of speaking. This case is used in treaties, promises, bargains and the like:

57. /bi^ḡ tuka ʔalbaita/ 'I sell you the house'
(3MS, pf. + you) 'sell' (the + house)

2. The perfective is often preceded by the particle /qad/⁽¹⁾ to add emphasis of completeness, i.e. a confirmatory particle. When this is

(1) "qad is usually employed with the perfect to express more emphatically its past tense" (F. Thornton, 1919:103). "It is called by the grammarians the particle of expectation, and is said to be used to indicate perfect certainty, or to approximate the past to the present"(W. Wright, 1971:4).

the case, if the perfective has the same meaning mentioned in (d) above, it now implies that the act is really finished and completed just at the moment of speaking. Its completeness may consist in:

a. the removal of all doubts regarding its perfective certainty as opposed to uncertainty as in

58. /qad ?ištara⁹ina ?allu ?bata/ 'we have (really) bought the toy'⁽¹⁾
(1P, pf. + we) 'buy' (the + toy)

b. its having taken place in accordance with what was, or might be, expected, just a little before the time of speaking, i.e. recent past:

59. /qad ?aqbala sālīm min safarihi/ 'Salim has already come from
(3MS, pf.) 'come' (Salim) (from) (travelling + his)
his travelling"

It is worthwhile noting that the particle /qad/ disambiguates the perfective. Consider the difference between sentences with and without /qad/:

60.a. /kataba fauzī ?al ?inšā ?a/ 'Fawzi wrote the composition'
(3MS, pf.) 'write' (Fawzi) (the + composition)

b. /qad kataba fauzī ?al ?inšā ?a/ 'Fawzi has already written the
composition'
(already) (3MS, pf.) 'write' (Fawzi) (the + composition)

The above opposition shows that we have two different messages. The first indicates that the action is completed at some past time, whereas

(1) Occasionally /qad/ simply reinforces the meaning of the verb and is best left untranslated.

the second indicates that the action has taken place, as expected, just a little before the time of speaking.

Perfective forms can combine with the auxiliary /kāna/ (3MS, pf.) 'be' to denote an event occurring prior to a past time, i.e. with pluperfect meaning. In this case the perfective still expresses completeness, while /kāna/ gives the temporal location. This case is expressed by the simple perfective form in a relative or conjunctive clause⁽¹⁾ that depends upon a clause containing a verb in the perfective. The verb /kāna/ and the particle /qad/ should precede the perfective in the relative clause.

61. /ʕariftu ʔaššaxša ʔallašī kāna qad kataba ʔalmaqālata/
 (1S, pf.) 'know' (the + person) (who) (3MS, pf.) 'be' (3MS, pf.)
 'write' (the + article)

'I recognised the person who had written the article'

According to some traditional Arab grammarians, the imperfective does not, in itself, express any idea of time;⁽²⁾ it merely indicates a commenced, incomplete, enduring existence, either in present, past or future time. Hence it signifies:

- a. An eternal truth or scientific fact;

62. /tadūru ʔal ʔarḍu ḥawla ʔaššams/
 (3FS, impf.) (the + earth) (round) (the + sun)

(1) A relative or conjunctive clause is one coupled to its ruling clause by a relative pronoun or connective particle.

(2) This is not true strictly speaking, as (d) below is temporal and hence contradicts the assertion of those grammarians.

b. A habitual action:

63. /ianāmu bāsil mubakiran/ 'Basil goes to bed early'
(3MS, impf.) 'sleep' (Basil) (early)

c. An action which does not take place at any one particular time, to the exclusive of any other time, but which takes place at all times, or rather, in speaking of which no notice is taken of time but only of duration:

64. /ta^ḡišū ʔannusūru ḡalā šiyāri ʔaṭṭuiūri/ 'eagles live on small birds'
(3FP, impf.) 'live' (the + eagles) (on) (small) (the + birds)

d. An action which is to take place hereafter, i.e. simple future;

65. /ʔallāh iaḡkumu bainahum iauma ʔalqiiama/ 'God will judge
(God) (3MS, impf.) 'judge' (between + them) (day) (the + Resurrection)
between them on the day of Resurrection'

The future sense may be made more distinctly by using the particle /saufa/ 'will, shall, going to' or its abbreviated form /sa-/ is prefixed to the imperfective

- 66.a. /saufa iaktubu ʔarrisālata/ 'he will write the letter'
(future) (3MS, impf.) 'write' (the + letter)

- b. /sa-iaktubu ʔarrisālata/ 'he will write the letter'
(future) (3MS, impf.) 'write' (the + letter)

67. /saufa iaqqadimu ʔaṭṭālibu ṭalaban lilḡamali/ 'the student is
(is going) (3MS, impf.) 'submit' (the + student) (application) (job)
going to submit job application'

e. An action which was future in relation to the past time of which we speak. In such a case, the imperfective is appended to the

preceding perfective without the intervention of any particle, and forms, with its complement, a secondary subordinate clause. This subordinate clause is a purpose clause, since clearly the fulfilment of the purpose must follow the action designed to carry out the purpose:

68. /ʔarsala iu⁹limuhu bižālika/ 'he sent (someone) to inform him
(3MS, pf.) (3MS, impf. + him) (about + this)
about this'

f. Under circumstances similar to those mentioned in (e) above, the imperfective frequently expresses an action which continues through the past time modifying the state of the subject.

69. /žāʔaʕalī iadḥaku/ 'Ali came laughing'
(3MS, pf.) 'come' (Ali) (3MS, impf.) 'laugh'

g. In sentences consisting of the perfective of /kāna/ 'to be' followed by the imperfective of the verb concerned, a progressive action in the past, or habitual action is marked;⁽¹⁾ consider:

70. /kāna iaktubu ⁹indamā uʕalnā/ 'he was writing when we arrived'
(3MS, pf.) (3MS, impf.) (when) (1P, pf.)
71. /kāna iarsumu žaiidan/ 'he used to draw well'
(3MS, pf.) 'be' (3MS, impf.) 'draw'

It should be noted that active participles (cf. 2.2.5.6.) can substitute for the imperfective in certain of the uses; thus when an active participle follows the perfective of /kāna/ 'to be', that

(1) In fact this case and the following two cases, i.e. g, h, and i, are really the temporal uses of /kāna/ (3MS, pf.) 'be'.

participle refers to a durative action at some time in the past:

72. /kāna rākiban ʔalḥiṣāna/ 'he was riding the horse'
 (3MS, pf.) 'be' (3MS, impf.) 'ride' (the + horse)

h. When the imperfective of the main verb, or an active participle follows the imperfective of /kāna/ 'to be', the action expresses future progressive; consider:

73. /iakūnu ʔattālibu iaktubu risālatan/ 'the student will be writing
 (3MS, impf.) 'be' (the + student) (3MS, impf.) 'write' (a + letter)
 a letter'

74. /iakūnu ʔattālibu kātiban risālatan/ 'the student will be writing
 (3MS, impf.) 'be' (the + student) (3MS, impf.) 'write' (a + letter)
 a letter'

i. In sentences consisting of the imperfective of /kāna/ 'to be' followed by the particle /qad/ and the perfective of the main verb, both of them may refer to an action which will be in the 'perfect' at some future point of time, i. e. they express a future perfect:

75. /iakūnu zaid qad kataba/ 'Zaid will have written'
 (3MS, impf.) 'be' (Zaid) (3MS, pf.) 'write'

2.3.2. Views of some Western linguists

In the published work of Western Arabists, little has been written on aspect in the Arabic language. Those linguists who have written about it assert that the category of 'aspect' is often confused with the so-called category of tense, which, in practically the whole

literature on this language, subsumes the two aforementioned terms (elsewhere attributed to aspect): "perfect(ive)" and "imperfect(ive)".⁽¹⁾

In this respect, and as far as aspect is concerned, Wright (1971:51) following the same procedure of the Arab scholars in dividing the verb into two temporal forms, states that:

The temporal forms of the Arabic verb are but two in number, the one expressing the finished act, one that is done and completed in relation to other acts (the Perfect); the other one unfinished act, one that is just commencing or in progress (the Imperfect).

From the above quotation, it is clear that Wright adopts Sibawaih's attitude as mentioned earlier, viz. that temporality in Arabic verbs is more of the nature of aspect than of tense. Wright further clarifies this point when he says a little later that "a Semitic Perfect or Imperfect has, in and of itself, no reference to the temporal relations of the speaker and of other actions which are brought into juxtaposition with it" (Ibid:51). Then he discusses the functions of the perfect and the imperfect. The use of the verb /faʿāla/ (3MS, pf.) 'to do', for example, is to refer to "an action completed at some past time" (p.1, Vol. 2). In relation to the verb /iafaʿalu/ (3MS, impf.) 'to do', Wright points out that it does not express any idea of time but only indicates that the action begins and is not yet completed, or may have an enduring existence, either in the present, past, or future time (cf. Ibid:18).

(1) French Arabists, for instance, said that the Arabic tenses are really aspects, which they labelled "accompli" 'perfect, complete' versus "inaccompli" 'imperfect, incomplete' (cf. for example, Fleisch, 1974).

With respect to the status of the active and passive participles, Wright realises that they can be used in Arabic both verbally and non-verbally. In this respect he says that "these are not only real participles, indicating a temporary transitory or accidental action or state of being, but also serve as adjectives or substantives, expressing a continuous action, a habitual state of being, or permanent quality" (Ibid:133, Vol. I).

E. Benveniste (1962:260) asserts that the real nature of aspect is to be seen clearly in Semitic where the formal paradigms of the verb represent types of action: habitual, punctual, stative, durative, etc. Moreover, Benveniste indicates that there is a correlation between the so-called category of tense and that of aspect. This correlation can be represented by the general opposition accomplishment/unaccomplishment.⁽¹⁾ The former of these oppositions shows the action as a complete whole, i.e. the action is presented as a single whole without any division into different various stages, while the latter considers it as unfinished, i.e. there is no indication to the beginning or to the end of the action. Benveniste points out that the importance of the above opposition becomes obvious in two verbal affixes: the suffixes in the case of accomplishment, e.g. /katab-a/ (3MS, pf.) 'to write' and the prefixes in the case of unaccomplishment, e.g. /ia-ktubu/ (3MS, impf.) 'to write'. These affixes can be

(1) In other terminologies: perfect/imperfect; perfective/imperfective.

illustrated for the two aspects as follows:

Form	Person & Gender	Number		
		Singular	Dual	Plural
Accomplishment	3rd masc.	/-a/	/-ā/	/-ū/
	3rd fem.	/ at/	/-atā/	/-na/
	2nd masc.	/-ta/	/-tumā/	/-tum/
	2nd fem.	/-ti/		/-tunna/
	1st common	/-tu/	-	/-nā/
Unaccomplishment	3rd masc.	/ia-/	/ia-/	/ia-/
	3rd fem.	/ta-/	/ta-/	
	2nd masc.	/ta-/	/ta-/	/ta-/
	2nd fem.	/ta-/		/ta-/
	1st common	/ʔa-/	-	/na-/

On the same issue, Marcel Cohen (1924) points out that the Semitic verb has a two-term system: "Perfect" and "Imperfect", ⁽¹⁾ e.g. /kataba/ /iaktubu/. He states that "the Perfect generally expresses the achievement of a process at a non-specific moment in time: this is what is called here the notion of accomplishment. The Imperfect generally expresses the non-achievement of a process, in brief, the unaccomplishment, whatever the moment of time". In the above quotation Cohen used the term "generally" because, from his point of view, a process of developing the use of the aspectual

(1) 'Perfective/imperfective' according to our terminology.

opposition 'perfective/imperfective' in Arabic is already in existence. This process consists in using the opposition in question to make a temporal distinction, the perfective being used in a preferred way for the past tense, the imperfective for the present and future tenses. The bond which is created between the perfective aspect and the past tense seems to be typologically very frequent feature of many languages. Concerning this point, Cohen states "... for a long time, the Perfect has been felt as belonging, especially, to the domain of the past: are completed actions, for the most part, not situated in past time which has gone? It is in this manner that the Perfect in Arabic, constantly used in narrative figures mostly (but not exclusively) of the past".

Cantarino (1974:58) presents his own analysis of the verbal tenses in Arabic, and states that the tenses in Arabic and in the other Semitic languages did not originally express any definite relation to time from the point of view of the speaker. He adds that neither in the past nor in the present usage has one tense been the temporal counterpart of the other. Like Wright (see above) Cantarino enumerates the different uses of the perfective and imperfective forms and states that each form could be used to refer to present, past, or future time.

Finally, Comrie (1976:80) analyses the perfective and imperfective forms of the Arabic verb on the basis of few examples from the data. After a brief discussion of the uses of these forms, he concludes that these two terms, i.e. 'perfective' and 'imperfective', are used to refer simultaneously to tense and aspect:

... we may say that the perfective indicates both perfective meaning and relative past time reference, while the imperfective indicates everything else (i.e. either imperfective meaning or relative non-past tense).

Comrie also believes that the Arabic opposition imperfective/perfective incorporates both aspect and 'relative' tense.

CHAPTER III

Imperfectivity and Punctual Verbs

3.1. Punctual and non-punctual verbs

It has been pointed out that punctual verbs pertain to events that do not last in time, i.e. they refer to situations that take place momentarily (cf. Chapter I). Examples include the 'transitive' verbs⁽¹⁾: /taġana/ (3MS, pf.) 'stab', /balaġa/ (3MS, pf.) 'swallow', /taraqa/ (3MS, pf.) 'knock on', /batara/ (3MS, pf.) 'cut', /qatala/ (3MS, pf.) 'kill', /xaġafa/ (3MS, pf.) 'snatch', /uaġala/ (3MS, pf.) 'reach', /laqaġa/ (3MS, pf.) 'pick up', and the 'intransitive' verbs⁽²⁾: /żafala/ (3MS, pf.) 'startle', /saġala/ (3MS, pf.) 'cough', /qafaza/ (3MS, pf.) 'jump', /taġasa/ (3MS, pf.) 'sneeze', /şaraxa/ (3MS, pf.) 'shout'. Moreover, punctual verbs refer only to dynamic situations, i.e. there is no punctual stative verb.⁽³⁾ Consider:

-
- (1) A 'transitive' verb is a verb which requires the presence of a subject and an object. The subject takes the 'nominative' case marker /-u/, /-un/, whereas the object may take the 'accusative' case marker /-a/, /-an/ if it is nominal, or the 'genitive' case marker /-i/, /-in/ if it is a prepositional phrase.
 - (2) An 'intransitive' verb is a verb which does not require the presence of an object.
 - (3) A stative verb denotes a situation that is conceived of as existing, rather than happening, and being continuous and unchanging throughout its duration, e.g. the verb /ġalima/ (3MS, pf.) 'know', /hada?a/ (3MS, pf.) 'be calm'. A dynamic verb, on the other hand, denotes a situation that happens, e.g. /xaraża/ (3MS, pf.) 'go out', /fataña/ (3MS, pf.) 'open'.

1. /ṭaraqat zainabu ʔalbāba ṭarqatan/ 'Zainab knocked on the door once'
(3FS, pf) 'knock on' (Zainab) (the + door) (one knock)
2. /saḡala ʔalualadu saḡlatan/ 'the boy coughed once'
(3MS, pf) 'cough' (the + boy) (one cough)
3. /kasara zaid ʔazzuḡāḡa/ 'Zaid broke the glass'
(3MS, pf) 'break' (Zaid) (the + glass)
4. /batara ʔalhaddādu ʔiṣbaḡahu/ 'the blacksmith cut his finger'
(3MS, pf) 'cut' (the + blacksmith) (finger + his)
5. /qatala ʔalfallāhu ʔaḡḡiḡba/ 'the farmer killed the wolf'
(3MS, pf) 'kill' (the + farmer) (the + wolf)

Non-punctual verbs (transitive or intransitive), on the other hand, can be stative as well as dynamic, no matter whether they refer to the duration or successive phases that make up a situation.

Examples of non-punctual dynamic transitive verbs are /ḡaraba/ (3MS, pf) 'beat', /ḡalaba/ (3MS, pf) 'bring', /ḡasaba/ (3MS, pf) 'count', /kataba/ (3MS, pf) 'write', /qara ʔa/ (3MS, pf) 'read', whereas non-punctual dynamic intransitive verbs may be exemplified by /rakada/ (3MS, pf) 'run', /ʔakala/ (3MS, pf) 'eat', /ḡahaba/ (3MS, pf) 'go away', /ḡalasa/ (3MS, pf) 'sit down'. Examples of non-punctual stative transitive verbs include /samiḡa/ (3MS, pf) 'hear', /fahima/ (3MS, pf) 'understand', /ḡāhada/ (3MS, pf) 'see', /ḡarifa/ (3MS, pf) 'know', whereas non-punctual stative intransitive verbs may be exemplified by /fariḡa/ (3MS, pf) 'rejoice, be glad', /hada ʔa/ (3MS, pf) 'be calm', /ḡamata/ (3MS, pf) 'be silent', /ḡazina/ (3MS, pf) 'be sad', /mariḡa/ (3MS, pf) 'be/become sick'. Consider the following instances:

6. /ʔakalat ʔalqittatu ʔallaḥma/ 'the cat ate the meat'
(3FS, pf) 'eat' (the + cat) (the + meat)
7. /haraba ʔalliṣṣu/ 'the thief fled'
(3MS, pf) 'flee' (the + thief)
8. /ʕarifa ʔaluazīru ʔalmuškila/ 'the minister knew the problem'
(3MS, pf) 'know' (the + minister) (the + problem)
9. /taʕiba ʔalʕāmilu/ 'the worker became tired'
(3MS, pf) 'become tired' (the + worker)
10. /ʒalasa ʔarraʕīsu/ 'the president sat down'
(3MS, pf) 'sit down' (the + president)
11. /qara ʔat lailā kitāban/ 'Layla read a book'
(3FS, pf) 'read' (Layla) (a book)

3.2. Punctual verbs in the imperfective form

Punctual verbs as well as non-punctual verbs may take the imperfective form. However, there is a difference in meaning of the imperfective with non-punctual and punctual verbs. With the former we have a habitual or durative meaning; consider:

12. /iašraḥu ʔalʔustā ʕ u ʔannaʕariyata/ 'the professor explains/ is explaining/will explain the theory'
(3MS, impf) 'explain' (the + professor) (the + theory)

but given that punctual verbs have no duration, we note an iterative meaning;

13. /iasʕulu ʔaṭṭiflu/ 'the child is coughing'
(3MS, impf) 'cough' (the + child)

In contrast to the above meaning of the imperfective form, as in 13 above, punctual verbs in the perfective form, e.g. /sa^ɕala/ (3MS, pf) 'cough', refer to a single event. In other words, unlike /ias^ɕulu/ (3MS, impf) 'cough', which must refer to a repeated situation (see below), /sa^ɕala/ (3MS, pf) 'cough' can refer to a momentary situation. Consider for instance:

14. /sa^ɕala ʔa^ɕɪflu/ 'the child coughed'
(3MS, pf) 'cough' (the + child)

3.3. Behaviour with the adverb /marratan/ 'once'

Punctual verbs in the perfective form are compatible with the adverb /marratan/ 'once', hence examples 15-16 are grammatical.

15. /^ɕta^ɕana ʔalli^ɕsu ʔalbinta marratan/ 'the thief stabbed the girl once'
(3MS, pf) 'stab' (the + thief) (the + girl) (once)
16. /qafazat ʔalqittatu marratan/ 'the cat leapt once'
(3FS, pf) 'leap' (the + cat) (once)

By contrast, punctual verbs with imperfective form are incompatible with the adverb /marratan/ 'once', hence the ungrammaticality of 17-18.

17. * /ia^ɕanu ʔalli^ɕsu ʔalbinta marratan/ 'the thief is stabbing the girl once'
(3MS, impf) 'stab' (the + thief) (the + girl) (once)
18. * /taqfizu ʔalqittatu marratan/ 'the cat is leaping once'

3.4. Behaviour with the aspectual verbs

Punctual verbs as well as non-punctual verbs collocate with the aspectual verbs /ʕalla/ (3MS, pf.) 'continue', /baqia/ (3MS, pf.) 'remain', /badaʔa/ (3MS, pf.) 'start', /māzāla/ (3MS, pf.) 'still', /kāna/ (3MS, pf.) /iakūnu/ (3MS, impf.) 'be' (see below). However, there is a difference in meaning of the imperfective with non-punctual and punctual verbs. With the former we have the meaning of continuity, i.e. progressiveness; consider:

- 19.a. /qaraʔa ʔalmuḥāmī ʔaluaṣiiata/ 'the lawyer read the will'
(3MS, pf.) 'read' (the + lawyer) (the + will)
- b. /badaʔa ʔalmuḥāmī iaqraʔu ʔaluaṣiiata/ 'the lawyer began to read/
(3MS, pf.) 'begin' (the + lawyer) (3MS, impf.) 'read' (the + will)
reading the will'
- 20.a. /ʕazalat ʔalbintu ʔaṣṣufa/ 'the girl spun the wool'
(3FS, pf.) 'spin' (the + girl) (the + wool)
- b. /badaʔat ʔalbintu taʕzulu ʔaṣṣufa/ 'the girl began to spin the wool'
(3FS, pf.) 'begin' (the + girl) (3FS, impf.) 'spin' (the + wool)

but given that punctual verbs have no duration, progressive meaning is ruled out with aspectual auxiliaries. Instead we have an iterative meaning; consider:

- 21.a. /nabaḥa ʔalkalbu/ 'the dog barked'
(3MS, pf.) 'bark' (the + dog)
- b. /badaʔa ʔalkalbu ianbaḥu/ 'the dog began to bark/barking'
(3MS, pf.) 'begin' (the + dog) (3MS, impf.) 'bark'
- 22.a. /ʕaṭasat suhad/ 'Suhad sneezed'
(3FS, pf.) 'sneeze' (Suhad)
- b. /badaʔat suhad taʕṭusu/ 'Suhad began to sneeze/sneezing'
(3FS, pf.) 'begin' (Suhad) (3FS, impf.) 'sneeze'

It should be noted, however, that in MSA there is also incompatibility between the aspectual verbs and the adverb /marratan/ 'once', and thus, when a situation refers to a single event, i.e. when it takes place once and only once, the punctual verb in question cannot co-occur acceptably. Hence, the ungrammaticalness of 23b-24b.

- 23.a. /ʔistaiqaʕat ʔalʔummu marratan/ 'the mother woke up once'
 (3FS, pf) 'wake up' (the + mother) (once)
- b. * /badaʔat ʔalʔummu tastaiquʕu marratan/ 'the mother began to
 (3FS, pf) 'begin' (the + mother) (3FS, impf) 'wake up' (once)
 wake/waking up once'
- 24.a. /qafaza ʔalualadu qafzatan/ 'the boy jumped once'
 (3MS, pf) 'jump' (the + boy) (one jump)
- b. * /badaʔa ʔalualādu iaqfizu qafzatan/ 'the boy began to jump/
 (3MS, pf) 'begin' (the + boy) (3MS, impf) (one jump)
 jumping once'

Note that in the absence of adverbs such as /marratan/ 'once', each of the punctual verbs in 23a-24a, i.e. /ʔistaiqaʕat/, /qafaza /, can co-occur acceptably with or without the aspectual verbs where we have iterative meaning.

- 25.a. /ʔistaiqaʕat ʔalʔummu/ 'the mother woke up'
 (3FS, pf) 'wake up' (the + mother)
- b. /badaʔat ʔalʔummu tastaiquʕu/ 'the mother began to wake/waking up'
 (3FS, pf) 'begin' (the + mother) (3FS, impf) 'wake up'

- 26.a. /qafaza ?alualadu/ 'the boy jumped'
 (3MS, pf) 'jump' (the + boy)
- b. /bada ?a ?alualadu iaqfizu/ 'the boy began to jump/jumping'
 (3MS, pf) 'begin' (the + boy) (3MS, impf) 'jump'

3.5. Active participle

Punctuality is incompatible with the meaning of the active participle¹ since the latter indicates a progressive situation; consider for instance:

- 27.a. * /ʕalī xātifun ḥaqībatan/ 'Ali is snatching a bag'
 (Ali) (3MS, impf) 'snatch' (a bag)
- 28.a. * /ʔattilmīʕu lāqitun qalaman/ 'the pupil is picking up a pencil'
 (the + pupil) (3MS, impf) 'pick up' (a pencil)

Note that the above examples can co-occur acceptably if plurality (see 3.6) is a feature of the object

- 27.b. /ʕalī xātifun ḥaqāʔibun/ 'Ali is snatching bags'
 (Ali) (3MS, impf) 'snatch' (bags)
- 28.b. /ʔattilmīʕu lāqitun ʔaqlāmun/ 'the pupil is picking up pencils'
 (the + pupil) (3MS, impf) 'pick up' (pencils)

On the other hand, there is compatibility between the meaning of the active participle and non-punctuality where the situation indicates imperfectivity; consider:

29. /ʔana kātibun risālatan/ 'I am writing a letter'
 (I) (3MS, impf) 'write' (a letter)

1. The active participle also functions as an adjective or a noun, expressing a habitual state or permanent quality, e.g. /māʔun ʕārin/ 'running water', /kātibun mašhūrun/ 'famous writer'.

30. /ʔalualadu rākibun ḥiṣānan/ 'the boy is riding a horse'
(the + boy) (3MS, impf) 'ride' (a horse)
31. /nadā nāzilātun ʔassullama/ 'Nada is descending the stairs'
(Nada) (3FS, impf) 'descend' (the + stairs)

3.6. Plurality

Plurality is one of many factors that need to be considered in discussion of aspect since it is of particular relevance to punctual and non-punctual verbs in their perfective form as well as their imperfective form. Consider the following examples:

- 32.a. /ṭaraqa ʔaḍḍaifu ʔalbāba/ 'the visitor knocked on the door'
(3MS, pf) 'knock on' (the + visitor) (the + door)
- b. /ṭaraqa ʔaḍḍaifu ʔalʔabuāba/ 'the visitor knocked on the doors'
(3MS, pf) 'knock on' (the + visitor) (the + doors)
- 33.a. /iaṭruqu ʔaḍḍaifu ʔalbāba/ 'the visitor is knocking on the door'
(3MS, impf) 'knock on' (the + visitor) (the + door)
- b. /iaṭruqu ʔaḍḍaifu ʔalʔabuāba/ 'the visitor is knocking on the doors'
(3MS, impf) 'knock on' (the + visitor) (the + doors)

The punctual verb /ṭaraqa/ (3MS, pf) 'knock on' in its perfective as well as imperfective form, in the above examples, entails iterativeness, regardless of the singularity or plurality of the object, since there is nothing in the above examples indicating a single action. However, someone might argue that (32a-33a) could refer to one single event in which case (32a-33a) are ambiguous. This claim could be held only for (32a) on the condition that the adverb /marratan/ 'once' (cf. 3.3) is present, that is:

34. /ṭaraqa ʔaḍḍaifu ʔalbāba marratan/ 'the visitor knocked on the
 (3MS, pf) 'knock on' (the + visitor) (the + door) (once)
 door once'

As for example (33a) this possibility is ruled out due to the fact that the imperfective form of a punctual verb is neither compatible with one single event, nor with the adverb /marratan/ 'once' (cf. 3.3). The only difference between (a) examples and (b) examples is that in the former the repeating action is taking place on the one and the same object on the same occasion, whereas the latter indicate that the event of knocking is occurring on more than one object: it may either mean that there was/is one single knock at each one of the doors, or repeated knocks at all doors.

In contrast with what is said above, for punctual change of state verbs only plural objects are possible. Consider:

- 35.a. * /ianqubu zaid uraqatan/ 'Zaid is punching (a hole in) a paper'
 (3MS, impf) 'punch' (Zaid) (a paper)
- b. /ianqubu zaid ʔaurāqun/ 'Zaid is punching papers'
 (3MS, impf) 'punch' (Zaid) (papers)
- 36.a. * /taksiru hindun ṣaḥnan/ 'Hind is breaking a saucer'
 (3FS, impf) 'break' (Hind) (a saucer)
- b. /taksiru hindun ṣuḥūnan/ 'Hind is breaking saucers'
 (3FS, impf) 'break' (Hind) (saucers)

Moreover, it is worth noting that even with non-punctual verbs plural objects entail iterativity; consider for instance:

- 37.a. /iarsumu ʔaṭṭalibu ʃūratan/ 'the student draws/is drawing a picture'
 (3MS, impf) 'draw' (the + student) (a picture)
- b. /iarsumu ʔaṭṭalibu ʃūuaran/ 'the student drawing pictures'

Furthermore, in the case of some transitives, the object of the verb cannot be a singular count noun. Consider the following examples:

- 38.a. * /tuba⁹ʔiru ʔaṭṭiflatu lu⁹batahā/ 'the baby-girl is scattering her toy.'
 (3FS, impf) 'scatter' (the + baby-girl) (toy + her)
- b. /tuba⁹ʔiru ʔaṭṭiflatu lu⁹abihā/ 'the baby-girl is scattering her toys'
 (3FS, impf) 'scatter' (the + baby-girl) (toys + her)
- 39.a. * /iažma⁹ʔu ʔalmudarrisu ʔaluaṛaṛata/ 'the teacher is gathering
 (3MS, impf) 'gather' (the + teacher) (the + paper)
 the paper'
- b. /iažma⁹ʔu ʔalmudarrisu ʔalʔaurāqa/ 'the teacher is gathering the papers'
 (3MS, impf) 'gather' (the + teacher) (the + papers)
- 40.a. * /iaḥsubu ḥaidar ʔaṭṭaira/ 'Haider is counting the bird'
 (3MS, impf) 'count' (Haider) (the + bird)
- b. /iaḥsubu ḥaidar ʔaṭṭuiūra/ 'Haider is counting the birds'
 (3MS, impf.) 'count' (Haider) (the + birds)

3.7. Ambiguous verbs

Certain verbs in MSA are ambiguous, referring either to the punctual action or to the non-punctual resulting state. For example, the verb /labisa/ (3MS, pf) may either mean 'put on' or 'wear'. Other examples include /rafa⁹ʔa/ (3MS, pf) 'pick up' or 'carry', /rakiba/

(3MS, pf) 'get on' or 'ride', /uaqafa/ (3MS, pf) 'stop, come to a halt' or 'stand (still)'. Consider for instance:

- 41.a. /labisa muḥammadun ʔalmiḡṭafa/ 'Mohammed put on the coat'
(3MS, pf) 'put on' (Mohammed) (the + coat)
- b. /labisa muḥammadun ʔalmiḡṭafa/ 'Mohammed wore the coat'
(3MS, pf) 'wear' (mohammed) (the + coat)
- 42.a. /rakibat ʔalbintu ʔaddarāžata/ 'the girl got on the bicycle'
(3FS, pf) 'get on' (the + girl) (the + bicycle)
- b. /rakibat ʔalbintu ʔaddarāžata/ 'the girl rode the bicycle'
(3FS, pf) 'ride' (the + girl) (the + bicycle)
- 43.a. /uaqafat ʔassaiāratu/ 'the car stopped'
(3FS, pf) 'stop' (the + car)
- b. /uaqafat ʔassaiāratu/ 'the car stopped (stand still)'
(3FS, pf) 'stop' (the + car)

Which of the above interpretations is intended by the speaker would generally be clear from the context in which the inherently ambiguous utterance occurs.

The imperfective of the above verbs is also ambiguous: it may either have habitual or progressive meaning; consider:

- 44.a. /ialbasu muḥammadun miḡṭafan/ 'Mohammed wears/is wearing a coat'
(3MS, impf) 'wear' (Mohammed) (a coat)

In order to disambiguate the above situation, an adverb such as /kulla/ 'every' or /ʔalʔāna/ 'now' is used; consider:

- 44.b. /ialbasu muḥammadun miḡṭafan kulla iaumin/ 'Mohammed wears a
(3MS, impf) 'wear' (Mohammed) (a coat) (every) (day)
coat every day'

44.c. /ialbasu muḥammadun miṭṭafan ḥalḥāna/ 'Mohammed is wearing
 (3MS, impf) (Mohammed) (a coat) (now)
 a coat now'

It should be noted, however, that since punctuality and durativity are incompatible, example (44a) cannot mean 'Mohammed is putting on a coat'.

To sum up, we have a problem in that what we have labelled the imperfective form appears to have different meanings depending on whether we have a punctual or non-punctual, i.e. imperfective and iterative. We have also seen that the imperfective can mean future. Consequently, we shall consider the matter of whether we are dealing here with three separate signs once we have introduced the essential notions of Axiomatic Functionalism.

We are now in a position to turn to the grammatical description of aspectual phenomena using the methodology provided by Axiomatic Functionalism. We shall find that aspectual distinctions can be manifested either morphologically or syntactically. In part two, we shall give the basic outlines of Axiomatic Functionalism morphology and demonstrate its application to the verb, paying particular attention to the allomorphy of the aspect monemes. In part three, we shall use the syntactic methodology to describe syntactic manifestations of aspect and also to lay the foundations for a fuller description of Arabic outlining the prerequisites for the description of certain syntactic and semantic interactions within Axiomatic Functionalism.

CHAPTER IV

Relevant Notions in Grammar

4.1. Introduction

One of the salient features of Axiomatic Functionalism is its adoption of the functional point of view as its criterion of relevance. The functional principle is regarded as the dominating principle which spreads through and characterises the whole approach. Mulder defines 'functional' as "separately relevant to the purport of the whole of which it is a part" (Mulder, 1980 (c):Def. 1a), the purport being communication by conventional means. According to this interpretation of functionality, a functionally relevant entity in a semiotic system⁽¹⁾ including human natural language, of course, is said to be functionally distinctive. The notion "distinctive function" is defined as "the set of commutations in which a semiotic entity may partake (Ibid:Def. 7a³), and commutation, in turn, is defined as "alternation between semiotic entities (or 'zero' and semiotic entities) in functional opposition as immediate constituents in a given context" (Ibid:Def. 7a²). In this manner, the method by which the 'possession' of distinctive function by an entity with regard to at least one other entity in the language is established, is usually referred to as the commutation test. In other words, commutation

(1) "Semiotic system" for "system of conventions for communication (Mulder, 1980 (c):Def. 1c).

gives us a criterion for recognising that an entity is functional.

Under this interpretation of functionality, only those features of speech phenomena are deemed to be relevant for the purposes of communication are accounted for, or dealt with. Non-functional features of speech are not regarded as relevant. An example of a functionally distinctive entity is the phoneme /t/ in /tin/ in English because it is "functionally relevant to the purport of the whole of which it is a part", i.e. /tin/. This can be easily demonstrated by commuting the phoneme /t/ to other entities, or with its own absence, symbolised by '∅'. Thus, by commuting /t/ with /p/ and /s/ we get /pin/ and /sin/ respectively, or with '∅' to get /∅in/. This opposition yields that all the resultant entities have different messages linked to them from that linked with /tin/.

The same procedure holds for grammar where the distinctive function of a sign is determined by the set of signs with which it commutes in equivalent context (Mulder, 1968). Put differently, for a grammatical entity to have a distinctive function, it must be in functional opposition with other grammatical entities in a given context. For example, the distinctive function of the sign "baby" in "the beautiful baby" can be established by opposing it with at least one other sign, for instance, "girl", "picture", "flower".

4.2. The notion "sign"

In order to approach the 'sign', we shall start from what could

be said to be the model of the unique form of each single realisation of a sound, an 'image', which is represented by (i). A particular class of images $\{i\}$ constitutes a phonetic form⁽¹⁾ \underline{f} , i.e. sound protocolised by phonetics, which has reference to every occurrence of a particular phonetic phenomena; that is an 'image'. A

particular phonetic form \underline{f} with a particular distinctive function \underline{d} in phonology is an allphone: $f^x R d^x$ where \underline{R} means in its capacity of

having. A self-contained class of allophones, i.e. a class of phonetic forms $\{f\}$ in relation to a particular distinctive function

\underline{d} , constitutes a phonological form⁽²⁾ $\underline{P} : P = \{f\}^x R d^x$. A

particular phonological form \underline{P} in its capacity of having a certain

distinctive function \underline{s} in grammar, i.e. $P^x R s^x$, constitutes an

allomorph,⁽³⁾ e.g. the phonological form of the plural allomorph in

such a word like "horse", /iz/R^{pl}. A self-contained class of

allomorphs, i.e. a class of phonological forms, $\{P\}$ in its capacity

of having a relation to a certain distinctive function \underline{s} in grammar,

constitutes an "expression"⁽⁴⁾ $\underline{E} : E = \{P\}^x R s^x$ which is, at the

(1) "Phonetic form" for "realisation form in natural language" (Mulder, 1980(c):Def. 22a).

(2) "Phonological form" for "a particular self-contained class of one or more phonetic forms $\{f\}$, each member \underline{f} in its capacity of standing in a relation with a particular distinctive function \underline{d} " (Mulder, 1980(c):Def. 23).

(3) "Allomorph" or "morph" for "a particular phonological form \underline{P} , member of a particular class of phonological form $\{P\}$, in its capacity of standing in a relation with a particular distinctive function \underline{s} " (Ibid:Def. 24a¹).

(4) "Expression" for "a particular self-contained class of one or more phonological forms $\{P\}$, each member \underline{P} in its capacity of standing in a relation with a particular distinctive function \underline{s} " (Ibid:Def. 24a).

same time, a class or set of allomorphs (see below), whilst a particular "content"⁽¹⁾ \underline{C} is the converse of this formula, i.e. a particular distinctive function \underline{s} in its capacity of being the distinctive function of any member of a particular set of phonological forms. The formula of "content" can be represented as follows:

$$C = S^{\times R} \{P\}^{\times}.$$

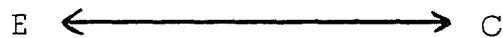
From the above discussion, it is obvious that we have two linguistic ontological levels, phonological and grammatical. The two levels are distinct from each other. The phonological level represents entities with form only, e.g. the phonemes, whereas the grammatical, i.e. the level of signum, represents entities with form and meaning, e.g. monemes, pleremes (see below).

For the classification of the two ontological levels, we can set up the following scheme:

phonological level	grammatical level
fRd (allophone)	PRd allomorph
$P = f^{i--} n_{Rd}$ (phonological form)	$S = P^{i---} n_{Rd}$ (signum)

(1) "Content" for "a particular distinctive function \underline{s} , in its capacity of being the distinctive function \underline{s} of each member of a particular class of phonological forms $\{P\}$ " (Ibid:Def. 24b).

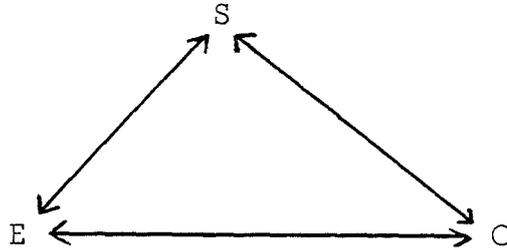
Following the Saussurean concept of the linguistic sign which holds that the sign is an entity with two facets namely 'signifiant' and 'signifié', axiomatic functionalism views the sign as the conjunction of two particular aspects, the 'formal', i.e. expression (E), and the 'meaning-bearing', i.e. content (C) (cf. M. & H. 1972). These two aspects are, as it is generally agreed, inseparably united, the one mutually implying the other.⁽¹⁾ The relationship between the "expression" (E) and the "content" (C) may be represented as follows:



On account of this mutual implication, it can be said that the two aspects of "expression" and "content" are equivalent (Ibid.). Moreover, as the sign is the conjunction of an "expression" and a "content", and that a particular "expression" and a particular "content" mutually imply one another, each of them, then, implies a specific sign(s) and vice versa. Therefore, the notions "sign", "expression" and "content" may be said to be equivalent (Ibid.), i.e.

(1) It should be noted that Mulder's concept of the linguistic sign after de Saussure, brings more precision to linguistic description. Mulder has clarified the implications of the relationships between the components of the sign, especially with respect to the notions "expression", "content", "homonymy", "synonymy" and "allomorphy" (cf. 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, Vol. 5, No. 2, 1969; "Linguistic Sign, Word and Grammateme", La Linguistique 7, 1971; S.G.J. Hervey, Axiomatic Semantics, 1979. See also (c) and (d), in Mulder and Hervey, The Strategy of Linguistics, Scottish Academic Press, 1980.

everything that is said about one of the three can be equally said about any of the three. This can be represented as follows:



In Axiomatic Functionalists' linguistics these three terms 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" (Mulder and Hervey, 1972:27).

In view of the above, as the "expression" is a class of allomorphs, i.e. $\{P\} R_s = p_1 R_s \cup p_2 R_s \cup \dots \cup p_n R_s$ (\cup : a symbol signifies the union of terms), therefore the "content" and the "sign", being equivalent, are each also a class of allomorphs, i.e. the "content" = $s\check{R} \{P\} = s\check{R}p_1 \cup s\check{R}p_2 \cup \dots \cup s\check{R}p_n$, and the sign = $p_1 R_s \& s\check{R}p_1 \cup p_2 R_s \& s\check{R}p_2 \cup \dots \cup p_n R_s \& s\check{R}p_n$. An instance of an "expression" is the "phonological forms" of the plural sign in English represented as $\{ /iz/\cup /z/\cup /Z/\cup /Ø/\cup /rn/\cup /e\sim a/\cup - - \text{etc.} \}$ (1)

These phonological features represent the form of the allomorph of the plural sign in such words as "house", "pin", "head", "sheep", "child" and "man", respectively.

(1) See Mulder, 1968; Mulder and Hurren, 1968.

A sign is a class or set of allomorphs, i.e. a class of one or more allomorphs. Each allomorph has a phonological form which is a member of the expression of the sign. As members of a given sign, allomorphs are formally different but they do not commute with one another because they have the same distinctive function. Allomorphs, generally speaking, are combinatory or contextual variants of a sign. For example, "am" and "is", in English, are combinatory variants of the same sign, verb "to be".⁽¹⁾ In the case of free variants, one cannot speak of allomorphs, but of different signs, i.e. synonyms,⁽²⁾ if and only if, these signs are found to be denotationally equivalent, e.g. the elements /felOu/ 'fellow' and /blOuk/ 'bloke' may be considered to be free variants of one another. They are formally different, and they are opposed to, i.e. they have different distinctive function from, each other⁽³⁾ (Ibid.).

4.3. Amalgamation

Amalgamation is a purely realisational phenomenon. It involves allomorphs of two or more signs that totally coincide in one

-
- (1) Cf. Mulder and Hervey, 1972. Note that allomorphs as members of a given sign are equivalent to one another with regard to that sign, and each of them represents the sign in question.
- (2) "Synonyms" for "signum, in comparison with and having the same intrinsic information (denotation) as another signum" (Mulder, 1980(c):Def.28).
- (3) It should be noted that synonyms, in Axiomatic Functionalism, are conceived of as different signs that, by definition, correspond to identical denotation classes (Hervey, 1979).

phonological form. In French, for instance, /o/ in "au garçon" is treated by Mulder as the amalgamated realisation of the two signs "à" and "le".⁽¹⁾ In other contexts the signs "à" and "le" are realised by the allomorphs "/a/" and "/l/", respectively, but in the context "au garçon" the realisation of "à" which is /o/~/a/ and the realisation of "le" which is /o/~/l/ coincide in the phonological form /o/ of "au garçon". In other words, amalgamation is between two (or more) replacives that manifest themselves at one and the same place in linear sequence, but, which, as replacives, have different phonological correlates, e.g. /o/~/a/ is different replacive from /o/~/l/.

4.4. 'Language': An Axiomatic Functionalist Point of View

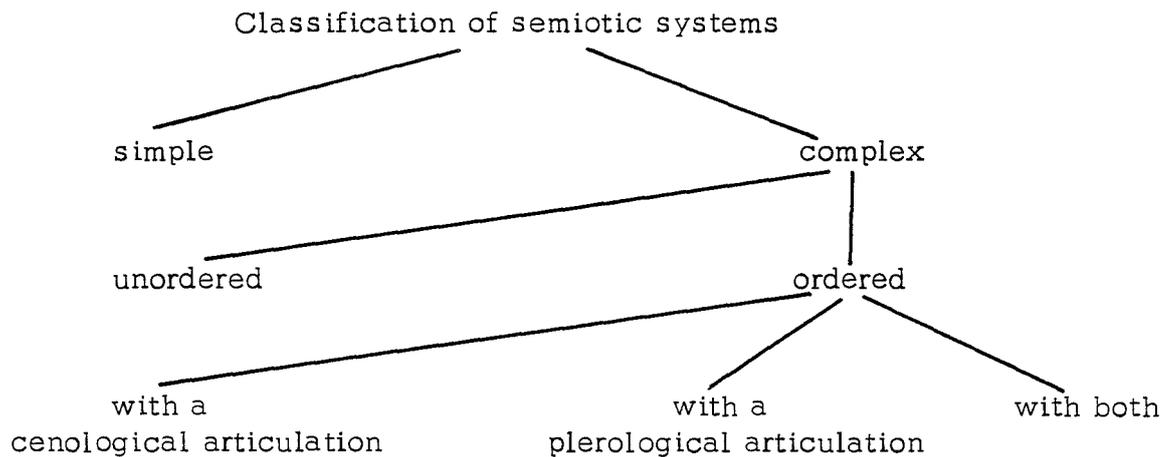
As a semiotic theory, Axiomatic Functionalism considers 'language' as a type of semiotic system, i.e. as a particular kind of system of conventions for communication (Mulder, 1968). Consequently, semiotic systems fall into two major categories with respect to the potential of analysing entities which belong to them into two or more entities: simple and complex systems. Simple semiotic system is defined as a "system without combinations of [its] elements" (Mulder, 1980(c):Def. 4a). Examples of such a system are "human

(1) cf. J.W.F. Mulder, Sets and Relations in Phonology, Oxford University Press (1968); "On the Art of Definition, the Double Articulation of Language, and Some of the Consequences" Forum for Modern Language Studies 5 (1969); and The Strategy of Linguistics, Scottish Academic Press (1980(i)).

gestures" and "animal cries" (Mulder and Hervey, 1972). Complex system is defined as a "system with combinations of [its] elements" (Mulder, 1980(c):Def. 4b). This system is further classified into unordered and ordered systems. An unordered system is defined as a "complex system without ordering relations⁽¹⁾ between its elements" (Ibid:Def. 4b¹), e.g. "bee dance" and "traffic signs". Ordered complex system is defined as a "complex system with ordering relations between [its] elements" (Ibid:Def. 4b²). This system may only have a cenological⁽²⁾ articulation, such as "Morse code", or plerological⁽³⁾ articulation such as "number writing", or both cenological and plerological articulation, such as human natural language.

The classification of semiotic systems outlined above may be represented by the following scheme (Mulder and Hervey, 1980(a)):

-
- (1) "Ordering relations" for "asymmetrical relation between entities in combinations" (Mulder, 1980(c):Def. 6a).
 - (2) "Cenology" for "complex system of figurae" (Ibid:Def. 2b^{1e}).
"Figurae" for "semiotic entity which has only form" (Ibid:Def. 2b).
In natural language "cenology" is referred to as phonology.
 - (3) "Plerology" for "complex system of signa" (Ibid:Def. 2a^{3e}).
In natural language "plerology" is referred to as 'grammar'.



Mulder defines natural language as a "semiotic system with a double articulation"⁽¹⁾ (Mulder, 1980(c):Def. 3c¹). "Articulation" is defined in Axiomatic Functionalism as a "set of ordering relations between constituents in combination", and a "potential for functional ordering of constituents".⁽²⁾ The term 'ordering' implies that the constituent elements of a complex cannot be termed an 'articulation' unless some complexes in the system may be analysed into functionally ordered constituents, i.e. into entities which are established as separately relevant to the purport of the whole. Functional ordering, constructional asymmetry, is the relation that exists between the elements in the complex in question. In English, for example, if we permute (cf. 4.2.) the phonemes⁽³⁾ of the complex /lip/, we get /pil/

(1) "Semiotic system" for "system of conventions for communication" (Mulder, 1980(c):Def. 1c).

(2) cf. Mulder, 1968; 1969; and Mulder and Hervey, 1980(a).

(3) "Phoneme" for "self-contained simultaneous bundle of one or more distinctive features (Mulder, 1980(c):Def. 8a).

where both /lip/ and /pil/ have communicative potential because they are separately relevant. The nature of the arrangement of the phonemes, in each of the two complexes of phonemes, is functional. In other words, if two or more complexes with the same constituents are different, then that difference must lie in relations between the constituents, i.e. ordering relation.

Other than functional ordering relations, there are simultaneous relations which also exist between elements in combinations, simultaneous relations being "symmetrical relations between entities in combination" (Mulder, 1980(c);Def.6b). This means that a construction is simultaneous if the way in which its constituents are arranged is not, in itself, separately relevant to communicative potential. For example, in English, it is irrelevant to qualify the phoneme /b/ as a bundle of features 'labial' 'occlusive', 'voiced' or as 'voiced', 'occlusive', 'labial' since the relations between the features are the same in both cases, i.e. simultaneity. (1)

By "double articulation" Mulder means the 'grammatical' and the 'phonological' articulations. Grammatical articulation or syntax is conceived of as segmentation of complexes into functionally orderable constituents, i.e. articulation into elements with both form and meaning. (2) Phonological articulation or phonotactics, on the

(1) "Simultaneity" in Axiomatic Functionalism is opposed to "ordering".

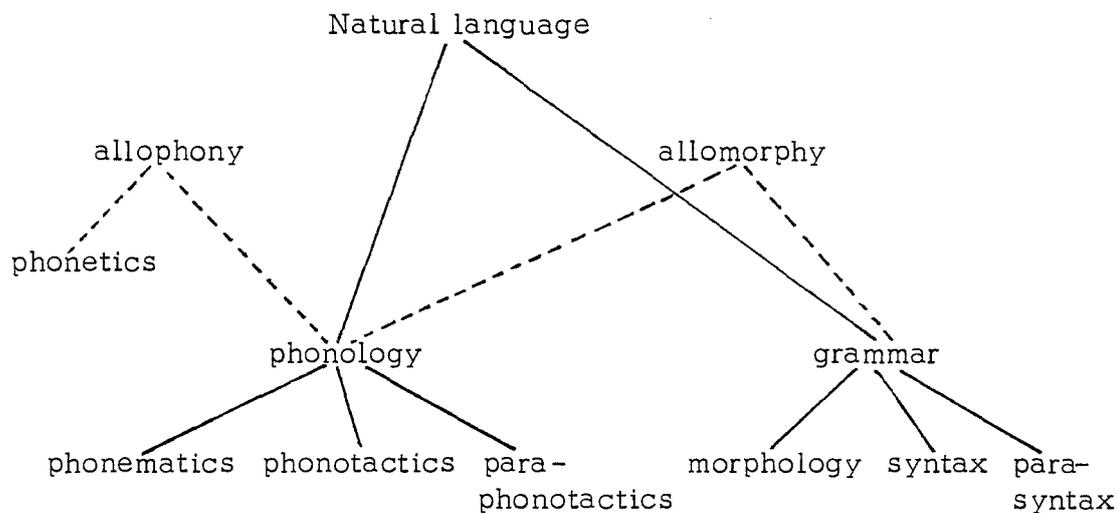
(2) We shall see below that, in fact, not all syntactic complexes have ordering relations between their constituents, co-ordination and inter-ordination are relations of simultaneity.

other hand, may be regarded as segmentation of phonological complexes (chains) into functionally ordered constituents, i.e. articulation into ordered elements with form alone. The ultimate atomic units of the 'grammatical' articulation, generally called the 'first' articulation, are the "pleremes" (words),⁽¹⁾ while the ultimate atomic elements of the phonological 'articulation', generally called the 'second' articulation, are the "phonemes" (Mulder, 1969).

'Natural language', from the point of view of axiomatic functionalism, differs from other types of semiotic systems in that it has a fully-fledged phonology which, in turn, divided into phonematics, phonotactics, and para-phonotactics,⁽²⁾ and a fully-fledged grammar which, in turn, divided into morphology, a syntax and a para-syntax (these sub-systems will be explained in the ensuing discussion).⁽³⁾ These sub-systems are circumscribed under 'systemology'. "Strongly connected with these are the areas of phonetics, allophony and allomorphy" (Mulder, 1980(a)). Allophony and allomorphy deal with the realisational aspect of phonology

- (1) "Plereme" for "word or grammateme" (Mulder, 1980(c):Def. 8**b**; see also Def. 8**b**¹).
- (2) The para-tactic systems, i.e. para-phonotactics and para-syntax, stand slightly outside the system of systems which constitutes language in the sense that their relation with the tactic levels, i.e. with phonotactics and syntax, is not that of simple interlock (cf. Mulder, 1980(c), and Mulder and Hervey, 1980(a)).
- (3) Mulder refers to this as a 'proper language'.

and grammar, respectively. Natural language may be schematised as follows (the dotted line to read "linking"):



As usually acknowledged, phonetics studies speech sounds not from the point of view of the 'functional' role they fulfil in communication, but from the point of view of their articulatory, acoustic and auditory properties. It, therefore, does not qualify as being central to the theory. It is linked to linguistics proper via the sign theory by the concept of "allophony".⁽¹⁾ That is "allophony" has the task of linking the systemic entities of phonology (phonological elements) to their phonetic forms, i.e. assigning appropriate phonetic value to phonological elements.

(1) That part of phonology which deals with the study of allophones. "Allophones" or "phone" (formally defined as fRd) for "a particular phonetic form \underline{f} , member of a particular class of phonetic forms $\{f\}$, in its capacity of standing in a relation with a particular distinctive function \underline{d} " (Mulder, 1980:Def.23a). The relation of "allophony" can be defined as $f^xRd^x \sim f^yRd^x$ where $x \neq y$. For more details see Mulder, 1980(d).

In natural language one finds, on both the phonological and grammatical levels, simple as well as complex (ordered and unordered) elements. Phonology and grammar, which are different levels must be kept strictly separated. The relation between the grammatical and the phonological planes is established via "allomorphy". This may be viewed in the following manner: an "allomorph" or "morph", as a member representing a sign (see 4.1), is also a conjunction of a member of the expression and a member of the content of the sign concerned. It is represented formally as \underline{PRs} , in which \underline{P} is a particular phonological form, \underline{R} is a relation and \underline{s} is a grammatical distinctive function, e.g. the phonological form of the plural allomorph in such a word like "bus", $/iz/R^{pl}$. The task of "allomorphy", then, is to link the systemic entities of grammar (signs) to their phonological forms, i.e. assigning appropriate phonological value to grammatical elements. Moreover, "allomorphy" is conceived of as a companion to the whole of grammar and not to a particular sub-system, in the sense that all grammatical entities have a realisational aspect.

As outlined above, "allophony" and "allomorphy", in Axiomatic Functionalism, constitute the realisational aspect of phonology and grammar, respectively. They are neither sub-systems nor interlevels, "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, allomorphs belong to grammar, not to phonology" (Mulder, 1980(h)).

In phonology, phonematis is defined as an unordered complex system whose basic elements are the distinctive features⁽¹⁾ which may combine with each other simultaneously to form phonemes in a language. In phonotactics, identified as an ordered complex system, the phonemes combine into larger ordered complexes, i.e. phonotagms.⁽²⁾ The two sub-systems of phonematis and phonotactics interlock in the sense that phonematis provides phonotactics with the minimal phonotactic entities, the phonemes. The so-called interlock between these two sub-systems may be diagrammatically represented in the following manner:

	phonematis	phonotactics
atomic	distinctive features	phonemes
molecular	phonemes <i>interlocks</i>	phonotagms

In grammar, morphology is identified as an unordered complex system whose basic elements are the monemes.⁽³⁾ Monemes are simple signs⁽⁴⁾ which, by definition, may combine with each other

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- (1) "Distinctive feature" for "minimum phonematis entity" (Mulder, 1980(c):Def. 8a³).
- (2) "Phonotagm" for "self-contained bundle of positions in phonology" (Mulder, 1980(c):Def. 9a).
- (3) "Moneme" for "minimum morphological (plerematis) entity". This implies "minimum grammatical entity" (Ibid:Def. 8b³; see also Def. 8a³).
- (4) A simple sign is a sign which is not analysable into two, or more, constituent signs.

by morphological simultaneity relations to form pleremes. Pleremes are simultaneous bundles of one or more monemes. Syntax is an ordered complex system whose basic elements are the pleremes. They are the minimum syntagmatic entities (Mulder and Hervey, 1980(a)). Pleremes may combine into ordered syntactic complexes, syntagms. ⁽¹⁾

With regard to the foregoing, we may conclude that the defining feature of morphology is that any constructional relations which occur in it must be, by definition, symmetrical relations, i.e. total absence of any potential for internal asymmetry. In other words, morphology is that grammatical system which deals with the analysis of signs into simultaneous bundles. The essential characteristic feature of syntax, on the other hand, is that constructional relations occurring in it are, by definition, relations between elements that can stand in asymmetrical relations with one another. The two subsystems of morphology and syntax interlock with one another in the sense that the former provides the basic grammatical elements (pleremes) for the latter. This interlock may be diagrammatically represented in the following manner:

	morphology	syntax
atomic	moneme	plereme
molecular	plereme	syntagm

interlock

(1) "Syntagm" for "self-contained bundle of position in grammar" (Mulder, 1980(c):Def. 9b).

Furthermore, phonology and grammar interlock with one another in that the distinction between the forms of grammatical entities is achieved by means of the formal differences between phonological entities, i.e. phonology provides the phonological forms that are involved in the FORMS of the entities in grammar. In terms of entities, the parallelism between phonology and grammar can be expressed in this manner: the monemes in grammar are analogous to the distinctive features in phonology, while the pleremes are on a par with the phonemes, and the syntagms are, generally speaking, on a par with the phonotagms.

As mentioned earlier, natural language also incorporates a para-phonotactic and a para-syntactic sub-system. The tactic entities of phonotactics and syntax are accompanied by para-tactic features. From the functional point of view, these para-tactic features are grouped or lumped together under the term 'prosody'.⁽¹⁾ Mulder sums up the relation between the para-tactic and tactic levels in that "the tactics provide the bases for the para-tactic entities produced by para-tactic level" (cf. Mulder, 1980(g)).

4.5. "Position", "Syntagm" and "Sentence"

One of the main notions in the theory of Axiomatic Functionalism is the notion "position". It is defined as "a place in which a

(1) See (Mulder, 1980(c) :Def.16). Para-tactic features imply (para-phonotactic) and (para-syntactic) features.

syntagmatic element can stand and is substitutable for a similar element or for zero. One can regard it as a paradigmatic⁽¹⁾ point on the syntagmatic axis" (Mulder and Hurren, 1968:44). An alternative definition is "divisions within a chain,⁽²⁾ 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" (Mulder, 1980(c):Def.7g). So, 'position' is a place within a chain that can be occupied by an orderable element, i.e. pleremes and syntagms. Elements that can occur at the same place within a chain are said to commute with one another in that position.

Mulder (1968:26) recognises two types of positions: the nuclear and peripheral positions. The nucleus, i.e. the entity filling the nuclear position in a particular complex (phonotagm or syntagm), is the identity element of the complex concerned, and, therefore, cannot be replaced by zero. In contradistinction, entities (elements) standing in peripheral positions, referred to as peripheral entities (cf. Mulder, 1980(c):Def.13b), may be replaced by zero and, in such instances, they are called 'expansions',⁽³⁾ i.e. peripheral

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- (1) "Paradigmatic" for "the oppositional or distinctive aspect of semiotic entities" (Mulder, 1980(c):Def.7a).
- (2) "Chain" for "self-contained bundle of positions" (Ibid:Def.9).
- (3) "Expansion" for "immediate constituent that commutes with zero" (Mulder, 1980(c):Def.13c). For more details about nuclearity and peripheralness, see 4.7.

elements of a construction that may be replaced by zero. In phonology, Mulder recognises two types of peripheral positions: explosive, or pre-nuclear, and implosive, or post nuclear positions within which further sub-positions can be established. Peripheral positions in grammar, on the other hand, differ from one syntagm to another, according to the type of that syntagm. For instance, four peripheral positions are recognised for the verbal syntagm in English. Those are: modal, tense, aspect, and modality (Mulder, 1980(h)).

In the sub-system of syntax, the notion "position" plays an important role, in that positions are established to account for the syntactic relations between entities. In other words, it is via positions that the syntactic functions of the entities of any syntagm can be completely and exhaustively described. Every entity which occurs in a particular syntagm is assigned to a position in that syntagm. Therefore, in syntactic analysis it is important to establish the correct number of positions in the structure which accounts for that type of a syntagm. In the syntagm "three beautiful girls" in English, for example, the entities "three" and "beautiful", as they commute with zero, fill the peripheral positions "numeral" and "adjective", respectively. As it does not commute with zero, the entity "girls" fills the nuclear position and consequently, the entities "three" and "beautiful", in the syntagm in question, are, in terms of their function dependent on the nucleus "girls".⁽¹⁾

(1) For more details regarding the positions and types of syntagms and their analysis, the reader is referred to Mulder, 1980(c) and (h).

Mulder defines "syntagm" as "self-contained bundle of positions in grammar" or for "instance of a self-contained bundle of positions in grammar" (Mulder, 1980(c):Def.9b). Thus "syntagm" does not only refer to the descriptive model, it also refers to instances of the model which we encounter in the data. In syntax "syntagm" is the largest unit one has to consider for the establishment and distribution of the syntactic entities in a language. The "syntagm" is the model which enables the syntactician to give an adequate and straightforward description.

The maximum sign in a semiotic system such as natural language is a "sentence". "Sentence" is defined as "signum with such features that it cannot be a feature (constituent, or other feature) of another signum". An alternative definition "signum such that it is a self-contained vehicle for conveying messages" (Mulder, 1980(c): Def.20). The "sentence", then, is not to be regarded as just an ordered combination of syntactic entities. It also has para-syntactic features such as intonation and pauses. In syntactic descriptions, it is the sentence-base⁽¹⁾ which correspond to well-formed syntagms, rather than the sentences themselves, that are subjected to analysis, i.e. a syntactic analysis, it can be said, is an analysis of sentence-bases.

(1) "Base" for "in para-tactic unit the total complex of those features that corresponds (on another level) to tactic entities" (Mulder, 1980(c):Def. 20b).

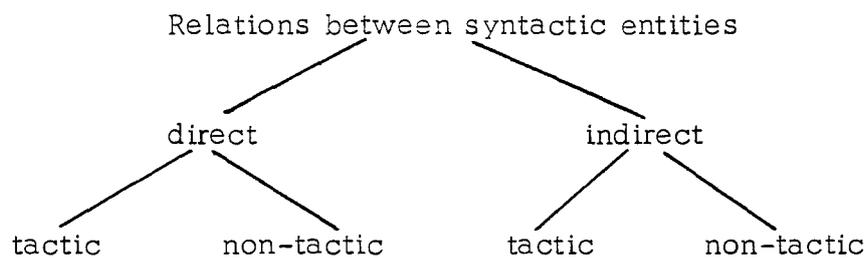
4.6. Syntactic Relations

In syntactic analysis, the procedure followed to establish the immediate constituent⁽¹⁾ analysis may be conducted in the following manner: the pleremes of a syntagm are grouped together with regard to the direct and indirect relations which hold between them. "Direct relation" is defined as "relation between constituents (not necessarily immediate constituents) that is not a relation via other constituents" (Mulder, 1980(c):Def.15). This definition may be presented symbolically as follows: a is in relation to b, i.e. aRb , and b is in relation to c, i.e. bRc , implies that a is in relation to c, i.e. aRc , and vice versa. We may, then, say that the relation aRc is via b, and consequently aRc is not a direct relation, while in all other cases, i.e. aRb and bRc , it is a direct relation. In the sub-system of syntax, there are direct relations between peripheral immediate constituents and the nucleus, and between the immediate constituents in co-ordinative and in interordinative constructions (see below).

As pointed out above, it is 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

(1) "Immediate constituent" for "constituents that are not constituents of constituents within the combination in question" (Ibid:Def. 7f^{1a}).

syntagms, or, in fact, between pleremes and syntagms since the immediate constituents of one and the same chain may be a combination of pleremes, of syntagms, or a combination of both pleremes and syntagms, i.e. syntactic entities. Syntactic relations are defined as "tactic relations in grammar" (Mulder, 1980(c):Def. 7d¹), and tactic relations are defined as "constructional relations (whether ordering or not) between syntagmatic entities, as immediate constituents in combination" (Ibid:Def. 7c³). We now come to the question as to which of the direct and indirect relations are direct or indirect tactic relations. This in effect means that all other relations are, of course, non-tactic. Relations between a nucleus and a peripheral entity at the same level of analysis are direct tactic relations. Relations between peripheral entities at the same level of analysis are indirect tactic relations. The following diagram shows the types and sub-types of relations which may obtain between syntagmatic⁽¹⁾ entities in grammar, i.e. syntactic entities.



(1) "Syntagmatic" for "the ordering aspect of semiotic entities" (Mulder, 1980(c):Def. 7b).

To exemplify the relations shown in the above diagram, consider: "this butcher is selling good meat". This syntagm is a combination of the pleremes "this", "butcher", "is", "selling", "good", and "meat". The relations between:

"this" and "butcher"

"is" and "selling"

"good" and "meat"

and on the next level between:

"this butcher" and "is selling"

"good meat" and "is selling"

are direct tactic relations because these relations do not hold via other constituents but between immediate constituents on the same level (cf. Mulder, 1980(c):Def.15). On the other hand, the relation between "butcher" and "selling", "meat" and "selling" is a direct non-tactic relation. Mulder (Mulder, 1980(c)) explains that this relation may hold when the relation between the nucleus of the peripheral immediate constituent and the nucleus of the nuclear immediate constituent is not via other constituents, i.e. direct relation, e.g. the direct relation is between "butcher", the nucleus of the peripheral immediate constituent "this butcher" and "selling" the nucleus of the nuclear immediate constituent "is selling". In addition, as these two nuclei, i.e. "butcher" and "selling", without their peripherals "this" and "is", respectively, are mere constituents, not immediate constituents in the syntagm in question, such a relation is direct but non-tactic relation (cf. Ibid:Def.15). At the same time one

can establish indirect tactic as well as non-tactic relations between syntactic entities. In the syntagm in question, for example, an indirect tactic relation may be established between: "this butcher" and "good meat" as immediate constituents. As the relation between "this butcher" and "good meat" goes through "is selling", i.e. indirect relation, and since both "this butcher" and "good meat" are immediate constituents of the same syntagm, i.e. they are in tactic relation with one another, therefore, we conclude that the relation obtained is indirect tactic relation. Indirect non-tactic relations, on the other hand, may be established between:

"this" and "selling"

"this" and "good"

"this" and "meat"

"butcher" and "good"

"butcher" and "meat"

"good" and "selling"

Concerning these relations, Mulder indicates that such relations are uninteresting, as they have just a little or no importance in the syntactic analysis (cf. *Ibid.*).

Three sub-types of direct tactic relation may be established between syntactic entities:

1. Relation of sub-ordination
2. Relation of co-ordination
3. Relation of inter-ordination

As we shall see below, the first as well as the third possibility entails a functional dependency relation, whereas cases of mutual functional independency are designated by co-ordination. Though axiomatic functionalism has not given a separate definition for "functional dependency", such definition can be theoremtically derived from the definitions given for each of the above three types. Broadly speaking "functional dependency" designates the determination of those syntactic entities which are in direct tactic relation. Within functional dependency between two immediate constituents there is a possibility that one constituent determines the other, for its function, but not vice versa, or neither of the two constituents determines the other for its function, or each of the two determines the other for its function (see below).

1) Relation of sub-ordination or "determination"

"Relation of sub-ordination" is defined as "direct tactic asymmetrical relation of functional dependency". Its converse is super-ordination or "government" (Mulder, 1980(c):Def.11a). An example which illustrates this relation is "the boy". This syntagm is a combination of two immediate constituents of which "boy" is the identity element, i.e. the nucleus, whereas "the" is a peripheral element standing in a sub-ordination relation with respect to "boy" since "the" depends for its function on the nucleus "boy". We can also say that the element "boy" is super-ordinated to the element "the". In other words, "the" determines "boy", whereas "boy" governs "the".

The relation of sub-ordination between these two elements may be represented as follows:

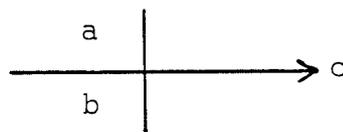
the \longrightarrow boy

From the point of view of Axiomatic Functionalism, two types of sub-ordinative relation may obtain between syntactic entities:

"disjunctive or diverse determination", and "conjunctive or parallel determination".

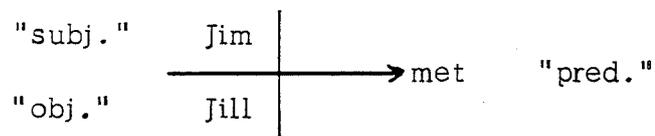
a. Disjunctive or diverse determination

"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" (Mulder, 1980(c):Def.14a). In terms of symbols: $\underline{a}R_x\underline{c}$ and $\underline{b}R_y\underline{c}$, where \underline{a} and \underline{b} are peripherals, \underline{c} is nuclear, R_x and R_y are different tactic relations. This type of determination may be shown as follows (the arrow points to the element in the nuclear position):



For example, in the syntagm "Jim met Jill" the immediate constituents "Jim" and "Jill" are sub-ordinated to the nucleus "met". However, the relation of "Jim" to "met" is different from the relation of "Jill" to "met". This can be demonstrated by the fact that "Jim met Jill" and "Jill met Jim" entail two different messages but the same constituents. Hence, the difference lies in the relation. That is, in "Jim met Jill"

and "Jill met Jim" the relation in which any of the peripheral elements stands with respect to the nucleus in the first syntagm is different from the relation in which that peripheral element stands with respect to the nucleus in the second, i.e. we have two different messages. In other words, the constituents "Jim" and "Jill" belong to the same position class, ⁽¹⁾ the class that stands in either the "Subject", or the "Object" position. In "Jim met Jill", the element "Jim" belongs to the 'subject' position-class, whereas "Jill" belongs to the 'object' position-class. In "Jill met Jim", "Jill" belongs to the 'subject' position-class, whereas "Jim" belongs to the 'object' position-class. Hence, we encounter diverse determination. The relation between the two peripheral elements and the nucleus can be represented as follows:

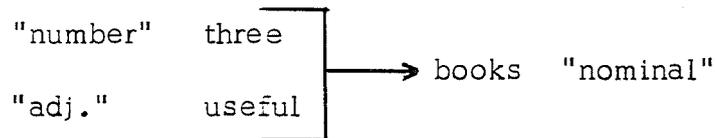


b. Conjunctive or Parallel determination

"Conjunctive or parallel determination" is defined as "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" (Ibid:Def.14b). An instance which exemplifies this type of relation is the syntagm "three useful books",

(1) "Position-class" for "A set of items which can occur in the same position or archi-position" (Mulder, 1968, b:118).

where "three", "useful" and "books" are its immediate constituents. The governing element, i.e. the nucleus, of this syntagm is "books" whereas "three" and "useful" are peripheral elements, i.e. both of them are sub-ordinated to "books". Since it cannot be ascertained that the relation between each of the peripheral elements and the nucleus is different, as each of "three" and "useful" is from a distinct paradigmatic set, parallel determination is obtained. Moreover, the reversibility of elements, i.e. the change of ordering of elements, would not lead to producing two, or more, syntagms that are functionally distinct. Furthermore, "three" and "useful" belong to different position-classes. This type of relation can be shown by the following diagram:

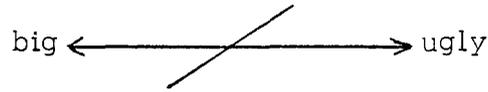


2) Relation of Co-ordination

Mulder defines this type of relation as "direct tactic (by implication : symmetrical) relation of mutual functional independency" (Ibid:Def.11b). This relation may be established when two elements stand in a direct tactic relation to one another, and both of them are functionally independent, i.e. neither of them for its syntactic function depends on the other. In the syntagm "a big ugly pig", for instance, we encounter a relation of co-ordination between the elements "big" and "ugly", since both of them stand in a direct tactic relation to one another, **moreover, neither of these two constituents is dependent on the**

other for its tactic function. That is neither "big" nor "ugly" has recourse to the other for the determination of its function, and both are assigned to the same position-class in the syntagm in question. In this case there is neither a nucleus nor a peripheral element.

This relation can be symbolised as follows:



3) Relation of inter-ordination

Relation of inter-ordination is defined as "direct tactic (by implication: symmetrical) relation of mutual functional dependency" (Ibid:Def.11c). Two elements are said to be inter-ordinated only when they stand in a direct tactic relation to one another in such a way that each of them, for its syntactic function, depends on the other. The syntagm "the sooner the better" shows the type of this relation. The elements "the sooner" and "the better" stand in a direct tactic relation to one another, and each of them depends on the other for its syntactic function, i.e. a mutual functional dependency is maintained between them. This relation can be demonstrated as follows:



In syntactic relations, three types of occurrence dependency are distinguished:

- 1 - Occurrence interdependency
- 2 - Unilateral occurrence independency
- 3 - Bilateral occurrence independency

1) Occurrence interdependency

"Occurrence interdependency" or "bilateral (or mutual) occurrence dependency" is defined as "relation such that neither of the two entities in direct relation which are immediate constituents of a chain can occur in the chain in question whilst the other is zero" (Ibid:Def.12a). What is implied in this definition can be explained in the following manner: if two entities are dependent on one another for their occurrence, therefore, both of them must be bound to one another. This case, it can be added, may either be a case of subordination or inter-ordination, but not of co-ordination. For example, in the syntagm "the child likes sweets", the entity "likes", i.e. the verb, cannot occur without, i.e. depends on for its occurrence, the entity "sweets", the object, and vice versa. Thus, both "likes" and "sweets" are mutually dependent, for their occurrence.

2) Unilateral occurrence independency

Mulder defines "unilateral occurrence independency" or "unilateral occurrence dependency" 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 one cannot" (Ibid.Def.12b). In such relation, one of the two entities, i.e. the dependent, for its occurrence, should be an expansion, while the other entity should be a nucleus, i.e. it must not commute with zero. In "the dogs", for instance, the entity "the" is dependent for its occurrence on the entity "dogs" but not vice versa.

This case implies sub-ordination though not vice versa.

3) Bilateral occurrence independency

This relation is defined as "relation such that each of the two entities in direct relation which are immediate constituents of a chain can occur in the chain in question whilst the other is zero" (Ibid:Def.12c). This means that when two entities of a construction are mutually independent, then, each of them is an expansion, i.e. it commutes with zero. This case is always a case of co-ordination. For instance, in the syntagm "a nice sweet child", the entities "nice" and "sweet" are not dependent, for their occurrence, on each other. That is to say that both "nice" and "sweet" are in a relation of bilateral occurrence independency. In the same manner, both of them are not dependent, for their function, on each other which boils down to say that they are in a relation of co-ordination.

4.7. "Nuclearity" and "Peripheralness"

Mulder (Mulder, 1980(c):Def.13a) defines "nucleus" as entity in nuclear position". In terms of 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 (Ibid.) that "the nucleus is the 'identity-element' [for the relations] in the chain in question, i.e. the tactic functions of all other elements depend on their relation towards the nucleus". The above definition implies that the nucleus, syntactically speaking, is the most important element

within a construction. Moreover, this definition, as well as other axioms and definitions in Axiomatic Functionalism, also implies that the concept of nuclearity is connected with the concept of ordering relations. One of the properties of syntactic nuclei, e.g. "girl" in "the girl in the office", "write" in "he writes a letter", "in" in "in the garden" is that they determine the distribution of the complex in question. The complex "the girl in the office" has the distribution of nominal complexes, "he writes a letter" that of predicative based complexes, "in the garden" that of prepositional constructions. Furthermore, it is implied that when a relation of sub-ordination is maintained between the immediate constituents of a syntagm no immediate constituent in the syntagm in question can be recognised as "nucleus" unless all other immediate constituent(s) in that syntagm are recognised as "peripherals". Peripheral element is defined as "entity in peripheral position" (Ibid:Def.13b). A peripheral element is sub-ordinated to the nuclear element and determines it, i.e. $\underline{a} \longrightarrow \underline{b}$ where \underline{a} is a peripheral and \underline{b} is nuclear. That is, \underline{a} determines \underline{b} whereas \underline{b} governs \underline{a} .

In view of the Saussurean tenet (Saussure, 1970:120), "in language there are only differences", we may say that the nucleus of a particular syntagm is characterised by the fact that it is what the other immediate constituent(s) in that chain is not, i.e. the nucleus of a construction is negatively defined by the fact that it is not peripheral and vice versa. Thus, for instance, taking the syntagm

"little Sheena ate the apple" to be a complex of five immediate constituents of which "little" is the "nucleus"

little / Sheena / ate / the / apple

This hypothesis may be upheld if it can be demonstrated that "little" occupies the nuclear position, and consequently, it can be shown that each of the other immediate constituents in the complex in question is, for its function, dependent on "little". On investigation we see that the absence of "little" does not affect the construction "Sheena ate the apple", i.e. without the occurrence of "little" the above chain can stand as a well-formed utterance. Since the other immediate constituents cannot, for their function, depend on a zero element, that element, i.e. "little" cannot occupy a nuclear position. By virtue of the same considerations, the hypothesis that "Sheena", "the" or "apple" is the nucleus, is refuted. This, in effect, leaves us with the sole alternative of recognising "ate" as the nucleus of the syntagm in question. The recognition of "ate" as the nucleus is justified for the following considerations:

- a. It is the constituent which governs the function of the other immediate constituents in the syntagm. As a necessary, but not sufficient condition, it may be added that "ate" stands in direct relation with the other immediate constituents.
- b. It is the immediate constituent that characterises the syntagm in question, that determines the distribution of the syntagm, and via which the syntagm in question could be related to a 'higher level'

immediate constituent(s), i.e. a 'higher level' syntagm. Consider:
 "little Sheena ate the apple in the garden".

In syntax, a distinction is made between two types of
 nuclear elements:

1. Free nucleus

"Free nucleus" is defined as "nuclear immediate constituent that does not require the presence of a non-zero peripheral constituent" (Ibid:Def.13e). In terms of symbols $\underline{a} \longrightarrow \underline{b}$ where \underline{b} is a free nucleus and \underline{a} is a peripheral element that is an expansion (see below). Consider, for instance, the syntagm

"/ʔakala ʔallahma/" 'he ate meat' in Arabic
 (3MS, pf) 'eat' (the + meat)

where the peripheral element "/ʔallahma/" 'meat' is an expansion, i.e. commutes with zero, and the nucleus "/ʔakala/" (3MS, pf.) 'eat' is a free nucleus.

2. Actualised or non-free nucleus

"Actualisation" is defined as "situation in which a nuclear immediate constituent requires the presence of a non-zero peripheral constituent" (Ibid:Def.13f). It can be represented symbolically as: $\underline{a} \longrightarrow \underline{b}$ where \underline{b} is a non-free nucleus, and \underline{a} is called a bound peripheral element (see below). For example, in the syntagm

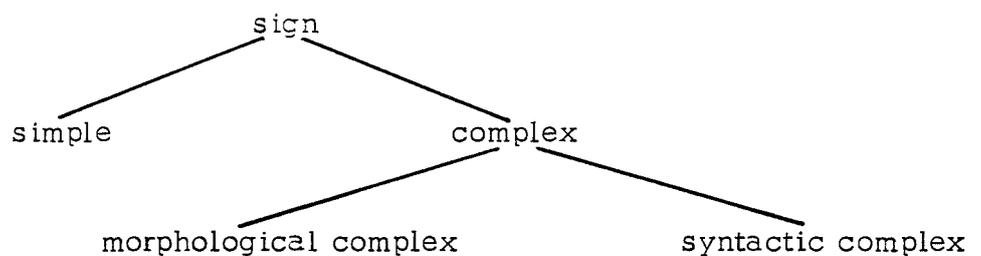
"/iuhibbu ʔalxubza/" 'he likes bread' in Arabic,
 (3MS, impf.) 'like' (the + bread)

the nucleus "/iuh¹ibbu/" (3MS, impf.) 'like' cannot occur on its own without the presence of the peripheral element "/ʔalxubza/", 'bread', nor, vice versa. In the above example there is mutual occurrence dependency (cf. Def:12a) between "/iuh¹ibbu/" and "/ʔalxubza/".

With regard to the peripheral elements, a distinction is also made between two types of peripherals: the so-called 'expansion' and 'bound'. An expansion is defined as an "immediate constituent that commutes with zero" (Ibid:Def.13c), in symbols ' $\boxed{a} \longrightarrow b$ ' where \boxed{a} is considered as an expansion. In this case the nucleus 'b' is a free nucleus (see above). A "bound element" or "actualizer" is defined as "a peripheral immediate constituent that does not commute with zero" (Ibid:Def.13d), in symbols 'a \longrightarrow b' where 'a' is the bound element. In this case the nucleus 'b' is actualised or a non-free nucleus (see above).

4.8. Morphological Complexes and Syntactic Complexes

With a view to the morphology-syntax dichotomy (cf. 4.2.), signs, in language, may be classified according to their degree of complexity as follows:



A simple sign⁽¹⁾ is a sign not analysable into two or more smaller constituent signs, e.g. "baby". A complex sign,⁽²⁾ on the other hand, is a sign that can be analysed into at least two smaller constituent signs, e.g. "the baby" which is a complex of two constituents, each of which is a sign in its own right. A complex sign can either be morphological or syntactic. Hervey and Mulder (1980) define a morphological complex as "a self-contained simultaneous⁽³⁾ bundle of two or more monemes". These monemes are the minimal linguistic signs. Consequently, a morphological complex, it can be said, is a complex sign whose constituents are, all, minimal signs standing in a relation of simultaneity. A syntactic complex is a complex sign containing at least two constituent signs in a syntactic relation with one another.

Strictly speaking, the distinction between morphological complexes and syntactic complexes, and, by implication, morphology and syntax, in axiomatic functionalism is not necessarily based on the distinction simultaneous versus ordering relations. While it is true that all morphological complexes are characterised by relations of simultaneity, it is not true that all syntactic complexes are

-
- (1) "Simple sign" for "sign not consisting of more than one moneme" (Hervey, 1979).
- (2) "Complex sign" for "sign consisting of more than one moneme" (Hervey, 1979).
- (3) What is meant by 'simultaneity' is the absence of functional ordering. For instance, the pairs ("to smile", "past") and ("past", "to smile") are not functionally different, but are the same simultaneous bundle "smiled".

characterised by ordering relations. Relations of simultaneity also holds between constituents in syntactic combinations, e.g. cases of co-ordination (cf. 4.6). This implies that the existence of ordering relations between constituents in grammatical combinations is only a sufficient, but not necessary, condition for the establishment of such combinations as syntactic complexes. A both necessary and sufficient condition for specifying syntactic complexes is the existence of tactic relations⁽¹⁾ (cf. Def. 7c³) between constituents in grammatical complexes, as well as finding any potential for relational hierarchy or syntactic positions within the given grammatical complexes.

In order to identify and to distinguish morphological complexes from syntactic ones, Axiomatic Functionalism provides a methodology of four successive conditions to establish the hypothesis that 'a given complex sign P is a simultaneous bundle of the set X of monemes', i.e. P is a 'morphological complex'. We shall explain this methodology by considering the tentative morphological complex "dance group".

(1) In grammar, such relations are called syntactic relations. Syntactic relations "are not necessarily syntagmatic, i.e. ordering, [relations] but they are between syntagmatic entities" (cf. Def. 7c³). Note the distinction between "syntactic" and "syntagmatic" relations. "Syntactic relations" are "tactic relations in grammar" while "Syntagmatic relations" are ordering relations between semiotic entities in combination" (cf. Def. 7d¹ and Def. 7b¹, in Mulder 1980(c)).

1 - "The complex sign P is a self-contained potential constituent".

Commutation is the sole procedure by which we test whether or not a particular grammatical element is a self-contained potential constituent in at least one higher complex sign in the language it is said to belong to. Mulder (Mulder, 1980(c):Def. 7a²) defines commutation as "alternation between semiotic entities (or 'zero' and semiotic entities) in functional opposition as immediate constituents, in a given context". For example, the identity of the sign "plural" in "girls" can be established by commuting it with at least one other sign, for instance, "hood" or "ish", or with its own absence, i.e. zero.

Applying the above test to our example "dance group", we notice that this complex fulfils the condition of being a self-contained potential constituent in a higher complex sign, thus: "the fantastic dance group" \sim { "book", "plans", "party" } .

2 - "The set X consists of at least two signs. If this were not the case - and a condition is that each constituent must be identifiable as a sign with a sign in at least one other context - then the sign P could not consistently be said to be complex".

Again, commutation is the procedure by which axiomatic functionalists test whether or not a given sign satisfies the condition of analysability into at least two constituent signs. In order to avoid pseudo-analysis, that is analysis on either intuitive grounds

or on features of form alone, ⁽¹⁾ it is essential to ensure that commutation is conducted between constituent signs only.

Axiomatic Functionalism stipulates a necessary condition which must be observed in testing for the second criterion. It states that "unless each of the constituents can be identified as a sign, none of the constituents can be identified as a sign". ⁽²⁾ This boils down to saying that analysis with residual elements are rejected.

To qualify as a fully-fledged sign, each constituent sign in a tentative complex sign must fulfil the following both sufficient and necessary condition: "a tentative constituent sign in a tentative complex sign must occur, in at least one other relationally equivalent complex sign, with the same form, or a combinatory variant of that form, and the same denotation or semantic role." ⁽³⁾ In testing for this condition, all other tentative constituent signs in the complex sign in question, and the semantic role of the relation(s) between them must be held constant.

The denotation of a complex sign is said to be a function of

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- (1) For more details concerning pseudo-analysis, the reader is referred to Hervey and Mulder (1980).
- (2) Hervey and Mulder, "Pseudo-composite and Pseudo-words: Sufficient and Necessary Criteria for Morphological Analysis", in Mulder and Hervey, The Strategy of Linguistics, 1980:125.
3. Ibid:128.

the denotation of its constituent signs and the semantic role of the relation(s) between them. Concerning the semantic role of the relation(s) between immediate constituent sign in a complex sign, Hervey and Mulder (1980:127) assert that "the denotation of the complex sign bears some relation to the denotation of each of the immediate constituents". They (Ibid.) further assert that "within a complex sign, the denotation of each of the immediate constituents bears some relation, semantically speaking, to that of the other immediate constituent(s), and, of course, vice versa". Now, given a complex sign \underline{P} , which consists of the constituent signs \underline{a} and \underline{b} in some grammatical relations \underline{R} , then it is possible to represent the complex sign concerned, with regard to semantic role as follows:

\underline{P}		
\underline{a}	\underline{R}	\underline{b}
denotation of \underline{a}	which bears some relation to	denotation of \underline{b}
denotation of \underline{b}	which bears some relation to	denotation of \underline{a}

In order to establish \underline{a} as a valid constituent sign of the tentative complex sign \underline{P} , we must find another complex sign $\underline{P1}$, consisting of the constituents \underline{c} , or a combinatory variant of \underline{b} , and \underline{a} , which is relationally equivalent to \underline{P} , and in which \underline{a} can be shown to commute validly⁽¹⁾ with \underline{c} . The same procedure can be repeated

(1) "A valid commutation is a commutation of elements in a complex in such a way that the complex remains well-formed and the grammatical relations between the immediate constituents are not demonstrably affected" (Hervey and Mulder, 1980, ft. 27:143).

for establishing b as a valid constituent sign of P provided that there is another complex sign P2 consisting of the constituents a, or a combinatory variant of a, and d, which is equivalent to P as to the relation between its immediate constituents, and in which b can be shown to commute validly with d. The above discussion may be schematically represented as follows:

P1		
c	R	b (or its combinatory variant)
denotation of c	which bears some relation to	denotation of b
denotation of b	which bears some relation to	denotation of c

P2		
a (or its combinatory variant)	R	d
denotation of a	which bears some relation to	denotation of d
denotation of d	which bears some relation to	denotation of a

To show how the above test works, let us launch the hypothesis that the tentative morphological complex "dance group" consists of the constituent signs "dance" and "group". To test whether or not "dance" and "group" are signs in the complex in question, and, by implication, whether or not this tentative

morphological complex itself is a complex sign, we apply the following commutation test:

"dance group"		
"dance"	R	"group"
denotation of "dance" (a series of rhythmical steps and movements, usually in time to music)	which bears some relation to	denotation of "group" (a number of persons or things considered as a collective unit)
denotation of "group" (a number of persons or things considered as a collective unit)	which bears some relation to	denotation of "dance" (a series of rhythmical steps and movements, usually in time to music)

Play group		
"play"	R	"group"
denotation of "play" (games, exercises, or other activities undertaken for pleasure, diversion, etc.)	which bears some relation to	denotation of "group" (a number of persons or things considered as a collective unit)
denotation of "group" (a number of persons or things considered as a collective unit)	which bears some relation to	denotation of "play" (games, exercises, or other activities undertaken for pleasure, diversion, etc.)

dance hall

"dance"	R	"hall"
denotation of "dance" (a series of rhyth- mical steps and movements, usually in time to music)	which bears some relation to	denotation of "hall" (a large building or room used for assemblies, concerts, dances, etc.)
denotation of "hall" (a large building or room used for assemblies, concerts, dances, etc.)	which bears some relation to	denotation of "dance" (a series of rhythmical steps and movements, usually in time to music)

The above test demonstrates that the requirements for the identification of the tentative morphological complex "dance group" as a complex sign which consists of the constituent signs "dance" and "group" are fulfilled.

3 - "The set \underline{X} contains only simple signs. Monemes are all simple signs (though not vice versa), and therefore any complex containing at least one constituent which is itself a complex sign, cannot be 'a simultaneous bundle of monemes', by definition. This requirement could be restated as a requirement that the immediate constituents of a 'morphological complex' should at the same time be its ultimate constituents".

According to this condition, the immediate constituents of a morphological complex are, by requirement, not allowed to be complex signs. In other words, the immediate constituents of a morphological

complex can not be further analysed into other smaller constituents, i.e. they must be its ultimate grammatical constituents.

It must be noted, however, that if all the immediate constituents of a particular complex sign are demonstrably simple signs, i.e. ultimate constituents, that complex does not qualify as a morphological complex without applying the fourth and final criterion. This is due to the fact that it is possible to find syntactic complexes in which the immediate constituents are all simple signs.

If we apply the commutation test, by which this hypothesis is tested, to the duly established complex sign "dance group", we find that none of its immediate constituents, "dance" and "group", can be further analysed into two or more smaller signs. At this stage, we can neither establish the complex sign in question as a syntactic complex, nor can we establish it as a morphological complex.

4 - "The members of the set \underline{X} (of simple signs) all stand in a relation of morphological simultaneity to one another in the complex sign \underline{P} . The other alternative, which is that at least two members of the set \underline{X} are not simultaneous in \underline{P} , implies that they must stand in syntactic positions in that complex, which, in turn, implies that the complex \underline{P} is a 'syntactic complex', and thereby directly refutes the hypothesis that \underline{P} is a 'morphological complex'."

By virtue of this condition, we have to determine whether the relation holding between the constituent signs of a given complex is morphological or syntactic. According to Hervey and Mulder (1980), relations of simultaneity, cannot be positively or directly proved to

hold in a construction. Consequently, the axiomatic functionalists methodology for establishing whether or not a complex sign is a morphological complex is based on "attempting to find, and finding or failing to find, evidence of syntactic relations between the constituents of a complex sign" (Ibid:131). The following procedure is employed: We hypothesise that a complex sign is a morphological complex, i.e. a simultaneous bundle of its constituents, and then we attempt to refute this hypothesis by trying to produce evidence of syntactic relations within the complex itself. If the hypothesis is not refuted then the complex as it stands is considered to be morphological.

In attempting to refute the hypothesis that a particular complex sign is a morphological complex, Axiomatic Functionalism proposes two tests:

1. Reversibility, i.e. "Permutation", and
2. Commutation with a syntagm.

The reversibility or permutation test

The significance of this test lies in the point that if, by permutation, it can be shown that the constituents of a complex sign stand in a relation of functional asymmetry to each other, i.e. ordering relation, then this is sufficient, though not necessary, proof for demonstrating that the complex in question is a syntactic, and, therefore, not a morphological complex. Now given a complex sign P, which consists of the constituents a and b. If by reversing the constituents a and b in the complex sign P, while holding the relation

constant, we arrive at a complex P1 which is demonstrably different from P, then this is sufficient for regarding the complex P as syntactic, and not morphological.

If, however, the attempted test of permutation is not satisfied, i.e. if the reversibility of the constituents does not produce a functionally different complex, it does not follow that the complex sign in question is a morphological complex. As has been mentioned above, the demonstration of ordering relations between the constituents of a given complex sign is only a sufficient, and not a necessary, condition for establishing the complex in question as a syntactic complex. For this reason Hervey and Mulder (Ibid.) set up another criterion, commutation with a syntagm, which is both sufficient and necessary for the identification of syntactic complexes.

Commutation with a syntagm test

The procedure of commutation with a syntagm may be summed up as follows: we try to commute at least one of the immediate constituents a, of a given complex sign X with a syntagm Q, while holding the rest of the context constant. If it becomes evident that the syntagm Q stands in a position with b, the other constituent sign of the given complex X, then the commutation test is a valid one, i.e. this is sufficient proof that the complex sign in question is syntactic and not morphological. However, only if the following both sufficient and necessary criterion is satisfied, we can conclude that a given complex sign is a morphological complex (Ibid:135):

"P is a simultaneous bundle of monemes a and b (simple signs), if and only if none of the constituents (from immediate to ultimate) of P, nor any of the constituents (from immediate to ultimate) of any valid commutant of a or b in P, stands demonstrably in a position with respect to any other constituent in the same complex."

On the basis of what has been said above, we can conclude that whenever internal evidence of syntactic relations within a given complex sign exists, then, the complex in question is a syntactic complex. If, on the other hand, we cannot demonstrate that there is internal evidence within a given complex sign, then, the complex in question is a morphological complex.

Let us now apply the above testing procedure to our potential complex sign "dance group". By reversing the ordering of the constituents "dance" and "group" in this complex, we get the complex sign "group dance". The identity of both "dance" and "group" is kept constant in the two distinct complexes "dance group" and "group dance". The difference between the two complexes in question, is a matter of the relations that hold between the constituents of each of them. That is to say, the relation between "dance" and "group" in "dance group" is functionally different from the relation between "group" and "dance" in "group dance". This constitutes sufficient proof that the complex "dance group" is a syntactic and not a morphological complex.

By applying the 'commutation with a syntagm' test⁽¹⁾

to the complex sign "dance group" we can show that the constituent sign "dance" commutes with the syntagm "song and dance" to produce the functionally different complex sign "song and dance group". In this complex sign the immediate constituents are

song and dance // group

and on the next level of analysis "song and dance" has the immediate constituents

song // and dance

At a yet lower level of analysis "and dance" may be further analysed into the immediate constituents

and // dance

This demonstration shows that on the lowest level of analysis the immediate constituents "and" and "dance" stand in separate syntactic positions. Consequently, on the next higher level, the immediate constituents "song" and "and dance" stand, also in separate syntactic positions. On the highest level of analysis "song and dance" stands in syntactic relation with respect to the constituent "group". Since we have a valid commutation between "dance" in "dance/group" and "song and dance" in "song and dance/group", therefore, the complex sign "dance group" is a syntactic complex.

(1) It should be noted that the above test is actually sufficient proof that the complex in question is syntactic. However, we continue to the second test, i.e. 'commutation with a syntagm', for the purpose of clarification of the methodology.

PART TWO

CHAPTER V

THE VERB: MORPHOLOGICAL OR SYNTACTIC COMPLEX

The aim of this chapter is to hypothesise that an adequate description involves recognising a set of verbs which are complex pleremes, i.e. morphological complexes⁽¹⁾ in Arabic. The hypothesis tentatively advanced takes the form that each member of the set of the complex pleremes presented in the sections below might be a combination of the following monemes.

- 1 - the verb-root moneme (a verb-root),
- 2 - One of the Gender monemes (masculine or feminine, or neither, i.e. Zero),
- 3 - One of the Number monemes (singular, dual or plural),
- 4 - One of the Person monemes (third, second or first),
- 5 - One of the Aspect monemes (perfective or imperfective),
- 6 - One of the Voice monemes (active or passive).

For each complex plereme presented in this description, tests were performed according to a methodology consisting of a step-by-step application of four successive criteria stipulated by Axiomatic Functionalist theory. These tests were designed for the identification of morphological

(1) "Morphological complex" for "complex plereme". "A complex plereme (i.e. a complex word or a complex grammateme) is a morphological complex as opposed to a syntactic complex". A complex grammatical entity is either morphologically complex or syntactically complex (Mulder, 1980(c):Def. 8b²).

complexes as opposed to syntactic complexes (cf. part I, chapter IV).

In order to achieve the aim of our analysis, let us take, for instance, the tentative complex "/rasama/" (3MS, pf.) 'draw' and hypothesise that this complex is a simultaneous bundle of monemes. This hypothesis, to be a valid one, implies that "/rasama/" (3MS, pf.) 'draw' must satisfy the following criteria:

a. It must be a self-contained potential constituent in grammar

To determine whether "/rasama/" (3MS, pf.) 'draw' is a self-contained potential constituent in grammar or not, we try to commute it with other constituents in the same context. Thus, for instance, in the context /—— ?alualadu ?attuffāḥata/ 'the boy —— the apple', we find that "/rasama/" is a self-contained potential constituent since it validly commutes with "/?akala/" (3MS, pf.) 'eat', "/qaṭafa/" (3MS, pf.) 'pick'; consider

1. /rasama ?alualadu ?attuffāḥata/ 'the boy drew the apple'
(3MS, pf.) 'draw' (the + boy) (the + apple)
2. /?akala ?alualadu ?attuffāḥata/ 'the boy ate the apple'
(3MS, pf.) 'eat' (the + boy) (the + apple)
3. /qaṭafa ?alualadu ?attuffāḥata/ 'the boy picked the apple'
(3MS, pf.) 'pick' (the + boy) (the + apple)

b. It contains at least two signs

According to the second criterion, a self-contained potential grammatical constituent qualifies as a complex sign if it contains at least two constituent signs. The test by which we decide whether a

particular potential grammatical constituent is a complex sign or a simple one is commutation. Thus, to establish the constituent signs of the self-contained potential grammatical constituent "/rasama/" (see above), we first hypothesise that it is a complex sign containing the constituent signs of the categories Verb-root, Gender, Number, Person, Aspect, and Voice. These constituents should be commutable with other entities of the same category in the same context. By applying the commutation test to the constituent signs, we obtain paradigms of the commutant signs. Each paradigm can be labelled, in respect to their commutant signs, after the category which holds its label, i.e. the paradigms of Verb-root, Gender, Number, Person, Aspect, and Voice. In testing the hypothesis concerning the moneme identity, we find that there is a constant correlation of difference of form with a difference of denotation in each separate commutation in each paradigm. In other words, as a result of commutation there is a functional difference between the commutant signs within a particular paradigm, that is, a different message is conveyed when commuting one sign with another in the same paradigm. In what follows, we propose to give a brief discussion of the commutation of the tentative signs of each paradigm separately.

1) The Verb-root paradigm

This paradigm contains the verb-root signs. The so-called verb-roots are recognised as signs because they are opposed to each other in the same context. As is already known (see part I, chapter IV),

we shall commute only the verb-roots given in the paradigm of the Verb-root while keeping the rest of the constituent signs constant. (1)

Usually in commutations, all constituent signs of a particular entity must be commuted; but because we have allocated a separate section for the discussion of the signs of each paradigm, we shall commute only the signs of the paradigm being discussed in the section concerned. By the end of these separate discussions, we shall have all the constituent signs of "/rasama/" commuted.

	Verb-root (2)		
a)	vr /r-s-m-/ vr	/-a-a-a/(3)	= /rasama/ (3MS, pf.) 'draw'
b)	/ʔ-k-l-/ vr	/-a-a-a/	= /ʔakala/ (3MS, pf.) 'eat'
c)	/q-ṭ-f-/ vr	/-a-a-a/	= /qaṭafa/ (3MS, pf.) 'pick'

vr = verb-root

Applying the test of commutation, it is found that the message conveyed by (a) is different from the message conveyed by (b) or (c). That is, there is a functional difference between (a), (b) and (c). In addition, it is also found that there is a constant correlation of difference

- (1) Note that in this chapter we establish the sign of each paradigm, whereas the allomorphs of each sign will be presented in chapter six.
- (2) The categories' labels are written with initial capital letters while the labels of the monemes are written with small ones.
- (3) For the moment we do not analyse /-a-a-a/, but note that as a sign it denotes "perfective, active, 3rd person, masculine and singular."

of form with a difference of denotation. Consequently, each of the verb-roots in (a), (b) and (c) respectively can be identified as a sign.

As far as the paradigms of Gender, Number and Person are concerned, we are going to launch two hypotheses. The first hypothesis is to consider each sign of the Gender, Number and Person paradigms as a separate and distinct sign. The second hypothesis states that the gender, number and person of a relevant complex plereme is one sign, for example, the sign "third person, feminine, dual" of the complex "/rasamatā/" (3FD, pf.) 'draw', whose allomorph is represented phonologically as /atā/.

In order to demonstrate the refutability of one of the above two hypotheses, we shall give relevant examples from the data and carry out the commutation for both hypotheses. From the discussion that follows, it will be shown that we opt for the first hypothesis, i.e. that "first person", "second person", "third person", "feminine", "masculine", "singular", "dual", and "plural" are distinct and separate signs. It must be noted at this juncture, that all signs, retained in either the first or the second hypothesis, are identified as signs in terms of the tests performed. We have refrained from spelling out the demonstration for each of the signs under consideration in the main body of this chapter as its inclusion would make for cumbersome, if not tedious, reading.

i - Commutation of "feminine" and "masculine" in the context of

	Verb-root	Person, Gender, Number	Aspect	Voice	
	vr	3rd, f, d	pf	act	
a)	/r-s-m-/	/atā/	/-a-a-/	/-a-a-/	= "/rasamatā/" (3FD, pf) 'draw'
	vr	3rd, m, d	pf	act	
b)	/r-s-m-/	/-ā/	/-a-a-/	/-a-a-/	= "/rasamā/" (3MD, pf) 'draw'

vr = verb-root, (3rd, f, d) = third person, feminine, dual,

pf = perfective, act = active, (3rd, m, d) = third person, masculine, dual.

	Verb-root	Person, Gender, Number	Aspect	Voice	
	vr	3rd, f, d	impf	act	
a)	/r-s-m-/	/t___āni/	/-a--u-/	/-a--u-/	= "/tarsumāni/" (3FD, impf) 'draw'
	vr	3rd, m, d	impf	act	
b)	/r-s-m-/	/i___āni/	/-a--u-/	/-a--u-/	= "/iarsumāni/" (3MD, impf) 'draw'

vr = verb-root, impf = imperfective, act = active, (3rd, f, d) = third

person, feminine, dual, (3rd, m, d) = third person, masculine, dual.

The above illustration supports the first hypothesis which considers the distinctiveness of each sign within the paradigms of Gender, Number and Person. This decision is taken on the basis that this hypothesis is more consistent, adequate and simpler than the second alternative. This can be clearly demonstrated in the following manner. If we consider "/atā/" as a simple sign representing "third person, feminine, dual" of the complex "/rasamatā/", then, we cannot commute any tentative part of the sign in question. This cannot be done

while keeping the other tentative constituent signs constant, because if the commutation is possible the sign in question, i.e. "/atā/", would not be simple but a complex sign. In other words, the commutation of the entity /t/, for instance, of the "3rd, f, d" sign in "/rasamatā/" (3FD, pf) 'draw' as opposed to /ā/ in /rasamā/ (3MD, pf) 'draw' while keeping the /a/ and /ā/ of /atā/ constant is inconsistent with the simple sign hypothesis.

2) The Gender paradigm

This paradigm contains two signs labelled as "masculine" and "feminine". Both of them are regarded as signs because they can be opposed to each other in the same context. Commutations are given below wherein the masculine and the feminine are commuted while the rest of the tentative constituents, in the complex sign in question, and the semantic imports of the relations between them are kept constant.

	Verb-root	Gender	Number	Person	Aspect	Voice	
	vr	m	s	2nd	pf	act	
a)	/r-s-m-/	/-a/	/-a/	/-t-/	/-a-a-/	/-a-a-/	= "/rasamta/" (2MS, pf) 'draw'
	vr	f	s	2nd	pf	act	
b)	/r-s-m-/	/-i/	/-i/	/-t-/	/-a-a-/	/-a-a-/	= "/rasamti/" (2FS, pf) 'draw'

vr = verb-root, m = masculine, f = feminine, 2nd = second person,

pf = perfective, act = active.

Analogous to the above case (cf. section 1), commutation produces two different messages. Thus, we establish the signs "masculine" and "feminine".

It should be noted, however, that there is no opposition between 'masculine' and 'feminine' in the context of the first person singular, first person plural or second person dual in the verb.

3) The Number paradigm

Within this paradigm, three signs are recognised: "singular", "dual" and "plural". Similar to the previous cases, their identification as signs is due to the functional difference between them. Consider the following commutation:

	Verb-root	Gender	Number	Person	Aspect	Voice	
	vr	f	s	3rd	pf	act	
a)	/r-s-m-/	/-t-/	/-a/ ⁽¹⁾	/-a/	/-a-a-/	/-a-a-/	= "/rasamat/" (3FS, pf) 'draw'
	vr	f	d	3rd	pf	act	
b)	/r-s-m-/	/-t-/	/-ā/	/-a-/	/-a-a-/	/-a-a-/	= "/rasamatā/" (3FD, pf) 'draw'
	vr	f	pl	3rd	pf	act	
c)	/r-s-m-/	/-na/	/-na/ ⁽²⁾	/-na/	/-a-a-/	/-a-a-/	= "/rasamna/" (3FP, pf) 'draw'

vr = verb-root, f = feminine, s = singular, d = dual, pl = plural,

3rd = third person, act = active, pf = perfective.

The above test establishes three distinct signs because the message conveyed by each entity is different from that of the other two entities.

(1) Note that /a/ is an amalgamated phonological form of the allomorphs of the "singular" and "third person" signs. See chapter VI on realisation.

(2) Note that /na/ is an amalgamated phonological form of the allomorphs of the "feminine", "plural" and "third person" signs. See chapter VI on realisation.

or not. If we regard 'Aspect-Voice' as one paradigm, then we may establish the following entities: "perfective active", "perfective passive", "imperfective active", and "imperfective passive". This may be supported by the following commutation tests:

Commutation of "perfective active" and "perfective passive" in the context of "verb-root".

	Verb-root	Aspect-Voice	Person	
	vr	pf-act	3rd	
a)	/r-s-m-/ vr	/-a-a-/ pf-pass	/-a/ 3rd	= "/rasama/" (3MS, pf-act) 'draw'
b)	/r-s-m-/ vr	/-u-i-/ pf-pass	/-a/ 3rd	= "/rusima/" (3MS, pf-pass) 'draw'

Commutation of "imperfective active" and "imperfective passive" in the context of "verb-root"

	Verb-root	Aspect-Voice	Person	
	vr	impf-act	3rd	
a)	/r-s-m-/ vr	/-a--u-/ impf-pass	/-u/ 3rd	= "/iarsumu/" (3MS, impf-act) 'draw'
b)	/r-s-m-/ vr	/-u--a-/ impf-pass	/-u/ 3rd	= "/iursamu/" (3MS, impf-pass) 'draw'

Commutation of "perfective active" and "imperfective active"

in the context of "verb-root".

	Verb-root	Aspect-Voice	Person	
	vr	pf-act	3rd	
a)	/r-s-m-/ vr	/-a-a-/ impf-act	/-a/ 3rd	= "/rasama/" (3MS, pf-act) 'draw'
b)	/r-s-m-/ vr	/-a--u-/ impf-act	/-u/ 3rd	= "/iarsumu/" (3MS, impf-act) 'draw'

Commutation of "perfective passive" and "imperfective passive"

in the context of "verb-root".

	Verb-root	Aspect-Voice	Person	
	vr	pf-pass	3rd	
a)	/r-s-m-/ vr	/-u-i-/ impf-pass	/-a/ 3rd	= "/rusima/" (3MS, pf-pass) 'draw'
b)	/r-s-m-/ vr	/-u--a-/ impf-pass	/-u/ 3rd	= "/iursamu/" (3MS, impf-pass) 'draw'

Alternatively, if we treat Aspect and Voice as separate paradigms, then we may establish the following entities as signs "perfective", "imperfective", "active", and "passive". This is supported by the following commutation tables:

Commutation of "active" and "passive" in the context of "perfective".

	Verb-root	Aspect	Voice	Person	
	vr	pf	act	3rd	
a)	/r-s-m-/	/-a-a-/	/-a-a-/	/-a/	= "/rasama/" (3MS, pf, act) 'draw'
	vr	pf	pass	3rd	
b)	/r-s-m-/	/-u-i-/	/-u-i-/	/-a/	= "/rusima/" (3MS, pf, pass) 'draw'

Commutation of "active" and "passive" in the context of "imperfective".

	Verb-root	Aspect	Voice	Person	
	vr	impf	act	3rd	
a)	/r-s-m-/	/-a--u-/	/-a--u-/	/-u/	= "/iarsumu/" (3MS, impf, act) 'draw'
	vr	impf	pass	3rd	
b)	/r-s-m-/	/-u--a-/	/-u--a-/	/-u/	= "/iursamu/" (3MS, impf, pass) 'draw'

Commutation of "perfective" and "imperfective" in the context of "active".

	Verb-root	Aspect	Voice	Person	
	vr	pf	act	3rd	
a)	/r-s-m-/	/-a-a-/	/-a-a-/	/-a/	= "/rasama/" (3MS, pf, act) 'draw'
	vr	impf	act	3rd	
b)	/r-s-m-/	/-a--u-/	/-a--u-/	/-u/	= "/iarsumu/" (3MS, impf, act) 'draw'

Commutation of "perfective" and "imperfective" in the context of "passive".

	Verb-root	Aspect	Voice	Person	
	vr	pf	pass	3rd	
a)	/r-s-m-/	/-u-i-/	/-u-i-/	/-a/	= "/rusima/" (3MS, pf, pass) 'draw'
	vr	impf	pass	3rd	
b)	/r-s-m-/	/-u--a-/	/-u--a-/	/-u/	= "/iursamu/" (3MS, impf, pass) 'draw'

The first solution appears to be preferable to the second solution because of the complete amalgamation in form between what are regarded as separate entities inter-paradigmatically under the second solution as shown in the four last tables above. Under the first solution "perfective-active", for example, must be a simple sign. For this solution to be acceptable it must be the case that no complexity on the level of signs can be established within this sign. However, this is not the case, as it is possible to show that the tentative members of "perfective-active", i.e. "perfective" and "active" can each separately commute with another sign while the other member is held constant. The following tables demonstrate this point:

perfective	active
imperfective	active
perfective	passive
imperfective	passive

active	perfective
passive	perfective
active	imperfective
passive	imperfective

The above demonstration shows that Aspect and Voice cannot be regarded as one paradigm, but as two distinct, i.e. separate, paradigms. In what follows we are going to establish the signs of the 'Aspect' and 'Voice' paradigms.

5.1 The Aspect paradigm

In chapter two, we have mentioned that the category of verb in MSA consists of two basic forms: 'perfective' and 'imperfective'. The 'perfective' denotes a complete action. For instance "/rasama/" (3MS, pf) 'draw' expresses completeness of the action of 'drawing' due to the occurrence of the perfective sign (see below) which has, in this case, an allomorph of the phonological form /-a-a-/. The 'imperfective', on the other hand, denotes an incompleting action. For example "/iarsumu/" (3MS, impf) 'draw' expresses the incompleteness of the action of 'drawing' owing to the occurrence of the "imperfective" sign (see below) which has, in this case, the allomorph of the phonological form /-a--u-/.

From the foregoing, let us launch the hypothesis that the Aspect paradigm consists of the constituent signs "perfective" and "imperfective". To test whether or not "perfective" and "imperfective" are signs, we apply the commutation procedure by which axiomatic functionalists establish the identity of a given sign. The identification of the "perfective" and the "imperfective" as signs depends on the functional opposition between them as constituents in the same context. In the table below, the process of commutation is applied for the 'perfective' and the 'imperfective' only while keeping the other constituent signs in the complex in question constant.

Axiomatic Semantics states that: "Respective subclasses of one and the same form class do not belong to separate signs, unless the denotation classes of these signs to which they are assigned, are non-intersecting classes" (Hervey, 1979:69). This theorem can be paraphrased as stating that homonymous signs cannot have overlapping denotation classes. ⁽¹⁾ D.T.II is built on the assumption that the hypotheses of homonymy excludes the existence of any close "relatedness" in meaning between two putative homonyms. If it so happens that the denotation classes of putative homonyms are related, these denotation classes cannot therefore be regarded as disjunct denotation classes. Rather they would have to be considered as continuous in one and the same denotation class.

As far as the category of verb in MSA is concerned, we have pointed out in chapter IV that the imperfective in the language in question may correspond to habituality, progressiveness or futurity. For example, it is not possible to know whether "/iarsumu/" (3MS, impf) 'draw' denotes a habitual action of drawing or refers to a progressive action of drawing, or that the action of drawing will take place some time in the future. In fact "/iarsumu/" out of context is ambiguous in the sense that it admits of three interpretations, i.e. the context is the crucial point in deciding the intended situation. In other words, "/iarsumu/" (3MS, impf) 'draw' may correspond to three English

(1) "Denotation class" for "a class of denotata corresponding to one sign (i.e. to a class of equivalent utterances)", (cf. Ibid:60).

translations: 'he draws', 'he is drawing' and 'he will draw'. Thus, it might be suggested that this case represents indeterminacy. However, we should not allow the above translations to distort our data, because the 'imperfective' in MSA, in itself, i.e. out of context, refers to the information-value of 'uncompleted action', whether that action denotes habituality, progressiveness or futurity.

To come back to the aim of this section and for the sake of argument, let us take a concrete example from the data such as "/iaktubu/" (3MS, impf) 'write' and advance the hypothesis that the respective subclasses of "/iaktubu/" belong to three different, i.e. separate, signs.

The three signs in question have the sign "imperfective", whose phonological form is /-a--u-/, as one of their constituent signs. Consequently, we have three different signs "imperfective" with the phonological form /-a--u-/, i.e. homonyms. That is, the form class⁽¹⁾ /a--u/ belongs to three separate signs. On the other hand, the denotation class of the first sign "imperfective" is equivalent to a 'habitual, uncompleted action' (roughly: he writes), the denotation class of the second sign "imperfective" is equal to a 'progressive uncompleted action' (roughly: he is writing), whereas the denotation class of the third sign "imperfective" is equivalent to an uncompleted action in the future (roughly: he will write).

(1) "Form class", for "a class of formally similar utterances" (cf. Hervey, 1979:60).

Since the class of 'uncompleteness' is common to the above three denotation classes of the "imperfective" sign, they can be seen to intersect and therefore rule out our hypothesis that the form class /-a--u-/, i.e. "imperfective" belongs to three different signs. In other words, D.T.II prevents us from setting up the hypothesis affirming the separate identities of three "imperfective" signs in MSA. The refutation of the hypothesis in question leaves us with the conclusion that there is only one sign "imperfective" in MSA.

5.2. The Voice paradigm

It has been pointed out in (2.2.5.3) that the verb category in MSA incorporates two voice forms: 'active' and 'passive'. Each of them could be used with the forms of 'perfective' and 'imperfective'. For example, "/rasamatā/" (3FD, pf, act) 'draw', "/rusimatā/" (3FD, pf, pass) 'draw', and "/tarsumāni/" (3FD, impf, act) 'draw', "/tursamāni/" (3FD, impf, pass) 'draw'.

Analogous to the above cases "active" and "passive" are identified as signs because they are opposed to each other. In the following commutation the "active" and the "passive" are commuted with each other while holding the context constant.

	Verb-root	Voice	Aspect	Person	Gender	Number	
a)	vr /r-s-m-/	act /-a-a-/	pf /-a-a-/	3rd /-a/	f /-t-/	d /-ā/	= /rasamatā (3FD, pf, act) 'draw'
b)	vr /r-s-m-/	pass /-u-i-/	pf /-u-i-/	3rd /-a/	f /-t-/	d /-ā/	= "/rusimatā/" (3FD, pf, pass) 'draw'

	Verb-root	Voice	Aspect	Person	Gender	Number	
	vr	act	impf	3rd	f	d	
a)	/r-s-m-/	/-a--u-/	/-a--u-/	/t-/	/t-/	/-āni/	= "/tarsumāni/" (3FD, impf, act) 'draw'
	vr	pass	impf	3rd	f	d	
b)	/r-s-m-/	/-u--a-/	/-u--a-/	/t-/	/t-/	/-āni/	= "/tarsumāni/" (3FD, impf, pass) 'draw'

vr = verb-root, pf = perfective, impf = imperfective, act = active,
pass = passive, 3rd = third person, f = feminine, d = dual

The above test manifests a functional opposition between (a) and (b), and therefore, we establish two signs "active" and "passive".

Looking back at the above tables, we find that the allomorphs of the "perfective" and the "active" signs have one phonological form /-a-a-/ as in "/rasamatā/" (3FD, pf) 'draw'; the "perfective" and the "passive" have also one phonological form /-u-i-/ as in "/rusimatā/" (3FD, pf, pass) 'draw'. The same holds for the "imperfective" and "active" signs where each of them has the phonological form /-a--u-/. It also goes for the "imperfective" and "passive" signs in that their allomorphs totally coincide in one phonological form /-u--a-/. Hence, we have amalgamated phonological forms. For the time being, we shall refrain from giving a detailed argumentation concerning this complex phenomenon as this section is intended to establish the relevant signs only. We shall reserve such discussion until we present the realisation of the Aspect and Voice monemes. (1)

(1) For the realisation of the Aspect and Voice monemes, the reader is referred to chapter VI.

To sum up what is said above, concerning the second criterion, the self-contained potential grammatical constituent "/rasama/" (3MS, pf) 'draw' has been demonstrated to be a complex sign consisting of the constituent signs "verb-root"; "masculine", "feminine"; "singular", "dual", "plural"; "1st person", "2nd person", "3rd person"; "perfective", "imperfective"; "active", and "passive". Moreover, the denotations of these signs are maintained in the separate commutations given in the discussion of each paradigm of the signs in question.

c. It must have as its constituents simple signs only

By virtue of this criterion, we must note that none of the immediate constituents of "/rasama/" may themselves be complex. In other words, all the constituent signs of "/rasama/" are, at the same time, its ultimate grammatical constituents, i.e. not further analysable into smaller grammatical constituents. This criterion can be satisfied since the constituent signs of "/rasama/" which are identified above, cannot be further analysed into smaller grammatical signs. This boils down to saying that the constituent signs of "/rasama/" are simple signs, i.e. monemes.⁽¹⁾

d. It must be a simultaneous bundle of its constituents

This criterion demands that "/rasama/" must not have any

(1) Attention is drawn at this point to the fact that if it is demonstrated that the constituent signs of "/rasama/" are its ultimate constituents, the complex sign in question, then, does not qualify as a morphological complex without applying the fourth and final criterion (see below).

By permuting the constituent monemes of the complex plereme "/rasama/" (3M, pf) 'draw' above with one another, we find that there are no functional differences. That is, the message conveyed in (a - f) are always the same. Consequently, we have to apply the 'commutation with a syntagm' test which should give us a positive result in whether "/rasama/" is a morphological complex or a syntactic one.

2. Commutation with a syntagm

The procedure of commutation with a syntagm may be summed up as follows: in principle we try to commute validly one of the constituent monemes of the complex sign "/rasama/" with a syntagm while keeping the context, together with the denotation of the constituent signs and the relation constant.⁽¹⁾ If the commutation is valid,⁽²⁾ then we will end by saying that "/rasama/" is a syntactic complex. That is to say, the complex in question will not be a simultaneous bundle of monemes. We have tried and failed to find

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- (1) Having tried and failed to commute one of the constituents of a particular complex with a syntagm, one must, then, repeat the same test for each of the other constituents, and only if none of the other constituents commutes with a syntagm can we claim that the criterion has produced negative results, i.e. the complex in question is morphological.
- (2) "A valid commutation is a commutation of elements in a complex in such a way that the complex remains well-formed and the grammatical relations between the immediate constituents are not demonstrably affected (Hervey and Mulder, 1980, g, ft. 27).

any syntagm in the Arabic language which can fulfil the requirement for a valid commutation with any one of the constituent signs of the complex sign "/rasama/". We, then, conclude that "/rasama/" is a morphological complex.

In accordance with what has been said above, all the entities of the "verb" category in Arabic are morphological complex signs, i.e. complex pleremes. Such complex pleremes may include the constituent monemes: verb-root, perfective or imperfective, active or passive, third person, second person or first person, masculine or feminine, and singular, dual or plural.

CHAPTER VI

THE CONSTITUENT MONEMES OF THE VERBAL COMPLEX

PLEREME IN MSA AND THEIR REALISATIONS

This chapter will be concerned with the realisations of each of the constituent monemes of the verbal complex in MSA, i.e. the monemes: verb-root, perfective and imperfective, active and passive, first person, second person and third person, masculine and feminine, dual and plural. The statements of realisation are necessary in order to make possible the activation of the morphological description, i.e. to generate new data on the basis of the description.

It must be pointed out, however, that we are not going to limit ourselves by covering only the phenomenon of complex pleremes with three consonantal verb-roots, e.g. "/kataba/" (3MS, pf.) 'write'. In order to be exhaustive, the present description is going to deal also with the 'aspectual phenomenon' of complex pleremes containing two or four consonantal verb-roots, e.g. "/nāma/" (3MS, pf.) 'sleep' and "/dahraza/" (3MS, pf.) 'roll'.

Before going into the discussion of the realisations in question, we shall first give tables of the phonological forms of the allomorphs of the constituent monemes of the "verb" category in MSA as they occur in verbal complex pleremes with verb-roots containing three consonants, e.g. "/r-s-m/" of the complex plereme "/rasama/" (3MS, pf.) 'draw'.

We have divided these tables into four groups. The complex pleremes of the first group contains the perfective and the active

monemes, whereas the second group includes complex pleremes that have the perfective and the passive monemes. The complex pleremes of the third group contains the imperfective and the active monemes, whereas the fourth group includes complex pleremes having the monemes imperfective and passive. Each of these four groups is further divided into sub-groups in terms of the occurrence of the Person, Gender and Number monemes in the constructions of the respective complex pleremes.

Group I

A)	Verb-root	Aspect	Voice	Person	Gender	Number	
	vr	pf	act	3rd	m	s	
1)	/r-s-m-/	/-a-a-/	/-a-a-/	/-a/	/-a/	/-a/	= "/rasama/"
	vr	pf	act	3rd	m	d	
2)	/r-s-m-/	/-a-a-/	/-a-a-/	/-ā/	/-ā/	/-ā/	= "/rasamā/"
	vr	pf	act	3rd	m	pl.	
3)	/r-s-m-/	/-a-a-/	/-a-a-/	/-ū/	/-ū/	/-ū/	= "/rasamū/"

B)	Verb-root	Aspect	Voice	Person	Gender	Number	
	vr	pf	act	3rd	f	s	
1)	/r-s-m-/	/-a-a-/	/-a-a-/	/-a-/	/-t/	/-a-/	= "/rasamat/"
	vr	pf	act	3rd	f	d	
2)	/r-s-m-/	/-a-a-/	/-a-a-/	/-a-/	/-t-/	/-ā/	= "/rasamatā/"
	vr	pf	act	3rd	f	pl.	
3)	/r-s-m-/	/-a-a-/	/-a-a-/	/-na/	/-na/	/-na/	= "/rasamna/"

C)	Verb-root	Aspect	Voice	Person	Gender	Number	
	vr	pf	act	2nd	m	s	
1)	/r-s-m-/	/-a-a-/	/-a-a-/	/-t-/	/-a/	/-a/	= "/rasamta/"
	vr	pf	act	2nd	(1)	d	
2)	/r-s-m-/	/-a-a-/	/-a-a-/	/-tum-/		/-ā/	= "/rasamtumā/"
	vr	pf	act	2nd	m	pl	
3)	/r-s-m-/	/-a-a-/	/-a-a-/	/-tum/	/-tum/	/-tum/	= "/rasamtum/"

D)	Verb-root	Aspect	Voice	Person	Gender	Number	
	vr	pf	act	2nd	f	s	
1)	/r-s-m-/	/-a-a-/	/-a-a-/	/-t-/	/-i/	/-i/	= "/rasamti/"
	vr	pf	act	2nd	f	pl	
2)	/r-s-m-/	/-a-a-/	/-a-a-/	/-tun-/	/-na/	/-na/	= "/rasamtunna/"

E)	Verb-root	Aspect	Voice	Person	Gender	Number	
	vr	pf	act	1st	(2)	s	
1)	/r-s-m-/	/-a-a-/	/-a-a-/	/-t-/		/-u/	= "/rasamtu/"
	vr	pf	act	1st		pl	
2)	/r-s-m-/	/-a-a-/	/-a-a-/	/-nā/		/-nā/	= "/rasamnā/"

(1) Neither the masculine nor the feminine occurs with second person dual, and thus we need to give the dual only once.

(2) With first person neither the masculine nor the feminine occurs.

Group II

A)	Verb-root	Aspect	Voice	Person	Gender	Number	
	vr	pf	pass	3rd	m	s	
1)	/r-s-m-/	/-u-i-/	/-u-i-/	/-a/	/-a/	/-a/	= "/rusima/"
	vr	pf	pass	3rd	m	d	
2)	/r-s-m-/	/-u-i-/	/-u-i-/	/-a/	/-ā/	/-ā/	= "/rusimā/"
	vr	pf	pass	3rd	m	pl	
3)	/r-s-m-/	/-u-i-/	/-u-i-/	/-ū/	/-ū/	/-ū/	= "/rusimū/"

B)	Verb-root	Aspect	Voice	Person	Gender	Number	
	vr	pf	pass	3rd	f	s	
1)	/r-s-m-/	/-u-i-/	/-u-i-/	/-a-/	/-t/	/-a-/	= "/rusimat/"
	vr	pf	pass	3rd	f	d	
2)	/r-s-m-/	/-u-i-/	/-u-i-/	/-a-/	/-t-/	/-ā/	= "/rusimatā/"
	vr	pf	pass	3rd	f	pl	
3)	/r-s-m-/	/-u-i-/	/-u-i-/	/-na/	/-na/	/-na/	= "/rusimna/"

C)	Verb-root	Aspect	Voice	Person	Gender	Number	
	vr	pf	pass	2nd	m	s	
1)	/r-s-m-/	/-u-i-/	/-u-i-/	/-t-/	/-a/	/-a/	= "/rusimta/"
	vr	pf	pass	2nd		d	
2)	/r-s-m-/	/-u-i-/	/-u-i-/	/-tum-/		/-ā/	= "/rusintumā/"
	vr	pf	pass	2nd	m	pl	
3)	/r-s-m-/	/-u-i-/	/-u-i-/	/-tum/	/-tum/	/-tum/	= "/rusintum/"

D)	Verb-root	Aspect	Voice	Person	Gender	Number	
	vr	pf	pass	2nd	f	s	
1)	/r-s-m-/	/-u-i-/	/-u-i-/	/-t-/	/-i/	/i-/	= "/rusimti/"
	vr	pf	pass	2nd	f	pl	
2)	/r-s-m-/	/-u-i-/	/-u-i-/	/-tun-/	/-na/	/-na/	= "/rusimtunna/"

E)	Verb-root	Aspect	Voice	Person	Gender	Number	
	vr	pf	pass	1st		s	
1)	/r-s-m-/	/-u-i-/	/-u-i-/	/-t/		/-u/	= "/rusimtu/"
	vr	pf	pass	1st		pl	
2)	/r-s-m-/	/-u-i-/	/-u-i-/	/-nā/		/-nā/	= "/rusimnā/"

Group III

A)	Verb-root	Aspect	Voice	Person	Gender	Number	
	vr	impf	act	3rd	m	s	
1)	/-rs-m-/	/-a--u-/	/-a--u-/	/-u/	/i-/	/-u/	= "/iarsumu/"
	vr	impf	act	3rd	m	d	
2)	/-rs-m-/	/-a--u-/	/-a--u-/	/i-/	/i-/	/-āni/	= "/iarsumāni/"
	vr	impf	act	3rd	m	pl	
3)	/-rs-m-/	/-a--u-/	/-a--u-/	/i-/	/-ū-/	/-na/	= "/iarsumāna/"

B)	Verb-root	Aspect	Voice	Person	Gender	Number	
	vr	impf	act	3rd	f	s	
1)	/-rs-m-/	/-a--u-/	/-a--u-/	/-u/	/t-/	/-u/	= "/tarsumu/"
	vr	impf	act	3rd	f	d	
2)	/-rs-m-/	/-a--u-/	/-a--u-/	/t-/	/t-/	/-āni/	= "/tarsumāni/"
	vr	impf	act	3rd	f	pl	
3)	/-rs-m-/	/-a--u-/	/-a--u-/	/i-/	/-na/	/-na/	= "/iarsumna/"

C)	Verb-root	Aspect	Voice	Person	Gender	Number	
	vr	impf	act	2nd	m	s	
1)	/-rs-m-/	/-a--u-/	/-a--u-/	/t-/	/-u/	/-u/	= "/tarsumu/"
	vr	impf	act	2nd		d	
2)	/-rs-m-/	/-a--u-/	/-a--u-/	/t-/		/-āni/	= "/tarsumāni/"
	vr	impf	act	2nd	m	pl	
3)	/-rs-m-/	/-a--u-/	/-a--u-/	/t-/	/-ū-/	/-na/	= "/tarsumūna/"

D)	Verb-root	Aspect	Voice	Person	Gender	Number	
	vr	impf	act	2nd	f	s	
1)	/-rs-m-/	/-a--u-/	/-a--u-/	/t-/	/-īna/	/-īna/	= "/tarsumīna/"
	vr	impf	act	2nd	f	pl	
2)	/-rs-m-/	/-a--u-/	/-a--u-/	/t-/	/-na/	/-na/	= "/tarsumna/"

E)	Verb-root	Aspect	Voice	Person	Gender	Number	
	vr	impf	act	1st		s	
1)	/-rs-m-/	/-a--u-/	/-a--u-/	/-u/		/?/	= "/?arsumu/"
	vr	impf	act	1st		pl	
2)	/-rs-m-/	/-a--u-/	/-a--u-/	/-u/		/n/	= "/narsumu/"

Group IV

A)	Verb-root	Aspect	Voice	Person	Gender	Number	
	vr	impf	pass	3rd	m	s	
1)	/-rs-m-/	/-u--a-/	/-u--a-/	/-u/	/-i/	/-u/	= "/iursamu/"
	vr	impf	pass	3rd	m	d	
2)	/-rs-m-/	/-u--a-/	/-u--a-/	/i-/	/i-/	/-āni/	= "/iursamāni/"
	vr	impf	pass	3rd	m	pl	
3)	/-rs-m-/	/-u--a-/	/-u--a-/	/i-/	/-ū-/	/-na/	= "/iursam ^ā na/"

B)	Verb-root	Aspect	Voice	Person	Gender	Number	
	vr	impf	pass	3rd	f	s	
1)	/-rs-m-/	/-u--a-/	/-u--a-/	/-u/	/t-/	/-u/	= "/tursamu/"
	vr	impf	pass	3rd	f	d	
2)	/-rs-m-/	/-u--a-/	/-u--a-/	/t-/	/t-/	/-āni/	= "/tursamāni/"
	vr	impf	pass	3rd	f	pl	
3)	/-rs-m-/	/-u--a-/	/-u--a-/	/i-/	/-na/	/-na/	= "/iursamna/"

C)	Verb-root	Aspect	Voice	Person	Gender	Number	
	vr	impf	pass	2nd	m	s	
1)	/-rs-m-/	/-u--a-/	/-u--a-/	/t-/	/-u/	/-u/	= "/tursamu/"
	vr	impf	pass	2nd		d	
2)	/-rs-m-/	/-u--a-/	/-u--a-/	/t-/		/-āni/	= "/tursamāni/"
	vr	impf	pass	2nd	m	pl	
3)	/-rs-m-/	/-u--a-/	/-u--a-/	/t-/	/-ū-/	/-na/	= "/tursamūna/"

D)	Verb-root	Aspect	Voice	Person	Gender	Number	
	vr	impf	pass	2nd	f	s	
1)	/-rs-m-/	/-u--a-/	/-u--a-/	/t-/	/-īna/	/-īna/	= "/tursamīna/"
	vr	impf	pass	2nd	f	pl	
2)	/-rs-m-/	/-u--a-/	/-u--a-/	/t-/	/-na/	/-na/	= "/tursamna/"

E)	Verb-root	Aspect	Voice	Person	Gender	Number	
	vr	impf	pass	1st		s	
1)	/-rs-m-/	/-u--a-/	/-u--a-/	/-u/		/-u/	= "/?ursamu/"
	vr	impf	pass	1st		pl	
2)	/-rs-m-/	/-u--a-/	/-u--a-/	/-u/		/-n-/	= "/nursamu/"

6.1 The Verb-root moneme

Throughout the above tables, we notice that the verb-root moneme has two different allomorphs, e.g. the allomorph /r-s-m-/ Rs "rasama", and the allomorph /-rs-m-/ Rs "iarsumu" of the complex pleremes "/rasama/" (3MS, pf.) and "/iarsumu/" (3MS, impf.) 'draw', respectively, where /r-s-m-/ and /-rs-m-/ are the phonological forms of the verb-root monemes, R = in relation to, or in its capacity of having, s = distinctive function in grammar.

In addition to the above conjugations of "rasama", we have examined the conjugations of other examples of verb-root monemes, i.e. verb-roots containing two or four consonants, and we find that each of these other types has one allomorph only, e.g. /-n-m-/ Rs "nāma" of the complex pleremes "/nāma/" (3MS, pf.), /ianāmu/ (3MS, impf.) 'sleep', and /-d-^hr-^z-/ Rs "da^hraža" of the complex pleremes "/da^hraža/" and /iuda^hrižu/ (3MS, impf.) 'roll'.

6.2 The Aspect and Voice monemes

In chapter five and also in the tables on pp. 169-175, we noticed that the allomorphs of the perfective and the active monemes of Aspect and Voice, respectively, totally coincide in one phonological form. The same holds for the allomorphs of the perfective and passive monemes, the imperfective and active monemes, the imperfective and passive monemes. In other words, the monemes in question have an amalgamated phonological form, e.g. /-a-a-/ represents the phonological form of the allomorphs of the perfective and of the active

monemes as in "/rasama/" (3MS, pf.) 'draw'. In such a case where we cannot separate out the discrete correlates of the two distinct monemes, we shall present them in the following manner: we give the phonological form of the allomorph of the concerned moneme and opposing it to the phonological form of the allomorph of the moneme with which it commutes in its capacity of having a particular distinctive function. Consequently, we can present the perfective and the active monemes as follows: (\surd -a-a-/ \sim /-a--u-/ Rs "perfective") where \sim = instead of or as opposed to, and /-a--u-/ is the phonological form of the allomorph of the moneme "imperfective", and (\surd -a-a-/ \sim /-u-i-/ Rs "active") where /-u-i-/ represents the phonological form of the allomorph of the "passive" moneme.

It should also be noted that the position of the vowels has a role in marking the Aspect monemes. The first vowel of the "perfective" moneme follows the first consonant of the verb-root, whereas the first vowel of the "imperfective" moneme precedes the first consonant of the verb-root, e.g. "/rasama/" (3MS, pf.), "/iarsumu/" (3MS, impf.) 'draw'.

6.2.1 Allomorphy with roots with three or more consonants

In the following, we give tables representing the phonological forms of the allomorphs of the monemes: perfective, imperfective, active and passive that occur in complex pleremes whose verb-roots are of three or more consonants, e.g. "/d-r-s-/" of the complex "/darasa/" (3MS, pf.) 'study' and "/t-r-ž-m-/" of the complex "/taržama/" (3MS, pf.) 'translate'.

6.2.1.1. The perfectivea. Active

	Complex plereme containing the two monemes	citation form of the complex plereme	phonological form of the allomorphs of the perfective and active
(1)	"/ḍaraba/"	hit	/-a-a-/
(2)	"/kataba/"	write	/-a-a-/
(3)	"/fataḥa/"	open	/-a-a-/
(4)	"/šariba/"	drink	/-a-a-/
(5)	"/rāqaba/"	watch	/-ā-a-/
(6)	"/tarżama/"	translate	/-a--a-/

b. Passive

	Complex plereme containing the two monemes	citation form of the complex plereme	phonological form of the allomorphs of the perfective and passive
(1)	"/ḍuriba/"	hit	/-u-i-/
(2)	"/kutiba/"	write	/-u-i-/
(3)	"/futiḥa/"	open	/-u-i-/
(4)	"/šuriba/"	drink	/-u-i-/
(5)	"/rūqiba/"	watch	/-ū-i-/
(6)	"/turżima/"	translate	/-u--i-/

6.2.1.2. The imperfectivea. Active

	Complex plereme containing the two monemes	citation form of the complex plereme	phonological form of the allomorphs of the imperfective and active
(1)	"/iadrību/"	hit	/-a--i-/
(2)	"/iaktubu/"	write	/-a--u-/
(3)	"/iafta [†] hu/"	open	/-a--a-/
(4)	"/iašrabu/"	drink	/-a--a-/
(5)	"/iurāqibu/"	watch	/-u-ā-i-/
(6)	"/iutaržimu/"	translate	/-u-a--i-/

b. Passive

	Complex plereme containing the two monemes	citation form of the complex plereme	phonological form of the allomorphs of the imperfective and passive
(1)	"/iudrabu/"	hit	/-u--a-/
(2)	"/iuktabu/"	write	/-u--a-/
(3)	"/iufta [†] hu/"	open	/-u--a-/
(4)	"/iušrabu/"	drink	/-u--a-/
(5)	"/iurāqabu/"	watch	/-u-ā-a-/
(6)	"/iutaržamu/"	translate	/-u-a--a-/

6.2.2. Representation of the allomorphs of Aspect and Voice monemes

The allomorphs of the perfective, imperfective, active and passive monemes, whose phonological forms are given above, can be represented as follows: X~YRs, where (X) is the phonological form of the allomorph concerned; (Y) is the phonological form of the allomorph of the opposing moneme; R = in relation to; s = distinctive function in grammar; ~ = as opposed to.

a) Perfective

- 1 - /-a-a-/~ /-a--i-/ Rs "pf" as in /ḍaraba/~ /iaḍribu/
- 2 - /-a-a-/~ /-a--u-/Rs "pf" as in /kataba/~ /iaktubu/
- 3 - /-a-a-/~ /-a--a-/Rs "pf" as in /fataḥa/~ /iaftaḥu/
- 4 - /-a-i-/~ /-a--a-/Rs "pf" as in /šariba/~ /iašrabu/
- 5 - /-u-i-/~ /-u--a-/Rs "pf" as in /kutiba/~ /iuktabu/
- 6 - /-ā-a-/~ /-u-ā-i-/Rs "pf" as in /rāqaba/~ /iurāqabu/
- 7 - /-ū-i-/~ /-u-ā-a-/Rs "pf" as in /rūqiba/~ /iurāqabu/
- 8 - /-a--a-/~ /-u-a--i-/Rs "pf" as in /taržama/~ /iutaržimu/
- 9 - /-u--i-/~ /-u-a--a-/Rs "pf" as in /turžima/~ /iutaržamu/

b) Imperfective

- 1 - /-a--i-/~ /-a-a-/Rs "impf" as in /iaḍribu/~ /ḍaraba/
- 2 - /-a--u-/~ /-a-a-/Rs "impf" as in /iaktubu/~ /kataba/
- 3 - /-a--a-/~ /-a-a-/Rs "impf" as in /iaftaḥu/~ /fataḥa/
- 4 - /-a--a-/~ /-a-i-/Rs "impf" as in /iašrabu/~ /šariba/
- 5 - /-u--a-/~ /-u-i-/Rs "impf" as in /iuktabu/~ /kutiba/
- 6 - /-u-ā-i/~/~ /-ā-a-/Rs "impf" as in /iurāqibu/~ /rāqaba/
- 7 - /-u-ā-a-/~ /-ū-i-/Rs "impf" as in /iurāqabu/~ /rūqiba/
- 8 - /-u-a--i-/~ /-a--a-/Rs "impf" as in /iutaržimu/~ /taržama/
- 9 - /-u-a--a-/~ /-u--i-/Rs "impf" as in /iutaržamu/~ /turžima/

c) Active

- 1 - /-a-a-/ ~ /-u-i-/Rs "act" as in /ḍaraba/ ~ /ḍuriba/
 2 - /-a--i-/ ~ /-u--a-/Rs "act" as in /iaḍribu/ ~ /iudrabu/
 3 - /-a--u/ ~ /-u--a-/Rs "act" as in /iaktubu/ ~ /iuktabu/
 4 - /-a--a-/ ~ /-u--a-/Rs "act" as in /iaftaḥu/ ~ /iuftaḥu/
 5 - /-a-i-/ ~ /-u-i-/Rs "act" as in /šariba/ ~ /šuriba/
 6 - /-ā-a-/ ~ /-ū-i-/Rs "act" as in /rāqaba/ ~ /rūqiba/
 7 - /-u-ā-i-/ ~ /-u-ā-a-/Rs "act" as in /iurāqibu/ ~ /iurāqabu/
 8 - /-a--a-/ ~ /-u--i-/Rs "act" as in /taržama/ ~ /turžima/
 9 - /-u-a--i-/ ~ /-u-a--a-/Rs "act" as in /iutaržimu/ ~ /iutaržamu/

d) Passive

- 1 - /-u-i-/ ~ /-a-a-/Rs "pass" as in /ḍuriba/ ~ /ḍaraba/
 2 - /-u--a-/ ~ /-a--i-/Rs "pass" as in /iudrabu/ ~ /iaḍribu/
 3 - /-u--a-/ ~ /-a--u-/Rs "pass" as in /iuktabu/ ~ /iaktubu/
 4 - /-u--a-/ ~ /-a--a-/Rs "pass" as in /iuftaḥu/ ~ /iaftaḥu/
 5 - /-u-i-/ ~ /-a-i-/Rs "pass" as in /šuriba/ ~ /šariba/
 6 - /-ū-i-/ ~ /-ā-a-/Rs "pass" as in /rūqiba/ ~ /rāqaba/
 7 - /-u-ā-a-/ ~ /-u-ā-i-/Rs "pass" as in /iurāqabu/ ~ /iurāqibu/
 8 - /-u--i-/ ~ /-a--a-/Rs "pass" as in /turžima/ ~ /taržama/
 9 - /-u-a--a-/ ~ /-u--a-i-/Rs "pass" as in /iutaržamu/ ~ /iutaržimu/

6.3. Allomorphs of Aspect and Voice monemes in complex pleremes
 whose verb-roots contain two consonants

Following the same procedure as for verb-roots with three consonants given above, i.e. the four group division, we give below the conjugation of a verb-root of two consonants, e.g. "/q-l-/" of the complex plereme "/qāla/" (3MS, pf.) 'say', where we have two

allomorphs of the perfective moneme occurring in one group as in

"/qāla/" (3MS, pf.) and "/qulna/" (3FP, pf.) 'say'.

Group I

A)	Verb-root	Aspect	Voice	Person	Gender	Number	
	vr	pf	act	3rd	m	s	
(1)	/q-l-/	/-ā-/	/-ā-/	/-a/	/-a/	/-a/	= "/qāla/"
	vr	pf	act	3rd	m	d	
(2)	/q-l-/	/-ā-/	/-ā-/	/-ā/	/-ā/	/-ā/	= "/qālā/"
	vr	pf	act	3rd	m	pl	
(3)	/q-l-/	/-ā-/	/-ā-/	/-ū/	/-ū/	/-ū/	= "/qālū/"

B)	Verb-root	Aspect	Voice	Person	Gender	Number	
	vr	pf	act	3rd	f	s	
(1)	/q-l-/	/-ā-/	/-ā-/	/-a-/	/-t/	/-a/	= "/qālat/"
	vr	pf	act	3rd	f	d	
(2)	/q-l-/	/-ā-/	/-ā-/	/-a-/	/-t-/	/-ā/	= "/qālatā/"
	vr	pf	act	3rd	f	pl	
(3)	/q-l-/	/-u-/	/-u-/	/-na/	/-na/	/-na/	= "/qulna/"

C)	Verb-root	Aspect	Voice	Person	Gender	Number	
	vr	pf	act	2nd	m	s	
(1)	/q-l-/	/-u-/	/-u-/	/-t-/	/-a/	/-a/	= "/qulta/"
	vr	pf	act	2nd		d	
(2)	/q-l-/	/-u-/	/-u-/	/-tum/		/-ā/	= "/qultumā/"
	vr	pf	act	2nd	m	pl	
(3)	/q-l-/	/-u-/	/-u-/	/-tum/	/-tum/	/-tum/	= "/qultum/"

D)	Verb-root	Aspect	Voice	Person	Gender	Number	
	vr	pf	act	2nd	f	s	
(1)	/q-l-/	/-u-/	/-u-/	/-t-/	/-i/	/-i/	= "/qulti/"
	vr	pf	act	2nd	f	pl	
(2)	/q-l-/	/-u-/	/-u-/	/-tun-/	/-na/	/-na/	= "/qultunna/"

E)	Verb-root	Aspect	Voice	Person	Gender	Number	
	vr	pf	act	1st		s	
(1)	/q-l-/	/-u-/	/-u-/	/-t-/		/u/	= "/qultu/"
	vr	pf	act	1st		pl	
(2)	/q-l-/	/-u-/	/-u-/	/-na/		/-na/	= "/qulna/"

Group II

A)	Verb-root	Aspect	Voice	Person	Gender	Number	
	vr	pf	pass	3rd	m	s	
(1)	/q-l-/	/-ī-/	/-ī-/	/-a/	/-a/	/-a/	= "/qīla/"
	vr	pf	pass	3rd	m	d	
(2)	/q-l-/	/-ī-/	/-ī-/	/-ā/	/-ā/	/-ā/	= "/qīlā/"
	vr	pf	pass	3rd	m	pl	
(3)	/q-l-/	/-ī-/	/-ī-/	/-ū/	/-ū/	/-ū/	= "/qīlū/"

B)	Verb-root	Aspect	Voice	Person	Gender	Number	
	vr	pf	pass	3rd	f	s	
(1)	/q-l-/	/-ī-/	/-ī-/	/-a-/	/-t/	/-a/	= "/qīlat/"
	vr	pf	pass	3rd	f	d	
(2)	/q-l-/	/-ī-/	/-ī-/	/-a-/	/-t-/	/-ā/	= "/qīlatā/"
	vr	pf	pass	3rd	f	pl	
(3)	/q-l-/	/-i-/	/-i-/	/-na/	/-na/	/-na/	= "/qilna/"

C)	Verb-root	Aspect	Voice	Person	Gender	Number	
	vr	pf	pass	2nd	m	s	
(1)	/q-l-/	/-i-/	/-i-/	/t-/	/-a/	/-a/	= "/qilta/"
	vr	pf	pass	2nd		d	
(2)	/q-l-/	/-i-/	/-i-/	/-tum-/		/-ā/	= "/qiltumā/"
	vr	pf	pass	2nd	m	pl	
(3)	/q-l-/	/-i-/	/-i-/	/-tum/	/-tum/	/-tum/	= "/qiltum/"

D)	Verb-root	Aspect	Voice	Person	Gender	Number	
	vr	pf	pass	2nd	f	s	
(1)	/q-l-/	/-i-/	/-i-/	/-t-/	/-i/	/-i/	= "/qilti/"
	vr	pf	pass	2nd	f	pl	
(2)	/q-l-/	/-i-/	/-i-/	/-tun-/	/-na/	/-na/	= "/qiltunna/"

E)	Verb-root	Aspect	Voice	Person	Gender	Number	
	vr	pf	pass	1st		s	
(1)	/q-l-/	/-i-/	/-i-/	/-t-/		/-u/	= "/qiltu/"
	vr	pf	pass	1st		pl	
(2)	/q-l-/	/-i-/	/-i-/	/-nā/		/-nā/	= "/qilnā/"

Group III

A)	Verb-root	Aspect	Voice	Person	Gender	Number	
	vr	impf	act	3rd	m	s	
(1)	/-q-l-/	/-a-ū-/	/-a-ū-/	/-u/	/i-/	/-u/	= "/iaqūlu/"
	vr	impf	act	3rd	m	d	
(2)	/-q-l-/	/-a-ū-/	/-a-ū-/	/i-/	/i-/	/-āni/	= "/iaqūlāni/"
	vr	impf	act	3rd	m	pl	
(3)	/-q-l-/	/-a-ū-/	/-a-ū-/	/i-/	/-ū-/	/-na/	= "/iaqūlūna/"

B)	Verb-root	Aspect	Voice	Person	Gender	Number	
	vr	impf	act	3rd	f	s	
(1)	/-q-l-/	/-a-ū-/	/-a-ū-/	/-u/	/t-/	/-u/	= "/taqūlu/"
	vr	impf	act	3rd	f	d	
(2)	/-q-l-/	/-a-ū-/	/-a-ū-/	/t-/	/t-/	/-āni/	= "/taqūlāni/"
	vr	impf	act	3rd	f	pl	
(3)	/-q-l-/	/-a-u-/	/-a-u-/	/i-/	/-na/	/-na/	= "/iaqulna/"

C)	Verb-root	Aspect	Voice	Person	Gender	Number	
	vr	impf	act	2nd	m	s	
(1)	/-q-l-/	/-a-ū-/	/-a-ū-/	/t-/	/-u/	/-u/	= "/taqūlu/"
	vr	impf	act	2nd		d	
(2)	/-q-l-/	/-a-ū-/	/-a-ū-/	/t-/		/-āni/	= "/taqūlāni/"
	vr	impf	act	2nd	m	pl	
(3)	/-q-l-/	/-a-ū-/	/-a-ū-/	/t-/	/-ū-/	/-na/	= "/taqūlūna/"

D)	Verb-root	Aspect	Voice	Person	Gender	Number	
	vr	impf	act	2nd	f	s	
(1)	/-q-l-/	/-a-ū-/	/-a-ū-/	/t-/	/-īna/	/-īna/	= "/taqūlīna/"
	vr	impf	act	2nd	f	pl	
(2)	/-q-l-/	/-a-u-/	/-a-u-/	/t-/	/-na/	/-na/	= "/taqulna/"

E)	Verb-root	Aspect	Voice	Person	Gender	Number	
	vr	impf	act	1st		s	
(1)	/-q-l-/	/-a-ū-/	/-a-ū-/	/-u/		/?-/	= "/?aqūlu/"
	vr	impf	act	1st		pl	
(2)	/-q-l-/	/-a-ū-/	/-a-ū-/	/-u/		/n-/	= "/naqūlu/"

Group IV

A)	Verb-root	Aspect	Voice	Person	Gender	Number	
	vr	impf	pass	3rd	m	s	
(1)	/-q-l-/	/-u-ā-/	/-u-ā-/	/-u/	/i-/	/-u/	= "/iuqālu/"
	vr	impf	pass	3rd	m	d	
(2)	/-q-l-/	/-u-ā-/	/-u-ā-/	/i-/	/i-/	/-ani/	= "/inqālāni/"
	vr	impf	pass	3rd	m	pl	
(3)	/-q-l-/	/-u-ā-/	/-u-ā-/	/i-/	/-ū-/	/-na/	= "/iuqālūna/"

B)	Verb-root	Aspect	Voice	Person	Gender	Number	
	vr	impf	pass	3rd	f	s	
(1)	/-q-l-/ vr	/-u-ā-/ impf	/-u-ā-/ pass	/-u/ 3rd	/t-/ f	/-u/ d	= "/tuqālu/"
(2)	/-q-l-/ vr	/-u-ā-/ impf	/-u-ā-/ pass	/t-/ 3rd	/t-/ f	/-āni/ pl	= "/tuqālāni/"
(3)	/-q-l-/ vr	/-u-a-/ impf	/-u-a-/ pass	/i-/ 3rd	/-na/ f	/-na/ pl	= "/iuqalna/"

C)	Verb-root	Aspect	Voice	Person	Gender	Number	
	vr	impf	pass	2nd	m.	s	
(1)	/-q-l-/ vr	/-u-ā-/ impf	/-u-ā-/ pass	/t-/ 2nd	/-u/ m.	/-u/ d	= "/tuqālu/"
(2)	/-q-l-/ vr	/-u-ā-/ impf	/-u-ā-/ pass	/t-/ 2nd		/-āni/ pl	= "/tuqālāni/"
(3)	/-q-l-/ vr	/-u-ā-/ impf	/-u-ā-/ pass	/t-/ 2nd	/-ū-/ m	/-na/ pl	= "/tuqālūna/"

D)	Verb-root	Aspect	Voice	Person	Gender	Number	
	vr	impf	pass	2nd	f	s	
(1)	/-q-l-/ vr	/-u-ā-/ impf	/-u-ā-/ pass	/t-/ 2nd	/-īna/ f	/-īna/ pl	= "/tuqālīna/"
(2)	/-q-l-/ vr	/-u-a-/ impf	/-u-a-/ pass	/t-/ 2nd	/-na/ f	/-na/ pl	= "/tuqalna/"

b. Passive

	Complex plereme containing the two monemes	citation form of the complex plereme	phonological form of the allomorphs of the perfective and passive
(1)	"/xīfa/" "/xufna/"	fear	a. /-ī-/ b. /-u-/
(2)	"/qīla/" "/qilna/"	say	a. /-ī-/ b. /-i-/
(3)	"/sīra/" "/surna/"	walk	a. /-ī-/ b. /-u-/
(4)	"/zīda/" "/zudna/"	increase	a. /-ī-/ b. /-u-/

6.3.1.2. The imperfectivea) Active

	Complex plereme containing the two monemes	citation form of the complex plereme	phonological form of the allomorphs of the imperfective and active
(1)	"/iaxāfu/" "/iaxafna/"	fear	a. /-a-ā-/ b. /-a-a-/
(2)	"/iaqūlu/" "/iaqulna/"	say	a. /-a-ū-/ b. /-a-u-/
(3)	"/iasīru/" "/iasirna/"	walk	a. /-a-ī-/ b. /-a-i-/
(4)	"/iuzīdu/" "/iuzidna/"	increase	a. /-u-ī-/ b. /-u-i-/

b) Passive

	Complex plereme containing the two monemes	citation form of the complex plereme	phonological form of the allomorphs of the imperfective and passive
(1)	"/iuxāfu/" "/iuxafna/"	fear	a. /-u-ā-/ b. /-u-a-/
(2)	"/iuqālu/" "/iuqalna/"	say	a. /-u-ā-/ b. /-u-a-/
(3)	"/iusāru/" "/iusarna/"	walk	a. /-u-ā-/ b. /-u-a-/
(4)	"/iuzādu/" "/iuzadna/"	increase	a. /-u-ā-/ b. /-u-a-/

6.3.2. Representation of the allomorphs of the Aspect and Voice monemes

The allomorphs of the perfective, imperfective, active and passive monemes, whose phonological forms are given in the above tables, can be represented as follows: (\sim = as opposed to; R = in relation to, or in its capacity of having ---; s = distinctive function in grammar.

a) Perfective

- | | |
|---------------------------------|--------------------------------|
| 1 - /-ā-/ \sim /-a-ā/Rs "pf" | as in /xāfa/ \sim /iaxāfu/ |
| 2 - /-i-/ \sim /-a-a/Rs "pf" | as in /xifna/ \sim /iaxafna/ |
| 3 - /-ā-/ \sim /-a-ū/Rs "pf" | as in /qāla/ \sim /iaqūlu/ |
| 4 - /-u-/ \sim /-a-u-/Rs "pf" | as in /qulna/ \sim /iaqulna/ |
| 5 - /-ā-/ \sim /-a-ī-/Rs "pf" | as in /sāra/ \sim /iasīru/ |
| 6 - /-i-/ \sim /-a-i-/Rs "pf" | as in /sirna/ \sim /iasirna/ |

7 - /-ā-/~/-u-ī-/Rs "pf"	as in /zāda/~ /iuzīdu/
8 - /-i-/~/-u-i-/Rs "pf"	as in /zidna/~ /iuzidna/
9 - /-ī-/~/-u-ā-/Rs "pf"	as in /xīfa/~ /iuxāfu/
10 - /-u-/~/-u-a-/Rs "pf"	as in /xufna/~ /iuxafna/
11 - /-i-/~/-u-a /Rs "pf"	as in /qilna/~ /iuqalna/

b) Imperfective

1 - /-a-ā-/~/-ā-/Rs "impf"	as in /iaxāfu/~ /xāfa/
2 - /-a-a-/~/-i-/Rs "impf"	as in /iaxafna/~ /xifna/
3 - /-a-ū-/~/-ā-/Rs "impf"	as in /iaqūlu/~ /qāla/
4 - /-a-u-/~/-u-/Rs "impf"	as in /iaqulna/~ /qulna/
5 - /-a-ī-/~/-ā-/Rs "impf"	as in /iasīru/~ /sāra/
6 - /-a-i-/~/-i-/Rs "impf"	as in /iasirna/~ /sirna/
7 - /-u-ī-/~/-ā-/Rs "impf"	as in /iuzīdu/~ /zāda/
8 - /-u-i-/~/-i-/Rs "impf"	as in /iuzidna/~ /zidna/
9 - /-u-ā-/~/-ī-/Rs "impf"	as in /iuxāfu/~ /xīfa/
10 - /-u-a-/~/-u-/Rs "impf"	as in /iuxafna/~ /xufna/
11 - /-u-a-/~/-i-/Rs "impf"	as in /iuqalna/~ /qilna/

c) Active

1 - /-ā-/~/-ī-/Rs "act"	as in /xāfa/~ /xīfa/
2 - /-i-/~/-u-/Rs "act"	as in /xifna/~ /xufna/
3 - /-u-/~/-i-/Rs "act"	as in /qulna/~ /qilna/
4 - /-a-ā-/~/-u-ā-/Rs "act"	as in /iaxāfu/~ /iuxāfu/
5 - /-a-a-/~/-u-a-/Rs "act"	as in /iaxafna/~ /iuxafna/
6 - /-a-ū-/~/-u-ā-/Rs "act"	as in /iaqūlu/~ /iuqālu/
7 - /-a-u-/~/-u-a-/Rs "act"	as in /iaqulna/~ /iuqalna/
8 - /-a-ī-/~/-u-ā-/Rs "act"	as in /iasīru/~ /iusāru/
9 - /-a-i-/~/-u-a-/Rs "act"	as in /iasirna/~ /iusarna/
10 - /-u-ī-/~/-u-ā-/Rs "act"	as in /iuzīdu/~ /iuzādu/
11 - /-u-i-/~/-u-a-/Rs "act"	as in /iuzidna/~ /iuzadna/

d) Passive

- 1 - /-ī-/~/-ā-/Rs "pass" as in /xīfa/~ /xāfa/
 2 - /-u-/~/-i-/Rs "pass" as in /xufna/~ /xifna/
 3 - /-i-/~/-u-/Rs "pass" as in /qilna/~ /qulna/
 4 - /-u-ā-/~/-a-ā-/Rs "pass" as in /iuxāfu/~ /iaxāfa/
 5 - /-u-a-/~/-a-a-/Rs "pass" as in /iuxafna/~ /iaxafna/
 6 - /-u-ā-/~/-a-ū-/Rs "pass" as in /iuqālu/~ /iaqūlu/
 7 - /-u-a-/~/-a-u-/Rs "pass" as in /iuqalna/~ /iaqulna/
 8 - /-u-ā-/~/-a-ī-/Rs "pass" as in /iusāru/~ /iasīru/
 9 - /-u-a-/~/-a-i-/Rs "pass" as in /iusarna/~ /iasirna/
 10 - /-u-ā-/~/-u-ī-/Rs "pass" as in /iuzādu/~ /iuzīdu/
 11 - /-u-a-/~/-u-i-/Rs "pass" as in /iuzadna/~ /iuzidna/

6.4. Statement of distribution of the allomorphs of the Aspect and Voice monemes

As was pointed out in 6.1, complex pleremes of the verb category in MSA contain different verb-roots. These verb-roots can be grouped together with respect to the set of allomorphs of the Aspect and Voice monemes that they take. In other words, the allomorphy of the Aspect and Voice monemes is conditioned by the identity of the verb-root moneme. For instance, the verb-root "/q-t-l-/" of the complex plereme "/qatala/" (3MS, pf.) "kill" takes the set of the Aspect monemes whose phonological forms are:

/-a-a-/ and /-u-i-/ of the "perfective" as in "/qatala/" and "/qutila/", respectively

/-a--u-/ and /-u--a-/ of the "imperfective" as in "/iaqtulu/" and "/iuqталu/", respectively.

Nevertheless, there is an additional factor that conditions the distribution of the allomorphs of Aspect and Voice monemes in complexes with verb-roots of two consonants. In the tables cited on pages 188-190 above, we find that there is an alternation of the allomorphs of the perfective monemes as well as of the imperfective monemes. This alternation is one of long vowel versus short vowel. That is, the phonological form of one allomorph contains a long vowel while the other contains a short vowel, though not necessarily the same one, e.g. /-ā-/ as in "/qāla/" (3MS, pf.) 'say' and /-u-/ as in "/qulna/" (3FP, pf.) 'say', or /-a-ū-/ as in "/iaqūlu/" (3MS, impf.) 'say' and /-a-u-/ as in "/iaqulna/" (3FP, impf.) 'say'. The same holds for the allomorphs of the active and passive monemes.

As we have mentioned in (6.1.) above, there are verb-roots which take different sets of allomorphs of the Aspect and Voice monemes. Consequently, we are going to classify and number the verb-roots, which differ from those of the other groups, in terms of the sets of allomorphs of the Aspect and Voice monemes that they take (see 6.4.1. below). For instance, verb-roots such as "/r-s-in/" of the complex "/rasama/", "/k-t-b-/" of "/kataba/", "/f-t-ḥ-/" of "/fataḥa/", "/q-t-l-/" of "/qatala/" belong to group No. (1); verb-root such as /r-b-ḥ/ of "/rabiḥa/" belong to group No. (2); verb-roots such as "/-rs-m-/" as in "/iarsumu/", "/-dr-s-/" as in "/iadrusu/", "/-qt-l-/" as in "/iaqtulu/" belong to group No. (3); verb-root such as "/-šr-b-/" of "/iašrabu/" belongs to group No. (4); verb-roots such as "/-nt-q-/" as in "/iantiqu/", "/-ml-k-/" of "/iamliku/" belong to group No. (5);

verb-roots such as "/-q-t-ḥ-/" as in "/qātaḥa/" and "/iuqātiḥu/",
 "/-x-l-f-/" as in "/xālafa/" and "/iuxālifu/" belong to group No. (6);
 verb-roots like "/-z-xr-f-/" of "/zaxrafa/" and "/iuzaxrifu/",
 "/-ḥ-l-l-m-/" of "/ḥallama/" and "/iuḥallimu/" belong to group
 No. (7). As far as roots with two consonants are concerned, verb-
 roots such as "/q-l-/" of the complex plereme "/qāla/", "/s-r-/"
 of "/sāra/", "/z-d-/" of "/zāda/" belong to group No. (8a) which
 takes the allomorph of the perfective, whereas verb-roots like
 "/-q-l-/" of "/iuqūlu/", "/-s-r-/" as in "/iasīru/" and "/-z-d-/"
 as in "/iuzīdu/" belong to groups Nos. (9), (10), and (11) respectively.

6.4.1. Groups of the verb-root moneme

No.	Verb-root moneme	Complex sign containing the verb-root	allomorph of the Aspect and Voice monemes	the monemes of Aspect and Voice	Citation form
1 -	"/ḍ-r-b-/"	"/ḍaraba/"	"/-a-a-/"	pf and act	hit
		"/ḍuriba/"	"/-u-i-/"	pf and pass	
2 -	"/š-r-b-/"	"/šariba/"	"/-a-i-/"	pf and act	drink
3 -	"/-kt-b-/"	"/iaktubu/"	"/-a--u-/"	impf and act	write
		"/iuktabu/"	"/-u--a-/"	impf and pass	
4 -	"/-ft-ḥ-/"	"/iaftaḥu/"	"/-a--a-/"	impf and act	open
5 -	"/-ḍr-b-/"	"/iadrību/"	"/-a--i-/"	impf and act	hit
6 -	"/-r-q-b-/"	"/rāqaba/"	"/-ā-a-/"	pf and act	watch
		"/rūqibu/"	"/-ū-i-/"	pf and pass	
		"/iurāqibu/"	"/-u-ā-i-/"	impf and act	
		"/iurāqabu/"	"/-u-ā-a-/"	impf and pass	
7 -	"/-t-rž-m-/"	"/taržama/"	"/-a--a-/"	pf and act	translate
		"/turžima/"	"/-u--i-/"	pf and pass	
		"/iutaržimu/"	"/-u-a--i-/"	impf and act	
		"/iutaržamu/"	"/-u-a--a-/"	impf and pass	

8a -	"/x-f-/"	"/xāfa/"	"/-ā-/"	pf and act	fear
		"/xifna/"	"/-i-/"	pf and act	
		"/xīfa/"	"/-ī-/"	pf and pass	
		"/xufna/"	"/-u-/"	pf and pass	
8b -	"/-x-f-/"	"/iaxāfu/"	"/-a-ā-/"	impf and act	
		"/iaxafna/"	"/-a-a-/"	impf and act	
		"/iuxāfu/"	"/-u-ā-/"	impf and pass	
		"/iuxafna/"	"/-u-a-/"	impf and pass	
9 -	"/-q-l-/"	"/iaqūlu/"	"/-a-ū-/"	impf and act	say
		"/iaqulna/"	"/-a-u-/"	impf and act	
10 -	"/-s-r-/"	"/iasīru/"	"/-a-ī-/"	impf and act	walk
		"/iasirna/"	"/-a-i-/"	impf and act	
11 -	"/-z-d-/"	"/iuzādu/"	"/-u-a-/"	impf and act	increase
		"/iuzidna/"	"/-u-i-/"	impf and act	

6.4.2. Distribution of the allomorphs of Aspect monemes with respect to the monemes of Voice and vice versa

The distribution of the allomorphs of the Aspect monemes with respect to the Voice monemes is automatic. This is due to the fact that the phonological forms of the allomorphs of the Aspect monemes and those of the monemes of Voice are always amalgamated. In other words, if the perfective moneme occurs in a complex plereme with an allomorph having the phonological form /-a-a-/, then the phonological form of the allomorph of the active moneme would also be /-a-a-/ on account of the fact that the two phonological forms are amalgamated.

As there is an alternation of long vowel versus short vowel in the allomorphs of the perfective moneme as well as in the imperfective moneme in complex pleremes containing two consonantal verb-roots,

therefore, the distribution of the allomorphs of the Aspect monemes will be given in the following manner:

a) The perfective moneme

The allomorphs of the perfective moneme whose phonological forms having a long vowel occur in the contexts of the monemes:

1 - Third person, masculine and singular; third person masculine and dual; third person, masculine and plural.

2 - Third person, feminine and singular; third person, feminine and dual.

The allomorphs of the perfective moneme whose phonological forms having a short vowel occur in all other contexts.

b) The imperfective moneme

The allomorphs of the imperfective moneme whose phonological form contain short vowels only occur in the contexts of the monemes: feminine and plural.

The allomorphs of the imperfective moneme whose phonological forms contain a long vowel occur in all other contexts.

Since the phonological forms of the allomorphs of the Aspect and Voice monemes are always amalgamated (see above), then, in terms of distribution, what applies to the allomorphs of the perfective and the imperfective monemes, also applies to the allomorphs of the active and the passive monemes.

6.5. The Realisations of the Person, Gender and Number monemes

This section deals with the realisations of the Person, Gender, and Number monemes when they occur with the perfective and imperfective monemes. The monemes of the paradigm in question are established in chapter Five. The Person paradigm contains the monemes: third person, second person, and first person; the Gender paradigm consists of the masculine and the feminine monemes, whereas the Number paradigm includes the monemes singular, dual and plural.

Below, we give tables of the phonological forms of the allomorphs of the above monemes as they occur in complex pleremes with the verb-roots "/r-s-m-/" and "/-rs-m-/", for example, "/rasama/" (3MS, pf.) and "/iarsumu/" (3MS, impf.) 'draw', respectively. Moreover, these forms represent all the allomorphs of all the signs in questions, i.e. the allomorphs of the Person, Gender and Number monemes. The tables also show that the monemes of the above paradigms have separate as well as amalgamated phonological forms.

As a further remark, it is worthwhile mentioning that the Arabic language is not susceptible of a neat analysis. There may be points of debate but we have chosen solutions which, though arbitrary in places, lead to a coherent adequate system. For example, in the complex plereme "/iarsum̄una/" (3MP, impf.) 'draw', it is more adequate to choose the phonological form /ū/, instead of /i/, for the masculine moneme than the third person moneme. This solution is based on the following reasons. First the form /ū/ is used as the phonological form of the masculine moneme elsewhere within the system. Second, in the

context of the monemes feminine and plural, e.g. "/iarsumna/"
 (3FP, impf.) 'draw', the third person moneme has the phonological
 form /i/ which is parallel to the /i/ of the third person moneme in the
 context of the masculine and the feminine monemes, i.e. in
 "/iarsumāna/".

a) In the perfective

1 - "/rasama/"	<u>third person</u> /-a/	<u>masculine</u> /-a/	<u>singular</u> /-a/
2 - "/rasamat/"	<u>third person</u> /-a-/	<u>feminine</u> /-t/	<u>singular</u> /-a/
3 - "/rasamā/"	<u>third person</u> /-ā/	<u>masculine</u> /-ā/	<u>dual</u> /-ā/
4 - "/rasamatā/"	<u>third person</u> /-a-/	<u>feminine</u> /-t-/	<u>dual</u> /-ā/
5 - "/rasamū/"	<u>third person</u> /-ū/	<u>masculine</u> /-ū/	<u>plural</u> /-ū/
6 - "/rasamna/"	<u>third person</u> /-na/	<u>feminine</u> /-na/	<u>plural</u> /-na/
7 - "/rasamta/"	<u>second person</u> /-t-/	<u>masculine</u> /-a/	<u>singular</u> /-a/
8 - "/rasamti/"	<u>second person</u> /-t-/	<u>feminine</u> /-i/	<u>singular</u> /-i/
9 - "/rasamtumā/"	<u>second person</u> /-tum-/		<u>dual</u> /-ā/
10 - "/rasamtum/"	<u>second person</u> /-tum/	<u>masculine</u> /-tum/	<u>plural</u> /-tum/
11 - "/rasamtunna/"	<u>second person</u> /-tun-/	<u>feminine</u> /-na/	<u>plural</u> /-na/
12 - "/rasamtu/"	<u>first person</u> /-t-/		<u>singular</u> /-u/
13 - "/rasamnā/"	<u>first person</u> /-nā/		<u>plural</u> /-nā/

b) In the imperfective

1 - "/iarsumu/"	<u>third person</u> /-u/	<u>masculine</u> /i-/	<u>singular</u> /-u/
2 - "/tarsumu/"	<u>third person</u> /-u/	<u>feminine</u> /t-/	<u>singular</u> /-u/
3 - "/iarsumāni/"	<u>third person</u> /i-/	<u>masculine</u> /i-/	<u>dual</u> /-āni/
4 - "/tarsumāni/"	<u>third person</u> /t-/	<u>feminine</u> /t-/	<u>dual</u> /-āni/
5 - "/iarsumāna/"	<u>third person</u> /i-/	<u>masculine</u> /-ū-/	<u>plural</u> /-na/
6 - "/iarsumna/"	<u>third person</u> /i-/	<u>feminine</u> /-na/	<u>plural</u> /-na/
7 - "/tarsumu/"	<u>second person</u> /t-/	<u>masculine</u> /-u/	<u>singular</u> /-u/
8 - "/tarsumīna/"	<u>second person</u> /t-/	<u>feminine</u> /-īna/	<u>singular</u> /-īna/
9 - "/tarsumāni/"	<u>second person</u> /t-/		<u>dual</u> /-āni/
10 - "/tarsumāna/"	<u>second person</u> /t-/	<u>masculine</u> /-ū-/	<u>plural</u> /-na/
11 - "/tarsumna/"	<u>second person</u> /t-/	<u>feminine</u> /-na/	<u>plural</u> /-na/
12 - "/?arsumu/"	<u>first person</u> /-u/		<u>singular</u> /?-/
13 - "/narsumu/"	<u>first person</u> /-u/		<u>plural</u> /n-/

6.5.1. Realisations with the Perfective⁽¹⁾6.5.1.1. The third person moneme

This moneme is realised as "/-a/" in the contexts of the monemes: masculine and singular, feminine and singular, and feminine and dual. It is realised as "/-ū/" in the context of the masculine and plural monemes. In the context of the moneme masculine and dual, the third person moneme is realised as /-ā/, whereas it is realised as /-na/ in the context of the monemes feminine and plural. These realisations as well as the identity and distinctive functions of these allomorphs are established by the use of the commutation test. For example, the realisation of the allomorph /-ū/ of the third person moneme in "/rasamū/" (3MP, pf.) 'draw' is established by opposing it to all the other allomorphs of either the second person or the first person monemes as in "/rasamtum/" (2MP, pf.) and "/rasamnā/" (1P, pf.) 'draw', respectively.⁽²⁾ The above allomorphs may be presented as follows:

-
- (1) Note that all the realisations of the monemes of Person, Gender, and Number contained in the tables that follows are established in the light of the commutation tests performed. We have refrained from spelling out the demonstrations in the main body of the description as their inclusion would make for cumbersome reading.
- (2) Note that all the following realisations are established in the same manner, i.e. by opposing the allomorph concerned to the other allomorphs of the same paradigm.

	complex plereme containing the moneme "third person"	context	phonological form of the allomorph of the third person moneme	representation of the allomorph of the third person moneme
1 -	"/rasama/"	(MS) 'draw'	/-a/	"/-a/"
2 -	"/rasamat/"	(FS) 'draw'	/-a-/	"/-a /"
3 -	"/rasamā/"	(MD) 'draw'	/-ā/	"/-ā/"
4 -	"/rasamātā/"	(FD) 'draw'	/-a-/	"/-a -/"
5 -	"/rasamū/"	(MP) 'draw'	/-ū/	"/-ū/"
6 -	"/rasamna/"	(FP) 'draw'	/-na/	"/-na/"

6.5.1.2. The second person moneme

This moneme is realised as "/-t-/" in the contexts of the monemes masculine and singular and the monemes feminine and singular. In contexts of dual (gender is irrelevant), masculine and plural it is realised as "/-tum/". It is also realised as "/-tun-/" in the context of the monemes feminine and plural. These realisations can be shown in the following manner:

	complex plereme containing the moneme "second person"	context	phonological form of the allomorph of the second person moneme	representation of the allomorph of the second person moneme
1 -	"/rasamta/"	(MS) 'draw'	/-t-/	"/-t-/"
2 -	"/rasamti/"	(FS) 'draw'	/-t-/	"/-t-/"
3 -	"/rasamtumā/"	(D) 'draw'	/-tum-/	"/-tum-/"
4 -	"/rasamtum/"	(MP) 'draw'	/-tum/	"/-tum/"
5 -	"/rasamtunna/"	(FP) 'draw'	/-tun-/	"/-tun-/"

6.5.1.3. The first person moneme

The first person moneme is realised as "/-t-/" in the context of the moneme singular. In the context of the moneme plural it is realised as "/-nā/". This can be seen in the following table:

	complex plereme containing the moneme "first person"	context	phonological form of the allomorph of the first person moneme	representation of the allomorph of the first person moneme
1 -	"/rasamtu/"	(S) 'draw'	/-t-/	"/-t-/"
2 -	"/rasamnā/"	(P) 'draw'	/-nā/	"/-nā/"

6.5.1.4. The masculine moneme

This moneme is realised as "/-a/" in the context of the monemes third person and singular, and the monemes second person and singular. In the context of the monemes third person and dual it is "/-ā/". It is realised as "/-ū/" in the context of third person and plural, whereas in the context of second person and plural it is "/-tum/". The following table represents these realisations:

	complex plereme containing the moneme "masculine"	context	phonological form of the allomorph of the masculine moneme	representation of the allomorph of the masculine moneme
1 -	"/rasama/"	(3S) 'draw'	/-a/	"/-a/"
2 -	"/rasamta/"	(2S) 'draw'	/-a/	"/-a/"
3 -	"/rasamā/"	(3D) 'draw'	/-ā/	"/-ā/"
4 -	"/rasamū/"	(3P) 'draw'	/-ū/	"/-ū/"
5 -	"/rasamtum/"	(2P) 'draw'	/-tum/	"/-tum/"

6.5.1.5. The feminine moneme

In the contexts of the monemes third person and singular, third person dual, the feminine moneme is realised as "/-t/". It is realised as "/-na/" in the contexts of third person and plural, and second person and plural. In context of second person and singular, it is realised as "/-i/". These realisations may be presented in the following manner: Note that there is no opposition between masculine and feminine with second person and dual, first person singular and plural.

	complex plereme containing the moneme "feminine"	context	phonological form of the allomorph of the feminine moneme	representation of the allomorph of the feminine moneme
1 -	"/rasamat/"	(3S) 'draw'	/-t/	"/-t/"
2 -	"/rasamatā/"	(3D) 'draw'	/-t-/	"/-t-/"
3 -	"/rasamna/"	(3P) 'draw'	/-na/	"/-na/"
4 -	"/rasamtunna/"	(2P) 'draw'	/-na/	"/-na/"
5 -	"/rasamti/"	(2S) 'draw'	/i-/	"/i-/"

6.5.1.6. The singular moneme

This moneme is realised as "/-a/" in the contexts of the monemes third person and masculine, third person and feminine, and second person and masculine. The singular moneme is realised as "/-i/" in the context of second person and feminine monemes, whereas it is realised as "/-u/" in the context of the first person moneme. The following table presents these realisations.

	complex plereme containing the moneme "singular"	context	phonological form of the allomorph of the singular moneme	representation of the allomorph of the singular moneme
1 -	"/rasama/"	(3M) 'draw'	/-a/	"/-a/"
2 -	"/rasamat/"	(3F) 'draw'	/-a/	"/-a/"
3 -	"/rasamta/"	(2M) 'draw'	/-a/	"/-a/"
4 -	"/rasamti/"	(2F) 'draw'	/-i/	"/-i/"
5 -	"/rasamtu/"	(1) 'draw'	/-u/	"/-u/"

6.5.1.7. The dual moneme

This moneme is realised as "/-ā/" in the contexts of the monemes third person and masculine, third person and feminine, and second person. The realisations of the dual moneme can be shown as follows:

	complex plereme containing the moneme "dual"	context	phonological form of the allomorph of the dual moneme	representation of the allomorph of the dual moneme
1 -	"/rasamā/"	(3M) 'draw'	/-ā/	"/-ā/"
2 -	"/rasamatā/"	(3F) 'draw'	/-ā/	"/-ā/"
3 -	"/rasamtumā/"	(2) 'draw'	/-ā/	"/-ā/"

6.5.1.8. The plural moneme

In the contexts of the monemes third person and masculine, second person and masculine, the plural moneme is realised as "/-ū/" and "/-tum/", respectively. In the contexts of the monemes third

person and feminine, second person and feminine, it is realised as "/-na/". In the context of the first person moneme (Gender is irrelevant), it is realised as "/-nā/". The realisations of this moneme may be presented as follows:

	complex plereme containing the moneme "plural"	context	phonological form of the allomorph of the plural moneme	representation of the allomorph of the plural moneme
1 -	"/rasamū/"	(3M) 'draw'	/-ū/	"/-ū/"
2 -	"/rasamtum/"	(2M) 'draw'	/-tum/	"/-tum/"
3 -	"/rasamna/"	(3F) 'draw'	/-na/	"/-na/"
4 -	"/rasamtunna/"	(2F) 'draw'	/-na/	"/-na/"
5 -	"/rasamnā/"	(1) 'draw'	/-nā/	"/-nā/"

6.5.2. Realisations with the Imperfective

6.5.2.1. The third person moneme

This moneme is realised as "/-u/" in the contexts of the monemes masculine and singular, feminine and singular. In the context of feminine and dual, it is "/t-/" . The third person moneme is realised as "/i-/" in the contexts of masculine and dual, masculine and plural, and feminine and plural. The realisations of the third person moneme may be presented in the following table:

	complex plereme containing the moneme "third person"	context	phonological form of the allomorph of the third person moneme	representation of the allomorph of the third person moneme
1 -	"/iarsumu/"	(MS) 'draw'	/-u/	"/-u/"
2 -	"/tarsumu/"	(FS) 'draw'	/-u/	"/-u/"
3 -	"/tarsumāni/"	(FD) 'draw'	/t-/	"/t-/"
4 -	"/iarsumāni/"	(MD) 'draw'	/i-/	"/i-/"
5 -	"/iarsumūna/"	(MP) 'draw'	/i-/	"/i-/"
6 -	"/iarsumna/"	(FP) 'draw'	/i-/	"/i-/"

6.5.2.2. The second person moneme

This moneme is realised as "/t-/" in all contexts where it occurs, i.e. in the contexts of masculine and singular, feminine and singular, dual, masculine and plural, and feminine and plural. The table below shows these realisations:

	complex plereme containing the moneme "second person"	context	phonological form of the allomorph of the second person moneme	representation of the allomorph of the second person moneme
1 -	"/tarsumu/"	(MS) 'draw'	/t-/	"/t-/"
2 -	"/tarsumīna/"	(FS) 'daw'	/t-/	"/t-/"
3 -	"/tarsumāni/"	(D) 'draw'	/t-/	"/t-/"
4 -	"/tarsumūna/"	(MP) 'draw'	/t-/	"/t-/"
5 -	"/tarsumna/"	(FP) 'draw'	/t-/	"/t-/"

6.5.2.3. The first person moneme

This moneme is realised as "/-u/" in the contexts of the moneme singular, and the moneme plural. Note that Gender is irrelevant for both contexts. This can be shown in the following manner:

	complex plereme containing the moneme "first person"	context	phonological form of the allomorph of the moneme first person	representation of the allomorph of the first person moneme
1 -	"/ʔarsumu/"	(S) 'draw'	/-u/	"/-u/"
2 -	"/narsumu/"	(P) 'draw'	/-u/	"/-u/"

6.5.2.4. The masculine moneme

This moneme is realised as "/i-/" in the contexts of the monemes third person and singular, third person and dual monemes. In the contexts of third person and plural, second person and plural, it is "/-ū-/", whereas in the context of second person it is realised as "/-u/". This may be presented as follows:

	complex plereme containing the moneme "masculine"	context	phonological form of the allomorph of the masculine moneme	representation of the allomorph of the masculine moneme
1 -	"/iarsumu/"	(3S) 'draw'	/i-/	"/i-/"
2 -	"/iarsumāni/"	(3D) 'draw'	/i-/	"/i-/"
3 -	"/iarsumūna/"	(3P) 'draw'	/-ū-/	"/-ū-/"
4 -	"/tarsumūna/"	(2P) 'draw'	/-ū-/	"/-ū-/"
5 -	"/tarsumu/"	(2) 'draw'	/-u/	"/-u/"

6.5.2.5. The feminine moneme

In the contexts of the monemes third person and singular, third person and dual, the feminine moneme is realised as "/t-/" . It is realised as "/-na/" in the contexts of the monemes third person plural, second person and plural. In the context of the second person moneme, it is "/-īna/" . The following table shows these realisations:

	complex plereme containing the moneme "feminine"	context	phonological form of the allomorph of the feminine moneme	representation of the allomorph of the feminine moneme
1 -	"/tarsumu/"	(3S) 'draw'	/t-/	"/t-/"
2 -	"/tarsumāni/"	(3D) 'draw'	/t-/	"/t-/"
3 -	"/iarsumna/"	(3P) 'draw'	/-na/	"/-na/"
4 -	"/tarsumna/"	(2P) 'draw'	/-na/	"/-na/"
5 -	"/tarsumīna/"	(2S) 'draw'	/-īna/	"/-īna/"

6.5.2.6. The singular moneme

This moneme is realised as "/-u/" in the contexts of the monemes third person and masculine, third person and feminine, and second person and masculine. In the context of the monemes second person and feminine the singular moneme is realised as "/-īna/" , whereas it is realised as "/?-" in the context of the first person moneme. These realisations can be shown as follows:

	complex plereme containing the moneme "singular"	context	phonological form of the allomorph of the singular moneme	representation of the allomorph of the moneme singular
1 -	"/iarsumu/"	(3M) 'draw'	/-u/	"/-u/"
2 -	"/tarsumu/"	(3F) 'draw'	/-u/	"/-u/"
3 -	"/tarsumu/"	(2M) 'draw'	/-u/	"/-u/"
4 -	"/tarsumīna/"	(2F) 'draw'	/-īna/	"/-īna/"
5 -	"/?arsumu/"	(1) 'draw'	/?-/	"/?-/"

6.5.2.7. The dual moneme

In all contexts where the dual moneme occurs, i.e. third person and masculine, third person and feminine, and second person, it is realised as "/-āni/". These realisations are presented in the following table:

	complex plereme containing the moneme "dual"	context	phonological form of the allomorph of the dual moneme	representation of the allomorph of the dual moneme
1 -	"/iarsumāni/"	(3M) 'draw'	/-āni/	"/-āni/"
2 -	"/tarsumāni/"	(3F) 'draw'	/-āni/	"/-āni/"
3 -	"/tarsumāni/"	(2) 'draw'	/-āni/	"/-āni/"

6.5.2.8. The plural moneme

In the contexts of the monemes third person and masculine, third person and feminine, second person and masculine, second person and feminine, the plural moneme is realised as "/-na/". It is

realised as "/n-/" in the context of the moneme first person (Gender is irrelevant). These realisations can be shown in the following table:

	complex plereme containing the moneme "plural"	context	phonological form of the allomorph of the plural moneme	representation of the allomorph of the plural moneme
1 -	"/iarsumūna/"	(3M) 'draw'	/-na/	"/-na/"
2 -	"/iarsumna/"	(3F) 'draw'	/-na/	"/-na/"
3 -	"/tarsumūna/"	(2M) 'draw'	/-na/	"/-na/"
4 -	"/tarsumna/"	(2F) 'draw'	/-na/	"/-na/"
5 -	"/narsumu/"	(1) 'draw'	/n-/	"/n-/"

6.5.3. The distribution of all the monemes within the verbal complex plereme

6.5.3.1. Distribution of the monemes of Aspect and Voice according to verb-root

As we pointed out earlier (cf. 6.1) verb-roots are either of two three or four consonants, e.g. "/-q-l/" of the complex pleremes "/qāla/" (3MS, pf.) and "/iaqūlu/" (3MS, impf.) 'say', "/k-t-b-/" or "/-kt-b-/" of "/kataba/" (3MS, pf.) and "/iaktubu/" (3MS, impf.) 'write' respectively, or "/-r-q-b-/" as in "/rāqaba/" (3MS, pf.) and "/iurāqibu/" (3MS, impf.) 'watch', and ⁿ/t-rž-m-/" of the complexes "/taržama/" (3MS, pf.) and "/iataržimu/" (3MS, impf.) 'translate'. Consequently, we may set up five conventions for the verb-roots which are as follows:

- a - X⁽¹⁾ - C₁ - C₂ for verb-roots of two consonants
 b - C₁ - C₂ - C₃ for verb-roots of three consonants
 c - X - CC₁ - C₂ for verb-roots of three consonants
 d - X - C₁ - C₂ - C₃ for verb-roots of three consonants
 e - X - C₁ - CC₂ - C₃ for verb-roots of four consonants

The places between or before the consonants (C) of the verb-roots are filled by the vowels which constitute the amalgamated phonological forms of the allomorphs of the monemes of the Aspect and Voice paradigms. These places may be labelled thus:

- a - X 1 C₁ 2 C₂
 b - C₁ 2 C₂ 3 C₃
 c - X 1 CC₁ 2 C₂
 d - X 1 C₁ 2 C₂ 3 C₃
 e - X 1 C₁ 2 CC₂ 3 C₃

In accordance with what is said above, the vowels of the phonological forms of the relevant allomorphs of the monemes of Aspect and Voice that fill the above places can be distributed as follows:

- a - When the perfective moneme occurs with either the active or the passive moneme, the vowels are distributed in place 2 with a two

(1) X is a place that may be filled by the phonological form of either the Person monemes or the Gender monemes, or the Number monemes when they occur with the imperfective moneme. See 6.5.3.2. below.

consonant verb-root, or in places 2 and 3 with a three or four

consonant verb-root. Hence, the conventions for the perfective are:

$/- V_2 - \underline{X}_1 \underline{X}_2 \underline{X}_3 /$, $/ V_2 - V_3 - \underline{X}_1 \underline{X}_2 \underline{X}_3 /$, and $/- V_2 - - V_3 - \underline{X}_1 \underline{X}_2 \underline{X}_3 /$

respectively. Note that X_1 , X_2 and X_3 are places for the phonological forms of the Person, Gender and Number monemes, respectively.

b - When the imperfective moneme occurs, places 1 and 2 are filled by the relevant vowels of the phonological forms of the active or passive moneme in respect to verb-roots with two consonants. In case of verb-roots with three consonants, there are two possibilities: if the phonological form consists of short vowels only, these vowels occupy places 1 and 2 as in convention (c) above. When the phonological form includes a long vowel, the vowels fill places 1, 2 and 3 as in (d) above. As for verb-roots with four consonants, places 1, 2 and 3 are occupied by the relevant vowels of the phonological forms of the imperfective moneme. Thus, for the imperfective moneme we have the conventions:

$/\underline{X} V_1 - V_2 - \underline{X}_1 \underline{X}_2 /$

$/\underline{X} V_1 - - V_2 - \underline{X}_1 \underline{X}_2 /$

$/\underline{X} V_1 - V_2 - V_3 - \underline{X}_1 \underline{X}_2 /$

$/\underline{X} V_1 - V_2 - - V_3 - \underline{X}_1 \underline{X}_2 /$

Now we can match the perfective conventions with the verb-root conventions in the following manner:

a - With the perfective moneme

	<u>convention of verb-root</u>	<u>convention of perfective</u>	
1 -	C ₁ - C ₂	/- V ₂ -/	e.g. "/qāla/" (3MS, pf.) 'say'
2 -	C ₁ -C ₂ -C ₃	/-V ₂ -V ₃ -/	e.g. "/darasa/" (3MS, pf.) 'study'
3 -	C ₁ -CC ₂ -C ₃	/-V ₂ --V ₃ -/	e.g. "/daḥraža/" (3MS, pf.) 'roll'

b - With imperfective moneme

	<u>convention of verb-root</u>	<u>convention of imperfective</u>	
1 -	-C ₁ -C ₂	/-V ₁ -V ₂ -/	e.g. "/iaqūlu/" (3MS, impf.) 'say'
2 -	-CC ₁ -C ₂	/-V ₁ --V ₂ -/	e.g. "/iadrusu/" (3MS, impf.) 'study'
3 -	-C ₁ -C ₂ -C ₃	/-V ₁ -V ₂ -V ₃ -/	e.g. "/iurāqibu/" (3MS, impf) 'watch'
4 -	-C ₁ -CC ₂ -C ₃	/-V ₁ -V ₂ --V ₃ -/	e.g. "/iudaḥrižu/" (3MS, impf) 'roll'

6.5.3.2. Distribution of the monemes of Person, Gender and Number according to the monemes of verb-root, Aspect and Voice

When the perfective moneme occurs in a complex plereme, the monemes of the Person, Gender and Number paradigms occur after the verb-root in the following order: Person-Gender-Number. Take for instance "/darasatā/" (3FD, pf.) 'study' which contains the monemes third person, feminine and dual. These monemes are realised as "/-a/", "/ -t-/" and "/-ā/", respectively.

When the imperfective moneme occurs in a complex plereme, the order of the realisations of the Person, Gender and Number monemes is not constant, it depends on the context. One of the monemes of the

above paradigms fills place (X) before the vowel of the phonological form of the allomorph of the imperfective moneme, while the other two monemes, the order of which are also not constant appear after the verb-root. For example, in the complex plereme "/tadrusūna/" (2MP, impf.) 'study', the "/t-/" which is the realisation of the second person moneme fills place (X), whereas the "/-ū-/" and "/-na/" which are the realisations of the monemes masculine and plural respectively, occupy places X_1 and X_2 . In "/ʔadrusu/" (1S, impf.) 'study', the singular moneme realised as "/ʔ-/" fills place (X) while the "/-u/" representing the first person moneme occupies place (X_1).

Because of the lack of constancy in the order of the monemes of Person, Gender and Number, we are going to state the context in which each moneme of the above paradigms occur, i.e. before or after the verb-root.

a - The third person moneme

In the contexts of masculine and dual, feminine and dual, masculine and plural, and feminine and plural it occurs before the verb-root. In the contexts of masculine and singular, and feminine and singular, it occurs after the verb-root.

b - The second person moneme

In all contexts where this moneme exists, it occurs only after the verb-root.

c - The first person moneme

This moneme occurs in the contexts of singular, and plural.

In these two contexts it occurs after the verb-root.

d - The masculine moneme

In the contexts of third person and singular, third person and dual, it occurs before the verb-root. In the contexts of third person and plural, second person and singular, second person and plural this moneme occurs after the verb-root.

e - The feminine moneme

What applies to the place of occurrence of the masculine moneme with respect to the verb-root above, applies to the feminine moneme.

f - The singular moneme

In the contexts of the monemes third person and second person, masculine and feminine, this moneme always occurs after the verb-root. In the context of the first person moneme, it occurs before the verb-root.

g - The dual moneme

In all contexts where this moneme exists, it occurs after the verb-root.

h - The plural moneme

In the contexts of third person and masculine, third person and feminine, second person and masculine, second person and feminine,

it occurs after the verb-root. This moneme occurs before the verb-root in the context of first person moneme only.

To sum up, the distribution of the monemes of Person, Gender and Number paradigms can be accounted for in the following manner:

1 - With the perfective moneme, the above monemes always occur in that order which is relative to each other after the verb-root, i.e.

Person-Gender-Number.

2 - With the imperfective moneme, there is no constancy in the order of monemes occurring before or after the verb-root and the order depends on the context.

PART THREE

CHAPTER VII

THE DISTRIBUTIONAL UNIT(S) (SYNTAGMS) OF MSA

The aim of this chapter is to establish the distributional unit (syntagm) of Modern Standard Arabic. Following that, however, we shall, for the sake of completeness, proceed by giving a description of the syntactic relations existing within the constituents of the basic predicative syntagm in MSA and the main types of verbs within the syntagm in question. These relations holding between the syntagmatic entities will be represented in terms of the model set up for a consistent and an adequate description of those relations.

7.1. Nuclearity in MSA

It has been mentioned earlier (cf. chapter IV) that "functional" as well as "occurrence" dependency are two fundamental notions in Axiomatic Functionalism. However, it must be pointed out that whereas the notion of functional dependency is relevant to systemology, the notion of occurrence dependency is relevant to realisation. By virtue of the fact that in Axiomatic Functionalism these two levels are distinct from each other, it follows that the afore-mentioned notions must always be kept separated in syntactic analysis, which analysis is ultimately interested in functional dependency relations. Nevertheless, occurrence dependency plays an important role in the process of setting up syntactic description in that it provides the describer with what might be called, for the lack of better term, clues as to the functional

dependency relations in a syntagm. Ideally, one should base oneself on functional dependency relations only in the process of carrying out syntactic description. But since functional dependency relations are extremely abstract, it appears to make sense to approach them via occurrence dependency relations. The importance of occurrence dependency relations is, therefore, not a theoretical but an operational or pragmatic one. In other words, occurrence dependency relations, though strictly distinct from functional dependency relations, act as a short cut to the identification of the latter. It is with this understanding in mind that the following analyses are carried out. To show the importance of such notions, consider the syntagms:

"/iaʔkulu ʔalqirdu ʔalmauza/" 'the monkey eats bananas'
 (3MS, impf.) 'eat' (the + monkey) (the + bananas)

and "/iuḥibu ʔalqirdu ʔalmauza/" 'the monkey likes bananas'
 (3MS, impf.) 'like' (the + monkey) (the + bananas)

Each of the above two syntagms contains three immediate constituents of which the constituents "/iaʔkulu/" (3MS, impf.) 'eat' and "/iuḥibu/" (3MS, impf.) 'like', i.e. the verbal predicatives,⁽¹⁾ are identified as the nuclei of the above syntagms (see below), whereas the rest of the constituents are recognised as peripherals. The identification of the afore-mentioned constituents as nuclei is based on two considerations:

(1) The 'verb' in traditional sense.

commutation with 'zero', ⁽¹⁾ and dependency relations (functional and occurrence). As far as the first consideration is concerned, both constituents figure as the back bone of the above syntagms without which we cannot have self-contained syntagms, i.e. commuting the constituents "/iaʔkulu/" and "/iuḥibu/" with 'zero' will produce the

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- (1) It must be pointed out, however, that commutation with 'zero' is not considered as a criterion of nucleus status in the 'Postulates' (cf. Mulder, 1980, c). In Sets and Relations in Phonology (1968), Mulder actually establishes nuclei which he admits can commute with 'zero'. More recent literature in Axiomatic Functionalism, ("On the Representation of Syntactic Structure (1978)", and "Some Difficult Cases in Syntax (1978)" re-printed in Mulder and Hervey, The Strategy of Linguistics (1980)), seems to regard non-commutation with 'zero' as, at least, an operationally significant criterion of nuclear identification. In discussions with the founder of the theory, he indicated to me that the afore-mentioned situation in Sets and Relations in Phonology is no longer valid - though no justification for this position was explicitly given. It may, however, be suggested on the basis of the literature available (see above, "On Representation ..." and "Some Difficult ..."; Hadj-Mohammed (1980) - who was supervised by Mulder) that non-commutation with 'zero' is now implicitly recognised as criterion of nucleus status which we acknowledge may not be an entirely satisfactory solution. The nucleus status may be justified simply by notion of nucleus as the identity-element for the syntactic function of the other peripheral immediate constituents, i.e. the element towards which the tactic functions of all the other elements depend for their relation. This solution is included within the second consideration above, i.e. dependency relations. In the present work, however, we shall base our description on both of the above two considerations, since through both of them we can identify the nucleus of a syntagm in MSA.

instance "/ʔalqirdu ʔalmanza/" 'the monkey the bananas' which is not a self-contained syntagm in the data under consideration. This, in effect, means that the establishment of the constituents "/iaʔkulu/" and "/iuḥibu/" as the nuclei, according to the first consideration, is tenable.

With respect to dependency relations, both constituents, i.e. "/iaʔkulu/" and "/iuḥibi/", are recognised as the nuclei of the above syntagms for the following considerations:

- a) a direct relation holds between each of the other immediate constituents and the nuclei in question; constructions like "/iaʔkulu ʔaṭṭiflu/" 'the child eats', "/iaʔkulu ʔalkalbu/" 'the dog eats', "/iaʔkulu ʔaṭṭa ḡāma/" 'he eat the food', and "/iaʔkulu ʔallahma/" 'he eats the meat' stand as instances of self-contained syntagms. Each of the constituents "/ʔaṭṭiflu/", "/ʔalkalbu/", "/ʔaṭṭa ḡāma/" and "/ʔallahma/", in the above syntagms depends for its tactic function on "/iaʔkulu/" but not vice versa. On the level of utterance, each of the afore-mentioned constituents depends for its occurrence on the constituent "/iaʔkulu/" but not vice versa.
- b) It is via "/iaʔkulu/" and no other immediate constituent in the syntagm "/iaʔkulu ʔalqirdu ʔalmanza/" 'the monkey eats bananas' that this syntagm could be related to another element or syntagm. For instance, in the syntagm "/iaʔkulu ʔalqirdu ʔalmanza kulla iaumin/" 'the monkey eats bananas every day', (3MS, impf.) 'eat' (the + monkey) (the + bananas) (every) (day), it is via "/iaʔkulu/" (3MS, impf.) 'eat' that the syntagm "/iaʔkulu ʔalqirdu ʔalmanza/" 'the monkey eats bananas'

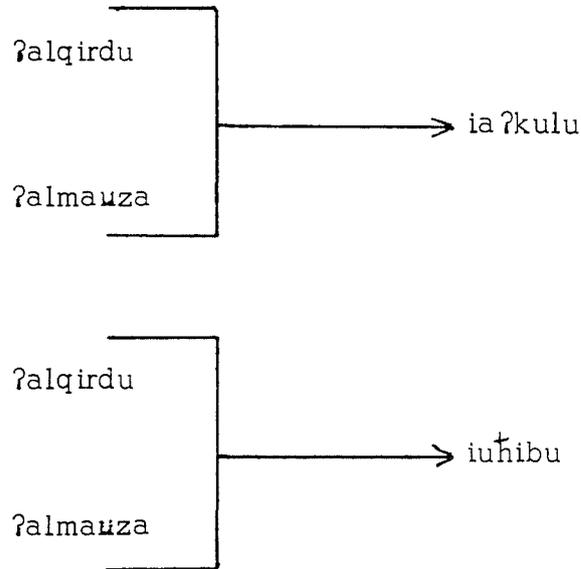
is related to the syntagm "/kulla iaumin/" 'every day'. This consideration is supported by the fact that in the language under analysis we may form a self-contained syntagm with the two immediate constituents "/iaʔkulu/" and "/kulla iaumin/" of the above syntagm, consider: "/iaʔkulu kulla iaumin/" 'he eats every day', whereas neither of the other two constituents, i.e. "/ʔalqirdu/" 'the monkey' and "/ʔalmauza/" 'the bananas' can form a self-contained syntagm with the constituent "/kulla iaumin/" 'every day', consider:

- * "/ʔalqirdu kulla iaumin/" 'the monkey every day'
- * "/ʔalmauza kulla iaumin/" 'the bananas every day'

(The same form of argument goes for the constituent "/iu[†]hibu/" (3MS, impf.) 'like' in the syntagm "/iu[†]hibu ʔalqirdu ʔalmauza/" 'the monkey likes bananas' above).

The above discussion shows that the two nuclei of the syntagms in question have similar function with respect to their nature in both syntagms, i.e. in their capacity to govern the syntactic functions of the peripheral constituents which are sub-ordinated to them. Thus, structurally the above two syntagms manifest the same bundle of positions. On the level of realisation, the two syntagms in question differ from each other in that the constituent "/ʔalmauza/" 'the bananas' in the syntagm "/iaʔkulu ʔalqirdu ʔalmauza/" 'the monkey eats bananas' is an expansion which depends for its occurrence on the nucleus "/iaʔkulu/" but not vice versa, whereas in the syntagm "/iu[†]hibu

ʔalqirdu ʔalmauza/" 'the monkey likes bananas' the constituent
 "/ʔalmauza/" 'the bananas' is a bound peripheral which depends for
 its occurrence on the nucleus "/iuḥibu/" and vice versa. The syntactic
 structure of the above syntagms may be represented in the following way:



7.2. The distributional unit(s) (syntagms) of MSA

As pointed out in chapter IV, in syntax, the pleremes combine in ordering relations to form syntagms of the grammatical system. Thus, syntax accounts for the distribution of pleremes in syntagms, and such syntagms in turn may appear in positions in higher level syntagms. It has also been mentioned that the sub-system of syntax deals with positions and distributional units. This, in fact, inherently involves treating the distribution of syntactic elements, i.e. phonemes or syntagms, and the syntagmatic functions these elements have in forming self-contained syntactic constructions.

Before trying to establish a distributional unit (syntagm) of MSA,

let us briefly review the notions of "position" and "distributional unit" which have occurred in the discussion. The two notions, as we shall see, are inextricably bound together. One cannot conceive of positions without conceiving of distributional units, nor vice versa.

"Position" is one of the key concepts of the theory. It is an important notion in phonotactics and syntax since every element, which has a function (phonotactic or syntactic) and stands in a tactic relation, is assigned to a position set up in the relevant model which accounts for that relation. "Positions" are defined as "dimensions within a chain such that in every such dimension an entity, as an immediate constituent of that chain, can stand and alternate (i.e. commute) with other entities, or with zero", or alternatively as "points on a chain 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 horizontal straight line called syntagmatic axis)" (Mulder, 1980(c), Def:7g). So "position" is a place or division within a construction that can be occupied by an orderable element. The process of commutation is the decisive factor which establishes all the elements that can occupy that same place, i.e. position, within a chain. The "position" in phonotactics, as in syntax, are points on the syntagmatic axis at which paradigms can be established. In the Axiomatic Functionalist theory, the term "distributional unit" in its wide sense, is used to cover self-contained bundles of positions or instances of those self-contained bundles, both in phonology and grammar (cf. Ibid:

Def:9). The term in question is referred to as "phonotagm" in phonology and "syntagm" in grammar.

In the preceding paragraph, we pointed out that in the theory of Axiomatic Functionalism the term "distributional unit" applies to both phonology and grammar. Since in phonology we may set up one distributional unit which can accommodate all the phonotagms of a language (cf. Mulder (1968), (19809f)), whether these phonotagms represent the minimum or the maximum extension of that distributional unit, then there is nothing against applying the same procedure to grammar. That is, we may establish one distributional unit to accommodate, for instance, all types of the verbal predicative based syntagm in a language. It should be noted, however, that this procedure is different from the one followed by Mulder, i.e. our interest is to establish only one distributional unit on to which all VPB syntagms may be mapped, whereas Mulder's procedure is to establish a different model for each type of the VPB syntagm (cf. Mulder, (1968), (1980(h))).⁽¹⁾ Moreover, the one distributional unit, i.e. model, as we shall see, offers a more adequate, simpler, as well as a more economical analysis of the syntagm in question than Mulder's various models. Further, this procedure is consistent with the Axiomatic Functionalists' theory, in the sense that it has been successfully applied in establishing the distributional unit in phonology. In the following paragraph we are going to discuss briefly the distributional unit in phonology, and then

(1) Note that Hadj-mohammed (1980), who was supervised by Mulder, established fifteen models for the VPB syntagm in Kamali Arabic.

proceed to the establishment of the distributional unit in grammar.

"Phonotagm" is defined as a "self-contained bundle of positions in phonology" (Ibid, Def:9a). An alternative definition is "minimum type of structure within which the distribution of phonotactic entities can be described completely and exhaustively" (Ibid.). The distributional unit in phonology is the largest unit one has to consider for the establishment and distribution of the phonemes in a language. By definition, the minimum extension of a distributional unit consists of two positions, namely, a nuclear and a peripheral position, e.g. /lā/ (not) in MSA (see below). The maximum extension of such a unit in any given phonotactic system can only be established with regard to the optimum size of its phonotagms which is treated as a model in terms of which all further phonotagms can be described. The basic way to arrive at a statement of the distribution of phonemes is to begin with the item in the nuclear position and to work outwards from that item to the items which occur in the peripheral positions along with it. In other words, to identify a distributional unit for a language, one should specify the nuclear position for that unit together with all the peripheral, explosive and implosive, positions that are dependent on it, with their degree of peripherality from the nucleus. For example, in MSA, a distributional unit of four positions can be established as the maximal one in the language. In terms of sequential order, the four positions are: explosive (e), nuclear (n), first implosive (i^1) and second implosive (i^2). The four-position distributional unit can be diagrammatically illustrated as:

e	n	i ¹	i ²
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This distributional unit represents the maximum extension of MSA phonotagm, e.g. the phonotagm /^harf/ (letter 'of alphabet'). As the vowel phoneme /a/ is the identity element of this phonotagm, it occupies the nuclear position. The consonantal phoneme /^h/ fills the (e) position whereas the phonemes /r/ and /f/ occupy the (i¹) and (i²) positions, respectively. Note that a phonotagm such as /lā/ (not), which represents the minimum extension of MSA phonotagm, is also an instance of the above distributional unit with zeros in the implosive positions. This phonotagm can be mapped onto the model in question as follows:

l	ā	∅	∅
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Concerning the distributional unit (syntagm) in syntax, this unit is defined as "a self-contained bundle of positions in grammar" or instances of a self-contained bundle of positions in grammar" (Ibid, Def:9**h**). That is, this notion may refer not only to the theoretical model, or meta-model, and to the descriptive model but also to instances of, or realisations of the model which we recognise in the data. In other words, the distributional unit can mean just a set of unfilled positions in grammar, while a syntagm must have the positions in the distributional unit filled by the constituent elements of a self-contained grammatical construction. The distributional unit in syntax is of

hierarchical nature. That is, in syntax, one can have syntagms within syntagms and the latter syntagms again within syntagms, etc. Moreover, within the sub-system of syntax, unlike in phonotactics (see above), all types of relation envisaged by the theory of axiomatic functionalism, i.e. relations of sub-ordination, co-ordination and inter-ordination,⁽¹⁾ may be established between syntagmatic entities, i.e. pleremes and syntagms. Within such a field of relations, there is a limit to the extent to which the function of one element may directly determine or be dependent on the function of another; the syntagm marks the limits such that the functions of the elements, or the relations of the elements one to another can be described completely and exhaustively without reference to any element outside the syntagm, while the syntagm as a whole may itself contract syntactic relations with other syntagms.

Every element which occurs in a particular syntagm is assigned to a position of that syntagm. The element standing in a position stands in a functional relation, or ordering relation, with another element standing in a position, or with other elements standing in different positions. Accordingly, and as far as the adequacy of the distributional unit is concerned, it is important for statements of distribution of syntactic elements to establish the correct number of positions in a syntagm. If the distributional unit has too few positions to account for the functions of all the elements which can occur in that

(1) For 'sub-ordination', 'co-ordination' and 'inter-ordination', see chapter Four.

syntagm, it is inadequate in its description of the syntactic function of the elements and has to be discarded or altered. That is, the model should be fully tested and the field of relations, or positions set up within it must be adequate.

In the following paragraphs, we shall give examples of instances of the "verbal predicative based" syntagm, henceforth VPB syntagm, in MSA, which enable us to set up an exhaustive descriptive model for the distributional unit of which this syntagm is an example. In this respect, we are going to set up only one distributional unit as an abstract model which may account for all the instances of the verbal predicative based syntagms in MSA. If we find that this distributional unit does not suffice for any VPB syntagm in MSA, therefore, this distributional unit has to be rejected for reasons of inadequacy and another distributional unit has to be established. Our concern will be to establish that all VPB syntagms can be mapped onto the distributional unit established either as an instance with all positions filled or with some positions filled with zero, i.e. we are going to follow the phonology approach. For the above purpose consider the following examples:

1. "/žalasat ?almuhandisatu Ğala ?alkursī/" 'the female engineer sat
(3FS, pf.) 'sit' (the + 'f' engineer) (on) (the + chair)
on the chair'
2. "/nāma ?alualadu/" 'the boy slept'
(3MS, pf.) 'sleep' (the + boy)

3. "/ʔaʒbara ʔalʔabu ʔalbinta ʔala ʔazzauāʒi/" 'the father forced the
(3MS, pf.) 'force' (the + father) (the + girl) (on) (the + marriage)
girl to get married'
4. "/uaḍḍa ʔa ʔalmudarrisu ʔaṭṭāliba ʔalkitāba ʔala ʔaṭṭāuilati/"
(3MS, pf.) 'put' (the + teacher) (the " student) (the + book) (on) (the + table)
'the teacher made the student put the book on the table'
5. "/ʔallama zaidun muḥammadan ʔalḥisāba/" 'Zaid taught Mohammed
(3MS, pf.) 'teach' (Zaid) (Mohammed) (the + arithmetic)
arithmetic'
6. "/ʕabbatat ʔalmumaridatu ʔaṣṣūrata ʔala ʔaʒʒidāri/" 'the nurse fixed
(3FS, pf.) 'fix' (the + nurse) (the + picture) (on) (the + wall)
the picture on the wall'
7. "/ʔa ʔta ʔarraʒulu ʔal ʔāmila nuqūdan/" 'the man gave the worker money'
(3MS, pf.) 'give' (the + man) (the + worker) (money)
8. "/uaḍḍa ʔa xālidun ʔalkitāba fi ʔalḥaqībati/" 'Khalid put the book in the bag'
(3MS, pf.) 'put' (Khalid) (the + book) (in) (the + bag)
9. "/rakala ʔallā ʔibu ʔalkurata/" 'the player kicked the ball'
(3MS, pf.) 'kick' (the + player) (the + ball)

The above syntagms exemplify different types of verbal predicatives, i.e. whether the verbal predicative takes one nominal, two nominals, a complement, or whether it takes none. Of these syntagms, example (4), i.e. "/uaḍḍa ʔa ʔalmudarrisu ʔaṭṭāliba ʔalkitāba ʔala ʔaṭṭāuilati/" 'the teacher made the student put the book on the table', provides an instance of the VPB syntagm with five immediate constituents. We have not found a syntagm with more than five. Our task, then, will

be to establish a model which accommodates this syntagm and then to test its adequacy with respect to the other syntagms cited. The verbal predicative "/uadḍaḥa/" (3MS, pf.) 'make put' is the identity element of the syntagm in question, and hence it is the nucleus (cf. 7.1.). This element is determined by the peripheral elements "/ʔalmudarrisu/" 'the teacher', "/ʔatṭālibu/" 'the student', "/ʔalkitāba/" 'the book' and "/ʔala ʔatṭāuilati/" 'on the table'. Moreover, each of these four elements is standing in a relation of sub-ordination with respect to the nucleus. Accordingly, we need to establish a five-position distributional unit to accommodate all the constituents of the above syntagm. To these five positions we shall assign the labels "subject", "direct object", "indirect object", "complementary object" and "verbal predicative". These positions are labelled with respect to the function which each class of commutants contracts with the nucleus, i.e. the labels which are given to the positions are regarded as function indicators for these positions. Traditional terminology has, by and large, been retained in labelling the positions of a syntagm since it is most widely understood and accepted. The assignment of the constituents of a syntagm to the relevant positions depends on the following criteria:

1) Case: In MSA, case plays an important role, as it determines the position-class of the elements of a syntagm (see below). Elements with the nominative case belong to the "subject" position-class, and as such they fill the "subject" position. Examples are "/ʔalbintu/" 'the girl', "/ʔalualadu/" 'the boy', "/ʔalbābu/" 'the door', "/ʔalkalbu/" 'the dog',

etc. Elements with the accusative case belong either to the "direct object" position-class or to the "indirect object" position-class (see noun class below). Examples are "/ʔaṭṭāliba/" 'the student', "/ʔalkitāba/" 'the book', "/ʔalʔasada/" 'the lion', "/ʔarraḻula/" 'the man', etc. The genitive case marks the nominal within a functional syntagm and as such this syntagm is assigned to the "complementary object" position class, e.g. "/fī ʔalḥadīqati/" 'in the garden', "/ʔala ʔalʔarḍi/" 'on the floor', "/min ʔalbaiti/" 'from the house', etc.

2) Agreement

a) The subject, but not the object, agrees with the predicate in number and gender when the two peripheral elements are expressed by two nominals within a predicative syntagm, consider:

"/ʔalʔaulādu fataḥū ʔalbāba/" 'the boys opened the door'
(the + boys) (3MP, pf.) 'open' (the + door)

"/ʔalbanātu iuṣṣāhidna filman/" 'the girls see a film'
(the + girls) (3FP, impf.) 'see' (a film)

b) When the two peripheral elements, assumed to be subject and object are expressed in third person by two nominals having the same number and gender, we examine the case. That is, without case, it becomes difficult to determine the identities of the subject and the object in a construction of this type. In order to make this point clear, consider:

"/qatala ?aššurṭiiu ?almužrima/" 'the policeman killed the criminal'

In the above syntagm it is difficult to determine the identities of the subject and object, i.e. the above syntagm may convey another message: 'the criminal killed the policeman'. The only way which enable us to identify subject and the object is case. Since "/?aššurṭiiu/" 'the policeman' have the /u/ (see below) of the nominative case, it is identified as subject, whereas the element "/?almužrima/" ends with the /a/ of the accusative case and thus it is identified as object.

c) The object, but not the subject, when pronominalised is cliticised to the verbal predicative. For instance, we can either have:

"/?alualadu fataḥa ?albāba/" 'the boy opened the door'

or "/?alualadu fataḥahu/" 'the boy opened it'

or "/fataḥahu ?alualadu/" 'the boy opened it'

This new status of the complex "/fataḥahu/" 'he opened it' has no effect on its grammatical complexity. A pronoun such as "/hu/" 'it' is commutable with a whole syntagm, and consequently, "/hu/" 'it' can be legitimately given the status of a plereme, rather than a moneme. Moreover, the above case gives test of direct object. That is, if a nominal commutes with pronominal which cliticises to the verbal predicative, then this nominal is a direct object, provided that it is the only object in the syntagm (see the above example). On the other hand, if there are two nominals in a syntagm functioning as objects, then the one commuting with a pronominal which cliticises to the verbal

predicative is the indirect object while the other is the direct object. Consider:

"/ʔalʔummu ʔaʕtat ʔaʕʕiflata mauzatan/" 'the mother gave the female child a banana'

"/ʔalʔummu ʔaʕtathā mauzatan/" 'the mother gave her a banana'

3) Noun class: This criterion is mainly applied to elements filling the "direct object" and the "indirect object" positions. In this respect, consider the following possibilities:

a) In a syntagm containing two nominals functioning as objects, the one which is more likely to be optional is the indirect object element, i.e. it can be replaced by zero. Consider:

"/ʕamila ʔalualadu ʔalʔarnaba luʕbatan/" 'the boy made a toy out of the rabbit'
(3MS, pf.) 'make' (the + boy) (the + rabbit) (a toy)

"/ʕamila ʔalualadu luʕbatan/" 'the boy made a toy'

Hence, if there is only one object present, it is generally the direct object. But with a small number of verbs that are normally ditransitive, the indirect object may be retained while the direct object is optional.

Consider:

"/darrasa muḥammadun ʔalbanāta ʔattaʔrīxa/" 'Mohammed taught the girls history'
(3MS, pf.) 'teach' (Mohammed) (the + girls) (the + history)

"/darrasa muḥammadun ʔalbanata/" 'Mohammed taught the girls'

b) Nominals standing in indirect object position typically are animate, while direct object position generally have inanimate nouns although animate nouns are possible on occasions. This fact may be taken as a strong clue to occurrence in positions. Consider:

"/ʔaʕṭat ʔalmudarisatu ʔaṭṭālibata ʔalkitāba/" 'the female teacher (3FS, pf.) 'give' (the + 'f' teacher) (the + 'f' student) (the + book) gave the female student the book'

c) As the word-orders: verb-subject-indirect object-direct object, and subject-verb-indirect object-direct object, are the most common ones in MSA syntagms, then the element following the subject and the verbal predicative are assignable to the "indirect object" position, and the following element to the "direct object" position, consider:

"/ʔaʕṭa ʔalmuhandisu ʔalʕāmila miṣṭaratan/" 'the engineer gave the (3MS, pf.) 'give' (the + engineer) (the + worker) (a ruler) worker a ruler'

"/ʔalmuhandisu ʔaʕṭa ʔalʕāmila miṣṭaratan/" 'the engineer gave the worker a ruler'

4) Complex functional syntagm: Functional syntagms are assignable to the "complementary object" position since it is the status of the functional syntagm which determine this position. Consider

"/min ʔalualadi/" 'from the boy' in the syntagm:

"/ʔaxaʕat ʔalbintu ʔattufāhata min ʔalualadi/" 'the girl took the
(3FS, pf.) 'take' (the + girl) (the + apple) (from) (the + boy)
apple from the boy'

In accordance with what has been said above, the elements
"/uadḍaʕa/" (3MS, pf.) 'make put', "/ʔalmudarrisu/" 'the teacher',
"/ʔaṭṭāliba/" 'the student', "/ʔalkitāba/" 'the book' and "/ʕala
ʔaṭṭāuilati/" 'on the table' of the syntagm "/uadḍaʕa ʔalmudarrisu
ʔaṭṭāliba ʔalkitāba ʕala ʔaṭṭāuilati/" 'the teacher made the student
put the book on the table', are assignable to the positions "verbal
predicative", "subject", "indirect object", "direct object" and
"complementary object", respectively. The constituent "/ʔalmudarrisu/"
'the teacher' ends with the allomorph /u/ of the "nominative" and thus
it is assigned to the "subject" position. The constituents "/ʔaṭṭālibu/"
'the student' and "/ʔalkitāba/" 'the book' are both having the allomorph
/a/ of the "accusative", but since the former is an animate and the
latter is an inanimate, they are assigned to the "indirect object" and
the "direct object" positions, respectively. Being a functional syntagm,
the constituent "/ʕala ʔaṭṭāuilati/" 'on the table' fills the "complementary
object" position.

In order to complete the model, we need to identify the type of
determination, i.e. whether we encounter 'diverse' or 'parallel'
determination, in MSA verbal predicative based syntagms, and this
question tied up with case. These two matters will be dealt with in
the next section.

7.3. 'Case', and types of determination

This section has two aims. The first aim is to find whether case in MSA can be established as a sign or not. Its second aim is to establish the relevant type of determination for the VPB syntagm in MSA. According to that type we may, as said above, complete the model of the VPB syntagm in the language in question.

7.3.1. Case

It was mentioned earlier (cf. Chapter II) that Arabic nouns have a three-case system: Nominative, Accusative and Genitive. It is crucial in this work to find whether each of these traditional grammatical categories of inflection can be identified as a sign or not. From the axiomatic functionalist's point of view, a particular phonological form with a particular distinctive function is an allomorph, and a self-contained class of allomorphs with some distinctive function is a sign. The distinctive function of a sign 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. In order to determine whether the 'nominative', for example, represented by /u/ or /un/, is a sign or not, consider the entity "/ʔalualadu/" 'the boy'.⁽¹⁾ The establishment of the constituent signs of "/ʔalualadu/" 'the boy' is done by applying the commutation test. We start off by assuming that the entity in question consists of the tentative signs

(1) Under the axiomatic functionalist's theory such entities as /ʔalualadu/ 'the boy', is considered as an instance of a nominal syntagm in MSA (cf. Al-Nobani, 1978).

"/ʔal/" 'the', "/ualad/" 'boy' and the sign "nominative" represented by the allomorph "/u/". Next we shall try to commute each of the above tentative signs with other constituents, or with its absence, in the same context. Thus, by applying the commutation test to "/ʔal/" 'the' we get the following:

"/Øualadun/" 'a boy'⁽¹⁾

Similarly, by commuting "/ualad/" 'boy' with other entities while keeping the other constituents constant we get:

"/ʔalkitābu/" 'the book'

"/ʔalqalamu/" 'the pencil'

"/ʔalbintu/" 'the girl'

In the same manner, we commute the allomorph "/u/" of the nominative in the same context:

"/ʔalualadØ/" 'the boy'

"/ʔalualada/" 'the boy'⁽²⁾

From this valid commutation we conclude that the sign "/ʔalualadu/" 'the boy' is a complex sign consisting of the constituent signs "/ʔal/" 'the', "/ualad/" 'boy' and the "nominative". The latter sign is represented by the allomorph "/u/". In the same procedure, we can

(1) Note that "/u/" and "/un/" are allomorphs of one and the same sign, i.e. "nominative".

(2) "/a/" is the allomorph of the "accusative" sign.

identify the "accusative" and the "genitive" as signs. The allomorphs "/a/" and "/an/" represent the former sign whereas the latter sign is represented by the allomorphs "/i/" and "/in/".

In addition to what is said above, we can also say that the allomorphs "/u/" and "/un/" of the "nominative" sign identify the 'subject'.⁽¹⁾ The allomorphs "/a/" and "/an/" of the "accusative" sign characterise the 'object', whereas the allomorphs "/i/" and "/in/" of the "genitive" sign mark any type of nominal governed by a functional syntagm (cf. Chapter IX). Consider:

1. "/nāma ʔalʔasadu/" 'the lion slept'
(3MS, pf.) 'sleep' (the + lion)
2. "/qataʕa ʔarraʒulu ʔaššazaʒarta/" 'the man cut the tree'
(3MS, pf.) 'cut' (the + man) (the + tree)
3. "/daxalat ʔaṭṭālibatu ʔila ʔalmadrasati/" 'the female student
(3FS, pf.) 'enter' (the + 'f' student) (to) (the + school)
entered the school'

Hence, we can state that these three signs, i.e. "nominative", "accusative" and "genitive", constitute an important factor in determining the position-classes⁽²⁾ of the elements within any syntagm in MSA. In other words, elements ending with the "nominative" sign

(1) Note that in the discussion of cases (cf. 2.2.2.), we pointed out that the ending of a noun or an adjective specifies the function of that element within the relevant syntagm.

(2) "Position-class" for "A set of items which can occur in the same position or archi-position" (Mulder, 1968:118).

belong to a different position-class from those elements which end with either the accusative sign or the "genitive" sign. Elements having the latter two signs also belong to two distinct position-classes. In the above syntagms the elements "/ʔalʔasadu/" 'the lion', "/ʔarraʒulu/" 'the man', "/ʔaṭṭālibatu/" 'the female student', "/ʔaššažarata/" 'the tree', and "/ʔila ʔalmadrasati/" 'to the school' belong to distinct position-classes. The elements "/ʔalʔasadu/", "/ʔarraʒulu/" and "/ʔaṭṭālibatu/" contain the sign "/u/", i.e. "nominative", and as such they belong to a position-class which is different from the position-class of the element "/ʔaššažarata/" which ends with "/a/" of the "accusative" sign and the position-class of the prepositional phrase "/ʔila ʔalmadrasati/" which includes the "genitive" sign. In other words, the above elements can be assigned to the following position-classes:

<u>'subject'</u>	<u>'direct object'</u>	<u>'complementary object'</u>
"/ʔalʔasadu/"	"/ʔaššažarata/"	"/ʔila ʔalmadrasati/"
"/ʔarraʒulu/"		
"/ʔaṭṭālibatu/"		

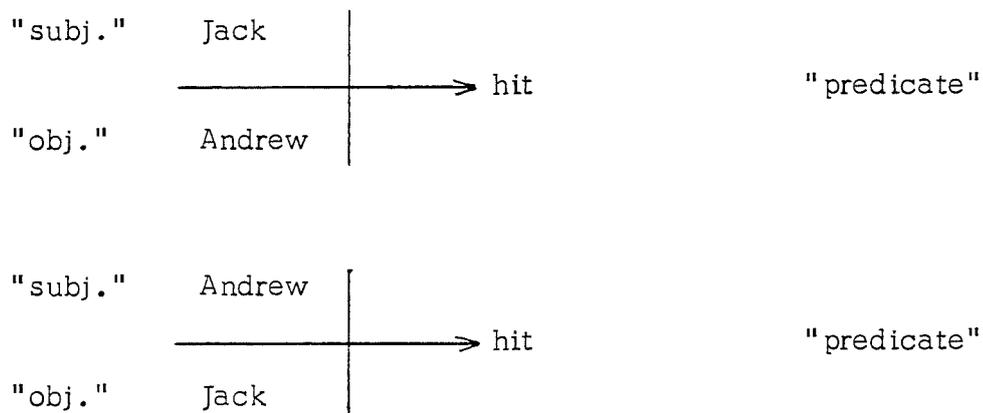
7.3.2. 'Diverse' and 'Parallel' determination with regard to the VPB syntagm in MSA

As was pointed out in 4.6, within the relation of sub-ordination a distinction is made between two types of determination: 'diverse' determination and 'parallel' determination. Within 'diverse' determination the peripheral constituents stand in different relations of sub-ordination with respect to the nucleus; on the other hand, this cannot be

demonstrated within the 'parallel' determination, i.e. within parallel determination the peripheral constituents cannot be demonstrated to stand in different relations to the nucleus. Note also that the latter entails distinct sets of items in each position. In other words, one of the tests of diverse and parallel determinations is identity versus distinctness of the commutation classes, i.e. if the classes are the same we obtain 'diverse' determination but if the commutation classes are different then we obtain parallel determination (cf. Chapter IV). The crucial test in deciding the type of determination within a syntagm is word-order (see below). That is, if any change in the ordering of the constituents of a syntagm leads to producing a new message which is functionally distinct from the one we have already got, then we obtain 'diverse' determination.

The occurrence of these two types of determination varies from one language to another or between different types of syntagms within the same language. Within the English predicative syntagm, for example, we encounter 'diverse' determination. In the syntagm 'Jack hit Andrew' there are three immediate constituents namely "Jack", "hit" and "Andrew" of which the constituent "hit" is the nucleus. In this construction, the elements "Jack" and "Andrew" stand in a relation of sub-ordination with respect to "hit". Since they do so in different ways, as the syntagm "Jack hit Andrew" conveys a different message from that of "Andrew hit Jack", we establish 'diverse' determination. In other words, syntagms of a language differ from each other in terms of: (a) signs, (b) relations, (c) signs and relations.

Since the two syntagms above have the same signs, they must differ in terms of relations within each of them. It might be added that there is a contrastive function between the peripheral elements within each of the two syntagms. In "Jack hit Andrew", the element "Jack" is identified as 'subject' precisely because its function contrasts with that of "Andrew" in the 'object' position. Conversely, one may state that "Andrew" is identified as 'object' because its function contrasts with that of "Jack" in the 'subject' position. The difference between the two contrastive functions of the peripheral elements is yielded by the sequential order of the elements in question on the realisational level. This type of determination can be represented in the following structures:



Within the verbal predicative based syntagm in MSA, we encounter "parallel" determination only. Consider the syntagm:

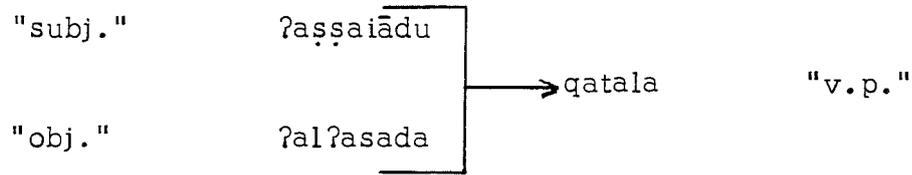
"/qatala ?aṣṣaiādu ?al?asada/" 'the hunter killed the lion'
 (3MS, pf.) 'kill' (the + hunter) (the + lion)

This syntagm is a combination of three immediate constituents, of which "/qatala/" (3MS, pf.) 'kill' is the nucleus. Each one of the two peripherals, i.e. "?aṣṣaiādu/" 'the hunter' and "?alʔasada/" 'the lion', is standing in a relation of sub-ordination with respect to the nucleus. As mentioned above, we have distinct sets of elements in each position-class, i.e. the above elements belong to different position-classes. The set to which the element "?aṣṣaiādu/" 'the hunter' belongs, ends with either "/u/" or "/un/" of the "nominative" sign, whereas the element "?alʔasada/" 'the lion' belongs to a set whose elements ends with "/a/" or "/an/" of the "accusative" sign. Moreover, we cannot ascertain that the relation between the peripheral constituents "?aṣṣaiādu/" 'the hunter' and the nuclear element "/qatala/" (3MS, pf.) 'kill', i.e. (?aṣṣaiādu → qatala), is different from the relation between the peripheral constituent "?alʔasada/" 'the lion' and "/qatala/" (3MS, pf.) 'kill', i.e. (?alʔasada → qatala). Note that in MSA, permuting of the elements, i.e. the change of ordering of the elements, on the realisational level would not lead to producing two, or more, syntagms that are functionally distinct. In other words, it makes no difference whether we say:

- "/qatala ʔaṣṣaiādu ʔalʔasada/"
- or "/qatala ʔalʔasada ʔaṣṣaiādu/"
- or "/ʔaṣṣaiādu qatala ʔalʔasada/"
- or "/ʔalʔasada qatala ʔaṣṣaiādu/"

Hence, we encounter 'parallel' determination. The relations between

the immediate constituents of this syntagm, which represents one type of the verbal predicative based syntagm in MSA, may be represented as follows:

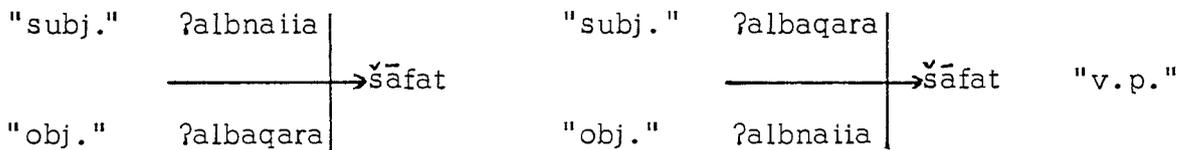


It may be concluded from what has been said above that the only type of determination we encounter within the VPB syntagm of MSA is 'parallel' determination. It is interesting, however, to mention that the situation in the Arabic dialects is different. Within the dialects, we encounter 'diverse' determination. This is due to the absence of case which plays an outstanding role in determining the type of determination within a syntagm. For this purpose, consider:

"/šāfat ʔalbnaia ʔalbaqara/" 'the girl saw the cow'
 (3FS, pf.) 'see' (the + girl) (the + cow)

The above syntagm is a combination of three immediate constituents of which "/šāfat/" 'she saw' is the nucleus. Each of the peripheral elements "/ʔalbnaia/" 'the girl' and "/ʔalbaqara/" 'the cow' is standing in a relation of sub-ordination with respect to the nucleus. By permuting the peripheral elements of the above syntagm we got the syntagm "/šāfat ʔalbaqara ʔalbnaia/" 'the cow saw the girl'. The above two syntagms contain the same constituents, but convey two different messages. The syntactic functions of the peripheral elements

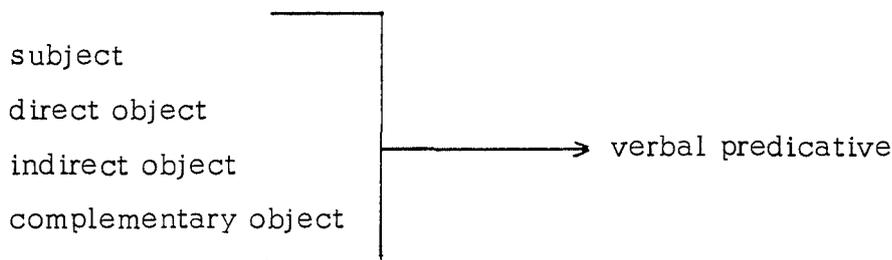
in the first syntagm is different from the syntactic functions of the peripheral elements in the second. In the first syntagm the element "/ʔalbnaiia/" 'the girl' functions as 'subject'⁽¹⁾ whereas the element "/ʔalbaqara/" functions as 'object'. In the second syntagm, i.e. "/šāfat ʔalbaqara ʔalbnaiia/" 'the cow saw the girl', the element "/ʔalbaqara/" functions as 'subject' whereas the element "/ʔalbnaiia/" functions as 'object'. In other words, the relations exhibited by the peripheral elements in the first syntagm are functionally different from the relations exhibited by the two peripheral elements in the second syntagm. On the basis of these different relations, the elements "/ʔalbnaiia/" 'the girl' and "/ʔalbaqara/" 'the cow' are said to stand in a relation of 'diverse' rather than 'parallel' determination with respect to the nucleus "/šāfat/" (3FS, pf.) 'see'. Accordingly, the syntactic structure of the above syntagms may be represented as follows:



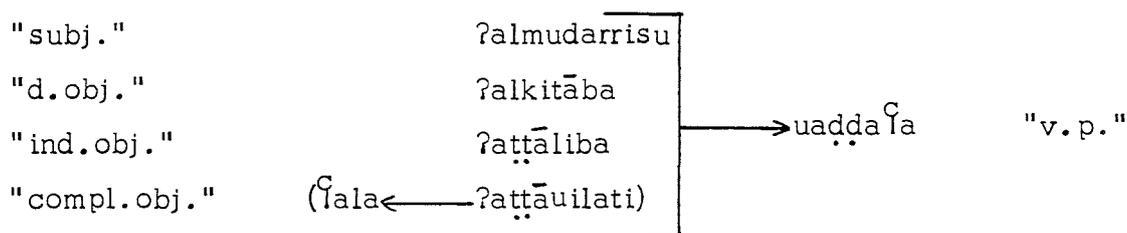
Now, let us return to the issue of establishing the distributional unit of the VPB syntagm in MSA (cf. 7.2.). We have established five positions for the syntagm in question, namely 'verbal predicative', 'subject', 'direct object', 'indirect object', and 'complementary object'. Further, we have

(1) Note that in the dialects, the 'subject' and the 'object' are characterised by certain properties, i.e. they can be identified by different methods. However, we shall not deal with these properties here as such discussion lies outside the scope of this thesis.

demonstrated in the above analysis that within the VPB syntagm in MSA we encounter 'parallel' determination. Therefore, the underlying structure⁽¹⁾ of the syntagm in question can be schematised as follows:



Now, we are in a position to show how the constituents of the syntagm "/uadḍaḡa ʔalmudarrisu ʔaṭṭāliba ʔalkitāba ḡala ʔaṭṭāuilati/" 'the teacher made the student put the book on the table' (cf. Ibid.), can be accommodated in the above model:



Having subjected the five-position model 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 a position to adopt it as a valid, i.e. unrefuted, descriptive statement.

In the following section, we are going to test the adequacy of

(1) "Underlying structure" for "abstract representation of a chain in terms of positions with or without indication of functional dependencies, or occurrence dependencies (Mulder, 1980(c), Def:14c).

the above model by establishing all the VPB syntagms in MSA which map onto it. These syntagms, as we shall see, vary according to the nature of the verbal nucleus in each of them, i.e. whether this verbal predicative nucleus is transitive or intransitive and what kind of transitivity or intransitivity it is.

7.4. Types of the verbal predicative nucleus within the VPB syntagm

With respect to the VPB syntagm, different types of nucleus, corresponding closely to the different types of objects and complements, can be found within these syntagms (see below). These nuclei may refer either to transitive verbal predicative or to intransitive verbal predicative. Both transitive and intransitive verbal predicatives, in their turn, include different types of verbal predicative. The traditionally recognised terms "transitive", "intransitive", etc. are applied as mere classificatory labels for the different types of verbal predicatives. However, we retained these terms for the sake of the reader's convenience since they are most widely understood and accepted. Terms of the aforementioned kind will, in this work, be taken to refer not only to the verbal element⁽¹⁾ which stands in the nuclear position, but to the classification of verbal predicatives and derivatively of syntagms, in that the nucleus selects which position may be filled. In what follows, we are going to present the different types of the verbal predicative nucleus, with all the relevant information of each type.

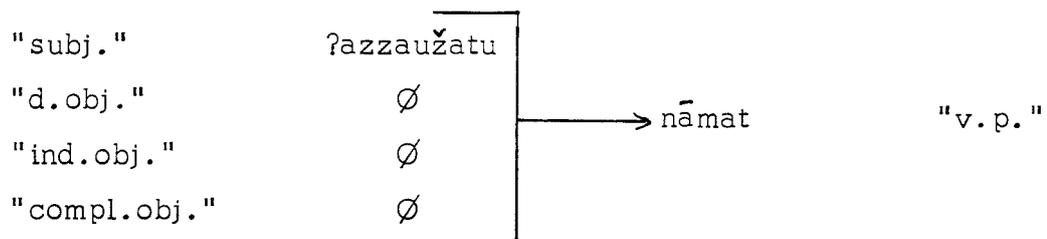
(1) Terms such as "transitive" "intransitive" in traditional grammar are used to refer exclusively to verbs which may, or may not, take an object.

7.4.1. Intransitive verbal predicative

This type of verbal predicative cannot appear with any element in either of the two positions: "direct object" or "indirect object", e.g. "/iahduru/" (3MS, impf.) 'roar', "/?irtafa⁹a/" (3MS, pf.) 'rise', "/za?ara/" (3MS, pf.) 'roar', "/hada?a/" (3MS, pf.) 'become calm'. As an instance representing this type of verbal predicative, consider:

"/nāmat ?azzaužatu/" 'the wife slept'

This syntagm is a self-contained bundle of two immediate constituents of which "/nāmat/" (3FS, pf.) 'sleep' is the nucleus. For its function, the element "/?azzaužatu/" 'the wife' is standing in a direct relation of sub-ordination to the nucleus, i.e. the constituent "/?azzaužatu/" 'the wife' depends on the nucleus element "/nāmat/" (3FS, pf.) 'sleep' but not vice versa. The structure of the above syntagm can be represented in the following manner:



It should be noted, however, that the element "/?azzaužatu/" is assigned to the "subject" position because it ends with the allomorph "/u/" of the nominative, and controls verb agreement.

As the nuclear element within the intransitive VPB syntagm can

occur on its own, it follows that the peripheral element is an expansion, i.e. it can be replaced by 'zero'. Being an expansion, the element "/ʔazzaužatu/" 'the wife' of the above syntagm depends, for its occurrence, on the verbal predicative element "/nāmat/". That is, as an instance of the intransitive VPB syntagm, the constituent "/namat/" (3FS, pf.) 'sleep' does not require the presence of a bound element to actualise it; consequently, it is a free nucleus.

Note that in realisation, the elements filling the 'subject' position are readily identifiable in all types of the VPB syntagm in MSA, as they are indicated by the form of the predicative, i.e. person, gender and number are expressed within the form of the predicative. With every verbal predicative type there is one with a subject and one without it. For instance, we can have

	"/katabat ʔalbintu risālatan/"	'the girl wrote a letter'
or	"/katabat risālatan/"	'she wrote a letter'

In this sense, the "subject" element figures as a peripheral expansion in all types of the VPB syntagm in MSA.

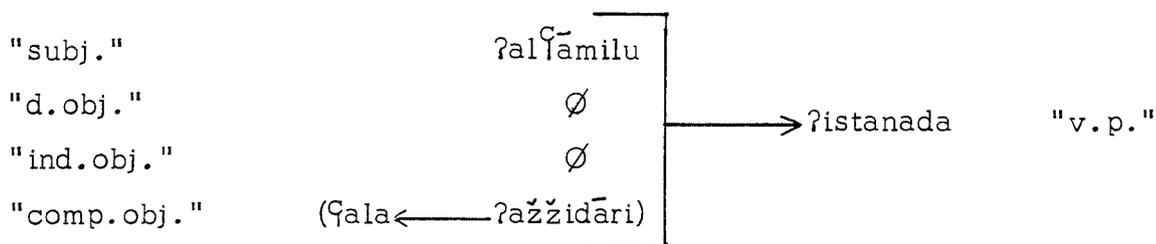
7.4.2. Complementary intransitive verbal predicative

The prominent feature of this type of verbal predicative is that it must appear with a bound element in the "complementary object" position. Examples of this type of verbal predicative are: "/ʔistanada/" (3MS, pf.) 'lean', "/ʔiqtaraba/" (3MS, pf.) 'approach', "/ʔistafāda/" (3MS, pf.) 'benefit from'. As an instance containing the above type of

verbal predicative, consider:

"/ʔistanada ʔalʕāmilu ʕala ʔažžidāri/" 'the worker leaned on the wall'

This syntagm has three immediate constituents of which "/ʔistanada/" (3MS, pf.) 'lean' is the nucleus. Each of "/ʔalʕāmilu/" 'the worker' in the 'subject' position and "/ʕala ʔažžidāri/" 'on the wall' in the "complementary object" position, ⁽¹⁾ is standing in a direct relation of sub-ordination to the nuclear element. The above elements are assigned to their relevant positions as they belong to different position-classes, i.e. the element "/ʔalʕāmilu/" 'the worker' belongs to a class which ends with the allomorph "/u/" of the nominative sign, whereas the prepositional phrase "/ʕala ʔažžidāri/" 'on the wall' belongs to another position-class. The above syntagm can be mapped onto the model of the VPB syntagm in the following manner:

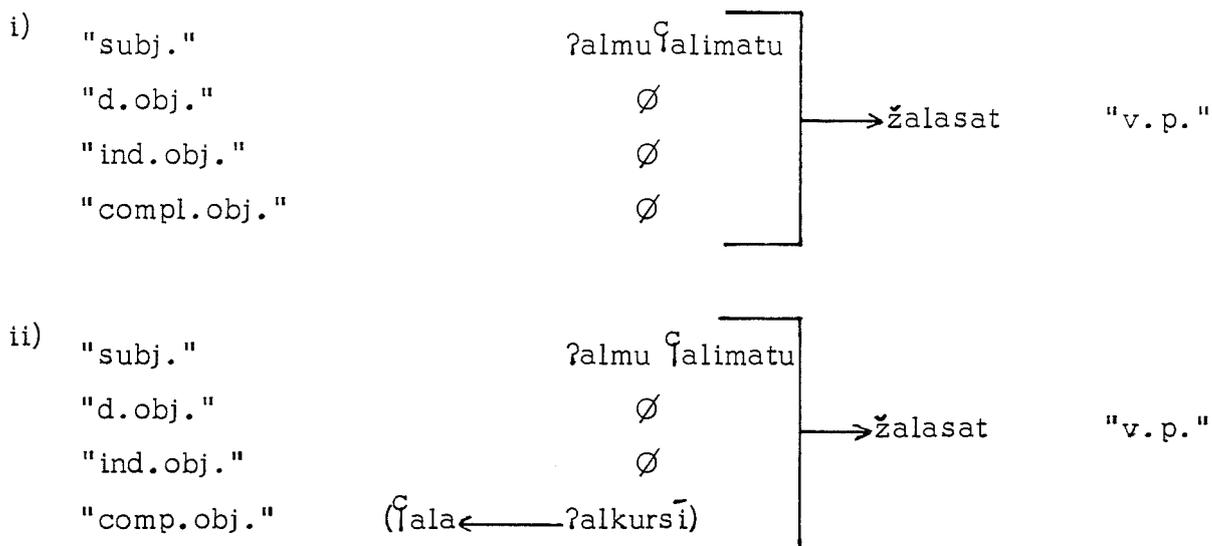


On the level of realisation, the nucleus of the syntagm in question is not free since it has to be actualised by an obligatory element.

(1) The complementary object always figures as a complex syntagmatic element, i.e. a syntagm the nucleus of which is a "functional". "Functionals" are entities like 'prepositions', 'relative pronouns' of traditional grammar, or some other particles. For a detailed discussion of 'functional syntagms' in MSA see chapter IX.

7.4.3. Non-complementary intransitive verbal predicative

The term "non-complementary" refers to a type of nucleus which can stand in two syntagms: one with prepositional phrase and one without it. This type of verbal predicative occurs in the syntagm patterns, intransitive and complementary intransitive. Examples of the type in question are: "/žalasa/" (3MS, pf.) 'sit', "/šahaba/" (3MS, pf.) 'go'. In a syntagm such as "/žalasaṭ ʔalmuḡalimatu/" 'the female teacher sat down', the verbal predicative "/žalasaṭ/" (3FS, pf.) 'sit down' behaves as intransitive, whereas it behaves as complementary intransitive in a syntagm such as "/žalasaṭ ʔalmuḡalimatu ḡala ʔalkursī/" 'the female teacher sat on the chair' (cf. 7.4.1.-2.). The constituent "/ʔalmuḡalimatu/" 'the female teacher' occupies the "subject" position in both syntagms since it has the allomorph "/u/" of the "nominative", whereas the constituent "/ḡala ʔalkursī/" 'on the chair' fills the "complementary object" position. The structures of the above two syntagms may be represented as follows:



On the level of utterance, the nucleus in each of the above syntagms is a free one.

7.4.4. Transitive verbal predicative

The characteristic feature of this type of verbal predicative is its potentiality to appear with an obligatory, i.e. bound, peripheral in the "direct object" position. Examples of the above type are:

"/ḍaraba/" (3MS, pf.) 'hit', "/iuḥibu/" (3MS, impf.) 'like', "/qatala/" (3MS, pf.) 'kill', "/ṣarasa/" (3MS, pf.) 'plant'. An instance containing this type of verbal predicative is the syntagm:

"/iuḥibu ʔattāžiru ʔassafara/" 'the merchant likes travelling'

This syntagm is a self-contained bundle of three constituents of which "/iuḥibu/" (3MS, impf.) 'like' is the nucleus. This nucleus governs the tactic functions of the other two peripheral constituents "/ʔattāžiru/" 'the merchant' and "/ʔassafara/" 'travelling' in the "subject" and the "direct object" positions, respectively. The assignment of these two constituents to the aforementioned positions depends on the case ending of each element. The element "/ʔattāžiru/" has the allomorph "/u/" of the nominative sign and thus it belongs to the subject position-class, whereas the element "/ʔassafara/" has the allomorph "/a/" of the accusative sign in addition to the fact that it is inanimate and commutes with the pronominal "/hu/" 'it', thus it belongs to the "direct object" position-class. The relation between the immediate constituents of the above syntagm can be shown by the following structure:

"subj."	ʔattažiru	} → iuḥibu	"v.p."
"d.obj."	ʔassafara		
"ind.obj."	∅		
"compl.obj."	∅		

In terms of realisation, since the constituent "/iuḥibu/" (3MS, impf.) 'like', demands the presence of the actualiser "/ʔassafara/" 'travelling', hence it is not free.

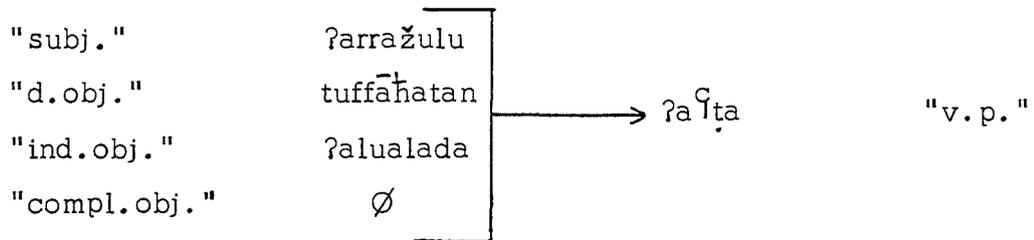
7.4.5. Ditransitive verbal predicative

The essential feature of this type of verbal predicative is that it appears with bound elements filling the "direct object" and the "indirect object" positions. Examples of this type are: "/ʔaḡṭa/" (3MS, pf.) 'give', "/ʔalbasa/" (3MS, pf.) 'dress', "/manaḥa/" (3MS, pf.) 'award'. An instance representing the relevant information is:

"/ʔaḡṭa ʔarražulu ʔalualada tuffāḥatan/" 'the man gave the boy an apple'

This syntagm is a combination of four immediate constituents of which "/ʔaḡṭa/" (3MS, pf.) 'give' is the nucleus. Since the constituent "/ʔarražulu/" 'the man' ends with the allomorph "/u/", it is assigned to the "subject" position. The elements "/ʔalualada/" 'the boy' and "/tuffāḥatan/" 'an apple', which end with the allomorphs "/a/", "/an/" of the accusative, are assigned to the positions "indirect object" and "direct object", respectively. This is due to the fact that the former is an animate and commutes with the pronominal "/hu/" 'him', whereas the latter is an inanimate (cf. 7.2.). Each of the above peripheral

constituents is standing in a direct relation of sub-ordination with respect to the nucleus "/ʔaḡta/". The syntagmatic relations between the constituents of the syntagm in question can be shown by mapping these constituents onto the model of the VPB syntagm as follows:



7.4.6. Non-ditransitive verbal predicative

The label "non-ditransitive" is given to this type of verbal predicative as it may appear with an optional element in the "indirect object" position. As such, this type of verbal predicative behaves like a transitive verbal predicative and a ditransitive verbal predicative. Examples are: "/ḡamila/" (3MS, pf.) 'make', "/taxaiiala/" (3MS, pf.) 'imagine'. Put differently, this verbal predicative can occur in the syntagm patterns:

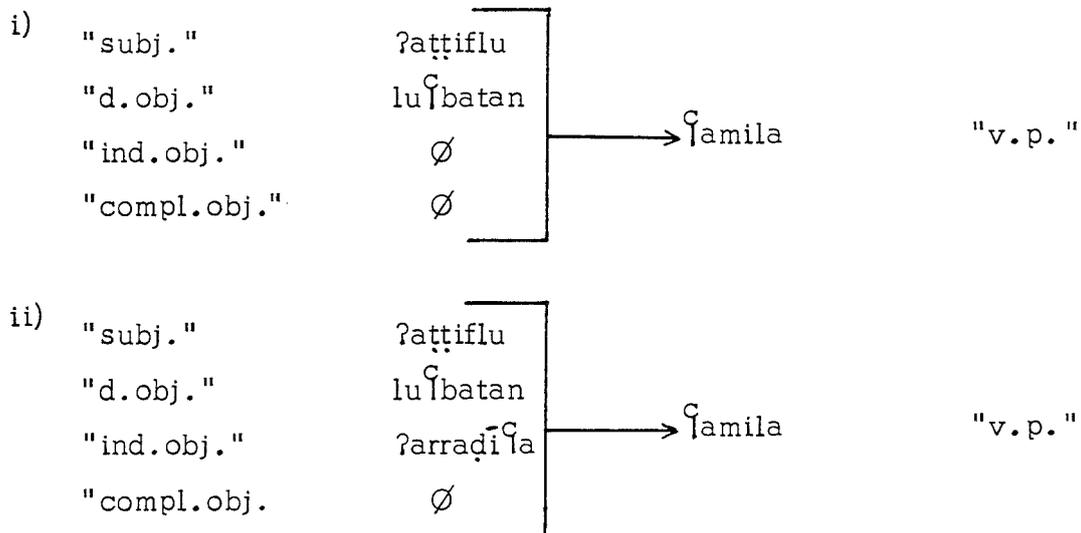
i) transitive, e.g.

"/ḡamila ʔaḡḡiflu luḡbatan/" 'the child made a toy'

ii) ditransitive, e.g.

"/ḡamila ʔaḡḡiflu ʔarraḡiḡa luḡbatan/" 'the child made the infant a toy', or, more accurately, 'the child made a toy out of the infant'. The above two syntagms are self-contained bundles of three and four immediate constituents, respectively. As the identity element of both syntagms is the constituent "/ḡamila/" (3MS, pf.) 'make', therefore, it occupies

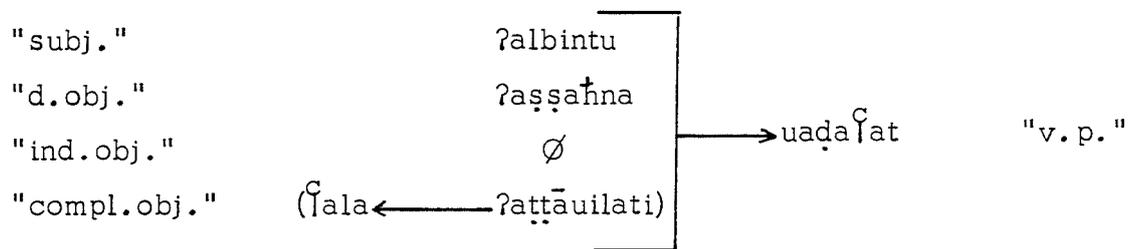
the 'nuclear' position in both of them. For the same considerations stated in the previous sections, the constituents "/ʔaṭṭiflu/" 'the child' and "/luḴbatan/" 'a toy' of both syntagms fill the "subject" and the "direct object" positions, respectively, whereas the constituent "/ʔarraḁīḴa/" of the second syntagm occupies the "indirect object" position. Moreover, each of the peripherals in each of the above syntagms is standing in a direct relation of sub-ordination to the nucleus "/Ḵamila/" (3MS, pf.) 'make'. All the relevant information can be represented in the following two structures:



7.4.7. Complementary transitive verbal predicative

The defining feature of this type of verbal predicative is its potentiality to appear with two obligatory elements in the "direct object" and the "complementary object" positions, e.g. "/uaḁaḴa/" (3MS, pf.) 'put', "/ʔaxaḴa/" (3MS, pf.) 'take', "/hannaʔa/" (3MS, pf.) 'congratulate'. The syntagm "/uaḁaḴat ʔalbintu ʔaḴḴaḁna Ḵala ʔaṭṭāuilati/" 'the girl put the plate on the table' provides an example

of a VPB syntagm containing the above type of nucleus. The constituent "/uada^Ĉat/" (3FS, pf.) 'put' fills the "verbal predicative", i.e. 'nuclear', position. The constituent "/ʔaṣṣaḥna/" 'the plate' fills the "direct object" position, whereas the immediate constituent "/ʔala ʔattāuilati/" 'on the table' occupies the "complementary object" position. (1) In order to account for the whole field of the syntagmatic relations within the above syntagm, we may represent it in the following manner:



As the two elements "/ʔaṣṣaḥna/" 'the plate' and "/ʔala ʔattāuilati/" 'on the table', on the level of realisation, contract a relation of bilateral occurrence dependency (cf. 4.6.) with the nucleus, then, the nucleus is not free.

7.5.8. Non-complementary transitive verbal predicative

The characteristic feature of this type of verbal predicative is that it can appear with an obligatory element in the "direct object" position and an optional element in the "complementary object" position, e.g. "/bara/" (3MS, pf.) 'sharpen', "/sažžala/" (3MS, pf.) 'write down', "/ʔaṭṭa/" (3MS, pf.) 'cover'. In this sense, this type of

(1) For the assignment of the constituents to their relevant positions, see sections 7.4.1.-5.).

verbal predicative occurs in the syntagm patterns:

i) transitive, e.g.

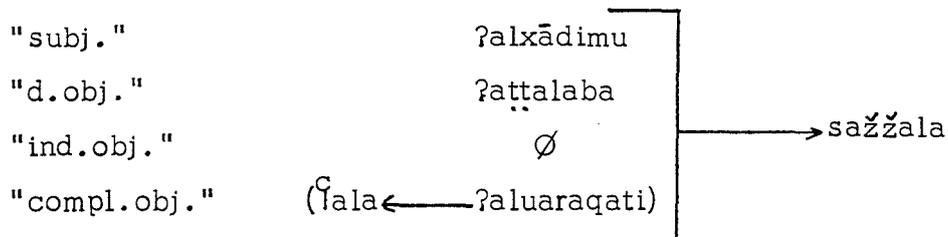
"/bara ʔaṭṭālibu ʔalqalama/" 'the student sharpened the pencil'

ii) complementary transitive, e.g.

"/bara ʔaṭṭālibu ʔalqalama bilsikini/" 'the student sharpened the pencil with the knife'

In order to proceed with our analysis of the above verbal predicative, i.e. non-complementary transitive, consider the syntagm: "/sažžala ʔalxādimu ʔaṭṭalaba ʔala ʔaluarāqati/" 'the waiter wrote the order on the paper'. This syntagm provides an example representing the above type of verbal predicative. This syntagm consists of four immediate constituents of which "/sažžala/" (3MS, pf.) 'write' is the nucleus. Each of the other constituents, "/ʔalxādimu/" 'the waiter' in the "subject" position, "/ʔaṭṭalaba/" 'the order' in the "direct object" position and "/ʔala ʔaluarāqati/"⁽¹⁾ 'on the paper' in the "complementary object" position (cf. 7.4.1.-5.), is standing in a direct sub-ordinative relation with respect to the nucleus. As in the previous cases, the verbal predicative element in the nuclear position governs the syntactic functions of the other three peripherals within the above syntagm. All the relevant information can be represented in the following way:

(1) The constituent "/ʔala ʔaluarāqati/" 'on the paper' constitutes a functional syntagm (cf. chapter IX).



7.4.9. Optional transitive verbal predicative

This type of verbal predicative occurs in the syntagm patterns:

i) transitive, e.g.

"/darrasat fāṭimatu ʔatta ʔrīxa/" 'Fatima taught history'

ii) ditransitive, e.g.

"/darrasat fāṭimatu ʔalbinta ʔatta ʔrīxa/" 'Fatima taught the girl history'

iii) with indirect object but no direct object, e.g.

"/darrasat fāṭimatu ʔalbinta/" 'Fatima taught the girl'

In this sense, what characterises a syntagm containing the verbal predicative in question is that either the element occupying the "direct object" position or the element filling the "indirect object" position has to be bound. In the above syntagms, the element "/darrasat/" (3MS, pf.) 'teach' is the nucleus towards which each of the peripheral constituents stands in a direct relation of sub-ordination. The structures of the syntagms in question can be shown as follows:⁽¹⁾

(1) For the assignment of the elements to their relevant positions, see 7.4.1.-5.

i)	"subj."	fāṭimatu	} → darrasat	"v. p."
	"d. obj."	?atta ?rīxa		
	"ind. obj."	∅		
	"compl. obj."	∅		
ii)	"subj."	fāṭimatu	} → darrasat	"v. p."
	"d. obj."	?atta ?rīxa		
	"ind. obj."	?albinta		
	"compl. obj."	∅		
iii)	"subj."	fāṭimatu	} → darrasat	"v. p."
	"d. obj."	∅		
	"ind. obj."	?albinta		
	"compl. obj."	∅		

7.4.10. Optional complementary transitive verbal predicative

This type of verbal predicative occurs in the syntagm patterns:

i) transitive, e.g.

"/?axbara ?aluazīru ?annāsa/" 'the minister told the people'

ii) complementary transitive, e.g.

"/?axbara ?aluazīru ?annāsa bil?amri/" 'the minister told the people of the matter'

iii) with complementary object but no direct object, e.g.

"/?axbara ?aluazīru bil?amri/" 'the minister told of the matter'

According to the above three environments, we may say that the defining feature of a syntagm containing the verbal predicative in question is

object", "indirect object" and the "complementary object" positions.

As an instance containing the above verbal predicative, consider:

"/uaḏḏa^Ḡat suhādu ʔalualadu ʔannuqūda fi ʔalhaqībati/" 'Suhad made

the boy put the money in the bag'. This syntagm is a self-contained

bundle of five positions: a verbal predicative in the nuclear position

governing the syntactic functions of four peripherals in the positions

"subject", "indirect object", "direct object" and "complementary

object". The constituent "/uaḏḏa^Ḡat/" (3FS, pf.) 'make put' occupies

the nuclear position, whereas the constituents "/suhādu/" 'Suhad',

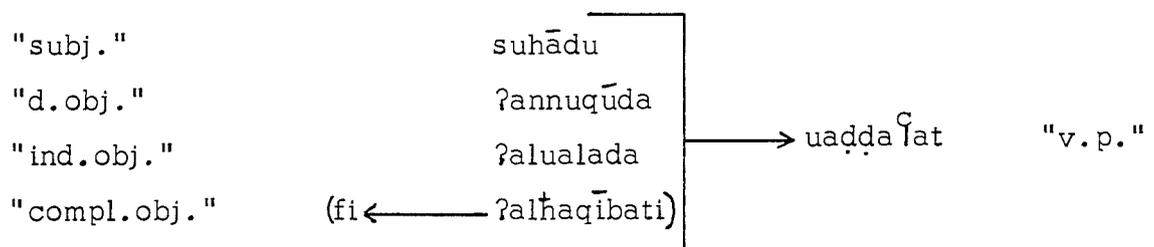
"/ʔalualadu/" 'the boy', "/ʔannuqūda/" 'the money' and "/fi

ʔalhaqībati/" 'in the bag' fill the positions "subject", "indirect object",

"direct object" and "complementary object", respectively. The above

syntagm can be mapped onto the model established to account for the

whole field of relations within the VPB syntagm in MSA as follows:



The table below shows the different types of the verbal predicative, and how they appear within the VPB syntagm in MSA.

	Type of verbal predicative	nucleus	d.obj.	ind.obj.	compl.obj.
1	Intransitive	F			
2	Complementary intransitive	A			+
3	Non-complementary intransitive	F			x
4	Transitive	A	+		
5	Ditransitive	A	+	+	
6	Non-ditransitive	A	+	x	
7	Complementary transitive	A	+		+
8	Non-complementary transitive	A	+		x
9	Optional transitive	A	"x"	"x"	
10	Optional complementary transitive	A	"x"		"x"
11	Complementary ditransitive	A	+	+	+

A For an actualised nucleus

F For a free nucleus

x For an expansion element

+ For a bound element

"x" For either bound or expansion

7.5. Non-verbal predicative nucleus⁽¹⁾

This type of nucleus can be represented by an adjective,⁽²⁾ a prepositional phrase, or a noun. An adjective is an element which

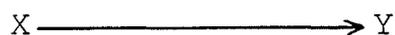
(1) Note that this type of nucleus should be included within the discussion of the intransitive verbal predicative cited above, since it can be mapped onto the distributional unit of the VPB syntagm in the same way the intransitive verbal predicative fitted. We set up a separate section for the non-verbal predicative to avoid the confusion with verbal predicative nucleus, and to make it easier for the reader to distinguish both nuclei.

(2) It should be noted that the terms "adjective", "prepositional phrase" and "noun" are taken in the traditional sense.

agrees with the nominal it modifies in case, gender and number. A prepositional phrase is a syntagm which contains a complement determining a functional (cf. chapter IX). A noun, like an adjective, is an element which agrees with the nominal functioning as a subject in case, gender and number. The following syntagms provide examples containing a non-verbal predicative nucleus:

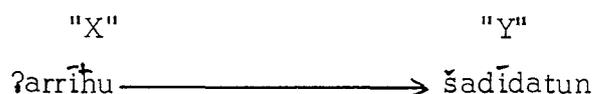
1. "/ʔarriḥu šadīdatun/" 'the wind is strong'
(the + wind) (strong)
2. "/ʔalqalamu ʕala ʔaṭṭāuilati/" 'the pencil is on the table'
(the + pencil) (on) (the + table)
3. "/muḥammadun raḣulun/" 'Mohammed is a man'
(Mohammed) (a man)

In an identical procedure to the one followed in establishing a distributional unit for the relations within the VPB syntagm (cf. 7.3.) above, we can demonstrate that non-verbal predicative based syntagm, henceforth NVPB syntagm, is a self-contained bundle of two positions: a non-verbal predicative in "Y" position governing the tactic function of a peripheral element in "X" position. This implies that "Y" is the nuclear position, and "X" is a peripheral position. The two-position model set up for the whole field of syntactic relations involved within the syntagm in question is the following:



Any of the above three syntagms provides an example which can fill the above two positions. For instance, the syntagm "/ʔarriḥu

šadīdatun/" 'the wind is strong', i.e. example (1), is a self-contained bundle of two immediate constituents of which "/šadīdatun/" 'strong' is the nucleus. It is recognised as the nucleus because it is the identity element of the syntagm in question, and thus it fills the "Y" position. The peripheral element "?arrihu/" 'the wind' stands in a relation of sub-ordination with respect to the nucleus. This syntagm can be mapped onto the above model as follows:

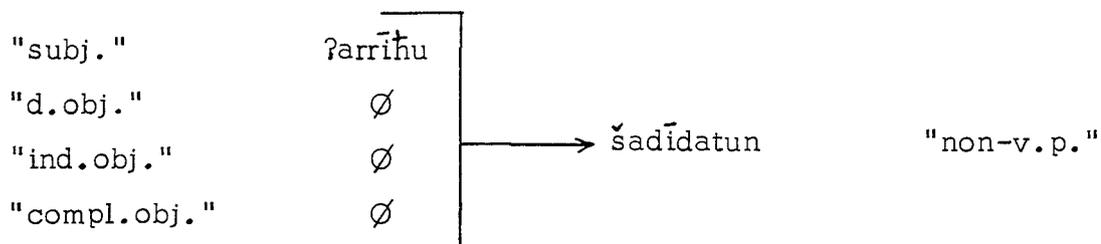


By investigating the position-class of the elements "?arrihu/" 'the wind', "?alqalamu/" 'the pencil' and "muhammadun/" 'Mohammed' of the above syntagms we find that they belong to the same set of elements which constitutes the "subject" position-class of the VPB syntagm, i.e. they have the allomorphs "/u/", "/un/" of the nominative case, e.g. "?albintu/" 'the girl', "?arražulu/" 'the man', "?alkalbu/" 'the dog', "?alhišānu/" 'the horse', etc. In the same manner, we may say that the nucleus of the non-verbal predicative syntagm can stand in the same position of an intransitive verbal predicative in the model of the VPB syntagm since it can properly commute with it, consider:

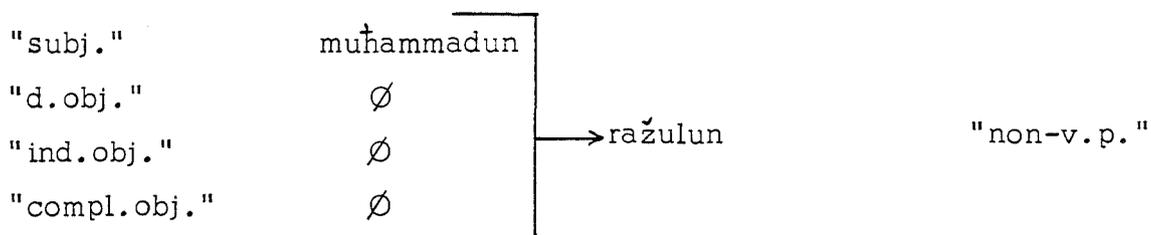
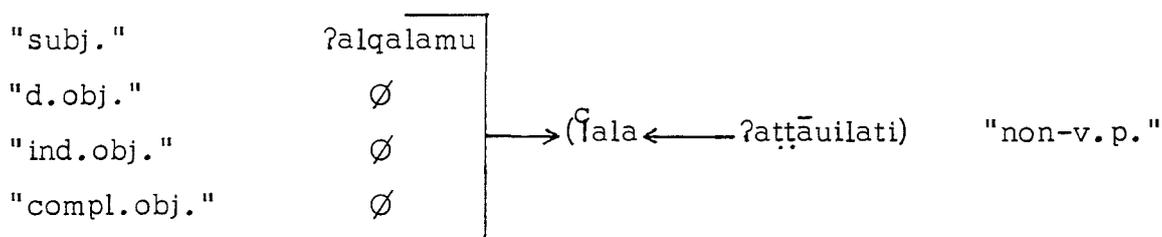
"/?albintu nā?imatun/"	'the girl is sleeping'
"/?albintu našītatun/"	'the girl is active'

This, in effect, means that the NVPB syntagm can be mapped onto the

distributional unit of the VPB syntagm (cf. 7.3.2.) in the same way we mapped the intransitive VPB syntagm onto it. Accordingly, the structure of the syntagm "/ʔarriḥu šadīdatun/" can be represented as follows:



In a parallel fashion the other two examples, i.e. (2) and (3) above, can be mapped onto the model:



It may be concluded from what has been said above that the five-position model is sufficient in that all syntagms identified can be mapped onto it.

7.6. Realisations of the predicatives

In the realisation of the predicative (verbal and non-verbal) based syntagms of MSA, the constituents may succeed one another in

different sequential orders. The order of the constituents of a syntagm, as we shall see below, varies according to the presence of the constituents and their common usage from one syntagm to another. In some cases, certain realisation is used to lay emphasis on certain constituent which makes it necessary to change the order of that constituent.

In order to discuss the realisation of the VPB syntagm, we are going to start with the most common order and then proceed to the other cases of sequential orders.

The normal word-order of a VPB syntagm in MSA is the following sequences:

1. verbal predicative - subject - indirect object - direct object - complementary object
2. subject - verbal predicative - indirect object - direct object - complementary object

Note that the above word-order always applies, no matter whether any of the above constituents, apart from the verbal predicative, is present or not.

When an emphasis is made on any one of the other constituents, i.e. indirect object, direct object, or complementary object, the emphasised element usually comes at the beginning of the syntagm. Thus, we may have:

3. indirect object - verbal predicative - subject - direct object -
complementary object
4. direct object - verbal predicative - subject - indirect object -
complementary object
5. complementary object - verbal predicative - subject - indirect
object - direct object

When a syntagm contains an auxiliary verb such as "/kāna/"
(3MS, pf.) 'be', the order of the elements will be:

1. auxiliary - subject - verbal predicative - indirect object -
direct object - complementary object
2. subject - auxiliary - verbal predicative - indirect object -
direct object - complementary object

Note that the auxiliary should always precede the verbal predicative.

Note also that the same procedure above holds for the emphatic elements.

As far as the NVPB syntagm is concerned, the most common
realisation of this syntagm is the sequence:

subject - non-verbal predicative

The order:

non-verbal predicative - subject

can also be used, but it is less admissible.

When a NVPB syntagm includes an auxiliary we may have the following sequences:

1. auxiliary - subject - non-verbal predicative
2. subject - auxiliary - non-verbal predicative

When emphasised, the non-verbal predicative may precede the auxiliary and the subject:

non-verbal predicative - auxiliary - subject

To sum up, there are common realisations for the verbal predicative based syntagm as well as the non-verbal predicative based syntagm in MSA (see above), but this does not mean that other realisations are inadmissible in the data. When an emphasis is made on one of the constituent elements of a syntagm, we may have a different realisation; and this depends to a large extent on which element the emphasis falls. The emphasised element may precede the other elements.

CHAPTER VIII

PREDICATIVE SYNTAGM

8.1. Introduction

It has been pointed out in chapter IV that syntax deals with the syntactic relations between the syntagmatic entities in grammar, i.e. between pleremes or syntagms. As these syntactic relations are the essential feature of syntax, therefore, our task is to determine and describe the syntactic relations which may hold between the constituent elements of the predicative syntagm (verbal and non-verbal) in Modern Standard Arabic. Such syntactic analysis should be approached, according to the Axiomatic Functionalist theory, by analysing the syntagm into its immediate constituents first, and then establishing the kind of relation which holds between these immediate constituents, i.e. whether they are in sub-ordinative, co-ordinative, or inter-ordinative relations. If we find that the immediate constituents are in a relation of sub-ordination, we have to identify the nuclear and peripheral elements of the syntagm in question. Following that, however, we shall give the syntactic structures of various aspectual phenomena in the language under consideration.

8.2. Verbal and Non-verbal predicative syntagms

The term predicative syntagm, in the present work, will refer to any syntagm whose nuclear position is filled by a predicate. In

MSA two types of predicative syntagms are linguistically distinguished: verbal predicative and non-verbal predicative. The verbal predicative syntagm represents a syntagm whose 'nuclear' position is, as we shall see below, always filled by a 'verb', whereas the nuclear position in the non-verbal predicative syntagm may either be occupied by an 'adjective', a 'noun' or a 'prepositional phrase' (see below).

8.2.1. Verbal predicative syntagm

In this section we shall establish and discuss the syntactic relations which may exist between the constituents of the verbal predicative syntagm in MSA. To deal with the syntactic relation, we shall start the analysis by setting up a model to account for the relations within the syntagm in question. Now consider the syntagm:

"/ʔalbintu kānat talʕabu ʔaššitranža/" 'the girl was playing chess'
(the + girl) (3FS, pf) 'be' (3FS, impf.) 'play' (the + chess)

This syntagm is analysable into the following pleremes:

ʔalbintu / kānat / talʕabu / ʔaššitranža

By grouping the above pleremes of the syntagm in question, we get the following immediate constituents:

/ʔalbintu / kānat talʕabu / ʔaššitranža

Separate tests, i.e. direct and indirect relations, and a valid commutation, would show that the syntagm "/kānat talʕabu/" 'she was playing' is the identity element of the above syntagm, i.e. the nucleus (cf.7.3). This syntagm is a combination of the immediate constituents:

kānat / talʕabu

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

1. $k\bar{a}nat \longleftrightarrow tal^{\text{G}}abu$
2. $k\bar{a}nat \begin{array}{c} \longleftarrow \\ \diagup \\ \longrightarrow \end{array} tal^{\text{G}}abu$
3. $k\bar{a}nat \longleftarrow tal^{\text{G}}abu$
4. $k\bar{a}nat \longrightarrow tal^{\text{G}}abu$

The first structure shows that the constituent $"/k\bar{a}nat/"$ (3FS, pf) 'be', for its function, depends on the constituent $"/tal^{\text{G}}abu/"$ (3FS, impf) 'play' and vice versa, i.e. this is a case of interordination where the relation between the two elements is both of sub-ordination and of super-ordination. This also means that, on the realisation level, the two elements are, for their occurrence, also dependent on one another, i.e. neither of them commutes with 'zero'. However, this is not the case in the above syntagm where we can commute the element $"/k\bar{a}nat/"$ (3FS, pf) 'be' with 'zero' and still have a well-formed syntagm in $"/tal^{\text{G}}abu/"$ 'she plays'. Therefore, the model in question has to be rejected.

The second model shows that the elements $"/k\bar{a}nat/"$ and $"/tal^{\text{G}}abu/"$ contract equivalent relation between each other, i.e. the two elements are in a relation of co-ordination. It also implies that $"/k\bar{a}nat/"$ (3FS, pf.) 'be' is neither for function nor for occurrence dependent on $"/tal^{\text{G}}abu/"$ 'she plays' and vice versa. Since it can be shown that $"/k\bar{a}nat/"$ depends on $"/tal^{\text{G}}abu/"$ but not vice versa, then the relation between $"/k\bar{a}nat/"$ and $"/tal^{\text{G}}abu/"$ cannot be a matter

of co-ordination. Therefore, the second structure has also to be rejected.

Having rejected the first two analysis, we are left with alternatives 3 and 4. The third structure shows that the constituent "/tal^Gabu/" 'she plays' contracts a relation of sub-ordination with respect to "/kānat/" (3FS, pf.) 'be'. This implies that "/tal^Gabu/" is standing in a peripheral position and "/kānat/" in nuclear position, i.e. the constituent "/tal^Gabu/" depends, for its function, on the constituent "/kānat/". Further investigation of the data, however, reveals that replacing the element "/tal^Gabu/", in the syntagm "/ʔalbintu kānat tal^Gabu ʔaššitrānža/" 'the girl was playing chess', with zero does not produce a self-contained syntagm, while it does in the case of "/kānat/". This can be demonstrated as follows:

"/ʔalbintu kānat tal^Gabu ʔaššitrānža/" 'the girl was playing chess'
 "/ʔalbintu ∅ tal^Gabu ʔaššitrānža/" 'the girl plays chess'
 * "/ʔalbintu kānat ∅ ʔaššitrānža/" 'the girl was chess'

Therefore, the third structure is, clearly, not adequate and has to be rejected.

The above facts favour the fourth structure which shows that the element "/kānat/" (3FS, pf.) 'be' stands in a sub-ordinative relation with respect to "/tal^Gabu/" (3FS, impf.) 'play', and by implication it stands in a peripheral position, whereas the constituent "/tal^Gabu/" stands in a nuclear position. Hence "/tal^Gabu/" is identified as the identity element, i.e. the nucleus, of the syntagm

"/kānat tal^ḡabu/" 'she was playing' since it is the element which governs the distribution of the pleremes within the syntagm in question (cf. 7.3). Thus, we shall adopt the fourth hypothesis, in our description, as a valid hypothesis. Consequently, we may say that the verbal predicative syntagm in MSA is a self-contained bundle of two positions: a 'verb' in the 'nuclear' position, and a peripheral in, what we shall label, the 'auxiliary' position. A model to account for the syntactic relations within the verbal predicative syntagm would be:

auxiliary —————> verbal predicative

The syntagm "/kānat tal^ḡabu/" 'she was playing' is mapped onto this model as follows:

kānat —————> tal^ḡabu

In terms of realisation, the occurrence of the constituents within the verbal predicative syntagm is restricted to the order given by the example above, i.e. "kānat tal^ḡabu".

8.2.2. Non-verbal predicative syntagm

In an identical procedure to the one followed in setting up a model for the relations within the verbal predicative syntagm above, we can demonstrate that the non-verbal predicative syntagm 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 auxiliary position. The model set up to account for the syntagmatic relation within the non-verbal predicative syntagm is as follows:

auxiliary —————> non-verbal predicative

An instance which can fill these two positions is the non-verbal predicative "/kānat našīṭatan/" 'she was active' in the syntagm:

"/ʔal fāmilatu kānat našīṭatan/" 'the female worker was active'
(the + 'f' worker) (3FS, pf.) 'be' (active)

The structure of the syntagm "/kānat našīṭatan/" 'she was active' is represented in the following manner:

kānat —————> našīṭatan

In realisation, the element "/kānat/" can be replaced by zero, i.e. is an expansion. Thus we may either have:

"/kānat ʔal fāmilatu našīṭatan/" 'the female worker was active'
or "/∅ ʔal fāmilatu našīṭatan/" 'the female worker is active' (1)

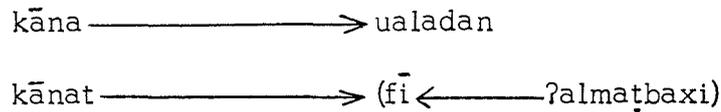
As was mentioned earlier (cf. chapter VII), elements which can stand in the nuclear position of the non-verbal predicative syntagm are "adjectives", as in the above example, "nouns" or "prepositional phrases", consider:

"/kāna ualadan/" 'he was a boy'
(3MS, pf.) 'be' (a boy)

"/kānat fi ʔalmaṭbaxi/" 'she was in the kitchen'
(3FS, pf.) 'be' (in) (the + kitchen)

The above syntagms can be mapped onto the model of the non-verbal predicative syntagm as follows:

(1) Note that when the inflected forms of /kāna/ (3MS, pf.) or /iakūnu/ (3MS, impf.) 'be' precedes a non-verbal predicative, the case sign of that element is changed from the "nominative" to the "accusative".



In terms of realisation, the auxiliary always precedes the predicative.

8.3. The syntactic structures of various aspectual phenomena in MSA

It has been pointed out in chapter III that a distinction is made between two verb categories: "Perfective" and "imperfective". Moreover, we have shown that the perfective as well as the imperfective forms of "the verb", as aspectual phenomena, can be used with auxiliary verbs such as "/kāna/" (3MS, pf.) 'be', "/ṡalla/" (3MS, pf.) 'remain', "/māzāla/" 'be still', etc., in addition to some particles such as "/qad/" 'already', "/lam/" 'not'.

In this section, we are going to show how the structures of the identified aspectual phenomena can be fitted into the model set up to account for the verbal predicative syntagm in MSA (cf. 8.2.1 above).

8.3.1. The particle "/qad/" 'already'

As mentioned earlier (cf. chapter II), this particle can be used with perfective as well as the imperfective forms of the verbal predicative. With the former, it has a disambiguating function, i.e. marking the perfective, consider:

"/qad kataba fauzī ?arrisālata/" 'Fawzi has already written the letter'

whereas it has a modal function, meaning "expectation" or "possibility" with the latter, consider:

"/qad iaktubu fauzī ʔarrisālata/" 'Fawzi may write the letter'. This shows that "/qad/" in the first example and "/qad/" in the second example are two distinct signs since each of them has a particular distinctive function in grammar as well as different denotation. In other words, the two signs "/qad/" are homonyms.

Before we consider how to accommodate each of the above two signs "/qad/" in a position within the syntactic structure of the verbal predicative syntagm (cf. 8.2.1), we must first investigate and decide the kind of grammatical complexity of a complex including the particle "/qad/" within its structure, i.e. whether that complex is morphologically or syntactically complex. This can be done by applying the four successive criteria for the identification of morphological complexes as opposed to syntactic complexes (cf. chapter IV). For the time being let us consider a complex such as: "/qad ʔakalat/" 'she has already eaten', and assume that the entity "/qad/" is a morphological complex.

The above complex satisfies the first criterion since it is a self-contained potential constituent in:

"/qad ʔakalat ʔalbintu ʔattufāḥata/" 'the girl has already eaten the apple'
(already) (3FS, pf.) 'eat' (the + girl) (the + apple)

where it commutes with "/ramat/" (3FS, pf.) 'throw', "/ʔištara/" (3FS, pf.) 'buy', etc.

According to the second criterion, the self-contained potential constituent "/qad ʔakalat/" 'she has already eaten' qualifies as a

complex sign if it contains at least two constituent signs. Again, commutation is the procedure by which we test whether or not "/qad ?akalat/" satisfies the condition of analysability into two or more constituents which can be duly established as signs.

Following the implications of the statements above, we can say that within the tentative complex sign "/qad ?akalat/", it is possible to identify a constituent sign "/qad/" if it recurs in at least one context other than "/qad ?akalat/", with the same form and the same denotation. This holds, of course, only provided that this procedure can be repeated for the other constituent in the complex "/qad ?akalat/" due to the necessary condition stipulated by Axiomatic Functionalism that "unless each of the constituents can be identified as a sign, none of the constituents can be identified as a sign" (Hervey and Mulder, 1980).

On the basis of this, let us launch the hypothesis that the tentative morphological complex "/qad ?akalat/" consists of the constituent signs "/qad/" and "/?akalat/". To test whether or not "/qad/" and "/?akalat/" are signs proper in "/qad ?akalat/", and, by implication, whether or not this tentative morphological complex itself is a proper complex sign we apply the following commutation procedure:

"/qad ?akalat/"

"/qad/"	R	"/?akalat/"
denotation of "/qad/" (already)	which bears some relation to	denotation of "/?akalat/" (she ate)
denotation of "/?akalat/" (she ate)	which bears some relation to	denotation of "/qad/" (already)

"/qad/"	R	"/ʔakalat/"
denotation of "/qad/" (already)	which bears some relation to	denotation of "/ʔakalat/" (she ate)
denotation of "/Ḥumma/" (then)	which bears some relation to	denotation of "/ʔakalat/" (she ate)
denotation of "/qad/" (already)	which bears some relation to	denotation of "/nāmat/" (she slept)

The above test demonstrates that the tentative morphological complex "/qad ʔakalat/" is a complex sign proper, which consists of the constituent signs "/qad/" and "/ʔakalat/".

On the basis of the third criterion, for the tentative morphological complex "/qad ʔakalat/" to be a morphological complex, it must contain simple signs only. If, however, it turns out to be the case that one or more of the constituents of a tentative morphological complex is/are complex, then, the tentative morphological complex cannot, by theorematic criteria, be regarded as a morphological complex proper. Now, let us assume that the entities "/qad/" and "/ʔakalat/" which are established as constituents of the tentative complex "/qad ʔakalat/", as a result of applying the second criterion, are both simple signs. This hypothesis cannot be upheld since it is refuted by the fact that all entities belonging to the verb category in MSA are morphological complex signs, i.e. complex pleremes (cf. chapter V). In other words, it has been demonstrated that an entity such as "/ʔakalat/" (3FS, pf.) 'eat' is a complex plereme consisting of the monemes: verb-root, perfective, active, third person, feminine, and singular. This, in effect, means that the third criterion has been violated, and this is

sufficient for the refutation of the hypothesis that the construction "/qad ?akalat/" is a morphological complex.

Having rejected the hypothesis that the construction under analysis is a morphological complex, we are left only with the 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. For this purpose consider the syntagm "/?akalat ua šaribat/" 'she ate and drank'. This syntagm validly commutes with the constituent "/?akalat/" in the complex sign "/qad ?akalat/" 'she has eaten' producing the functionally different complex sign "/qad ?akalat ua šaribat/" 'she has eaten and drunk', in which case the constituent "/?akalat ua šaribat/" stands in the same type of relation to "/qad/" as "/?akalat/" stands to "/qad/" in "/qad ?akalat/". And since the immediate constituents of this new complex, i.e. "/qad ?akalat ua šaribat/", are not its ultimate ones (see analysis below), it follows that this complex is a syntactic complex, and, by implication, that the complex sign "/qad ?akalat/" is a syntactic, and not a morphological, complex:

qad // ?akalat ua šaribat

?akalat // ua šaribat

ua // šaribat

In the same manner, we can establish the construction "/qad ta?kulu/" 'she may eat' as a syntactic complex, since it has relational hierarchy

within itself.

With regard to the syntactic structure of a construction, it is necessary to establish the kind of relation between its immediate constituents, i.e. whether they are in a relation of sub-ordination, co-ordination or inter-ordination. If the immediate constituents are in sub-ordinative relation, we should establish the nuclear constituent. On investigating this point, we find out that the constituent "/qad/", of the construction "/qad ?akalat/" 'she has already eaten', depends in respect of its syntactic function on the presence of the constituent "?akalat/" which we therefore recognise as the nucleus. We establish the entity "?akalat/" 'she ate' as nucleus since it does not commute with zero (see below), and since it is the identity element for the relation within the construction in question. It is, therefore, syntactically speaking, the most important element in the construction "/qad ?akalat/", without which we cannot have a self-contained syntagm, but not vice versa. This can be demonstrated as follows:

qad ?akalat	'she has already eaten'
∅ ?akalat	'she ate'
qad ∅	'already'

The above commutations also show that the constituent "/qad/" is dependent on the constituent "?akalat/" in the construction "/qad ?akalat/" 'she has already eaten' but not vice versa. Accordingly, the two constituents "/qad/" and "?akalat/" of the construction in question are in a relation of sub-ordination in the sense that one of

them is governing the syntactic relation of the other. The element "/ʔakalat/" will occupy the nuclear position whereas the element "/qad/" will allocate the peripheral position. A model to account for the syntactic relations within the syntagm in question will be:

particle —————> verbal predicative

The syntactic structure corresponding to the syntagm "/qad ʔakalat/" 'she has already eaten', can be represented as follows:

qad —————> ʔakalat⁽¹⁾

Note that the syntagm "/qad taʔkulu/" 'she may eat' can also be mapped onto the above model:

qad —————> taʔkulu

8.3.2. The particle "/lam/" 'not'

As pointed out earlier (cf. chapter II), the negative particle "/lam/" 'not' can only precede the imperfective form of the verbal predicative. In this case the information value of a verbal predicative with imperfective form function as the negation of a perfective form, e.g. "/lam iaktub/" (roughly: 'he did not write').

In order to account for the above entity in a syntactic structure, we shall first investigate the grammatical complexity that may be involved in a complex such as "/lam iadrus/" 'he did not study'. To

(1) For how this model fits into the overall model of the verbal predicative syntagm, see 8.3.3. below.

settle this issue, we shall resort to certain criteria (cf. chapter IV).

Adopting the hypothesis that the tentative construction "/lam idrus/" 'he did not study' is a morphological complex, the complex in question has to satisfy the four criteria set up for the identification of morphological complexes as opposed to syntactic ones.

That the element "/lam iadrus/" 'he did not study' is a self-contained potential constituent is demonstrated by the fact that it forms an immediate constituent in a complex like:

"/lam iadrus ?alualadu fi ?almaktabati/" 'the boy did not study in
the library'

where it commutes with "/?alasa/" 'he sat', "/qara?a/" 'he read', "/kataba/" 'he writes', etc.

The second criterion is satisfied by the following commutations:

lam iadrus	'he did not study'
∅ iadrus	'he studies'
?in iadrus	'if he studies'
lam iadrus	'he did not study'
lam ia?hab	'he did not go'
lam iaktub	'he did not write'

Now, if "/lam iadrus/" is truly morphological complex, then it cannot be the case that any of its immediate constituents is a complex sign. Applying the theoretically based conditions (cf. Hervey and Mulder, 1980) to our example "/lam iadrus/" 'he did not study', we

may come to the conclusion that this sign is not a morphological complex since one of its immediate constituents, i.e. "/iadrus/", as has been demonstrated earlier (cf. chapter V), is not a simple sign. In other words, an element such as "/iadrus/" belongs to the verb category, in MSA, which has been proved to be a complex plereme containing six monemes. That is, the element in question is further analysable into smaller grammatical constituents. Since a complex is either a morphological or syntactic, then, by implication "/lam iadrus/" must be a syntactic complex.

As far as the syntactic structure of the above construction is concerned, the constituent "/lam/" 'not' will occupy the peripheral position "particle" in the model established for the verbal predicative syntagm in MSA. It occupies this position because it constitutes the same 'position class' as that of the particle "/qad/". This can be demonstrated as follows:

"/qad ia ?ti/"	'he may come'
"/lam ia ?ti/"	'he did not come'

Consequently, the underlying structure of the construction "/lam iadrus/" 'he did not study' is:

"part."	"v. p."
lam	—————> iadrus

The above syntagm is always realised as:

particle-verbal predicative
lam iadrus

8.3.3. The syntactic structure of the verbal predicative syntagm

It was mentioned earlier (cf. 8.2.1.) that the verbal predicative syntagm in MSA may include an auxiliary, e.g. "/kāna/" (3S, pf.) 'be' within its structure, and thus, we have set up a model which accommodates such phenomena as follows:

auxiliary \longrightarrow verbal predicative

But the data in question, as we have already seen, may include particles such as "/qad/" 'already', and "/lam/" 'not' within the verbal predicative syntagm, e.g.

"/kānū qad darasū/"	'they had studied'
"/lam iakūnū qad darasū/"	'they had not studied'

The above syntagms are self-contained sub-ordinative constructions of which the constituent "/darasū/" 'they studied' is the nucleus. It is identified as nucleus since it is the identity element of each of the above two syntagms, and since it is the element which does not commute with 'zero'. Consider:

"/kānū qad darasū/"	'they had studied'
"/∅ qad darasū/"	'they has studied'
"/∅ ∅ darasū/"	'they studied'
"/lam iakūnū qad darasū/"	'they had not studied'
"/∅ iakūnū qad darasū/"	'they will have studied'
"/∅ ∅ qad darasū/"	'they has studied'
"/∅ ∅ ∅ darasū/"	'they studied'

Consequently, we can say that the element "/darasū/" (3MP, pf.) 'study' governs the syntactic functions of the constituents "/lam/" 'not', "/kānū/" (3MP, pf.) 'be', "/iakūnū/" (3MP, impf.) 'be' and "/qad/" 'already'. That is to say, the peripheral constituents in the above syntagms, for their functions, dependent on the nucleus "/darasū/". The above fact shows that the hypothesis: aux \longrightarrow v.p., needs to be modified so that it can accommodate the above phenomena in a consistent and adequate way.

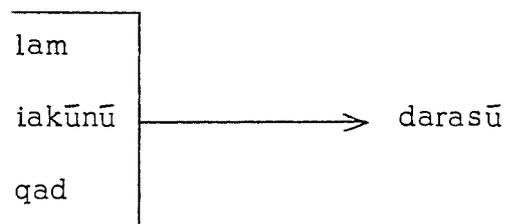
In the above syntagm, i.e. "/lam iakūnū qad darasū/" 'they had not studied', the presence of the negative particle "/lam/" 'not' depends on the presence of the auxiliary "/iakūnū/" (3MP, impf.) 'be' (or its inflexion). In other words, it is not possible to have constructions such as * "/lam qad darasū/" or * "/lam darasū/". Moreover, the particle "/qad/" is obligatory in the presence of the auxiliary "/iakūnū/" (3MP, impf.) 'be' and a verbal predicative in the perfective form, i.e. in MSA it is not possible to have a construction such as * "/iakūnū darasū/". Furthermore, according to the message conveyed by the utterance "/lam iakūnū qad darasū/" 'they had not studied', the following observations are made:

1. the element "/lam/" 'not' should always precede the other elements.
2. the element "/qad/" 'already' always follows the element "/iakūnū/" (3MP, impf.) 'be' and never precedes it.
3. the word-order of the above syntagm is always:
negative - auxiliary - particle - verbal predicative.

Now, in order to analyse the syntagm "/lam iakūnū qad darasū/" 'they had not studied' into its immediate constituents, the following six alternatives are proposed:

- a. lam / iakūnū / qad / darasū
- b. lam / iakūnū qad darasū
- c. lam iakūnū qad / darasū
- d. lam iakūnū / qad darasū
- e. lam / iakūnū qad / darasū
- f. lam iakūnū / qad / darasū

On the basis of the first immediate constituent analysis, the syntactic structure of the syntagm in question may be represented as follows:



This structure as it stands is materially inadequate, as it excludes any direct relation between "/lam/" 'not' and the elements "/iakūnū/" (3MP, impf.) 'be' and between the latter and "/qad/" 'already'. On the one hand, the structure shows that the three elements are indirectly related via the nucleus "/darasū/" (3MP, pf.) 'study', and maintains a direct tactic relation between "/lam/" and "/darasū/", on the other. According to what we have stated above, neither of these two relations is plausible. The above model, therefore, and the immediate constituent analysis on which it is based have to be rejected.

The second analysis has also to be rejected since a direct tactic relation cannot be maintained between the element "/lam/" 'not' and the constituent "/iakūnū qad darasū/" as a whole, as "/lam/" is related to "/darasū/" via the elements "/iakūnū/" and /qad/ (see above). Therefore, a structure such as

$$(lam \longrightarrow (iakūnū \longrightarrow qad \longrightarrow darasū))$$

which shows a direct relation between the element "/lam/" 'not' and the element "/darasū/" (3MP, impf.) 'study' has to be rejected. In the same manner, alternatives (c) and (d) are rejected since they also show a direct tactic relation between "/lam/" 'not' and "/darasū/".

The fifth immediate constituent analysis is also materially inadequate since it shows a direct relation between "/lam/" 'not' and "/iakūnū qad/" as a whole. Such a relation cannot be maintained as "/lam/" is related to "/qad/" via the element "/iakūnū/" (see above). Therefore, a structure such as

$$(lam \longrightarrow (iakūnū \longrightarrow qad)) \longrightarrow darasū$$

has to be rejected.

Having rejected the above five analyses, we are left with alternative (f) as the only plausible solution. With reference to this analysis, i.e. lam iakūnū/qad/darasū, the syntactic structure of the above syntagm may be represented by one of the following structures:

1. $((lam \longrightarrow iakūnū) \leftarrow / \rightarrow qad) \longrightarrow darasū$
2. $((lam \longrightarrow iakūnū) \longleftrightarrow qad) \longrightarrow darasū$
3. $((lam \longrightarrow iakūnū) \longleftarrow qad) \longrightarrow darasū$
4. $((lam \longrightarrow iakūnū) \longrightarrow qad) \longrightarrow darasū$

The first structure shows that the syntagm *"/lam iakūnū/"* 'they will not' and the element *"/qad/"* 'already' contract equivalent direct relations with respect to the element *"/darasū/"* (3MP, pf.) 'study', i.e. the two constituents *"/lam iakūnū/"* and *"/qad/"* are in a relation of co-ordination. It also implies that *"/lam iakūnū/"* is neither for function nor for occurrence dependent on *"/qad/"*. Neither of the above possibilities can be maintained, as *"/lam iakūnū/"* is related to *"/darasū/"* via the particle *"/qad/"*, therefore, the first structure has to be rejected.

The second structure shows that the constituent *"/lam iakūnū/"*, for its function, depends on the constituent *"/qad/"* and vice versa. This also means that, on the level of realisation, the two constituents are, for their occurrence, also dependent on one another, i.e. neither of them commutes with 'zero'. However, this is not the case in the utterance in question where we can commute the constituent *"/lam iakūnū/"* with 'zero' and still have a well-formed *"/qad darasū/"* 'they have already studied'. Hence, the second structure has also to be rejected.

The third structure shows that the constituent *"/qad/"* 'already' contracts a relation of sub-ordination with respect to the constituent *"/lam iakūnū/"*. This implies that *"/qad/"* depends for its function as well as its occurrence on *"/lam iakūnū/"*. The optionality of *"/lam iakūnū/"*, as argued above, refutes this hypothesis, since this demonstrates that *"/qad/"* is not dependent on *"/lam iakūnū/"* for its

occurrence. Therefore, the third structure has also to be rejected.

The fourth structure, i.e.

((lam → iakūnū) → qad) → darasū)

seems to be the only plausible analysis. This analysis shows that "/lam iakūnū/" 'they were not' constitutes a sub-ordinative syntagm standing, in its turn, in a relation of sub-ordination to "/qad/" 'already'. The latter syntagm, i.e. "/lam iakūnū qad/" 'he had not already', in its turn, is also standing in a relation of sub-ordination to the nucleus "/darasū/" (3MP, pf.) 'study'. On the level of utterance, the syntagm "/lam iakūnū qad/" contracts a unilateral occurrence dependency with respect to the element "/darasū/". That is, being an expansion, the peripheral syntagm in question, for its occurrence, depends on the nucleus "/darasū/" but not vice versa. As far as the analysis of the syntagm "/lam iakūnū qad/" 'they had not already' is concerned, this syntagm is a combination of two immediate constituents "/lam iakūnū/" and "/qad/" of which the latter is the nucleus. The identification of "/qad/" 'already' as nucleus is based on the following consideration: replacing the element "/qad/" 'already' in the syntagm "/lam iakūnū qad darasū/" 'they had not studied' with 'zero' does not produce a self-contained syntagm in the data under analysis, while it does in the case of the constituent "/lam iakūnū/". This can be demonstrated by the following commutation:

"/lam iakūnū qad darasū/" 'they had not studied'

"/∅ qad darasū/" 'they have studied'

* "/lam iakūnū ∅ darasū/"

On a lower level of analysis, the syntagm $"/\text{lam iakūnū}/"$ 'they were not' is also a combination of two immediate constituents of which $"/\text{iakūnū}/"$ is the nucleus. It is identified as nucleus since it is the element without which we cannot obtain a self-contained syntagm.

Consider:

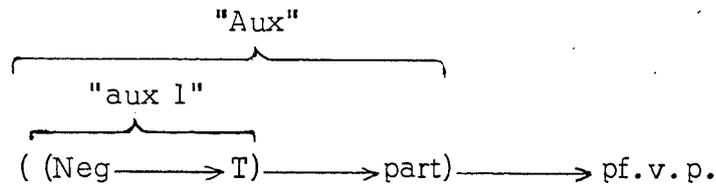
$"/\text{lam iakūnū qad darasū}/"$	'they had not studied'
$"/\emptyset \text{ iakūnū qad darasū}/"$	'they will have studied'
* $"/\text{lam } \emptyset \text{ qad darasū}/"$	

Being an expansion on the level of realisation the element $"/\text{lam}/"$ 'not' is, for its occurrence, dependent on the element $"/\text{iakūnū}/"$ but not vice versa.

Having subjected the above analysis to attempted refutations and failed to discover any counter-evidence which might make it necessary to revise our analysis, we are in a position to adopt it as a valid descriptive statement. It should be noted, however, that the above analysis applies only to a verbal predicative syntagm whose verbal predicative is in the perfective form.⁽¹⁾ According to the above discussion, we may say that the perfective verbal predicative syntagm in MSA is a self-contained bundle of two positions: a perfective verbal predicative (abbreviated as "pf.v.p.") in the nuclear position governing the syntactic functions of a peripheral constituent in the Auxiliary position (abbreviated as "Aux"). In the latter position a single plereme

(1) For matters of consistency and material adequacy, it seems impossible to map an imperfective verbal predicative syntagm onto the model of a perfective verbal predicative syntagm. Consequently, we have established (see below) a different model for the former syntagm.

or a syntagm may stand. A syntagm occupying the "Aux" position may also be said to be a self-contained bundle of two positions. The nuclear position may be called "particle" (abbreviated as "part"), and the peripheral position may be called "auxiliary one" (abbreviated as "aux 1"). In this position also a single plereme or a syntagm may stand. A syntagm filling the "aux 1" position is a combination of two positions. The nuclear position may be called "tense" (abbr. as "T"), and the peripheral position may be called "negative" (abbr. as "Neg"). The model set up to account for the syntactic relations within the "pf.v.p." syntagm would be



In realisation, the occurrence of the constituents within the syntagm in question is restricted to the order given by the above example, i.e. "lam iakūnū qad darasū"

As far as a verbal predicative syntagm having a verbal predicative in the imperfective form is concerned, we are going to establish and discuss the syntactic relations which may exist between the constituents of the syntagm in question. On the basis of that analysis we can set up a model to accommodate the elements of such a syntagm in a consistent and adequate way. For the purpose of the present discussion, consider the following examples:

- | | | |
|----|------------------------|----------------------|
| 1. | "/iaktubu/" | 'he writes' |
| 2. | "/kāna iaktubu/" | 'he was writing' |
| 3. | "/iakūnu iaktubu/" | 'he will be writing' |
| 4. | "/qad iaktubu/" | 'he may write' |
| 5. | "/lam iaktubu/" | 'he did not write' |
| 6. | "/lam iakūnu iaktubu/" | 'he was not writing' |
| 7. | "/qad iakūnu iaktubu/" | 'he may be writing' |

In the above type of syntagms, i.e. where we have a verbal predicative in the imperfective form, each of the auxiliary "/kāna/" (3MS, pf.) 'be' (or its inflexion), the negative particle "/lam/" 'not' and the particle "/qad/" 'may' depends on the presence of the verbal predicative but not vice versa. This is due to the fact that in the absence of the imperfective verbal predicative, we cannot have a self-contained syntagm, whereas in the absence of the elements "/kāna /", "/lam/" and "/qad/" we can still have a self-contained syntagm. Consider:

- | | |
|--|------------------------------------|
| "/kāna ʔalfallāḥu iaʔ risu ʔaššažarata/" | 'the farmer was planting the tree' |
| "/∅ ʔalfallāḥu iaʔ risu ʔaššažarata/" | 'the farmer plants the tree' |
| * "/kāna ʔalfallāḥu ∅ ʔaššažarata/" | 'the farmer was the tree' |

The same goes for the elements "/lam/" 'not' and "/qad/" 'may'. It follows that these elements are expansions. Moreover, it is also confirmed by the above data that none of the elements "/kāna/", "/lam/" or "/qad/" depends for its presence on the other, as we can have "/kāna iaktubu/" 'he was writing', "/lam iaktubu/" 'he did not write',

and "/qad iaktubu/" 'he may write'.

Now, in order to analyse the syntagm "/qad iakūnu iaktubu/" 'he may be writing' into its immediate constituents, the following three alternatives may be proposed:

- a. qad / iakūnu iaktubu
- b. qad iakūnu / iaktubu
- c. qad / iakūnu / iaktubu

On the basis of the first immediate constituent analysis, the syntactic structure of the syntagm in question may be represented as follows:

$$\text{qad} \longrightarrow (\text{iakūnu} \longrightarrow \text{iaktubu})$$

This structure is immediately rejected since a direct tactic relation cannot be maintained between the constituent "/qad/" 'may' and "/iakūnu iaktubu/" 'he will be writing' as a whole. The data under analysis confirms that within the imperfective verbal predicative syntagm, ⁽¹⁾ the element "/qad/" 'may' is indirectly related to the element "/iakūnu/" (3MS, impf.) 'be'.

With respect to the second analysis, i.e. qad iakūnu / iaktubu, the syntactic structure of the above syntagm may be represented by one of the following structures:

(1) This case is different from that of the perfective verbal predicative syntagm where the auxiliary "/iakūnu/" is in direct relation with the particle "/qad/" (see above). This is only one difference, beside other differences, which necessitates the establishment of a different model for the imperfective verbal predicative syntagm than that of the perfective verbal predicative syntagm.

1. (qad \leftarrow / \rightarrow iakūnu) \longrightarrow iaktubu
2. (qad \longleftrightarrow iakūnu) \longrightarrow iaktubu
3. (qad \longleftarrow iakūnu) \longrightarrow iaktubu
4. (qad \longrightarrow iakūnu) \longrightarrow iaktubu

Each one of the above four structures exhibits a direct tactic relation between the element "/qad/" and "/iakūnu/". As the data under analysis does not confirm the proposition that either of these two elements is dependent on the other (see above), therefore, the above models and the immediate constituent analysis on which it is based have to be rejected.

Having rejected the first two immediate constituent analyses, we are left with alternative (c) as the only plausible solution. With reference to this analysis, i.e. qad / iakūnu / iaktubu, the syntactic structure of the above syntagm may be represented by one of the following models:

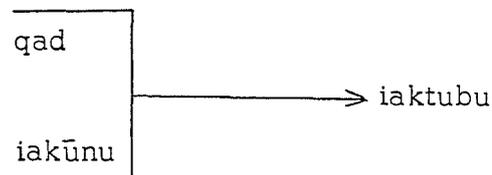
- (1)

qad			\longrightarrow iaktubu
iakūnu			
- (2)

qad		\longrightarrow iaktubu
iakūnu		

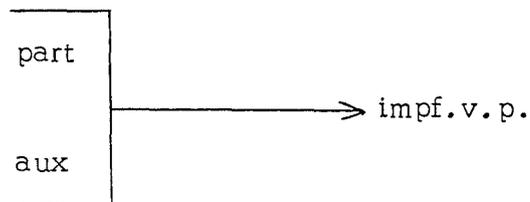
The first structure shows that the elements "/qad/" 'may' and

"/iakūnu/" (3MS, impf.) 'be', which are standing in a direct relation of sub-ordination to the nucleus "/iaktubu/" (3MS, impf.) 'write', are in a relation of 'diverse' determination (cf. chapter IV). This implies that the two peripherals "/qad/" and "/iakūnu/" are sub-ordinated to the nucleus in different ways. In other words, the above structure implies that the two elements "/qad/" and "/iakūnu/" exchange function, i.e. they form the same position-class. This, in effect, means that the reversibility of the elements, i.e. the change of ordering of elements on the realisational level, would lead to produce two, or more, syntagms that are functionally distinct. However, this is not the case with the above syntagm. The above syntagm can only have one message: 'he may be writing'. On the basis of what has been said above, the first model has to be rejected. The above facts favour the second structure, i.e.



which seems to be the only plausible analysis. This analysis shows that the two elements are sub-ordinated to the nucleus "/iaktubu/" (3MS, impf.) 'write'. Moreover, the relation between "/qad/" 'may' and "/iaktubu/" i.e. (qad → iaktubu), is not different from the relation between "/iakūnu/" (3MS, impf.) 'be' and "/iaktubu/", i.e. (iakūnu → iaktubu). In other words, the elements in question are standing in 'parallel' determination.

Having subjected the above analysis to attempted refutations and failed to discover any counter-evidence which might make it necessary to revise our analysis, we are in a position to adopt it as a valid descriptive statement. Accordingly, we may say that the imperfective verbal predicative syntagm in MSA is a self-contained bundle of three positions: an imperfective verbal predicative (abbr. as "impf.v.p.") in the nuclear position governing the syntactic functions of two peripheral constituents in the "particle" and "auxiliary" positions. In the particle position (abbr. as "part") elements such as "/qad/" and "/lam/" may stand as they constitute the same position-class in the "impf.v.p." syntagm⁽¹⁾ (cf. 8.3.2.), whereas in the "aux" position elements such as "/kāna/" (3MS, pf.) 'be', "/iakūnu/" (3MS, impf.) 'be', or their inflexions, can stand. The model set up to account for the syntactic relations within the "impf.v.p." syntagm would be



In realisation, the occurrence of the constituents within the syntagm in question is restricted to the order given by the above example, i.e. "qad iakūnu iaktubu".

(1) This situation is different from the one accounted for within the "pf.v.p." syntagm. Within the latter syntagm, the elements "/qad/" and "/lam/" belong to two different position-classes.

8.3.4. The Aspectual Verbs

As indicated earlier (cf. 2.2.5.5.), MSA aspectual system includes a variety of aspectual verbs, among them are "/ʕalla/" (3MS, pf.) 'remain', "/badaʔa/" (3MS, pf.) 'begin', "/kāda/" (3MS, pf.) 'be about to /be on the point of', "/baqīa/" (3MS, pf.) 'keep/remain', "/māzāla/" (3MS) 'be still', "/šariʕa/", "/ʔaxaʕa/" (3MS, pf.) 'begin/start', etc. Each of these aspectual verbs has the same inflexional system as that of the main verbal predicative, e.g. the verbal predicative "/kataba/" (3MS, pf.) 'write', consider:

"/kataba/" (3MS, pf.)	"/badaʔa/"	"/kāda/"
"/katabat/" (3FS, pf.)	"/badaʔat/"	"/kādat/"
"/katabū/" (3MP, pf.)	"/badaʔū/"	"/kādū/"
"/katabna/" (3FP, pf.)	"/badaʔna/"	"/kudna/"
"/katabtu/" (1S, pf.)	"/badaʔtu/"	"/kudtu/"
"/katabnā/" (1P, pf.)	"/badaʔnā/"	"/kudnā/"
"/katabtum/" (2MP, pf.)	"/badaʔtum/"	"/kudtum/"
"/katabtunna/" (2FP, pf.)	"/badaʔtunna/"	"/kudtunna/"
etc.	etc.	etc.

In the same manner we may have:

"/iaktubu/" (3MS, impf.)	"/iabdaʔu/"	"/iakādu/"
"/taktubu/" (3FS, impf.)	"/tabdaʔu/"	"/takādu/"
"/iaktubūna/" (3MP, impf.)	"/iabdaʔūna/"	"/iakādūna/"
"/iaktubna/" (3FP, impf.)	"/iabdaʔna/"	"/iakadna/"
"/ʔaktubu/" (1S, impf.)	"/ʔabdaʔu/"	"/ʔakādu/"
"/naktubu/" (1P, impf.)	"/nabdaʔu/"	"/nakādu/"
"/taktubūna/" (2MP, impf.)	"/tabdaʔūna/"	"/takādūna/"
"/taktubna/" (2FP, impf.)	"/tabdaʔna/"	"/takadna/"
etc.	etc.	etc.

It should be noted that the aspectual verbs may only be followed by the imperfective form of the main verbal predicative, e.g. "/badaʔa ial^Ġabu/" 'he began to play'. Moreover, the verbal predicative that falls within the scope of the aspectual verbs may either be punctual or non-punctual (cf. chapter III). The following syntagms exemplify the afore-mentioned aspectual verbs:

1. "/šalla ʔalmaʔaru iasquʔu/" 'the rain remained falling'
(3MS, pf.) 'remain' (the + rain) (3MS, impf.) 'fall'
2. "/badaʔa ʔažžaisu iazħafu/" 'the army began to advance'
(3MS, pf.) 'begin' (the + army) (3MS, impf.) 'advance'
3. "/kāda ʔannahru iafīḍu/" 'the river was on the point of over-flowing'
(3MS, pf.) 'be on the point of' (the + river) (3MS, impf.) 'over-flow'
4. "/baqiia ʔalmāʔu iažri/" 'the water kept running'
(3MS, pf.) 'keep' (the + water) (3MS, impf.) 'run'
5. "/māzāla ʔal^Ġāmilu iabnī ʔalbaita/" 'the worker is still building the house'
(3MS, pf.) 'be still' (the + worker) (3MS, impf.) 'build' (the + house)
6. "/šari^Ġat ʔalbintu taħuku/" 'the girl started knitting'
(3FS, pf.) 'start' (the + girl) (3FS, impf.) 'knit'
7. "/ʔaxaša ʔaṭṭiflu iabkī/" 'the child began to cry'
(3MS, pf.) 'begin' (the + child) (3MS, impf.) 'cry'

As far as the grammatical complexity of a construction such as "/badaʔa iarkuḍu/" 'he began to run' is concerned, this construction can easily be demonstrated to be syntactically complex by the fact that one of its immediate constituents commutes with a syntagm. Consider:

badaʔa / iarkuḍu 'he began to run'

badaʔa / iaʔkulu ua iǎsrabu 'he began to eat and drink'

Accordingly, the syntagm "/badaʔa iarkuḍu/" 'he began to run' is a self-contained combination of two immediate constituents of which "/iarkuḍu/" (3MS, impf.) 'run' is the nucleus. It is identified as nucleus since it is the identity element which governs the syntactic function of the peripheral constituent "/badaʔa/" (3MS, pf.) 'begin' in a position, which we may call, "aspectual verb". Moreover, without the constituent "/iarkuḍu/" we cannot obtain a well-formed syntagm but not vice versa.

As we have already seen (cf. 8.3.3.), the model set up for the "impf.v.p." syntagm includes an "auxiliary" position, which may be occupied by an element such as "/kāna/" (3MS, pf.) 'be' (or its inflexions), within its structure. Our main purpose now is to find out whether a peripheral element such as "/badaʔa/", "/ʔalla/", "/baqiia/", "/māzāla/", etc. can be accommodated in that position. If it does in a convincing way, then, it is an adequate model, if it does not, then the above model must be modified and a new model must be set up and tested. In other words, we have two assumptions:

1. The aspectual verbs may occupy a peripheral "aspectual verb" position whereas "/kāna/" may fill an auxiliary position, in which case the impf.v.p. syntagm consists of three peripheral positions, i.e. "particle", "auxiliary" and "aspectual verb" positions.

2. The aspectual verbs and "/kāna/" may occupy one and the same position. This implies that the hypothesis considering the possibility of setting up another model, i.e. aspectual verb → impf. v.p., in addition to the model already set up, i.e.

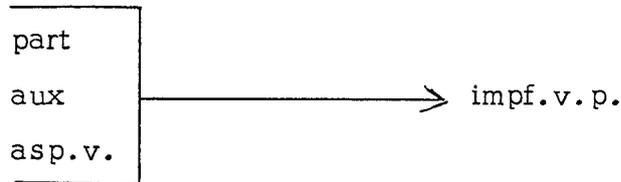
part
aux

 → impf.v.p., is refuted.

In order to investigate the above hypotheses, we should resort to the notion "position-class". Mulder (1968:118) defines "position-class" as a set of items which can occur in the same position or archi-position". Since the aspectual verbs in MSA can be accommodated in the same peripheral position, they, then, constitute the same position-class. Consider:

- | | |
|-----------------------|-------------------------|
| 1. "/ʕalla iaktubu/" | 'he remained writing' |
| 2. "/māzāla iaktubu/" | 'he is still writing' |
| 3. "/badaʔa iaktubu/" | 'he began to write' |
| 4. "/baqiia iaktubu/" | 'he remained writing' |
| 5. "/kāda iaktubu/" | 'he was about to write' |
| 6. "/ʔaxaʕa iaktubu/" | 'he began to write' |

Consider the first hypothesis. For this to be the case, then one should be able to find a well-formed utterance from the data under consideration which has the negative particle "/lam/", a form "/kāna/", an "aspectual verb" and an impf.v.p., which can fill all the positions within a hypothetical model such as:



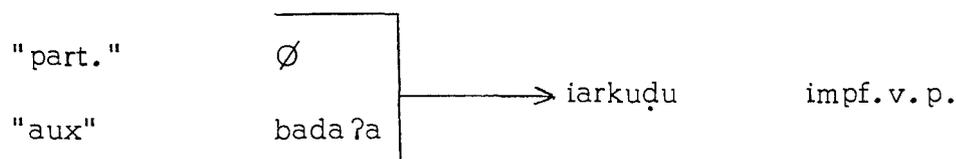
In fact no syntagm of this structure is acceptable in MSA, i.e. the language in question excludes such a possibility where "/lam/", "/kāna/" and any of the aspectual verbs can co-occur together in one and the same syntagm. In this sense, the first hypothesis which is materially inadequate must be rejected.

Having rejected the first hypothesis, we are left with the second one as the only plausible solution. This hypothesis is supported by the fact that the auxiliary verb "/kāna/" (3MS, pf.) 'be' can commute with any one of the aspectual verbs in the above syntagms without affecting the structure of that syntagm, and we still get well-formed syntagms, i.e. "/kāna/" and the aspectual verbs are mutually exclusive. Consider:

"/kāna iaktubu/"	'he was writing'
"/ʕalla iaktubu/"	'he remained writing'
"/māzāla iaktubu/"	'he is still writing'
"/badaʔa iaktubu/"	'he began to write'
"/ʔaxaʕa iaktubu/"	'he started writing'

The above valid commutations demonstrate that the verb "/kāna/" belongs to the same position-class as the rest of the aspectual verbs. Thus, they all occupy the same position in a syntactic structure.

Failing to discover any counter-evidence to the above hypothesis, i. e. by subjecting it to attempted refutation, which might make it necessary for us to revise our analysis, we are in a position to adopt it as a valid descriptive statement. Consequently, we may still say that the "impf.v.p." syntagm in MSA is a self-contained bundle of three positions: an imperfective verbal predicative in the nuclear position governing the tactic function of two peripheral constituents in the "particle" and the "auxiliary" positions. In the latter position a plereme such as "/kāna/" (3MS, pf.) 'be' (or its inflexions) as well as any plereme of the aspectual verbs may stand (for the relevant model the reader is referred to 8.3.3). The syntagm "/badaʔa iarkuḍu/" 'he began to run' can be mapped onto the model of the imperfective verbal predicative syntagm as follows:



The realisation of the syntagm in question is restricted to the order given in the above example, i. e. "badaʔa iarkuḍu".

8.3.5. The Participles

We noted in chapter II that Arabic includes the two categories of the verb, labelled in traditional grammars as 'ʔism ʔalfāʕil' (roughly: 'active participle'), e.g. "/ʕālisun/" 'sitting', "/nāqilun/" 'carrying', "/māniḥun/" 'giving', and 'ʔism ʔalmafʕūl' (roughly: 'passive participle'),

e.g. "/maktūbun/" 'written', "/manqūlun/" 'carried', "/mamnūḥun/" 'given'. The former refers to a progressive action, i.e. denoting imperfectivity, whereas the latter form refers to a completed action, i.e. denoting perfectivity. Consider:

1. "/ʔalmudarrisu māniḥan zaidan kutuban/" 'the teacher is giving (the + teacher) (giving) (Zaid) (books) Zaid books'
2. "/zaidun mamnūḥan kutuban/" 'Zaid is given books' (Zaid) (given) (books)

Note that suitably inflected forms of "/kāna/" (3MS, pf.) 'be' "/iakūnu/" (3MS, impf.) 'be' may precede the above two forms to mark past and future tenses, respectively, without affecting their aspectual status, i.e. (3 - 4) still denote imperfectivity, whereas (5 - 6) denote perfectivity. Consider:

3. "/ʔalmudarrisu kāna māniḥan zaidan kutuban/" 'the teacher was (the + teacher) (3MS, pf.) 'be' (giving) (Zaid) (books) giving Zaid books'
4. "/ʔalmudarrisu iakūnu māniḥan zaidan kutuban/" 'the teacher will (the + teacher) (3MS, impf.) 'be' (giving) (Zaid) (books) be giving Zaid books'
5. "/zaidun kāna mamnūḥan kutuban/" 'Zaid was given books' (Zaid) (3MS, pf.) 'be' (given) (books)
6. "/zaidun iakūnu mamnūḥan kutuban/" 'Zaid will be given books' (Zaid) (3MS, impf.) 'be' (given) (books)

Note also that the meaning of the active participle is incompatible with punctuality (cf. 3.5). Consider for instance the syntagm:

"/ʔanā ṭāriqun ʔalbāba/" 'I am knocking on the door'
(I) (knocking on) (the door)

where the form "/ṭāriqun/" (knocking on) has an iterative meaning.

On the other hand, there is compatibility between the meaning of the passive participle and punctuality, consider:

"/ʔarraʒulu maqtūlun/" 'the man is killed'
(the + man) (killed)

As far as the morphological analysis of the categories of the active and the passive participle are concerned, consider the tentative complexes: "/rāsimumun/" 'drawing' and "/marsūmun/" 'drawn'. Let us hypothesise that each of these two complexes is a simultaneous bundle of monemes. To be a valid one, this hypothesis implies that "/rāsimumun/" 'drawing' and "/marsūmun/" 'drawn' must satisfy certain criteria (cf. chapter IV).

a) The tentative complexes "/rāsimumun/" 'drawing' and "/marsūmun/" 'drawn' are self-contained potential constituents in the complexes:

1. "/ʔalualadu rāsimumun tuffāḥatan/" 'the boy is drawing an apple'
(the + boy) (drawing) (and apple)
2. "/ʔattuffāḥatu marsūmatun/" 'the apple is drawn'
(the + apple) (drawn)

This may be shown by commuting the two tentative complexes with, for instance, "/ʔākilun/" 'eating' or "/ʕāsilun/" 'washing', and "/maʔkūlun/" 'eaten' or "/maʕsūlun/" 'washed', respectively. Consider:

- 1a. "/ʔalualadu ʔākilun tuffāḥatan/" 'the boy is eating an apple'
 "/ʔalualadu ʕāsilun tuffāḥatan/" 'the boy is washing an apple'

- 2a. "/ʔattuffāḥatu maʔkūlatun/" 'the apple is eaten'
 "/ʔattuffāḥatu maʕsūlatun/" 'the apple is washed'

b) Each of the tentative complexes "/rāsimumun/" 'drawing' and "/marsūmun/" 'drawn' is analysable into the signs "base", "active participle", "nominative", and "base", "passive participle", "nominative", respectively as the following commutations demonstrate:

1. The base-form "/r-s-m-/" of the tentative complex "/rāsimumun/" 'drawing' validly commutes with the base-form "/s-m-ġ-/" of the complex "/sāmiġun/" 'hearing', or the base-form "/k-t-b-/" of the complex "/kātibun/" 'writing':⁽¹⁾

/r-s-m-/ of "/rāsimumun/" 'drawing'
 /s-m-ġ-/ of "/sāmiġun/" 'hearing'
 /k-t-b-/ of "/kātibun/" 'writing'

In the same way the base-form "/-rs-m-/" of the tentative complex "/marsūmun/" 'drawn' commutes with "/-sm-ġ-/" and "/-kt-b-/" to yield "/masmūġun/" 'heard' and "/maktūbun/" 'written', respectively.

(1) Note that we may have bases with four consonantal roots, e.g. "/d-hr-z-/" of the complex signs "/mudaḥriżun/" 'rolling', and "/mudaḥrażun/" 'rolled', or "/-st-n-d-/" of the complex signs "/mustanidun/" 'leaning' and "/mustanadun/" 'leaned'.

2. The tentative constituent "/-a-i-/" of the "active participle" sign in "/rāsimumun/" 'drawing' validly commutes with the tentative constituent "/ma--u-/" of the "passive participle" sign to yield:⁽¹⁾

"/marsūmun/" 'drawn'
 "/masmū⁹un/" 'heard'
 "/maktūbun/" 'written'

3. The tentative constituent "/un/" of the "nominative" in "/rāsimumun/" 'drawing' and "/marsūmun/" 'drawn' validly commutes with the allomorph "/an/" of the "accusative" to yield:

"/rāsiman/" 'drawing'
 "/marsūman/" 'drawn'

The above commutations demonstrate that the tentative morphological complexes "/rāsimumun/" and "/marsūmun/" are complex signs consisting of the constituent signs "base", "active participle", "nominative", and "base", "passive participle", "nominative", respectively.

c) By virtue of the third criterion we try to establish whether the immediate constituents of the complex signs "/rāsimumun/" 'drawing' and

(2) Note that the "active participle" sign has two other allomorphs: "/mu--a-i-/" and "/mu-a--i-/" of the complex signs "/mustanidun/" 'leaving' and "/mudaḥrižun/" 'rolling', respectively. Note also that the "passive participle" sign has also two other allomorphs: "/mu--a-a-/" and "/mu-a--a-/" of the complex signs "/mustanadun/" 'leaned' and "/mudaḥražun/" 'rolled', respectively.

"/marsūmun/" 'drawn' are, at the same time, their ultimate grammatical constituents, i.e. not further analysable into smaller grammatical constituents. On testing the duly established complex signs "/rāsīmun/" and "/marsūmun/" against this criterion, we find that none of their constituent signs, established on the bases of the second criterion can be further analysed into two or more smaller signs. It follows from this that the constituent signs of the above complex signs are simple signs. This implies that the immediate constituents of the above tentative morphological complexes are at the same time their ultimate ones.

d) As far as the commutation with a syntagm test is concerned, we have tried and failed to find any syntagm in the language under consideration which can fulfil the requirement for a valid commutation with any of the constituent signs of each of the complex signs "/rāsīmun/" and "/marsūmun/". We, then, conclude that "/rāsīmun/" 'drawing' and "/marsūmun/" 'drawn' are morphological, and not syntactic, complexes.

In accordance with what has been said above, we can conclude that the entities of the two categories 'active participle' and 'passive participle' in MSA are morphological complex signs, i.e. complex pleremes. Such complex pleremes may include the constituent monemes "base", "active participle" or "passive participle", and the allomorph "/un/" of the "nominative".

As far as the syntactic structure of the above aspectual phenomena

is concerned, consider the syntagms:

1. "/ʔalmudarrisu kāna māniḥan zaidan kutuban/" 'the teacher was giving Zaid books'
2. "/zaidun kāna mamnūḥan kutuban/" 'Zaid was given books'

The first syntagm is analysable into the following pleremes:

ʔalmudarrisu/kāna/māniḥan/zaidan/kutuban

Separate tests, i.e. commutation, and direct and indirect relation, would show that the immediate constituents of the syntagm in question are:

ʔalmudarrisu/kāna māniḥan/zaidan/kutuban

and that the syntagm "/kāna māniḥan/" 'he was giving' is the nucleus, since it is the identity element of the above syntagm.

Before going any further in our analysis, it is necessary to show that any syntagm in MSA having a participle (active or passive) within its structure has a corresponding syntagm with inflected verbal predicative. Consider the following commutations of the 'active participle' form:

- 1a. "/ʔalbaḥru iaḥduru/" 'the sea roars / is roaring'
- b. "/ʔalbaḥru ḥādirun/" 'the sea is roaring'
- 2a. "/iastanidu ʔalʕāmilu ʕala ʔažžidāri/" 'the worker leans / is leaning on the wall'
- b. "/mustanidan ʔalʕāmilu ʕala ʔažžidāri/" 'the worker is leaning on the wall'

- 3a. "/iažlisu bāsilun Ǿala ʔalkursī/" 'Basil is sitting on the chair'
 b. "/žālisun bāsilun Ǿala ʔalkursī/" 'Basil is sitting on the chair'
- 4a. "/ʔalualadu ianqulu ʔalxabara/" 'the boy is carrying the news'
 b. "/ʔalualadu nāqilun ʔalxabara/" 'the boy is carrying the news'
- 5a. "/ʔalmudarrisu iamnaḥu ʔaṭṭāliba kutuban/" 'the teacher is giving the student books'
 b. "/ʔalmudarrisu māniḥan ʔaṭṭālibu kutuban/" 'the teacher is giving the student books'
- 6a. "/iaǾmalu ʔaṭṭiflu ʔarraḍīǾa luǾbatan/" 'the child makes / is making a toy out of the infant'
 b. "/Ǿāmilun ʔaṭṭiflu ʔarraḍīǾa luǾbatan/" 'the child is making a toy out of the infant'
- 7a. "/iaḍa Ǿu zaidun ʔaṣṣuḥūna Ǿala ʔaṭṭāuilati/" 'Zaid puts / is putting the plates on the table'
 b. "/uāḍiǾun zaidun ʔaṣṣuḥūna Ǿala ʔaṭṭāuilati/" 'Zaid is putting the plates on the table'
- 8a. "/ʔalxādimu iusažžilu ʔaṭṭalaba Ǿala ʔaluaṙaqati/" 'the waiter writes / is writing the order on the paper'
 b) "/ʔalxādimu musažžilun ʔaṭṭalaba Ǿala ʔaluaṙaqati/" 'the waiter is writing the order on the paper'
- 9a. "/ʔalmudarrisu iudarrisu Ǿamran ʔattaʔrīxa/" 'the teacher teaches / is teaching Amr History'
 b. "/ʔalmudarrisu mudarrisun Ǿamran ʔattaʔrīxa/" 'the teacher is teaching Amr History'
- 10a. "/iuxbiru ḥasanun zaidan bilʔamri/" 'Hassan tells / is telling Zaid of the matter'
 b. "/muxbirun ḥasanun zaidan bilʔamri/" 'Hassan is telling Zaid of the matter'

- 11a. "/iuauḍḍiḡu ḡamrun ḡalbinta ḡannuqūda fi ḡalḡaḡībati/" 'Amr makes / is making the girl put the money in the bag'
 b. "/muuauḍḍiḡun ḡamrun ḡalbinta ḡannuqūda fi ḡalḡaḡībati/" 'Amr is making the girl put the money in the bag'

In the same manner we can commute the form of the 'pasive participle', consider:

- 1a. "/iumnaḡu ḡaḡḡālibu kutuban/" 'the student is given books'
 b. "/mamnūḡun ḡaḡḡālibu kutuban/" 'the student is given books'
 2a. "/ḡarraḡiḡa iuḡmalu luḡbatan/" 'the infant is made a toy'
 b. "/ḡarraḡiḡu maḡmūlun laḡbatan/" 'the infant is made a toy'
 3a. "/ḡalkitābu iūḡḡaḡu ḡala ḡaḡḡāuilati/" 'the book is put on the table'
 b. "/ḡalkitābu mauḡūḡun ḡala ḡaḡḡāuilati/" 'the book is put on the table'
 4a. "/ḡaḡḡalabu iusaḡḡalu ḡala ḡaluaḡaḡati/" 'the order is written on the paper'
 b. "/ḡaḡḡalabu musaḡḡalun ḡala ḡaluaḡaḡati/" 'the order is written on the paper'
 5a. "/zaidun iudarrasu ḡatta ḡrixa/" 'Zaid is taught history'
 b. "/zaidun mudarrasun ḡatta ḡrixa/" 'Zaid is taught history'
 6a. "/ḡarraḡulu iuxbaru bilḡamri/" 'the man is told of the matter'
 b. "/ḡarraḡulu muxbarun bilḡamri/" 'the man is told of the matter'
 7a. "/ḡalualadu iuḡrabu/" 'the boy is hit'
 b. "/ḡalualadu maḡrūbun/" 'the boy is hit'
 8a. "/iuḡlasu ḡala ḡalkursi/" 'the chair is sat on'
 b. "/maḡlūsun ḡala ḡalkursi/" 'the chair is sat on'

It is important to point out at this stage that the assignment of the elements in (b) examples above, i. e. in syntagms having a participle within their structure, to their relevant positions in the underlying

structure (see below), is similar to that of syntagms having an inflected verbal predicative within their structure (cf. 7.2). In other words, the following procedure of assigning the elements of the VPB syntagm in MSA also applies to the assignment of the elements of any syntagm having a participle (active or passive) to their relevant positions:

- a) Elements filling the "subject" position end with the allomorphs "/u/" or "/un/" of the "nominative" sign.
- b) Elements occupying the "direct object" or the "indirect object" position and with the allomorphs "/a/" or "/an/" of the "accusative" sign; inanimate nominals generally fill the former position while animate nominals occupy the latter position. ⁽¹⁾
- c) Functional syntagms stand in the "complementary object" position.

On the basis of what has been said above, it is clear that we can map a syntagm such as:

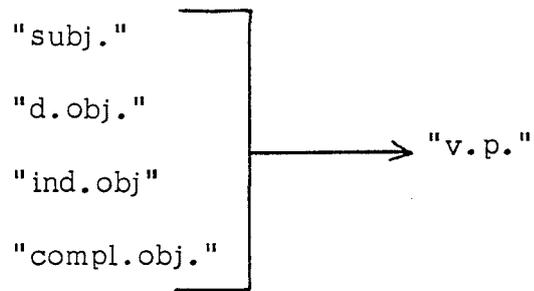
"/ʔalmudarrisu māniḥun zaidan kutuban/" 'the teacher is giving Zaid books'

in the same way we map the VPB syntagm:

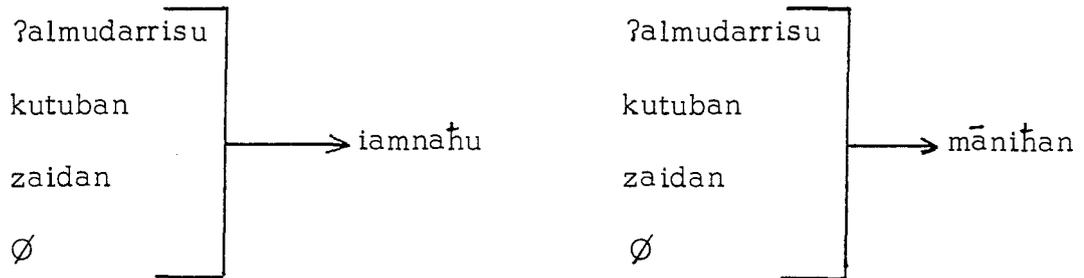
"/ʔalmudarrisu iamnaḥu zaidan kutuban/" 'the teacher gives / is giving Zaid books'

in the model established for the VPB syntagm, i.e.

(1) For more details concerning the criteria of assigning nominals to these two positions as well as other positions, see (7.2).



Consider:



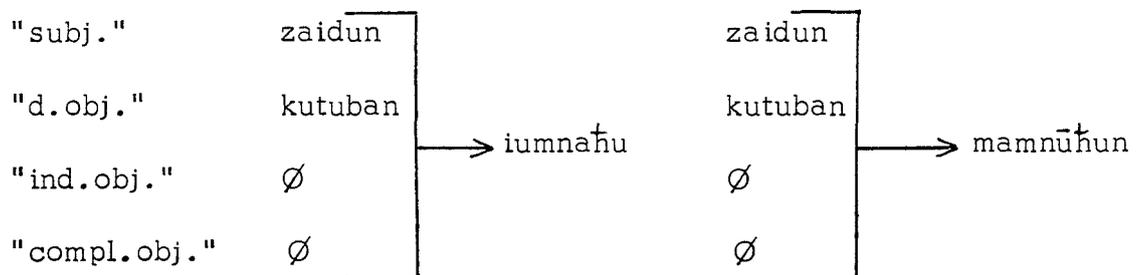
Thus, each syntagm having the category of participle (active or passive) can be mapped onto the model established for the VPB syntagm. In the same manner we can map the syntagm:

"/zaidun māmnūḥun kutuban/" 'Zaid is given books'

which corresponds to the VPB syntagm

"/zaidun iumnaḥu kutuban/" 'Zaid is given books'

onto the above model:



Correspondingly, we can sub-categorise the participles (active or passive) in terms of the type of syntagm within which they occur in

the same way that we sub-categorise the verbal predicative nuclei in MSA (cf. 7.4). In other words, as we have a transitive nucleus, e.g. "/iaʔkulu/" (3MS, impf.) 'eat', or intransitive nucleus, e.g. "/iahduru/" (3MS, impf.) 'roar', etc. we can have transitive active participle nucleus, e.g. "/ʔākilun/" 'eating', or intransitive active participle nucleus, e.g. "/hādirun/" 'roaring', etc. In the same fashion, we can have a transitive passive participle nucleus, e.g. "/mamnūḥun/" 'given', or an intransitive passive participle nucleus, e.g. "/mažrūḥun/" 'wounded'.

Now, let us return back to the syntagm "/kāna māniḥan/" 'he was giving' and establish its syntactic structure. Syntagms such as

"/kāna māniḥan/" 'he was giving'

"/kāna qādīman/" 'he was coming'

"/kāna žālisān/" 'he was sitting'

exhibit equivalent syntactic relations as that of a non-verbal predicative syntagm including the auxiliary "/kāna/" (3MS, pf.) 'be' within its structure, e.g. the syntagm "/kāna našīṭan/" 'he was active' (see below). The syntactic relation within the latter syntagm is represented as follows (cf. 8.2.2):

kāna —————> našīṭan

That is, the constituents "/kāna/" (3MS, pf.) 'be' and "/našīṭan/" 'active' stand in a relation of sub-ordination to each other. In a parallel manner, we contract the same relation between the elements

"/kāna/" (3MS, pf.) 'be' and "/māniḥan/" 'giving' of the syntagm "/kāna māniḥan/" 'he was giving' which is a combination of two immediate constituents. This can be demonstrated as follows:

"/ʔalmudarrisu kāna māniḥan zaidan kutuban/" 'the teacher was giving Zaid books'

"/ʔalmudarrisu ∅ māniḥun zaidan kutuban/" 'the teacher is giving Zaid books'

* "/ʔalmudarrisu kāna ∅ zaidan kutuban/" 'the teacher was Zaid books'

Consequently, the syntactic structure of the syntagm "/kāna māniḥan/" 'he was giving' can be demonstrated as follows:

kāna \longrightarrow māniḥan

We opt for this analysis for the following considerations:

a) Elements such as "/nāʔimun/" 'sleeping', "/māniḥun/" 'giving', "/qādimun/" 'coming', etc. in the language under description exhibit equivalent syntactic function as that of a non-verbal predicative such as "/žamīlun/" 'beautiful', "/našīṭun/" 'active', "/ṭauīlun/" 'tall', etc.

This can be demonstrated by the following commutations:

1. "/ʔalualadu nāʔimun/" 'the boy is sleeping'
"/ʔalualadu žamīlun/" 'the boy is beautiful'
2. "/xālidun qādimun/" 'Khalid is coming'
"/xālidun našīṭun/" 'Khalid is active'
3. "/ʔarražulu ʕāhibun/" 'the man is going'
"/ʔarrazulu ṭauīlun/" 'the man is tall'

The above commutations also show that elements such as "/qādimun/" 'coming', "/nāʔimun/" 'sleeping', "/žamīlun/" 'beautiful', "/našīṭun/", etc. belong to the same position class.

b) With the inflected forms of the auxiliary "/kāna/" (3MS, pf.) 'be', the above phenomena contracts the same case inflection as that of any non-verbal predicative. In other words, when "/kāna/" occurs the case sign of the following participle changes from the "nominative" represented by the allomorph "/un/" into the "accusative" represented by the allomorph "/an/". Compare:

1. "/ʔalmudiru našīṭun/" 'the manager is active'
"/ʔalmudiru nāʔimun/" 'the manager is sleeping'
2. "/kāna ʔalmudiru našīṭan/" 'the manager was active'
"/kāna ʔalmudiru nāʔiman/" 'the manager was sleeping'

c) Any syntagm with "/kāna/" (3MS, pf.) 'be' and a participle corresponds to a syntagm with "/kāna/" and inflected verbal predicative.⁽¹⁾ Consider:

- 1a. "/kāna iažlisu/" 'he was sitting'
- b. "/kāna žālisan/" 'he was sitting'
- 2a. "/kāna iamnaḥu/" 'he was giving'
- b. "/kāna māniḥan/" 'he was giving'

We have demonstrated earlier (cf. 8.2.1) that "/kana/" (3MS, pf.) 'be'

(1) For an extensive list of the corresponding syntagms see pp.307-309.

in (1a-2a) above occupies the "auxiliary" position to stand in a direct relation of sub-ordination with respect to "/iažlisu/" (3MS, impf.) 'sit', i.e. the nucleus. This syntactic relation has been represented in the following manner:

kāna \longrightarrow iažlisu

Correspondingly, the elements "/žālisān/" 'sitting', "/māniḥān/" 'giving' in (1b-2b) above fills the "nuclear" position, whereas the auxiliary "/kāna/" stands in a direct relation of sub-ordination to it in the same fashion as "/kāna/" stands with respect to "/iažlisu/" (3MS, impf.) 'sit' or to "/iamnaḥu/" (3MS, impf.) 'give' in (1a-2a) above as shown by the above structure.

In the same way, we can demonstrate that the elements "/kāna/" (3MS, pf.) 'be' and "/mamnūḥān/" 'given' of the syntagm "/zaidun kāna mamnūḥān kutuban/" 'Zaid was given books' also stand in a relation of sub-ordination to each other. The syntactic relation between the two elements can be represented as follows:

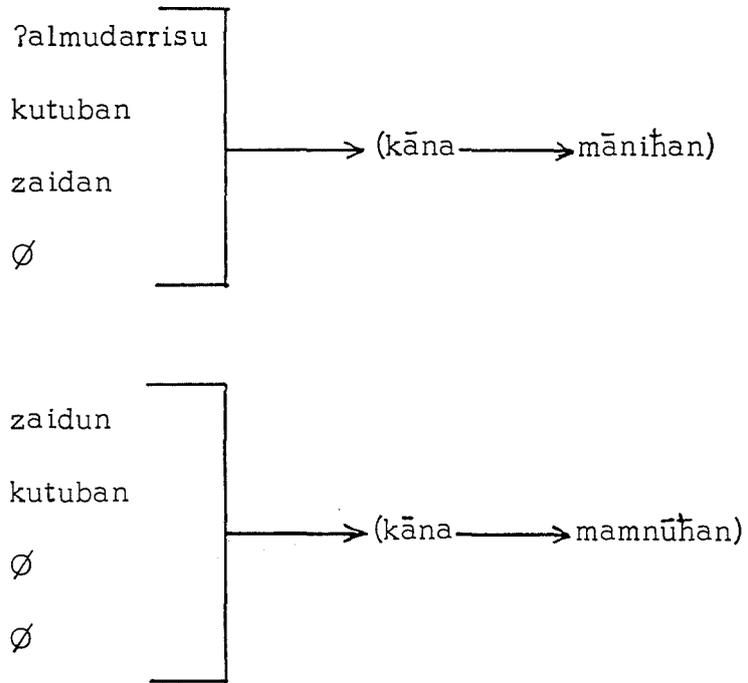
kāna \longrightarrow mamnūḥān

In accordance with what is said above, the syntactic structure of the syntagms:

"/ʔalmudarrisu kāna māniḥān zaidan kutuban/" 'the teacher was giving Zaid books'

"/zaidun kana mamnūhan kutuban/" 'Zaid was given books'

can be represented as follows:



CHAPTER IX

FUNCTIONAL SYNTAGMS IN MSA

As was pointed out in chapter IV, the essential characteristic feature of syntactic complexes is the existence of tactic relations between their constituents. On the other hand, morphological complexes are characterised by relations of simultaneity. In view of this, and as far as this chapter is concerned, we shall investigate the kind of complexity involved in constructions such as:

"/fī ʔalmaktabati/"	'in the library'
"/ʕalā ʔaṭṭāuilati/"	'on the table'
"/ʔilā ʔalmaṭbaxi/"	'to the kitchen'
"/ma ʕa ʔaxī/"	'with my brother'
"/min tāžirrin/"	'from a merchant'
etc.	

which may fill certain positions in the syntactic structure of the verbal predicative based syntagm discussed in the preceding chapter. For example, a syntagm such as "/ʕala ʔalkursī/" 'on the chair' may occupy the complementary object position in syntagms such as

"/uaḍa ʕa xālidun ʔalkitāba ʕalā ʔalkursī/" 'Khalid put the book on the chair',
(3MS, pf) 'put' (Khalid) (the + book) (on) (the + chair)

"/zalasa ʕalā ʔalkursī/" 'he sat on the chair',
(3MS, pf) 'sit' (on) (the + chair)

"/tarakat ʔalqalama ʕala ʔalkursī/" 'she left the pencil on the chair'.
(3FS, pf) 'leave' (the + pencil) (on) (the + chair).

It may also occur in a non-verbal predicative based syntagm as in "/ʔassāʔatu ʔalā ʔalkursī/" 'the watch is on the chair'. As an initial hypothesis, we shall assume that a construction such as "/fī ʔalmaktabati/" 'in the library' is a simultaneous bundle of its constituents, i.e. morphological complex, and then we attempt to refute this assumption by trying to produce evidence of syntactic relation within the complex itself.

a) The tentative complex "/fī ʔalmaktabati/" 'in the library' is a potential constituent in the complex "/ʔalasa fī ʔalmaktabati/" 'he sat in the library'. This may be shown by commuting it with, for instance "/ʔala ʔalkursī/" 'on the chair' or "/hunāka/" 'there' as in:

"/ʔalasa ʔala ʔalkursī/" 'he sat on the chair'

"/ʔalasa hunāka/" 'he sat there'

b) The tentative complex "/fī ʔalmaktabati/" is analysable as the following commutations demonstrate:

fī ʔalmaktabati 'in the library'

ʔilā ʔalmaktabati 'to the library'

fī ʔalmaktabati 'in the library'

fī ʔalmdrasati 'in the school'

c) On testing the tentative complex "/fī ʔalmaktabati/" 'in the library' against the third criterion, we notice that on the first level of analysis it is a combination of two immediate constituents as shown below:

fī / ʔalmaktabati 'in the library'

roughly: 'in' / 'the library'

On a lower level, the constituent "/ʔalmaktabati/" 'the library' is analysed into two immediate constituents (cf. Al-Nobani, 1978):

ʔal / maktabati 'the library'

roughly: 'the' / 'library'

The above analysis demonstrates that the immediate constituents of the complex sign "/fi ʔalmaktabati/" could be further analysed, in a theoretically valid way, into smaller grammatical signs, i.e. they are not, at the same time, its ultimate ones. Therefore, the possibility of the given construction being a morphological complex is ruled out.

Now having rejected the hypothesis that the above construction is a morphological complex, or a pseudo-complex, 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 duly established syntagm, while the rest of the context is held constant as shown below:

fi / ʔalmaktabati 'in the library'

fi / ʔalmadrasati ʔažžadīdati 'in the new school'⁽¹⁾

Further investigation would show that "/fi/" 'in' which has been established as a syntactic element, is not any further analysable into other grammatical elements. We may, therefore, say that "/fi/"

(1) Note that the construction "/ʔalmadrasati ʔažžadīdati/" 'the new school' is a nominal syntagm in MSA. For more details about the nominal syntagms in MSA, the reader is referred to M. Al-Nobani: A Syntactic Analysis of the Nominal Syntagm in Modern Standard Arabic, St. Andrews, M.Litt. Thesis, 1978.

'in', in a construction such as $/fī\ ?almaktabati/$ 'in the library', is a minimal syntactic element, i.e. a plereme. Elements such as $/ʕalā/$ 'on', $/ʔilā/$ 'to', $/min/$ 'from', $/ma\ ʕa/$ 'with', which have been used in the examples of the foregoing list may be treated in the same manner as $/fī/$ 'in' since each of them properly commutes with the element $/fī/$ 'in' as in:

$/fī\ ?almaktabati/$	'in the library'
$/ʔilā\ ?almaktabati/$	'to the library'
$/ʕalā\ ?almaktabati/$	'on the library'
$/min\ ?almaktabati/$	'from the library'
$/ma\ ʕa\ ?almaktabati/$	'with the library'

Note that like $/fī/$ 'in', none of the above elements is further analysable on the grammatical level.

The above syntagm, i.e. $/fī\ ?almaktabati/$ is a self-contained construction of two elements of which $/fī/$ 'in' is the nucleus. It is established as the nucleus of the syntagm in question since it is via this element, and not the element $/ʔalmaktabati/$ 'the library', that the syntagm $/fī\ ?almaktabati/$ 'in the library' can contract syntactic relations with other immediate constituents on higher level syntagms. In the syntagm $/kataba\ ʔaṭṭālibu\ ʔarrisālata\ fī\ ?almaktabati/$ (3MS, pf) 'write' (the + student) (the + letter) (in) (the + library) 'the student wrote the letter in the library', for example, we see that it is via the constituent $/fī/$ 'in' and not $/ʔalmaktabati/$ 'the library' that the syntagm $/fī\ ?almaktabati/$ can be linked with the

syntagm "/kataba ʔaṭṭālibu ʔarrisālati/" 'the student wrote the letter'.

This can be demonstrated as follows:

"/kataba ʔaṭṭālibu ʔarrisālata fī ʔalmaktabati/" 'the student wrote the letter in the library'

* "/kataba ʔaṭṭālibu ʔarrisālata ʔalmaktabati/" 'the student wrote the letter the library'

On the other hand, an element such as "/fī/" 'in' plays an important role in determining the distribution of a syntagm such as "/fī ʔalmaktabati/" 'in the library'. It is by virtue of "/fī/" 'in', for instance, that the syntagm "/fī ʔalmaktabati/" may occupy a 'complementary object' position in a VPB syntagm, or a nuclear position in a NVPB syntagm, e.g. "/ʔaṭṭālibu fī ʔalmaktabati/" 'the student is in the library' (cf. chapter VIII). Note that the above syntagm, i.e. "/fī ʔalmaktabati/" as a whole stands in a relation of sub-ordination to other constituents on a higher level syntagm, but itself cannot exhibit a relation of super-ordination to other constituents.

In accordance with what we have said above, we may say the above syntagm is a self-contained bundle of two positions: functional⁽¹⁾

(1) The term 'functional' has been taken from Martinet's classification scheme. "Functionals" are elements like prepositions, relative pronouns, conjunctions, particles of traditional grammar, which serve to indicate the function of another element. In MSA functionals include elements such as "/ʔilā/" 'to', "/fī/" 'in', "/min/" 'from', "/kulla/" 'every', "/lau/" 'if', "/munṣu/" 'since', "/ḥatta/" 'until', "/Ḥumma/" 'then', etc. For more details about "functionals" and "functional syntagms", the reader is referred to A. Martinet (1964), J.W.F. Mulder (1980, i), and D. Roberts (1980).

and complement. A functional element always occupies the nuclear position whereas the peripheral position is filled by a complement. Moreover, as a nuclear element, the functional constituent governs the tactic function of a peripheral element in the complement position. Note that the above type of syntagm is called a 'functional syntagm' as the nuclear position within it is filled by a functional. The model set up to account for all the relevant information within the functional syntagm in MSA can be shown as follows:

functional ←———— complement

Consequently, the syntagm "/fi ʔalmaktabati/" 'in the library' may be mapped onto the above model in the following way:

fi ←———— ʔalmaktabati

In terms of occurrence, there is a bilateral occurrence dependency between the complement and the functional, i.e. the nucleus, and therefore, none of the two elements can be an expansion. This boils down to saying that the nucleus within the syntagm in question is not free. The functional syntagm is always realised in the following order:

functional - complement.

CONCLUSION

The aim of structural linguistics is to describe language in terms of relations. Having stated in the introduction that our approach is embedded in structural grammar (morphology and syntax), it follows that we are primarily involved in the same enterprise. Our task has consisted of identifying, in the grammatical field of MSA verbal aspect, the types of grammatical relations (morphological and syntactic) established by Axiomatic Functionalism. The ultimate stage of such analysis involves how various aspectual phenomena in MSA can be mapped onto the relevant models set up to account for the syntactic relations within the aspectual phenomena in question.

In terms of transitivity, intransitivity, etc. different nuclei in MSA are identified. The VPB syntagm corresponding to these nuclei are mapped onto the model set up to account for the whole field of relations within the VPB syntagm in MSA. With respect to this model, we followed a different procedure than the one followed by Mulder. In other words, we set up one model to account for the relations within all the types of VPB syntagm, whereas Mulder's procedure is to set up a different model for each type of the syntagm in question. Moreover, Mulder also includes brackets within the abstract model to refer to an optional entity, i.e. expansion. The incorporation of such a realisationally relevant representation in the model amounts to a confusion between the level of systemology and the level of realisation.

Further descriptions of other languages should lead to an evaluation of the term "expansion".

The bulk of our analysis has been dealt with in terms of classification of sign into: morphological components, morphological bundles serving as minimal syntactic components, and syntactic bundles (pleremes or syntagms). That is, they are dealt with from the grammatical point of view only, and not from the semantic point of view. However, in chapter one and within the field of verbal aspect, a semantic distinction is made between two semantic categories: punctuality and iterativity. The former refers to a situation that takes place once and once only, whereas the latter refers to a situation that is repeated. In chapter three, the above semantic categories are identified in MSA. An instance such as "/ṭaraqa/" (3MS, pf.) 'one single knock' exemplifies punctuality, whereas an instance like "/iaṭruqu/" (3MS, impf.) 'series of knocks' exemplifies iterativity. Consider:

1. "/ṭaraqat ʔalbintu ʔalbāba/" 'the girl knocked on the door'
(3FS, pf.) 'knock' (the + girl) (the + door)
2. "/taṭruqu ʔalbintu ʔalbāba/" 'the girl is knocking on the door'
(3FS, impf.) 'knock' (the + girl) (the + door)

However, even with perfective aspect, if the object is plural, then we have iterative meaning, consider:

3. "/ṭaraqat ʔalbintu ʔalʔabuāba/" 'the girl knocked on the doors'
(3MS, pf.) 'knock' (the + girl) (the + doors)

The main part of our analysis has dealt with simple signs and aspect. However, example No. 3 above clearly shows that there is an interaction between the denotations of two signs: "perfective" and "plural" which results in an iterative meaning. Moreover, the example in question also shows an interaction between 'perfectivity', exemplified by the series of completed actions of "knocking", and 'iterativity', exemplified by the series of knockings.

It has been pointed out earlier (cf. chapter IV) that grammar deals with syntagms in terms of their paradigmatic constituents (pleremes or syntagms) and of the syntactic relations holding between those constituents. Thus, syntactic relations and the analysis of syntagms belong entirely to grammar. In approaching a full semantic description of syntagms, the grammatical analysis constitutes only one factor of that description as the latter presuppose, in addition to the grammatical analysis, a full account of the semantic features of the paradigmatic constituents of a syntagm as well as a full account of the semantic role of the syntactic relations between those constituents.

Reverting to the treatment of the above phenomena, i.e. the interaction between the denotations of signs, this phenomena, thus could only be dealt with in terms of two types of "semantics": 'denotational sign semantics', and 'constructional semantics'.

The "meaning" of a syntagm should be approached directly through the denotation of that syntagm in its capacity of being a sign

in its own right. That is the theory of denotational sign semantics⁽¹⁾ should first be applied to the syntagm as a whole and not as a bundle of grammatical constituents (cf. Hervey, 1979). Axiomatic Functionalism maintains that the denotation of a complex sign, regardless of whether it is a morphological or syntactic complex, is said to be a function of the denotation of its constituent signs and the semantic contribution(s) of the constructional relation(s) between them. Constructional semantics, that is semantics of constructional relations in grammar, is hardly developed in Axiomatic Functionalism. It is, therefore, to be expected that any characterisation of the semantic import of the relation(s) between the constituents in a complex sign will be of a very general nature. Hervey and Mulder (1980:127) express the semantic role of the constructional relation(s) in a complex sign as follows: "the denotation of the complex sign bears some relation to the denotation of each of the immediate constituents [in that sign]". On the basis of this, we may say that the denotation of every constituent sign in complex sign bears some semantic relation to the denotation of the other constituent sign(s) in the same complex sign and vice versa.

From what is said above, we may conclude that the above phenomena, i.e. the interaction between the denotations of signs, could be semantically described through the notions of denotation,

(1) For a detailed discussion about denotational sign semantics, the reader is referred to Hervey, S.G.J. Axiomatic Semantics: A theory of linguistic semantics, Scottish Academic Press, Edinburgh, 1979.

denotation class, etc. as well as through the semantic role of the constructional relations. This demands a detailed and comprehensive semantic analysis. Such analysis demands a later development in 'Axiomatic Functionalist' theory which should include a culmination and synthesis of denotational sign semantics and constructional semantics; and all this falls beyond the scope of the present thesis. Yet, we hope that the task performed on the identification of the phenomena in question, in addition to the task performed on the morphological and the syntactic analysis which has identified the relevant paradigmatic constituents as well as the relevant syntactic relations holding between these constituents, would constitute a basis for further research, in particular the semantic analysis relevant to the predicative based syntagm in MSA and the semantic categories of punctuality and iterativity.

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