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Abstract

This thesis is concerned with the description of Kamali Arabic, a language spoken in Abou-Kamal in the southern east corner of Syria. The theory applied is Professor J.W.F. Mulder's 'axiomatic' theory of Phonology, a sub-component of his "Axiomatic Functional Linguistics".

This thesis falls into seven chapters. Chapter I, dealing with the theoretical background, comprises three sections which provide an introduction to the basic principles of "axiomatic functionalism". Chapter II, dealing with "axiomatic functionalism" and the concept of language. Chapter III, is concerned with the consonants of Kamali Arabic and their distinctive features. Chapter IV, is concerned with the notions "position" and "distributional unit" and the application of these notions to Kamali Arabic. Chapter V is concerned with the phonemes of Kamali Arabic and their realizations (allophony). Chapter VI is concerned with "neutralization" and "archiphonemes". Chapter VII is concerned with the vowels of Kamali Arabic, and comprises "neutralization" and vowel archiphonemes.

A Phonological Description
of
Kamali Arabic

by

Suliman Hadj Mohamed

A thesis submitted for an
M. Litt. Degree in the
University of St. Andrews.

May, 1976.



Declaration

I HEREBY DECLARE that the present work which is a record of research performed by myself, was conducted by the supervision of Professor J. W. F. Mulder, Department of Linguistics, University of St. Andrews to which I was admitted as a research student under Ordinance No. 9, 1967, and as a candidate for the Degree of Master of Letters in October 1974.

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

Suliman Hadj Mohamed.

Certificate

I HEREBY CERTIFY that the conditions of the Ordinance
and Regulations concerning the submission of an M. Litt.
thesis have been fulfilled by Mr. Suliman Hadj Mohamed.

Supervisor

Acknowledgements

I wish to express my gratitude to my supervisor Professor J.W.F. Mulder and to Dr. S.G.J. Hervey, of the Department of Linguistics, University of St. Andrews. It is my sincere belief that they generously offered their thoughtful attention and valuable advice. Mulder's 'axiomatic' theory of phonology provides the theoretical foundation of the present work. I hope that I have succeeded in providing a worthy application of his theory in my phonological description of Kamali Arabic.

Thanks go to my colleague Mr. M.Y. Sulieman, a research student and tutorial assistant in the same department for his help in reading the manuscript.

I am grateful to my informants, in particular to my Mother and my friend Mr. M.G. Gatheeth.

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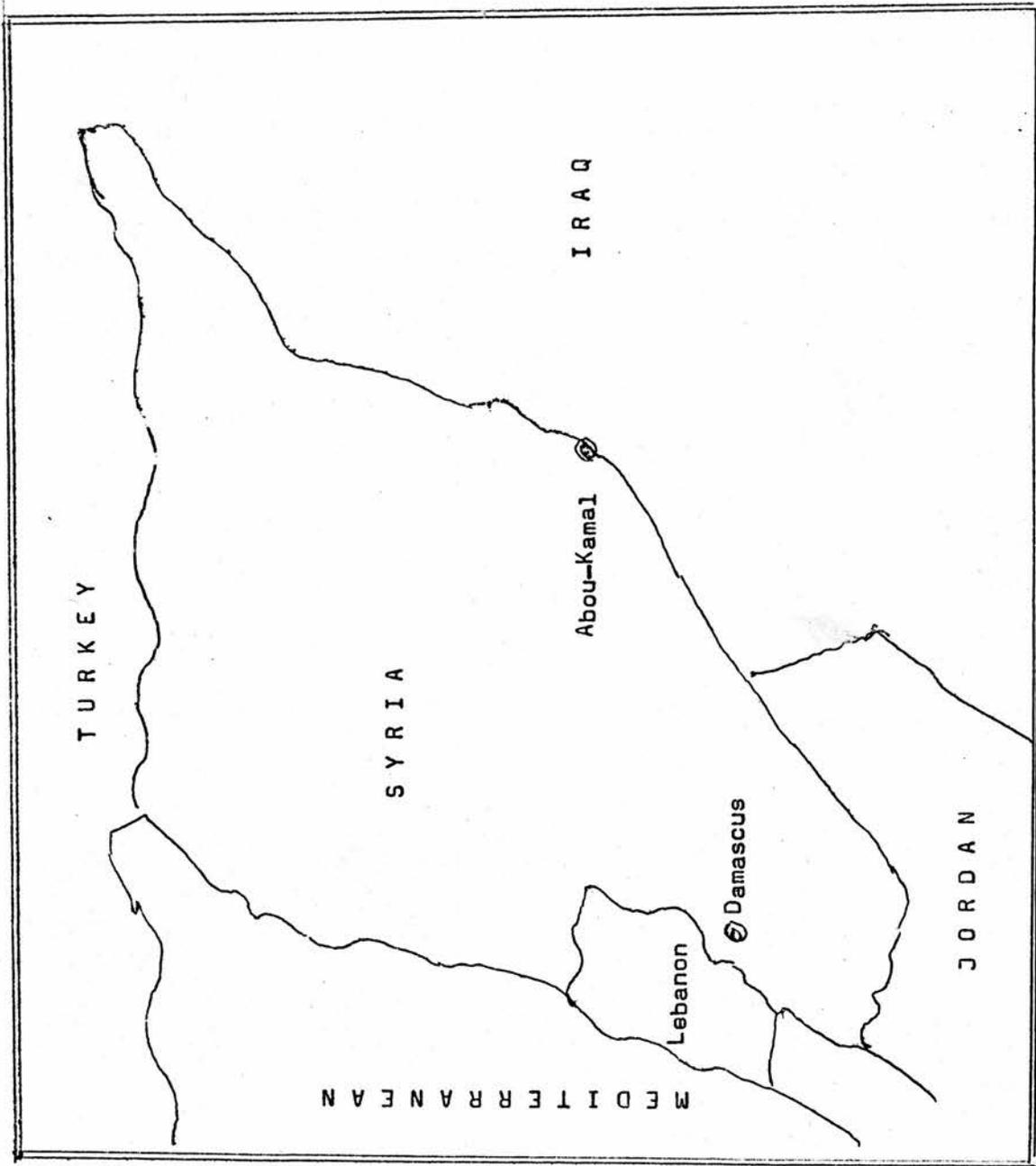
B I B L I O G R A P H Y

PREFACE

KAMALI ARABIC

It is to be remembered that Modern Standard Arabic, a modernised version of Classical Arabic, is not the everyday speech of the people of the Arabic World. It is in fact the language of books, press, radio and television. It is worth mentioning that, between colloquial Arabic and Modern Standard Arabic, there are big differences in phonology, morphology and syntax. Such differences are also conspicuous between Arabic dialects. For instance, it would be very difficult for an illiterate Kuwaiti (knowing no other dialect than his own) to communicate with an illiterate Egyptian (knowing no other dialect than his own). It would be almost impossible for an illiterate Syrian or Iraqi to communicate with an illiterate speaker from Morocco. However, it is not difficult for a Syrian to recognise different Syrian dialects. In Syria, people living along the river Euphrates are known to be speakers of a Euphrates dialect. Most frequently it is easy for a Syrian, from a different region, to recognise a Euphrates person through a short conversation with him. On the other hand a Euphrates speaker can easily recognise three distinct dialects spoken in that area; the one spoken in Dair-El-zor, (the county centre) the one spoken in Mayadin, (a small town on the way between Dair-El-zor and Abou-Kamal) and finally the one spoken in Abou-Kamal. The three places mentioned above are situated over a distance of about seventy miles along the river Euphrates. However the mutual intelligibility between these three dialects is almost complete. Kamali Arabic is a Euphrates dialect spoken in Abou-Kamal (the smallest town of the three places mentioned). It is situated on the western bank of the river in the southern east corner of Syria. It is the last point where the river leaves the Syrian lands to

flow through Iraq. The town is on the borders with Iraq; at a distance of about five miles from the nearest Iraqi town. The numbers of speakers of this dialect is about 12,000. The present work will be restricted to "Kamali Arabic", which is the name of the dialect spoken in Abou-Kamal. Choosing this dialect in particular for analysis involves certain considerations worth mentioning. In the first place, to the full knowledge of the writer, no previous study of any kind has been done on this particular dialect. Secondly the writer is especially knowledgeable about this particular dialect as he was born and raised in the region where the dialect is spoken. The data collected for analysis have been obtained from speakers in this region. In spite of the mutual intelligibility between the three dialects, I have mentioned, Kamali differs from the other two Euphrates dialects in that it is an Iraqi, rather than a Syrian type dialect. The ancestors of Kamali speakers emigrated to that area from different parts; in particular the two towns, Ana and Rawa in Iraq during the late nineteenth and beginning of the twentieth centuries.

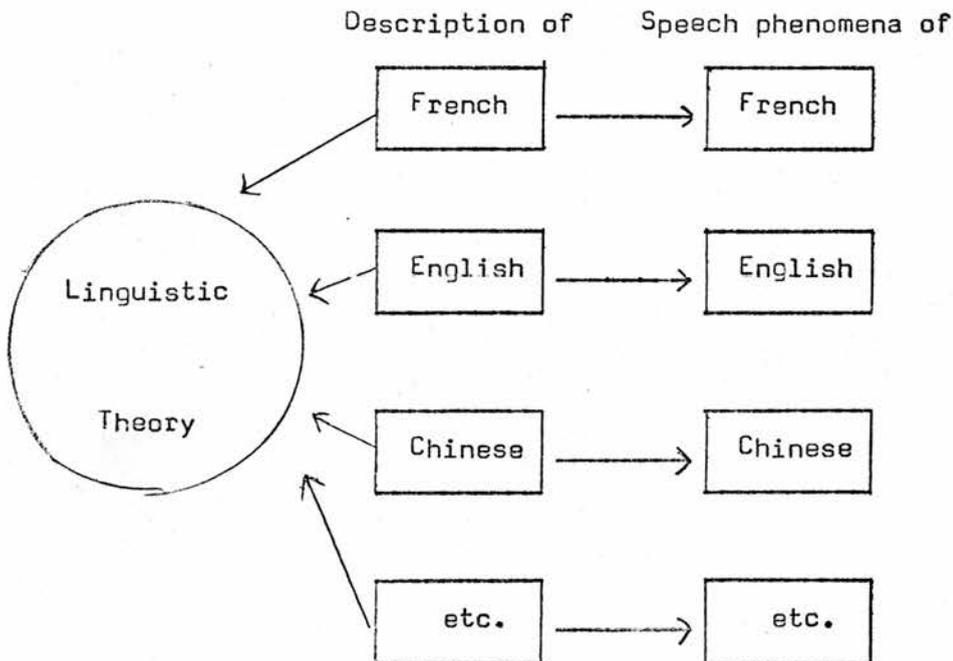


CHAPTER I

The Axiomatic Functionalist Approach

The theory used in the present description is Mulder's "Axiomatic Functionalism". This theory is based on philosophical grounds entirely different from any other theory that has been used in any phonological description of Arabic.

A successful hypothetico-deductive method has got to satisfy three major requirements which in order of precedence are, consistency, adequacy and simplicity. These three major criteria give the theory its rigorous standard. Before discussing these points I would like to draw attention to the fact that a sharp distinction should be made between the theory on the one hand, and a description based upon that theory on the other. Such a distinction emerges from the fact that a linguistic theory should not be exclusively concerned with one universe of speech phenomena but with a 'virtually' infinite number of parallel universes. The idea may be expressed in the following diagram:



If the pointed arrow (\longrightarrow) is interpreted as 'implies' or 'presupposes', we notice the following points:

- a) There is a one-to-one relation between a particular description and a particular field of phenomena.
- b) There is a one-to-many relation between the theory and the descriptions resulting from the application of that theory
- c) The existence of the theory is not dependant on the existence of the description or speech phenomena.
- d) Description presupposes the theory and speech phenomena simultaneously. Consequently the description derives its identity from the fact that it is the result of the application of a particular linguistic theory to a selected field of linguistic phenomena.
- e) The application of a particular linguistic theory to parallel fields of linguistic phenomena yields entirely different descriptions, each of which exclusively corresponds to a particular field of speech phenomena. In simple words, different speech phenomena have different descriptions.
- f) Different theories lead to different descriptions of the same phenomena.

The notion 'function' plays the most vital part in Mulder's axiomatic theory and gives it its prominent characteristic that makes it different from many other linguistic theories. A functional element is an element which derives its identity from the set of oppositions in which it partakes. To illustrate the point, I introduce the following example. The phoneme /ð/ in Arabic, by virtue of the feature 'voiced', is opposed to the 'unvoiced' /θ/ and to the 'emphatic' /ð̣/. The English /ð/, on the other hand, is 'voiced' by being opposed to the 'unvoiced' /θ/. We are unable to establish phonological similarity between the English /ð/ and the Arabic /ð/ because each of them enters in a vastly different series of oppositions. Moreover the overall system in which the Arabic phoneme /ð/ enters is entirely different from that in which the English phoneme /ð/ enters.

The above argument shows that Mulder's theory is vastly different from Jakobson's who sets a universal inventory of binary oppositions from which all attested languages may make a selection. It also shows the necessity of drawing a clear distinction between theory and description and the risk of the inductive generalization. Such a question may not figure in natural sciences where scientists are concerned with one universe only. This concern on the part of scientists decides a relation of one-to-one type between a theory and a description.

Hoping that what has preceded is sufficient to show the necessity of the distinction between a theory and description, I would like to throw a further light on some of the major points in Mulder's 'Axiomatic Functionalism', and show how a successful application of this theory can lead to setting up an adequate and straightforward description.

The Structure of the Theory

An axiomatic theory in the first place consists of statements that are termed 'axioms'. In addition to these elements a theory consists of another two main types of statements that are called 'definitions' and 'theorems'. Strange, as it superficially may sound, 'axioms', the main elements of the theory, are not possible to be traced to their sources. As Hjelmslev puts it 'a deductive theory is a theory that claims no existential postulate'.¹ Furthermore he proceeds to say that 'a good linguistic theory is both arbitrary and appropriate'. Mulder, believes (see Ling. Theory, Ling. Description, Mulder, p. 95) that setting up a good deductive theory is not entirely arbitrary, as one is governed by considerations of appropriateness in choosing or rather setting up his statements after his first statement has been launched. As soon as the first statement is set up, the demand for consistency considerations start to exert further limitations on the process of formulization and deducing new statements from the first one(s). In a deductive sense it remains arbitrary, because the premisses are arbitrary.

1. Prolegomena to a theory of Language. 1969

The second type of statements that are found in an 'axiomatic' theory are 'definitions'. The main function of 'definitions' is to elucidate vague terms in the theory and make them clear enough for conceiving of its notions. As Mulder puts it 'It is the function of definitions to attach meaning to terms used in statements, whether these statements are 'axioms', 'theorems' or 'definitions'.¹ Each time we introduce a definition we are introducing a new statement containing new terms that have got to be defined. This process continues until we get to the point where we are left with nothing but clear definitions containing only primitive intuitive terms. Another task of definitions is 'to introduce notions of the theory'. Notions in the theory are classified by Mulder as follows: Notions that apply to entities in a linguistic description but not to entities in the real world i.e. in the realm of speech phenomena are to be called theoretical models or meta-models; examples of such notions are 'archiphoneme', 'distinctive feature'. There is of course another type of notion that does not apply to entities in a linguistic description. These are not 'models' but just 'notions'. Examples are "simultaneity", "ordering-relations", etc.

The third type of statement that an axiomatic theory contains is theorems. Such a theorematic type is to be ignored on the grounds that theorems are implied in the theory, consequently they are latently present in its powerful statements even before expression.

Thus the sum of the above statements forms the basis of a solid well-constructed theory. With such a powerful device I hope to introduce a consistent, adequate and simple description of Kamali Arabic.

Description and Speech Phenomena

A good description, in the hypothetico-deductive sense, is one which is consistent, adequate and simple. These are, as I have already said, the three major requirements which are separately relevant to the approach.

1. Linguistic Theory, Linguistic Description p.100 by Mulder.

As functionalists hold the view that a linguistic entity derives its identity from the set of oppositions in which it partakes, and with the adoption of this view, I would like to touch upon certain points of disparity between the inductive method on the one hand, and the hypothetico-deductive on the other. By doing so I hope I shall be able to clarify how a careful application of the hypothetico-deductive method, does hopefully lead to setting up an adequate and straightforward description.

Connected with the idea that the description presupposes the theory, it follows that the description, whose constituents are mere hypotheses, is the result of the application of a particular linguistic theory to a particular field of speech phenomena. Those hypotheses are testable against facts in the real world, i.e. the realm of speech phenomena, and as soon as a counter-example is found, a hypothesis is to be refuted. The fact that hypotheses are liable to refutation is part and parcel of the essence of the hypothetico-deductive method. Contrary to descriptive statements, theoretical ones are not hypothetical, therefore un-refutable. But the statement that 'statements in the theory are appropriate and consistent' is a hypothesis. Thus it appears that we can have hypotheses about statements in the theory, but the statements themselves are not hypothetical.

How does an inductivist work? Having collected his data, the inductivist who is armed with nothing but 'intuitions' about the data, and having a subjective theory in the back of his mind, starts a repetitive reflection on what he has got hold of from the vast and infinite body of the data. As a result of his numerous reflections he starts formulating hypotheses that correspond, as he believes, to 'inherent features' in the data. From there he takes a short cut to construct his theory simply by generalizing these descriptive statements. Thus if the inductivist arrives at his theory in that manner, it remains, beyond any shadow of

doubt, logical to say that such a theory is a mere collection of generalized hypotheses. In the absence of a theory that is capable of preserving the consistency of the descriptive statements, the theory resulting from a generalization as such is bound to be inconsistent, i.e. it will virtually not have a chance to maintain consistency right to the last of its statements.

A deductivist on the other hand, armed with his theory, which is arbitrary, tries to carefully project it on the speech phenomena, via. protocolizations that he has established before setting out his description. From that point he starts formulating hypotheses that are consistent with the theory on the one hand, and with the facts encountered in the data on the other. Those hypotheses, or rather descriptive statements are, as I have already mentioned, in principle, refutable. Assuming that a hypothesis is refuted, the describer starts formulating a new hypothesis. The process proceeds until he arrives at a consistent, adequate and simple description. By this subtle point, the hypothetico-deductive method is advantageous over the inductive one, as in the latter the refutation of the descriptive statements does directly lead to knocking down the theory.

Inductivists tend to believe there are certain features that are inherent in the data and it is the job of the description to account for those facts. Deductivists, who are in full agreement with Saussure's 'c'est le point de vue qui crée l'object'¹, believe that by the aid of the theory they are capable of establishing or rather viewing features in the data under description.

Consistency, Adequacy, Simplicity

A description is mainly the reflection of our deductive theory or rather of its application to certain phenomena. To ensure that our description should be consistent, adequate and simple, we are, in fact, ensuring that these requirements are achieved in the theory itself in the first place.

"Before anything else, a description should be consistent, i.e. no two of the statements it contains or implies should be in contradiction with one another" (Mulder: Scottish Vowels). This statement implies a description should be, in the first place, consistent within itself, i.e. internally consistent. There should not be contradictions between statements in the description. Two mutually contradictory statements would cancel each other out. A description is also expected to meet external considerations of consistency. To be externally consistent, a description should embody statements that are consistent with the theory on which it is based, otherwise it is going to be an arbitrary description 'irrespective of whether its statements may seem to be objectively true or not, and the description is arbitrary in as far as it contains arbitrary statements.' We also assume that every statement in the description should be justified by the theory over and above its being consistent with it. A description is also expected not to be in conflict with our observations in the data. For theoretical statements within the theory, we 'need no external justification other than their appropriateness'. It should be strongly emphasised that theoretical statements should be internally consistent, otherwise they become meaningless and subject to cancellation.

The second major requirement in an axiomatic approach is that of adequacy. An adequate description is one that fulfils the three major requirements of consistency, adequacy and simplicity. An adequate description is expected to achieve a sufficient coverage of the data that lie in its pre-determined scope and ensure that its hypotheses are capable of achieving this pre-requisite. The adequacy of the theory, on the other hand, is of a different nature. We can test the adequacy of the theory through its actual performance. In that sense we may say that adequacy is not an inherent quality of the theory, but it is chiefly its potentiality of producing good descriptions that are consistent, adequate and simple for a variety of accessible fields of phenomena. In one way

or another, the adequacy of the theory is latent in the power that lies in the appropriateness of its statements.

The third major requirement in an axiomatic approach is that of simplicity. Definitions can contribute to simplicity by the fact that they can throw a sufficient light on the structure of the theory, and that in turn, helps to trace the consistency of its statements. It appears that the importance of this requirement does not turn out to be on equal par with that of consistency or adequacy. As there is a one-to-many relation between theory and descriptions, it becomes a logical conclusion to say that the demand for simplicity in descriptions is a little more urgent than that in the theory. "It may be economical to sacrifice some simplicity in the theory if this can lead to a greater simplicity in the descriptions based on it"¹. As we seek for adequate descriptions, it becomes imperative to ensure a relative simplicity to cope with that of adequacy.

1. Linguistic Theory. Linguistic Description. p.95 Mulder.

CHAPTER II

Axiomatic Functionalism and 'Language'.

A sharp distinction should be made between language on the one hand and speech on the other. It is to be noticed that language is not to be considered as our object of study. To draw the foregoing distinction, the 'axiomatic functionalist approach' holds the view that language is not to be regarded as a concrete object; it is rather a set of "models" that can correspond to their correlates in the real world i.e. speech phenomena. To rephrase this statement, I add, that by the aid of these "models" we can view a certain structure in our data. . The components of that structure will appear isomorphic with the theoretical "models" by the aid of which such a structure has been set up. Hence we may say that it is speech, or rather that shapeless mass of speech phenomena which is to be considered as our object of study.

Assuming that the distinction between language and speech is drawn, I would like to explain the axiomatic functionalist view of language. To start with a functionalist's definition of language, I quote Martinet (1965) "Language has a double articulation". I already said, in the previous chapter, that a definition in the theory will remain vague and meaningless as long as it contains terms that are not primitive i.e. that are not clearly and intuitively understood. The concept "double articulation" has been interpreted in different ways by various linguists who adopted that concept. Most of the interpretations regard the first as articulation into elements that have both form and meaning, these elements are further articulated into elements that have only form; the latter elements specify the constituents of the second articulation. Linguists also differ about the ultimate constituents of the double articulation. Martinet for instance regards the "monemes" as the ultimate elements of the first articulation whereas for Mulder they are

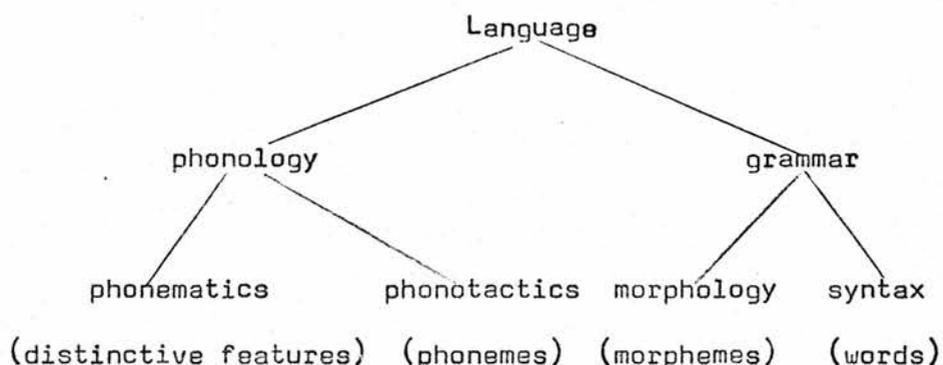
the "words". As regards the ultimate constituents of the second articulation, most of the linguists (who adopt the view of 'double articulation') consider them to be the phonemes; while for Jakobson they are the 'distinctive features' of phonemes. To accept Mulder's view that "words" or rather 'pleremes' and "phonemes" are the ultimate elements of the first and second articulation respectively, we need to know what he means by the term "articulation". He defines articulation as "Set of ordering-relations between elements in combinations"¹. Contrary to Martinet, Mulder regards the "words" as the ultimate elements of the first articulation because he believes that an ordering relation can be established between them (i.e. words). On the other hand, the relation between 'morphemes' or 'monemes' is regarded by Mulder a relation of simultaneity. Simultaneity implies the absence of ordering relation, i.e. the absence of an asymmetrical relation between such elements (i.e. 'monemes'). Thus the term "articulation" which implies ordering relation does not figure between "monemes", consequently they do not deserve the term "articulation". Similarly Mulder regards the 'phonemes' as the ultimate elements of the second articulation as he believes that an ordering relation can be established between them. The reason why he does not, as Jakobson does, regard the 'distinctive features' of phonemes the ultimate elements of the second articulation is his assumption that these elements can not stand in a relation of ordering to each other, but they do stand in a relation of simultaneity to each other. Another point of divergency between Mulder and Martinet about the elements of the second articulation figures as follows: though both scholars regard the phonemes as the ultimate constituents of the second articulation, yet there is a big difference in the interpretation of the phoneme conception. Mulder, who wants to keep consistent with his theory of the linguistic sign, assumes that there is a risk in analysing, as Martinet does, the expression of the linguistic sign into phonological features called phonemes. Such a risk is due to

1. Sets. 11

the fact that a particular expression implies a particular content, and vice versa, to establish the identity of the linguistic sign. Thus to analyse the expression of the sign into phonemes will result in analysing the linguistic sign, as a whole, into phonemes. This consequently leads to mixing up ontological levels, namely grammar and phonology, which axiomatic functionalists are quite keen to keep segregated. Being opposed to the segmentation of the expression of the linguistic sign into phonemes, Mulder believes that the phonological form of the expression is the one to be segmented into phonemes.¹ Finally, Mulder does not agree with Martinet about calling the 'articulations' of language 'first and 'second', but he holds the view that language is the outcome of the two articulations simultaneously.

The Structure of Language

To elucidate the foregoing concept of language (double articulation), axiomatic functionalists divide what they call human language into two main systems that are called 'grammar' and 'phonology'. In all attested languages such as English, these two systems are further divided into subsystems. The following diagram will illustrate the division of the English language:



I shall not go into the explanation of grammar since it lies beyond the scope of this thesis. Readers who are interested may refer to "Language as a System of Systems" by Mulder and Hervey. As my concern is mainly

1. It is to be noted that every expression has a phonological form but not every phonological form has an expression.
(Theory of the Linguistic Sign. by Mulder and Hervey)

introducing a phonological description. I shall try to give a somewhat detailed explanation of the concept of phonology based upon an axiomatic functionalist view; the view that I took as my point of departure to set up my phonological description of Kamali Arabic. Further explanations of axioms and definitions concerning phonology will follow in the next chapter.

A semiotic system can, in functionalism,¹ be called a 'language', when such a system embodies, at least, 'phonotactics' and 'syntax'. These two components specify the minimal requirement for the 'double articulation' in a natural language.

Phonematics and Phonotactics

A phonological theory must provide the means for accounting at least for three facts involving phonological entities. These are syntagmatic relations, paradigmatic relations and statements of realization.

It is not so that a phonological description has no relation, whatsoever, with phonetics. A phonological description remains vacuous if it lacks a phonetic content. For certain considerations of adequacy, it seems imperative to state the relations between phonological entities and their phonetic realization, over and above explaining the relation between the phonological entities themselves in a structural way. In a sense, statements of realization help to produce the effect of making the phonological entities somewhat ostensible. They are a necessity for measuring the adequacy of the phonological description. The realisational part of phonology, i.e. the link with phonetics is the area where we deal with 'allophones'.

Phonematics and phonotactics constitute the structural part of the phonological theory. The two systems are discrete, but interlocking in the sense that 'phonematics' deals with phonemes in terms of distinctive features, whereas 'phonotactics' deals with phonemes as constituents of more complex phonological entities i.e. phonotagms. The distinction between the two systems will remain blurred if we only depend on the entities found in each of them. The phoneme /l/ in English provides a

1. See: Def. 3c² on page 17, for a definition of proper language

good example. If we assume that 'distinctive features' are the constituents of 'phonematics', and 'phonemes', the constituents of 'phonotactics', then the phoneme /l/, which in a Mulderian sense, a simultaneous bundle of one distinctive feature, 'l'ness', can belong to 'phonematics'. If it is looked upon as a tentative phonotactic entity i.e. a phoneme then it can belong to 'phonotactics'. Thus to clarify the distinction between the two systems we have to deal in terms of the relations they exhibit. 'Distinctive features', the minimum elements of 'phonematics' occur in simultaneous bundles. The relation established between those elements is a relation of simultaneity. The role of 'phonotactics', on the other hand, is to account for the distribution of phonemes and how they combine by ordering relations into self-contained phonotagms.

CHAPTER III

Axioms and Definitions Concerning Phonology

As I am going to employ Mulder's theory in my phonological description of Kamali Arabic, I would like to introduce some of his axioms and definitions which mainly concern phonology. These axioms and definitions will help the reader for a good interpretation of the description. Needless to say that referring to the original work of the author in "Postulates for Axiomatic Functionalism", and "Sets and Relations in Phonology", will be of an even greater help in guiding the reader.

Axiom A. All features in semiotic sets are functional

- Def. 1a. "Functional" for "Separately relevant to the purport of the whole of which it is a part".
- Def. 1b. "System" for "Self-contained set of features with a common purport".
- Def. 1b¹ "Self-contained" for representing all relative dependences of its members, as members of the set in question".
- Def. 1c. "Semiotic system" for "system of conventions for communication". That is to say all features of such a system are conventional and their common purport is "communication".
- #### Axiom B. Semiotic systems contain simple, or complex unordered, or complex ordered signa and figurae.
- Def. 2a. "Sign" or "symbol" for "semiotic entity with both form and information value", simply called "signum" or "plerematic entity".
- 2a¹ "Sign" for "signum with wholly fixed conventional information value.
- 2a² "Symbol" for "signum with not wholly fixed conventional information-value, i.e. to which a temporary item of information-value can be attached by a definition".
- 2b "Figura" for "semiotic entity which has only form".
- 2b¹ "Cenological entity" for "figura in a semiotic system that has a cenology".

- Def. 2b^{1a} "Cenology" for "cenematics or cenotactics".
- 2b^{1b} "Cenematics" for "complex unordered cenological system".
- 2b^{1c} "Cenotactics" for "complex ordered cenological system".
- 2b^{1d} "Cenological system" for "system of figurae". This is not necessarily a cenology, i.e. it may be a simple system (see below and compare with Def. 2a^{3d}). 1
- 2b^{1e} "Cenology" for "Complex system of figurae". (alternative definition to Def. 2b^{1a}).
- Def. 3a "Phonology" for "Cenology in natural language".
- 3a¹ "Phonematics" for "Cenematics in natural language".
- 3a² "Phonotactics" for "cenotactics in natural language".
- 3a³ "Phonological system" for "cenological system in natural language".
- 3a⁴ "Phonological form" for "feature belonging to phonological system".
- Def. 3b. "Articulation" for "both cenotactics and syntax".
- Def. 3c. "Double Articulation" for "both cenotactics and syntax".
- 3c¹. "Language" for "Semiotic system with double articulation".
- 3c². "Proper language" for "semiotic system with a cenology containing both a cenematics and a cenotactics, and a grammar containing both a morphology and a syntax". All natural languages, known to date, are proper languages, but not necessarily vice versa. Natural languages, in addition, incorporate a para-phonotactic and a para-syntactic system, but 2 also other semiotic systems may incorporate para-tactic systems.
- 2c^{2a} "Proper phonology" for "system constituted by the interlocking of one phonematics and one phonotactics".
- 2c^{2c} "Interlocking" for "the one system providing the basic elements of the other system" (phonematics providing the basic elements of phonotactics).
- Def. 6a "Ordering relations" for "asymmetrical relations between entities in combinations". This does not necessarily refer to linear, or other spatial, ordering, as this is a matter of "realization".

1. Postulates for A.F. Def. 2a^{3d} . (p.2).

2. Postulate for A.F. See: Def.7c, Def.17a, Def. 18, Def.19.

- Def. 6b "Relations of simultaneity" for "symmetrical relations between entities in combinations". By axiom A, only functional criteria can be brought to bear in deciding whether a relation is symmetrical or asymmetrical.
- Def. 7a¹ "Paradigmatic relations" for "relations of opposition between members of sets".
- 7a² "Commutation" for "alternation between semiotic entities (or "zero" and semiotic entities) in functional opposition as immediate constituents, in a given context".
- 7a³ "Distinctive function" for "the set of commutations in which a semiotic entity may partake". Alternative definition:"
"the set of oppositions into which a particular semiotic entity enters".
- Def. 7b¹ "Syntagmatic relations" for "ordering relations between semiotic entities in combinations".
- 7b² "Syntagmatic entity" for entity capable of standing in ordering relations with other entities or having an internal structure such that it is capable of containing- as constituents-entities capable of standing in ordering relations with other entities".
- 7c¹ "Cenotactic entity" for "syntagmatic entity in cenology".
- 7c² "Phonotactic entity" for "cenotactic entity in natural language".

So far I have introduced most of the Axioms and definitions that are relevant to phonology. Other equally important definitions were neglected for lack of space on the one hand, and for the fact that they might be incorporated through the flow of the discussion, which is more elegant, on the other.

"Phonemes" and "Distinctive Features":

A phoneme, under a functionalist view, is a purely theoretical concept. In a previous chapter , I mentioned that the Ultimate constituents of the second articulation are the 'phonemes'. These phonemes are further analysable into simple entities (i.e. the distinctive features) between which no syntagmatic relation can be established. Mulder defines "phoneme" as "self-contained simultaneous bundle of one or more distinctive features".

1. Cf. Def. 8a Postulates for A.F.

In contra-distinction to "distinctive features", phonemes do stand in an ordering relation in respect to each other. That is to say there are no symmetrical relations between combinations of phonemes. In a particular phonotagm, a phoneme standing in its position, should necessarily have direct or indirect relation to the other phonemes of that phonotagm. The order of phonemes, according to the positions which they occupy is separately relevant to communication. This order is not to be interpreted as linear or sequential in the literal sense, but we should think of functional criteria for deciding whether such a relation is symmetrical or asymmetrical ¹.

Under an axiomatic functionalist approach, it is not to be accepted that a phoneme is a psychological or physical notion, nor is it a fictional one. Mulder regards the phoneme as a theoretical concept belonging to the theory. In order to give the phoneme a sense of ostensibility we have to think of establishing a certain relation between it and its correlates in the phonetic data. For that purpose we may say that a phoneme can be regarded as a class of phonetic forms in relation with a certain distinctive function. In terms of formulae the phoneme can be described as $\{f\}R_d$.

($\{f\}$ = class of phonetic forms; R = relation; d = distinctive function in phonology). That amounts to saying that a phoneme is indirectly linked to a phonetic substance via its allophones. An allophone is defined by Mulder as "a particular phonetic form f , in its capacity of having a particular distinctive function d ". ² In terms of formulae:

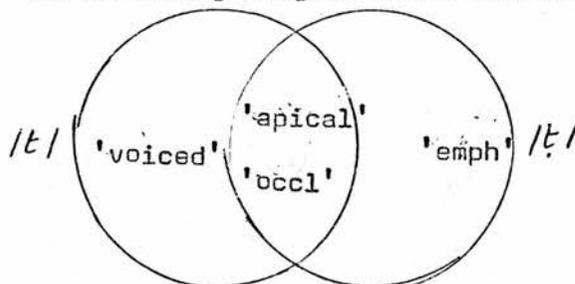
$f^x R_d^x$. We assume that every allophone has an infinite number of unrepeatable realizations. Nevertheless it is to be expected that a similar, as opposed to identical, realization of a particular phoneme can occur as a realization of another phoneme in a certain system. For instance in Kamali Arabic the phonetic form [ə] can occur as a realization of the phoneme /u/ in forms like /iktub/ "he writes", realized as [jəktəb] or [jəktub]; [ə] can

1. see: Defs. 6a and 6b for 'ordering relations' and 'relations of simultaneity'.
 2. Postulates for A.F. Def. 23a.
 3. R = having + in its capacity of having a relation.

also occur as a realization of /i/ in forms like /fin/ "spin!", realized as [fənn]. Hence [ə], in this case can be regarded as a 'homophone', which is formally defined as $(f^x R_d^x \quad f^x R_d^y)$, where $x \neq y$). "Homophone", for "allophone of one figura having the same phonetic form as an allophone of another figura".¹ But [ə] can also occur as a "parasitic", i.e. non-functional, realization between certain consonants, as we shall see later.

According to functionalists the "phoneme" is further analysable into simple phonological features called "distinctive features". No syntagmatic relations can be established between these entities as they stand in a symmetrical relation to each other. Thus we may say that the relation which we establish between distinctive features is that of simultaneity. Simultaneity, which implies the absence of functional ordering. A phoneme like /t/ in Arabic can be described as (apical, occlusive, emphatic) or (emphatic, occlusive, apical) or by putting these features in any other order, without affecting the identity or the distinctive function of that phoneme.

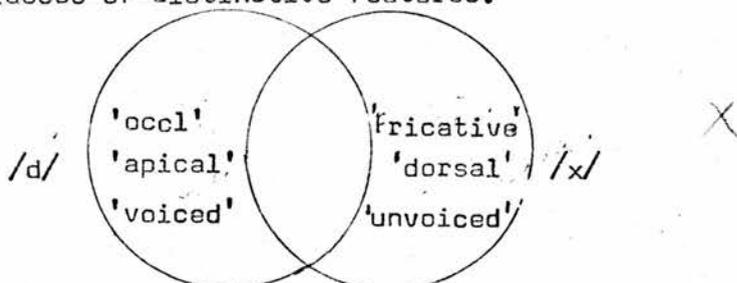
Phonemes can be minimally or globally different. This is due to the partial or the absence of overlap between their classes of distinctive features. The distinctive features of /t/ intersect with those of /t̤/ in Arabic. The following diagram shows the intersection:



This diagram shows that both /t/ and /t̤/ can be described as 'apical' and 'occlusive'. These two distinctive features apply to each of them. The only difference that makes /t/ distinct in respect to /t̤/, is the fact that the former is "unvoiced" while the latter is "emphatic". Since these two phonemes differ in respect of one distinctive feature we may

1. Postulates for A.F. Def. 25 "Figura" for "semiotic entity which has only form". Def. 2b.

say that they are minimally different. The following diagram illustrates how phonemes can be globally different i.e. when there is no overlap between their classes of distinctive features.



The foregoing diagram shows there is no distinctive feature in common between /d/ and /x/ in Arabic. Each feature of the classes of any of them has the capacity of making that phoneme distinct in respect to the other. Thus, for two phonemes, to be distinct, in respect to each other, they should differ as to, at least, one distinctive feature. "Distinctive feature" is defined by Mulder as ¹ "minimum phonematic entity". This implies minimum phonological entity. The term "distinctive feature" is also used, in a wider sense, for any functional feature, i.e. for "feature or complex of features that is separately relevant to the purport of the whole of which it is a part (cf. Def. 1a). Note, however, that "the whole" should here be taken to mean "a complex semiotic entity", rather than "the semiotic system". In this thesis, however, "distinctive feature" is always used in the narrower, i.e. phonological, sense.

Earlier in this work it has been remarked that the identity of any linguistic entity depends on the set of oppositions in which it partakes, i.e. its "distinctive function" in respect to communication. A phoneme can have the capacity of partaking in a set of oppositions when it possesses certain distinctive features that are not identical with the features of any of the other phonemes partaking in that opposition. It is to be expected that two phonemes may have some features in common, but in order to be regarded functionally distinct they should be different in respect to, at least, one distinctive feature. The following scheme is a functional ² representation of the consonants of K.A. in terms of their distinctive

1. Postulates for A.F. Def. 8a³

2. K.A. : Kamali Arabic

features. The inventory for all the consonants consists of two tables; a three-dimensional and a two-dimensional one. Splitting up the inventory as such involves certain considerations that are going to turn up in the flow of the discussion. The following scheme represents the major consonant-table:

	Occlusive			Fricative			Nasal
	un-voiced	voiced	emphatic	un-voiced	voiced	emphatic	
Labial	b			f			m
Apical	t	d	ṭ	θ	ð	θ̣	n
Hushing	ç	ʒ		ʝ			
Dorsal	k	g	q	x	ç		
Glottal	ʔ	ʁ		h	ħ		

The phoneme /r/ "unclassified"

Setting up such a scheme involves considerations of consistency, adequacy (among other things in respect to the phonetic data) and simplicity. The latter requirement leads to setting up such a scheme with as few gaps as possible. The scheme exhibits three dimensions in which there are classes of opposing phonemes. The distinctive features of each phoneme are, in fact, the product of the intersection of these dimensions. The three dimensions are:

- 1- (Labial, Apical, Hushing, Dorsal, Glottal)
- 2- (Occlusive, Fricative, Nasal)
- 3- (Unvoiced, Voiced, Emphatic)

The third dimension is built up on the second one. According to this scheme any feature in the third dimension, necessarily, pre-supposes other features in the second and the first dimensions. It is to be noticed that features in the third dimension can only imply the features

'occlusive' and 'fricative' in respect to the second dimension. This is due to the fact that the features (unvoiced, voiced, emphatic) do not partake in an opposition in the case of 'nasals'. The feature 'voiced', in respect to nasals, is a concurrent feature. In such a case, the feature 'voiced' loses its linguistic value as there are no 'nasal' items that are 'unvoiced' or 'emphatic' to which the feature 'voiced' might be opposed.

Before tackling certain points in the foregoing scheme, I would like to remark that the scheme is vastly different from any other scheme(s) that have been set up for any other Arabic consonants. It is vastly different, simply because different criteria are being used. The 'functional principle' plays the most vital role in setting up such a scheme. Other facts in respect to material adequacy are taken into consideration.

The phonemes /t, ʔ, q/, in the first scheme, and /s, l/ which are going to appear in the second, are marked as 'emphatics'. This feature is usually referred to by other authors, as 'pharyngeal' or 'velar' and sometimes as "mufaxxam"¹, the term used in Arabic. I have chosen to use the term 'emphatic' as I believe that using any of the other terms, mentioned, would necessarily involve a relation in respect to the features listed in the first dimension. On the other hand I believe, and that is confirmed by the phonetic data of the dialect under discussion, that the realizations of an 'emphatic' phoneme differ from its 'non-emphatic' counterparts by exhibiting a darker change in the timbre of the voice. Such a change can be clearly observed in the adjacent vowels, following or preceding those emphatic phonemes. The change is rather conspicuous in the realization of /a/ next to an 'emphatic'. It is pretty obvious that [ā:] in [ʔa:m] "he fasted" is darker than [a:] in [sa:m] "he paid a price".

The phoneme /q/ is usually referred to by many authors as 'uvular' or 'post-velar'. Giving it such labels is justified by the fact that the

1. Jakobson, R. "Mufaxxam - the Emphatic Phonemes in Arabic".
Fudge, *Phonology* 1973. p.159

sound [q] is produced by raising the back of the tongue up to the roof of the mouth. For functional considerations, as well as adequacy ones, I believe that putting /q/ on the same line with the unvoiced /k/, and the voiced /g/, (as shown in the scheme), is a tenable solution. In my opinion the chief difference between /k/ and /q/ is that the latter has a rather back articulation. On the other hand, it is observed that /q/, in the dialect under discussion, is scarcely realized as 'plain', i.e. 'non-emphatic'. The phonetic data confirms that the most frequent realization of /q/ is an 'emphatic' one. The whole argument above provides good ostensible reasons for allocating /q/ to the 'emphatic' division in the scheme. Hence the emphatic /q/ is opposed to the 'unvoiced' /k/ and the 'voiced' /g/ in the third dimension.

The phonemes /x/, /b/, /g/, /h/ (and /r/ which is going to be discussed later) can be freely realized as 'emphatic' or 'plain' i.e. non-emphatic. When they are realized as 'emphatic', it is observed that the adjacent vowels, and /a/ in particular, tend towards a further back articulation, but they appear less dark than those a-vowels adjacent to the 'emphatics' /t, ʃ, q, ʒ, l/. According to such a phenomenon one may call /x, b, g, h, r/ semi-emphatics. The term 'semi-emphatic' has to be regarded as a phonetic, rather than phonological term, as there is no opposition involving 'semi-emphatic' as opposed to 'emphatic'.

The functional principle which works in terms of the 'distinctive functions' of the linguistic items requires reducing the gaps to minimum in the phoneme inventory. But it is to be remembered that one should not be striving to reduce the gaps on the expense of the facts encountered in the phonetic data. In K.A. and in Classical Arabic, it is observed that 'voiced' is usually a concurrent feature of emphatic sounds. However it is noticed that, on the realization of 'voiced' 'non-emphatic' phonemes, the feature 'voiced' tends to be more conspicuous. Despite the fact that 'emphatics' are themselves 'voiced', it remains quite clear that they can be opposed to other phonemes that are 'voiced' and non-emphatic'.

1. The front vowels, /a/ and /ā/.

This boils down to saying that the concurrent feature 'voiced' ceases to function as a distinctive feature in the case of 'emphatics'. It becomes a mere redundant phonetic feature. This phenomenon provides grounds for explaining some of the problems encountered in fitting the phonemes in the foregoing table.

The most common realization of /z/ is 'voiced' 'fricative'. It is noticed that within the scope of 'hushing', there is no linguistic item that has the distinctive feature 'emphatic'. Hence /z/, or any hushing element in the phoneme inventory, does not partake in an opposition with an 'emphatic' 'element'. In contra-distinction to the 'semi-emphatics' i.e. /xʰ, ɣ, ħ, r/, which freely oscillate between 'emphatic' and 'plain' i.e. 'non-emphatic', the phoneme /z/ is subject to pharyngalization in the vicinity of 'emphatics'. It is noticed that the phoneme /z/ near an 'emphatic', or near a retracted [a] vowel, originally produced by an emphatic, tends to have a darker realization. The realization of /z/ in /ʕā z/ 'he felt bored' [ʕa:z̤] is obviously darker than the realization of /z/ in /dā z/ 'he wandered', realized as [da:z̤]. Unlike 'semi-emphatics', which exhibit free variance between 'voiced' and 'emphatic', (see for example the realizations of /β/, /ɣ), the phoneme /z/ only has combinatory variants that are 'emphatic'. However the fact that elsewhere in this dialect there is clearly an affinity between 'voiced' and 'emphatic', together with systemic considerations, i.e. simplifying comparing items in the inventory, makes it plausible to spread /z/ over the divisions 'voiced' and 'emphatic'. Thus /z/ in the scheme exhibits a suspension of opposition between the features 'voiced' and 'emphatic'. This is of course not to be confused with 'neutralization'. It is purely systemic. The suspension represents a single distinctive feature that may be called 'non-unvoiced'. Hence the 'non-unvoiced' /z/ is opposed to the unvoiced /ç/. Such a feature showing systemic suspension of opposition, could be called a hyper-feature.

1. See: fn. on page 29

The phoneme /q/, usually referred to by some authors as 'pharyngal', is the 'voiced-emphatic' counterpart of /ʔ/. The phoneme /q/ is usually in free variation between 'voiced' and 'emphatic'. Allocating /q/ either to 'voiced' or 'emphatic' is bound to be arbitrary in addition to the fact that it would contradict the facts in the phonetic data. Hence /q/ is to be described as glottal, occlusive, voiced/emphatic. The compound feature 'voiced/emphatic' represents a suspension of the two features. The product of this suspension too represents one single distinctive feature which may be called 'non-voiced'. Thus /q/ can be opposed to /ʔ/ by the fact that the first is 'non-unvoiced' and the latter 'unvoiced'. The following forms will provide an example of the free variation of /q/ between 'voiced' and emphatic. The form /qā.š/, "he lived" can be realized as [qɑ:s] with front [a] or as [qɑ:š] with back [ɑ].¹ The difference between the two realizations does not lie in the vowels themselves, as it might apparently seem, it is, in fact, the retracting effect exerted by /q/ on those adjacent vowels. The fact that there is clearly an affinity between 'voiced' and 'emphatic' in the dialect under discussion, together with systemic considerations, i.e. simplifying comparing items in the inventory makes it plausible to allocate /q/ to the suspension of opposition between 'voiced' and 'emphatic' in the phoneme table. This suspension of opposition should not be confused with 'neutralization'. The feature 'non-unvoiced' in respect to /q/, showing a systemic suspension of opposition, may be called a hyper-feature.

The 'glottal' /h/ and /ħ/ exhibit a problem of a different nature. Both /h/ and /ħ/ have rather backward articulations; as far as the glottis. As the two phonemes are usually realized 'unvoiced', we are faced with the problem of fitting them in the third dimension of the scheme. The phoneme /h/ is always realized 'unvoiced' with the glottis half-close

1. Notice that front [a] and back [ɑ] are combinatory variants of /a/. Back [ɑ], originally produced by emphatic or semi-emphatic phonemes has dark realizations. It exerts a dark effect on the adjacent phonemes.

but never as 'voiced' or 'emphatic' as the latter features require that the vocalchords should come very close to each other. The phoneme /h/ is usually in free variation between 'unvoiced' and 'emphatic'. When it is realized as 'emphatic', it is noticed that it tends to have affinity toward 'voicedness', and that is natural as it has already been mentioned. To allocate /h/ to 'unvoiced' and 'emphatic' leads to driving /h/ away from its natural place, i.e. 'unvoiced'. Such a solution would lead to further complications in the description and handicap the opposition between the two phonemes; therefore it has got to be rejected. The most plausible solution would be regarding /h/ as glottal, fricative, unvoiced and /h/ glottal, fricative emphatic/voiced. Accordingly the phoneme /h/ exhibits a suspension of opposition between 'emphatic' and 'voiced' which may be represented by the feature 'non-unvoiced'. This feature showing systemic suspension of opposition could be called a hyper-feature. Hence we may say that /h/ can be opposed to /h/ by the fact that the first is 'unvoiced', while the latter is 'non-unvoiced'. A similar as opposed to identical situation is faced in fitting the phonemes /x/ and /b/ in the scheme. The phoneme /x/ exhibits a free variation between 'voiced' and 'emphatic' as well. To allocate these two phonemes to their proper positions in dimension (3), in such a way that the opposition between the two obtains, we are to choose one of the following three alternatives.

- a) Allocating /x/ to 'unvoiced' and /b/ to 'voiced', and leaving the 'emphatic' division empty.
- b) spreading /x/ over the positions 'unvoiced' and 'emphatic' and leaving /b/ in the 'voiced' division.
- c) spreading /b/ over 'voiced' and 'emphatic' and leaving /x/ in the 'unvoiced' division.

Alternative (a) would lead to leaving a gap in the system which handicaps comparison between the two phonemes on the one hand, and contradicts the facts in respect to the phonetic data on the other; therefore this alternative has got to be rejected. Both the second and

the third alternative are unequivocally consistent with the phonetic data. I opt for the third as elsewhere in the table, (and that has already been pointed out), we find evidence that the affinity between 'voiced' and 'emphatic' is more 'natural' (in Arabic in particular). An exception is the case of $l \underset{\cdot}{l}$ (see below); but this is due to the fact that the realization of laterals is always voiced, therefore this case is excluded. Thus / β / exhibits a systemic suspension of opposition between 'voiced' and 'emphatic' which represents a single distinctive feature; namely 'non-unvoiced'. By the feature 'non-unvoiced' / β / can be opposed to the 'unvoiced' / x /. One can call such an 'Arabic' feature (as it were) a hyper-feature. The same goes for similar cases discussed above, and for the case of $l \underset{\cdot}{l}$ discussed presently.

The following scheme is complementary to the main one which has been discussed:

	un-voiced	voiced	emphatic
Hissing	s	z	$\underset{\cdot}{s}$
Lateral	l		$\underset{\cdot}{l}$

In contra-distinction to the previous scheme, the present one exhibits two dimensions in which there are classes of opposing phonemes. Splitting up the consonant inventory into two tables is due to considerations relevant to the 'distinctive functions' of these phonemes.

Though / $s, z, \underset{\cdot}{s}$ / can (phonetically speaking) be regarded as 'fricatives', yet this feature does not figure from a linguistic point of view in respect to the dialect under discussion. Inserting the division 'hissing' in the main table would inevitably lead to a violation of the functional principle on the one hand, and to the fragmentation of the table on the other. The functional principle would be violated since the feature 'fricative' in respect to 'hissing' does not partake in any opposition with 'occlusive' or 'nasal' which, together with 'fricative' represent members of one and

the same dimension. Such an opposition does not obtain simply because there are no items which can represent 'hissing occlusive' or 'hissing nasal' in the data under discussion. Hence the requirement of having, at least, two opposing phonemes in each dimension would not be achieved. The problem is solved by introducing the second table within which the distinctive features are clearly specified by the intersection of the two dimensions.

Including /l/ and /l̥/ in the latter scheme involves certain considerations similar to those mentioned in the case of /z/, /s/, /s̥/. But we still face an additional problem; the problem of fitting /l/ and /l̥/ in the (unvoiced, voiced, emphatic) dimension. Both /l/ and /l̥/ are invariably realized as 'voiced'. This feature is already a concurrent of 'lateral' sounds. If we spread the emphatic /l̥/ over the 'emphatic' and 'voiced' divisions, the 'plain' /l/ would be pushed to the 'unvoiced' block, in which case we are contradicting the facts in the phonetic data. Thus to allocate /l/ to the suspension of opposition between 'voiced' and 'unvoiced', and /l̥/ to /emphatic/ appears to be the only plausible solution. Thus /l/ exhibits the compound feature unvoiced/voiced which can be represented by the hyper-feature 'non-emphatic'. Hence the 'emphatic' /l̥/ enters in an opposition with the 'non-emphatic' /l/. The feature 'non-emphatic' represents a ¹ systemic suspension of opposition.

Finally, by the aid of the functional principle we can account for leaving the phoneme /r/ unclassified. Implicitly /r/ which has the only distinctive feature, 'r'ness' is opposed to 'non-r'ness', which is present in all the other phonemes within the scheme. /r/ cannot be further broken into distinctive features since it represents a simultaneous bundle of a single distinctive feature.

1. Systemic suspension of opposition should not be confused with neutralization. Systemic suspension is not triggered by a context, and does not occur in a paradigm, but is a suspension of opposition in the overall system into which paradigms are mapped.

'Position' and 'Distributional Unit'.

In a previous chapter I referred to 'phonematics' and 'phonotactics' as the main pillars of the phonological theory in Axiomatic Functionalism. We noticed that 'phonematics' is concerned with the minimal phonological elements, i.e. 'distinctive features', and how they combine by simultaneity into phonemes. The role of 'phonotactics', on the other hand, is to account for the distribution of phonemes and how they combine by an ordering relations into self-contained phonotagms. Thus dealing with positions and distributional units involves dealing with the distribution of the phonotactic entities i.e. phonemes, and the syntagmatic functions they have in constructing self-contained phonological chains. By saying that the phonological form of the expression /dās /, "he stepped on", in Kamali has got the phoneme /d/ standing in position(1), /ā / in position (2) and /s/ in position (3), we assert that the phonemes /d,ā,s/ are standing in an ordering relation to each other. Any syntagmatic change, i.e. change in the positions of phonemes would lead to establishing a different phonological form corresponding to a different expression, or perhaps yielding a non-phonological form.

The phonologist, armed with the notions 'position' and 'distributional unit', is in fact armed with the ability of interpreting how phonemes function in building up phonological constructions and how the syntagmatic relation established between phonemes is "separately relevant to communication" (Mulder, Postulates.Defn.1). By the aid of these notions he is expected to achieve success in producing an adequate and straightforward description of the distribution of the phonotactic elements. It is to

7. When we speak about the relevance of the syntagmatic relations between phonemes to communication, it is implied that these phonological forms correspond to potential expressions in a certain language.

be remembered that the succession of phonemes is not haphazard. We assume that there should be a system serving to account for the participation of phonemes in setting up phonological chains. To describe our previously cited example /dās/ in Mulderian terms, we say that /d/ stands in the explosive position (/d/,e); /a/ in the nuclear position (/ā/,n) and /s/ in the implosive position (/s/,i). Explosive and implosive positions are called 'peripheral'. According to these terms Mulder classifies the phonemes as follows: phonemes that can only stand in peripheral positions are called 'consonants'. Those which can only stand in nuclear positions are called 'vowels'. Phonemes that can stand in both peripheral and nuclear positions are called 'semi-vowels'.¹ The phonemes /i/ and /u/ in English, and similarly labelled phonemes in many other languages, are regarded by Mulder as semi-vowels. /i/ and /u/ stand in nuclear positions, while their combinatory variants [j] and [w] stand in peripheral ones. The Bloomfieldians take an entirely different attitude. They would regard /i/, /u/, /j/, /w/ as four different phonemes calling the first two 'vowels' and the latter two 'consonants'. Under a Bloomfieldian approach, our previous example, /dās/ could be described as (C.V.C.), (C=consonant, V=vowel). Such a description seems to be void of the techniques that might enable the describer to account for the combination of phonemes into self-contained phonological chains. It is mainly based on phonetic considerations connected with the traditional terms of consonants and vowels. A phonological chain, under a Bloomfieldian approach is described in terms of C.V. according to the combination it exhibits of what is traditionally called 'vowel' and 'consonant'. Now let us see how the axiomatic functionalist approach vastly differs from the Bloomfieldian. The phonological form corresponding to the expression of the word 'houille' in French, is described, in Mulderian terms, as /u/ standing in the nuclear position, (/u/,n) and /i/ in the implosive position, (/i/,i) whereas the phonological

1. For some languages further refinements can be brought as, e.g. distinguishing between semi-vowels and semi-consonants.

form corresponding^{to} the expression of 'oui' in the same language is described as /u/ standing in the explosive position i.e. (/u/,e) and /i/ in the nuclear position i.e. (/i/,n). This description illustrates that these two phonological forms are different by virtue of the fact that they exhibit two different phonotagms, yet they are the same succession of phonemes.

Dealing with 'positions' and 'distributional units' involves dealing with considerations concerning what axiomatic Functionalists call 'paradigmemes' and 'syntagmemes'. Mulder defines a paradigmeme as "member of a set of entities in functional opposition in a given context", i.e. "member of a paradigm" (Cf. Def 7g).¹ A paradigmeme together with the position in which it stands specifies what is called a 'syntagmeme'. A 'syntagmeme' is defined by Mulder as "ordered pair of a paradigmeme and the position in which it stands, i.e. member of a chain (cenotagm or syntagm)".² (Cf. Def 9a, 9b, and 10b). Mulder explains the relation between paradigmemes and syntagmemes in the following manner: "Ordering relations may be between paradigmemes but not between syntagmemes as the latter already include the ordering relation."³ Describing /dā s/, our previously cited example, in terms of syntagmemes as (/d/,e), (/ā/,n), (/s/,i) or (/s/,i), (/d/,e), (/ā/,n) or in any other order remains a correct description of the syntagmatic distribution of the phonotactic entities representing one and the same phonological form i.e. /dās/. Hence we say that this phonological form is represented by a simultaneous bundle of syntagmemes. Thus ^aparadigmemes and syntagmemes are two different types of phonological elements. A paradigmeme is to be regarded as an element partaking in a functional opposition within the paradigm of which it is a member, whereas a syntagmeme is essentially a paradigmeme with a certain syntagmatic function.

1. Postulates for A.F. Def. 10e

2. Postulates for A.F. Def. 10

3. Postulates for A.F. Def. 10b

From what has preceded it becomes clear that the notions 'position' and "distributional unit" are strongly linked and both are unequivocally important in providing the means for describing the phonotactic distribution belonging to a certain system. Phonemes, as I already mentioned, are to be regarded as the maximum forms in phonology which do not include syntagmatic order in their structure. Dealing with 'positions' and 'distributional units', involves dealing with the deployment of those maximum phonematic forms in phonology. Mulder defines the distributional unit as: "minimum type of structure within which the distribution of cenotactic (phonotactic) entities can be described completely and exhaustively."¹ This is to say that nothing outside such a structure can determine the distribution of immediate constituent entities within the structure.

For the data under description, a unit of six positions will be sufficient for giving an adequate and consistent description of the distribution of phonemes. These six positions, in terms of sequential order are: pre-explosive (pre-e), first explosive, (e.1) second explosive (e.2), nuclear (n), first implosive (i¹), second implosive (i²). The following diagram shows how the distribution of phonemes is described in terms of the distributional unit:

	pre e	e ¹	e ²	n	i ¹	i ²
/unsil/	u	n	s	ɪ	l	
/uqAlb/	u	q		A	l	b

It is noticed that the maximum cluster before the nuclear is a sequence of three phonemes whereas the maximum cluster post-nuclearly is two phonemes. The phonological form /unsi l/, "and we carry", exhibits a maximum cluster on the pre-nuclear side. The phonetic form of /unsi l/ is /u nsi l/. It is noticed that [ɔ̃] is a mere phonetic entity

1. Mulder's Postulate. Def. 9a

resulting from articulatory transition, i.e. on extending the cluster from two phonemes to three it becomes articulatory necessary that a phonetic entity like [ɔ̃] is to be inserted between the first phoneme and the second as seen in [ʊənʃi:ɪ]. Such a phenomenon applies to all the phonological forms that have three phonemes pre-nuclearly in the language under consideration. As it is not 'separately relevant' (Mulder, Postulates Def.1a.), it has to be disregarded as a linguistic entity in a functionalist approach. That part of the description in which it is accounted for is the realizational part, i.e. under the heading of 'allophony' or combinatory variance.

'Archiposition' is a supplementary notion to distributional unit. It represents the suspension of contrastive function between two or more adjacent positions. If we, for the sake of the argument, overlook pos-
'pre-e', we can say that when the other two pre-nuclear positions are filled by any element other than /ø/, then only one element can stand post-nuclearly. The occurrence of /s/ in /f[ū s/ 'money', together with the occurrence of the two phonemes before the nucleus precludes the occurrence of any other phonotactic element after the nucleus. In cases as such we say that the phoneme /s/ is standing in the 'archiposition' resulting from the intersection of pos 'i¹' and pos. 'i²'. If we call that archiposition 'I', then 'I' is to be regarded as one position representing the suspension of the contrastive function between pos. 'i¹' and pos. 'i²'. Thus 'I' covers these two positions, and unequivocally represents each of them. The intersection of these two positions can be diagrammatically illustrated:

	pre e	e ¹	e ²	n	i ¹ i ²
	pre e	e ¹	e ²	n	I
/tk sab/	t	k	s	a	b

A similar situation is faced when we come to describe a form like /qalb/. No decision is possible to which explosive position /q/ does belong. The occurrence of the phoneme /q/ pre-nuclearly, together with the occurrence of a two phoneme cluster after the nucleus, /lb/ for instance, precludes the occurrence of any phonotactic element in pos. 'e¹' or pos. 'e²'.

The form is described in the following manner:

	pre ₂ ^e	e ¹	e ²	n	i ¹	i ²
a-	∅	q	*∅	a	l	b
b-	∅	*∅	q	a	l	b
c-	∅	q		a	l	b

Case (a) shows that no phonotactic element i.e. phoneme can occupy the position of /∅/ in pos. 'e²'. Similarly no other phonotactic element can occur in the position of /∅/ in pos. 'e¹' in case (b). Therefore */∅/ itself is not functional. It amounts to mere 'nothing', not to functional nothing, i.e. it differs in that respect from /∅/ in pos. 'pre-e' which can be commuted by a functional element. Thus case (c) seems to be the only solution according to the A.F. theory. Hence we say that /q/ is standing in the archiposition produced by the intersection of pos. 'e¹' and pos. 'e²'. If we symbolise that archiphoneme by 'E', then 'E' represents the suspension of the contrastive function between the two positions 'e¹' and 'e²'. It unequivocally represents the contrastive function of each of the two positions. The intersection of these positions is illustrated in the manner given by the following diagram:

/bħarf/

pre _e	e ¹	e ²	n	i ¹	i ²
pre _e	E		n	i ¹	i ²
b	ħ		a	r	f

So far two archipositions have been established. By doing so, we are establishing two subsets representing one and the same distributional unit. Setting up two subsets is based on theoretical considerations for the necessity of arriving at an adequate and exhaustive description. The following scheme illustrates the distributional unit and its two subsets:

pre e	e ¹	e ²	n	i ¹	i ²
pre e	E		n	i ¹	i ²
pre e	e ¹	e ²	n	I	

For similar considerations that have been stated in the case of pos. 'I', the establishment of a pre-nuclear archiposition 'E' is wholly governed by the occurrence of a phoneme in both pos. 'i¹', and pos. 'i²'.

CHAPTER V

The Phonemes of Kamali Arabic and Their Realisations.

Introduction

This chapter will be concerned with establishing the identity of each phoneme in Kamali Arabic and at the same time its distinctive function. Following that I shall state the main types of realization of the phoneme in question. In order to show the material adequacy of certain divisions made in phonology, it is necessary to state the relation between a phonological entity and its phonetic realization over and above explaining the structural relation(s) in which that entity partakes. Statements of realizations are, for purely practical reasons, going to be restricted to what I believe to be the most conspicuous aspects.

"As the variety of speech sounds in a language is infinite one has to make serious restrictions as to the degree of precision and detail of those statements. What is brought in or left out is to a large extent dictated by practical considerations. We list what we note impression-¹istically and what strikes us as conspicuous". It is worth stressing that the 'functional principle' plays the most important role in the establishment of phonemes and archiphonemes. For an element to be 'functional' it should be commutable with other elements or its absence (zero). It is also important to mention that the notions 'distributional unit' and 'position' provide the necessary framework for valid commutations.

1. Mulder, j.w.f. and Hurren, H.A. "the English Vowel Phonemes from a Functional Point of View. *La Linguistique*. 1968. 1.

The phoneme /b/

a) This phoneme belongs to 'pre. e', pos. e¹, pos. e², pos. 'i¹', pos. 'i²', pos. 'E', pos. 'I'.

b) In pre. e it commutes with /m,t,n,š,u,i,l,∅/

In pos. e¹ it commutes with /f,m,d,t,θ,n,ž,š,k,g,q,ʔ,ʧh,x,β,s,u,i,z,ʒ,r,l,ð,ž,q,s,n,t,ɸ/

In pos. e² it commutes with /f,m,t,d,t,θ,ʒ,ʒ,n,č,ž,š,k,g,q,x,β,ʧ,h,h,s,z,ʒ,u,i,r,l,l,D,Z,Q,S,H/

In pos. i¹ it commutes with /f, t,θ,ð,ʒ,r,š,k,g,q,x,ʧ,h,s,z,ʒ,r,l,k,∅/

In pos. i² it commutes with /f, š,q, ħ,s,z,r,l,N,∅/

In pos. 'E' it commutes with /f,m,t,š,č,ž,z,ʒ,u,i,ð,š/

In pos. 'I' it commutes with /f,m,t,d,t,n,č,ž,š,k,g,q,x,β,ʧ,ʧ,h,ħ,s,z,ʒ,u,i,l,ð/

c) The identity and distinctive function of /b/ are shown by the following comparisons:

- | | | | | | |
|-----|-----|--------|-----------------|--------|------------------|
| 1. | b/f | /bās/ | "he kissed" | /fās/ | "an axe" |
| 2. | b/m | /bāl/ | "mind" | /māl/ | "property" |
| 3. | b/t | /bāb/ | "door" | /tāp/ | "he repented" |
| 4. | b/d | /bās/ | "he kissed" | /dās/ | "he hurried" |
| 5. | b/t | /bāsa/ | "he kissed her" | /tāsa/ | "bowl" |
| 6. | b/θ | /bāni/ | "he has built" | /θāni/ | "second" |
| 7. | b/ʒ | /bāb/ | "door" | /ʒāb/ | "it melted" |
| 8. | b/ʒ | /bāʒ/ | "he sold" | /ðāʒ/ | "it was lost" |
| 9. | b/n | /bās/ | "he kissed" | /nās/ | "people" |
| 10. | b/č | /bān/ | "it appeared" | /čān/ | "it.m, was" |
| 11. | b/ž | /bāb/ | "door" | /žāb/ | "he brought" |
| 12. | b/š | /bāl/ | "mind" | /šāl/ | "he carried" |
| 13. | b/k | /bās/ | "he kissed" | /kās/ | "a glass" |
| 14. | b/g | /bās/ | " " | /gās/ | "he touched" |
| 15. | b/q | /bās/ | " " | /qās/ | "he measured" |
| 16. | b/x | /bās/ | " " | /xās/ | "it was spoiled" |
| 17. | b/β | /bāli/ | "my mind" | /βāli/ | "expensive" |
| 18. | b/ʔ | /bāni/ | "he has built" | /ʔāni/ | "me-or-I" |
| 19. | b/ʧ | /bāb/ | "door" | /bāʧ/ | "he sold" |

- | | | | | | |
|-----|------|---------|------------------|---------|----------------|
| 20. | b/h | /bās/ | "he kissed" | /hās/ | "he shouted" |
| 21. | b/h̄ | /bāl/ | "mind" | /hāl/ | condition |
| 22. | b/s | /bāl/ | " | /sāl/ | "it flowed" |
| 23. | b/z | /bāz/ | "he sold" | /zāz/ | "he vomited" |
| 24. | b/š | /hābar/ | "cloth material" | /hāšar/ | "he trapped" |
| 25. | b/l | /hāb/ | "he loved" | /hāl/ | "solution" |
| 26. | b/r | /bās/ | "he kissed" | /rās/ | "head" |
| 27. | b/u | /bmūs/ | "with a knife" | /umūs/ | "and a knife" |
| 28. | b/i | /balla/ | "by God" | /ialla/ | "let us start" |

d) The realization of /b/.

The most frequent realization of this phoneme is a voiced occlusive bilabial [b]. The realizations 'unvoiced' and 'pharyngalized', are complementary, i.e. contextual, variants.

It is realized as unvoiced [p] when it precedes an unvoiced consonant pre-nuclearly or post-nuclearly. /btōr/ 'cut', is realized as [ptō:r]. /b/ in /nabt/ 'plants' is realized [napt].

It is pharyngalized when it is adjacent to an emphatic consonant or a retracted vowel. Forms like [səbb̄a], "he poured it", and [sabba] "he cursed her" show the difference between the pharyngalized [b̄] in the first and the non-pharyngalized in the second.

The phoneme /f/.

a) The phoneme /f/ belongs to pos. 'e1', pos. 'e2', pos. 'i1', pos. 'i2', 'E', 'I'.

b) In pos. e1 it commutes with /b, m, t, d, t̄, θ, ʒ, n, ž, š, k, g, q, x, b, ʔ, h, s, z, ʒ, r, l, u, ʕ, ʝ, ʃ, N, ø/

In pos. e2 it commutes with /b, m, t, d, t̄, θ, ʒ, ʃ, n, č, ž, š, k, g, q, x, b, ʔ, ʕ, h, h̄, s, z, ʒ, r, u, i, l, l̄, ž, q/

In pos. i1 it commutes with /b, t, t̄, ʒ, l̄, š, k, ʕ, h̄, s, z, ʒ, r, l, D, ž, k, ø/

In pos. i2 it commutes with /b, m, š, ʕ, l, N, ø/

In pos. 'E' it commutes with /b, m, t, d, č, ž, š, x, ʕ, h̄, s, z, ʒ, i, u, /

In pos. 'I' it commutes with /b, m, t, d, f, n, č, ž, š, k, g, q, x, b, ʔ, ʕ, h, h̄, s, z, ʒ, u, i, r, l, ø/

1. Pharyngalized (emphatic): narrowing of the pharyngeal orifice which leads to exerting a retracting influence on the adjacent vowels.

c) The identity and distinctive function of /f/ are established by the following comparisons:

1.	f/b	See: b.1.		
2.	f/m	/fāt/	"he entered"	/māt/ "he died"
3.	f/t	/fal/	"he went away"	/tal/ "a hill"
4.	f/d	/fās/	"an axe"	/dās/ "he hurried"
5.	f/ṭ	/fār/	"it boiled"	/ṭār/ "it flew"
6.	f/θ	/fār/	" "	/θār/ "he rebelled"
7.	f/š	/far/	"he flitted"	/šar/ "he sprinkled"
8.	f/ḡ	/fal/	"he went away"	/ḡal/ "he remained"
9.	f/n	/fās/	"an axe"	/nās/ "people"
10.	f/č	/fal/	"he went away"	/čal/ "he got tired"
11.	f/ž	/fār/	"it boiled"	/žar/ "a neighbour"
12.	f/š	/fīl/	"an elephant"	/šīl/ "you. m. carry"
13.	f/k	/fās/	"an axe"	/kās/ "a glass"
14.	f/g	/fās/	" "	/gās/ "he touched"
15.	f/q	/fās/	" "	/qās/ "he measured"
16.	f/x	/fās/	" "	/xās/ "it was spoiled"
17.	f/b	/fāli/	"my luck"	/bāli/ "expensive"
18.	f/?	/fāli/	" "	/?āli/ "mechanical"
19.	f/ḡ	/fāli/	" "	/ḡāli/ "high"
20.	f/h	/fās/	"an axe"	/hās/ "he shouted"
21.	f/h	/fāl/	"luck"	/hāl/ "condition"
22.	f/s	/fāl/	" "	/sāl/ "it flowed"
23.	f/z	/fār/	"it boiled"	/zār/ "he visited"
24.	f/š	/fār/	" "	/šār/ "it became"
25.	f/l	/fas/	"it was deflated"	/las/ "he collected"
26.	f/r	/fās/	"an axe"	/rās/ "a head"
27.	f/u	/fāli/	"my luck"	/uāli/ "governor"
28.	f/i	/fam/	"mouth"	/iam/ "beside"

d) The realization of /f/

The most common realization of this phoneme is an unvoiced fricative labio-dental /f /.

It has a "voiced contextual variant /v/ when it precedes a voiced consonant pre-nuclearly. A form like /fzōr/ "smash" is realized as /vzō:r/. It is liable to pharyngalization when it occurs in the vicinity of emphatics or semi-emphatics. The pharyngalization effect is noticeable in comparing the realization of /šaf/, "class" with that of /saf/ "the wind blew it away".

1. By vicinity of emphatics: it is meant that when it is adjacent to an emphatic or to the retracted vowel produced by an emphatic.

The phoneme /m/

a) This phoneme belongs to pos, pre-e, pos. 'e¹', pos. 'e²', pos. 'i²', pos. 'i²', pos. 'E', pos. 'I'.

b) In pos. pre-e it commutes with /b,t,n,š,u,i,/

In pos. 'e¹' it commutes with /b,f,t,d,t,θ,ð,n,č,ž,š,k,q,x,β,ɣ,h,ħ,
r,s,z,ʒ,u,i,l,ʂ,ø/

In pos. 'e²' it commutes with /b,f,t,d,t,θ,ð,ʒ,n,č,ž,š,k,g,q,x,β,h,
ŋ,r,u,i,l,l,ð/

In pos. 'i²' it commutes with /f,d,t,n,š,ɣ,ħ,s,z,ʂ,l,ž,x,ð,k,ø/

In pos. 'E' it commutes with /b,f,d,t,n,č,ž,š,x,ɣ,h,s,z,ʂ,r,u,i,š,ð/

In pos. 'I' it commutes with /b,f,t,d,t,n,č,ž,š,k,g,q,x,β,ʔ,ɣ,h,ħ,s,
z,ʂ,u,i,r,l,ð/

c) The identity and distinctive function of /m/ are established by the following comprises:

1. m/b see:b.2.
2. m/f see:f.1.
3. m/t /mal/ "he felt bored" /tal/ "a hill"
4. m/d /mūs/ "a knife" /dūs/ "you. m, press"
5. m/ṭ /māl/ "money" /tāl/ "it was lengthened"
6. m/θ /māni/ "I am not" /θāni/ "second"
7. m/ð /mar/ "he passed" /ðar/ "he sprinkled"
8. m/ʒ /mar/ " " /ʒar/ "he harmed"
9. m/n /mās/ "precious stone" /nās/ "people"
10. m/č /māl/ "money" /čal/ "he measured"
11. m/ž /mar/ "he passed" /žar/ "he pulled"
12. m/š /māl/ "money" /šāl/ "he carried"
13. m/k /mur/ "bitter" /kur/ "baby-donkey"
14. m/g /mās/ "precious stone" /gās/ "he touched"
15. m/q /mās/ " " /qās/ "he measured"
16. m/x /māl/ "money" /xāl/ "maternal uncle"
17. m/β /māli/ "mine" /βāli/ "expensive"
18. m/ʔ /māni/ "I am not" /ʔāni/ "I am"
19. m/ɣ /mar/ "he passed" /ɣar/ "he pulled"
20. m/h /māl/ "money" /hāl/ "he gave generously"

21.	m/ħ	/māl/	"money"	/ħāl/	"condition"
22.	m/s	/māl/	"	/sāl/	"it flowed"
23.	m/z	/mar/	"he passed"	/zar/	"he buttoned"
24.	m/š	/mar/	" "	/šar/	he wrapped
25.	m/l	/mān/	"who?"	/lān/	"it becomes softer"
26.	m/r	/mūs/	"a knife"	/rūs/	"heads"
27.	m/u	/māni/	"I am not"	/uāni/	"and me"
28.	m/i	/nibni/	"we build"	/iībni/	"he builds"

d) The realization of /m/

The most frequent realization of this phoneme is a labial nasal [m̥]. It is pharyngalized when it is in the vicinity of emphatics. The pharyngalization influence can be shown by comparing the realizations of /m/ in /maš/, "he sucked", and /mas/ "he touched".

The phoneme /t/

a) The phoneme /t/ belongs to pos. pre-e, e¹, e², i¹, E, I.

b) In pos. pre-e it commutes with /b, m, n, š, u, i, ø/

In pos. 'e¹' it commutes with / f, m, d, t, ḏ, n, č, ž, š, q, x, ʕ, ɣ, ħ, k, r, s, z, ʒ, u, i, l, ʁ, N, Ø/

In pos. 'e²' it commutes with /b, f, m, t, d, ṭ, θ, ḏ, ḏ̣, n, č, ž, š, k, g, q, x, ʕ, r, s, z, ʒ, l, ḷ, Q, u, i, ʔ/

In pos. 'i¹' it commutes with /b, f, d, š, q, ɣ, ʒ, r, l, θ, h, z, ḷ, Ø/

In pos. 'E' it commutes with /z, x, ɣ, ħ, ʒ/

In pos. 'I' it commutes with /b, f, m, d, ṭ, n, č, ž, š, k, g, q, x, ʕ, ɣ, ħ, s, z, ʒ, r, l, u, i, Ø/

c) The identity and distinctive function of /t/ are established by the following comparisons:

1. t/b see: b.3.
2. t/f see: f.3.
3. t/m see: m.3.
4. t/d /tal/ "hill" /dal/ "he directed"
5. t/ṭ /tal/ " /ṭal/ "he appeared"
6. t/θ /tamar/ "dates" /θamar/ "fruit"
7. t/ḏ /tāb/ "he repented" /ḏāb/ it melted
8. t/ḏ̣ /tamar/ "dates" /ḏ̣amar/ "he had an idea in his mind"

9.	t/n	/tōm/	"twins"	/nōm/	"sleeping"
10.	t/č	/taf/	"he pulled"	/čaf/	"hand"
11.	t/ž	/tamar/	"dates"	/žamar/	"umbers"
12.	t/š	/taf/	"he snatched"	/šaf/	"blanket"
13.	t/k	/tamar/	"dates"	/kamar/	"belt"
14.	t/g	/tamar/	"	/gamar/	"moon"
15.	t/q	/tal/	"a hill"	/qal/	"it decreased"
16.	t/x	/taf/	"he pulled"	/xaf/	"it became lighter"
17.	t/b	/tāli/	"last"	/bāli/	"expensive"
18.	t/?	/?ax/	"brother"	/tax/	"it is worn away"
19.	t/ɣ	/tal/	"a hill"	/ɣal/	"he made sb-feel ill"
20.	t/h	/taf/	"he snatched"	/haf/	"he pinched"
21.	t/h	/taf/	"	/haf/	"he made up"
22.	t/s	/tal/	"a hill"	/sal/	"he pulled out his sword"
23.	t/z	/taf/	he pulled	/zaf/	"he got married"
24.	t/ʂ	/tōm/	"twins"	/ʂōm/	"fasting"
25.	t/l	/tif/	"you.m.snatch	/lif/	"you.m.turn"
26.	t/r	/tabiɣ/	"following"	/rabiɣ/	"fourth"
27.	t/u	/tāli/	"last"	/uāli/	"governor"
28.	t/i	/tōm/	"twins"	/iōm/	"day"

d) The realization of /t/.

The most common realization of this phoneme is an unvoiced apico-alveolar [t̚].

It is aspirated when it precedes a front open vowel [a], as in forms like [t̚ all], [t̚ aff].

When it precedes an apical, a hushing or a hissing element pre-nuclearly, [t̚] gets assimilated in the following element. The realization of /tdūr/, 'it goes round', /tʂur/, 'she sprinkles', /tʂūm/, 'she fasts', freely varies between [ɖdu:r], [ʂʂur], [ʂʂu:m] and [tdu:r], [tʂur], [tʂu:m]. The former realizations are more common than the latter.

The phoneme /d/

a) The phoneme /d/ belongs to pos. e¹, pos. e², pos. i¹, pos. 'E', pos. 'I'.

b) In position 'e¹' it commutes with /b, f, m, t, ʈ, β, n, č, ž, š, k, g, q, x, β, ʃ, ʔ, ɣ, h, ħ, s, z, ʂ, r, u, i, l, ʃ/

In position 'e²' it commutes with /b, f, m, t, ʈ, β, ʃ, ʃ, n, č, ž, š, k, g, q, x, β, ʔ, ɣ, h, ħ, s, z, ʂ, r, u, i, l, ʃ/

In pos. 'i¹' it commutes with /t, ṭ, z, s, r, l, ø/

In pos. 'E' it commutes with /f, m, n, š, x, s, r/

In pos. 'I' it commutes with /b, f, m, t, ṭ, n, č, ž, š, k, g, q, x, β, ʔ, u, i, ɣ, h, ħ, s, z, ʂ, r, l, ə /

c) The identity and distinctive function of /d/ are established by the following comparisons:

1. d/b see: b. 4.
2. d/f see: f. 4.
3. d/m see: m. 4.
4. d/t see: t. 4.
5. d/ṭ /dār/ "a house" /ṭar/ "it flew away"
6. d/θ /dār/ " " /θār/ "revenge"
7. d/ʂ /dar/ "it produced" /ʂar/ "he sprinkled"
8. d/ʃ /dar/ " " /ʃar/ "he harmed"
9. d/n /dār/ "house" /nār/ "fire"
10. d/č /dār/ " " /čar/ "solution"
11. d/ž /dār/ " " /žār/ "neighbour"
12. d/š /dam/ "blood" /šam/ "he smelt"
13. d/k /dās/ "he hurried" /kās/ "a glass"
14. d/g /dās/ " " /gās/ "he touched"
15. d/q /dās/ "he stepped on" /qās/ "he measured"
16. d/x /dās/ "he hurried" /xās/ "it was spoiled"
17. d/β /dār/ "house" /βār/ "he felt jealous"
18. d/ʔ /dab/ "he dashed" /ʔab/ "father"
19. d/ɣ /dam/ "blood" /ɣam/ "paternal uncle"
20. d/h /dar/ "it produced" /har/ "it fell down"
21. d/ħ /dār/ "a house" /ħar/ "hot"
22. d/s /dam/ "blood" /sam/ "poison"
23. d/z /dār/ "a house" /zār/ "he visited"
24. d/ʂ /dār/ " " /ʂar/ "it became"
25. d/l /dam/ "blood" /lam/ "he collected"
26. d/ḷ /ualla/ "by God" /uadda/ "he took"
27. d/r /dās/ "he hurried" /rās/ "a head"
28. d/u /dar/ "it produced" /uar/ "it burnt"
29. d/i /dam/ "blood" /iam/ "beside"

d) The realization of /d/.

The most common realization of this phoneme is a voiced apico-alveolar occlusive [d]. In pos. 'I' it sporadically occurs in free variation with its unvoiced counterpart /t/, but not vice versa. It is liable to pharyngalization in the vicinity of emphatics.

The phoneme /t/

a) The phoneme /t/ belongs to pos. 'e¹', 'e²', 'i¹', 'i²', 'E', 'I'.

b) In pos. 'e¹' it commutes with /b, f, m, t, d, θ, ð, n, č, ž, š, k, q, x, ɸ, ʔ, h, ħ, s, z, ʒ, r, u, i, l, ø/

In pos. 'e²' it commutes with /b, f, m, t, d, θ, ð, ð, n, č, ž, š, k, g, q, x, ɸ, ʔ, h, ħ, s, z, ʒ, r, u, i, l, Q, Ž/

In pos. 'i¹' it commutes with /f, d, θ, ð, h, h, r, l, ɹ /

In pos. 'i²' it commutes with /m, d, ð, š, q, x, ʔ, s, z, ʒ, r, D, K, Ž, X, N, ø/

In pos. 'E' it commutes with /b, f, m, č, ž, š, ʒ, u, i, ʔ, ø /

In pos. 'I' it commutes with /b, f, m, t, d, i, n, č, ž, š, k, g, q, x, ɸ, ʔ, ʔ, h, ħ, s, z, ʒ, r, ɹ, l, ø /

c) The identity and distinctive function of /t/ are established by the following comparisons:

1. ṭ/b see: b. 5.
2. ṭ/f see: f. 5.
3. ṭ/m see: m. 5.
4. ṭ/t see: t. 5.
5. ṭ/d see: d. 5.
6. ṭ/θ /ṭār/ "it flew" /θār/ "revenge"
7. ṭ/ð /ṭar/ "he kicked" /ðar/ "he sprinkled"
8. ṭ/ð /ṭam/ "the dust covered" /ðar/ "he harmed"
9. ṭ/n /ṭār/ "it flew" /nār/ "fire"
10. ṭ/č /ṭār/ " " /čar/ "solution"
11. ṭ/ž /ṭāb/ "he recovered" /žāb/ "he brought"
12. ṭ/š /ṭar/ "he kicked" /šar/ "evil"
13. ṭ/k /ṭār/ "it flew" /kār/ "commitment"
14. ṭ/g /ṭar/ "he kicked" /gar/ "he chatted"
15. ṭ/q /ṭūl/ "length" /qūl/ "you.m. say!"
16. ṭ/x /ṭāl/ "it became long" /xāl/ "maternal uncle"
17. ṭ/ɸ /ṭār/ "it flew" /ɸār/ "he felt jealous"
18. ṭ/ʔ /ṭamar/ "it covered" /ʔamar/ "he ordered"
19. ṭ/ʔ /ṭam/ "the dust covered" /ʔam/ "paternal uncle"
20. ṭ/h /ṭar/ "he kicked" /har/ "it fell down"
21. ṭ/h /ṭar/ "it flew" /har/ "hot"
22. ṭ/s /ṭab/ "he arrived" /sab/ "he cursed"
23. ṭ/z /ṭār/ "it flew" /zār/ "he visited"

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|-----|-------|---------|--------------------|---------|--------------|
| 24. | ṭ/s | /ṭār/ | "it flew" | /sār/ | "it became" |
| 25. | ṭ/l | /ṭāf/ | "it floated" | /lāf/ | "he turned" |
| 26. | ṭ/ḷ | /ualla/ | "by God" | /uaṭṭa/ | "he lowered" |
| 27. | ṭ/r | /tasa/ | "bowl" | /rusa/ | "her head" |
| 28. | ṭ/u | /tar/ | "he kicked" | /uar/ | "it burnt" |
| 29. | ṭ/i | /tam/ | "the dust covered" | /iam/ | "beside" |

d) The realization of /ṭ/

This phoneme is the emphatic counterpart of /t/. The realization of this phoneme is an emphatic apico-dental occlusive [ṭ]. In comparison with /t/, /ṭ/ is characterised by a narrow pharyngeal aperture, and a slight protrusion of the lips. The velarization effect of /ṭ/ does spread on the whole syllable in which it occurs, no matter whether it is pre-nuclear or post-nuclear. Thus /b/ in /baṭ/ 'ducks' and /ṭab/ 'he knocked at', become velarised, [ḃaṭ], [ṭaḃ]. The pharyngalization of non-emphatic elements is purely contextual variance i.e., in the dialect under description, there is no emphatic */ḃ/ as opposed to /b/.

The phoneme /θ/

- a) The phoneme /θ/ belongs to pos. 'e1', pos. 'e2', pos. 'i1'.
- b) In pos. 'e1' it commutes with /b, f, d, n, č, ž, k, g, q, ǰ, ǧ, ḥ, s, u, i, l, m, N o/
 In pos. 'e2' it commutes with /b, f, m, t, d, ṭ, ḏ, Ḑ, n, č, ž, š, k, g, q, x,
 ǰ, ǧ, h, ḥ, s, z, ʒ, u, i, l, ḷ, r /
 In pos. 'i1' it commutes with /b, t, ṭ, ḏ, Ḑ, š, x, h, ḥ, ʒ, ḷ, ʃ /

c) The identity and distinctive functions of /θ/ are established by the following comparisons:

1. θ/b see: b. 6.
2. θ/f see: f. 6.
3. θ/m see: m. 6.
4. θ/t see: t. 6.
5. θ/d see: d. 6.
6. θ/ṭ see: t. 6.
7. θ/ʒ see: ʒ. 6.
8. θ/ǰ /θamar/ "fruit" /ḏamar/ "he hid in his mind"
9. θ/n /θār/ "revenge" /nār/ "fire"

10.	θ/č	/θār/	"revenge"	/čār/	"solution"
11.	θ/ž	/θamar/	"fruit"	/žamar/	"umber"
12.	θ/š	/θūr/	"you.m. get up"	/šūr/	"you.m. consult"
13.	θ/k	/θamar/	"fruit"	/kamar/	"belt"
14.	θ/g	/θamar/	"	/gamar/	"moon"
15.	θ/q	/θūri/	"you.f. get up"	/qūri/	"kettle"
16.	θ/x	/θār/	"revenge"	/xār/	"he wandered about"
17.	θ/b	/θār/	"	/bār/	"he got jealous"
18.	θ/ʔ	/θāni/	"second"	/ʔāni/	"me"
19.	θ/ɣ	/θār/	"revenge"	/ɣār/	"shame"
20.	θ/h	/θūm/	"garlic"	/hūm/	"shout at"
21.	θ/h̄	/θum/	"	/h̄um/	"you.m. wander about!"
22.	θ/s	/θūm/	"	/sūm/	"suggest a price"
23.	θ/z	/θār/	"he got up"	/zār/	"he visited"
24.	θ/ṣ	/θūm/	"garlic"	/ṣūm/	"you.m. fast!"
25.	θ/l	/θūm/	"	/lūm/	"blame"
26.	θ/ḷ	/balla/	"by God"	/baḷḷa/	"animal food"
27.	θ/r	/θābit/	"fixed"	/rābit/	"firmly fixed"
28.	θ/u	/θāni/	"second"	/uāni/	"and me"
29.	θ/i	/θlūm/	"small scratches"	/ilūm/	"he blames"

d) The realization of /θ/

The realization of this phoneme is an apico-dental fricative [θ].

In many other Syrian dialects it is not used, as it is replaced by [t] or [s]. It is used in Kamali Arabic and in Modern Standard Arabic.

The phoneme /ð/

a) The phoneme /ð/ belongs to pos. 'e¹', 'e²', 'i¹'.

b) In pos. 'e¹' it commutes with /f, m, t, ṭ, n, č, ž, š, q, x, b, ɣ, h, ħ, s, ṣ, l, N, Ø/

In pos. 'e²' it commutes with /b, f, m, t, d, ṭ, ḷ, θ, ḡ, n, č, ž, š, k, g, q, x, b, ɣ, h, ħ, s, z, ṣ, r, u, i, l/

In pos. 'i¹' it commutes with /b, θ, š, q, x, ɣ, ħ, s, z, ṣ, ḷ, N, Ø/

c) The identity and distinctive function of /ð/ are established by the following comparisons:

1. ð/b see: b. 7.
2. ð/f see: f. 7.
3. ð/m see: m. 7.

4.	ð/t	see: t.	7.		
5.	ð/d	see: d.	7.		
6.	ð/t	see: t.	7.		
7.	ð/θ	see:	. 7.		
8.	ð/ð	/ðar/	"he sprinkled"	/ð̣ar/	"he harmed"
9.	ð/n	/ðāb/	"it melted"	/nāb/	"a fang"
10.	ð/č	/ðam/	"he denounced"	/čam/	"how many?"
11.	ð/ž	/ðāb/	"it melted"	/žāb/	"he brought"
12.	ð/š	/ðam/	"he denounced"	/šam/	"he smelled"
13.	ð/k	/ðam/	" "	/kam/	"sleeve"
14.	ð/g	/ðar/	"he sprinkled"	/gar/	"he chatted"
15.	ð/q	/ðimma/	"honesty"	/qimma/	"shape"
16.	ð/x	/ðar/	"he sprinkled"	/xar/	"it leaked"
17.	ð/β	/ðāb/	"it melted"	/βāb/	"it disappeared"
18.	ð/?	/ðim/	"denounce!"	/ʔim/	mother
19.	ð/ɣ	/ðar/	"he sprinkled"	/ɣar/	"he pulled"
20.	ð/h	/ðam/	"he denounced"	/ham/	"distress"
21.	ð/ħ	/ðar/	"he sprinkled"	/ħar/	"heat"
22.	ð/s	/ðam/	"he denounced"	/sam/	"poison"
23.	ð/z	/ðam/	" "	/zam/	"he got hold of"
24.	ð/ʒ	/ðar/	"he sprinkled"	/sar/	"he wrapped"
25.	ð/l	/ðam/	"he denounced"	/lam/	"he collected"
26.	ð/ل	/ualla/	"by God"	/uaðʒa/	"he made s.b. feel tired"
27.	ð/r	/xōð/	"take!"	/xōr/	"wandering about"
28.	ð/u	/ðar/	"he sprinkled"	/uar/	"it burnt"
29.	ð/i	/ðam/	"he denounced"	/iam/	"beside"

The realization of /ð/

It is the voiced counterpart of /θ/. It occurs in Modern Standard Arabic as well as in Kamali Arabic. It is missing in many other Syrian dialects as it is replaced by /z/.

The phoneme /ð/

a) The phoneme /ð/ belongs to pos. 'e1', pos. 'e2', pos. 'i1', pos. 'i2'.

b) In pos. 'e1' it commutes with /m.d.t.š.x.β.ħ.s.z.u.ø/

In pos. 'e2' it commutes with /b,f,m,t,d,ṭ,θ,ð,n,č,ž,š,K,
g,q,x,β,ɣ,h,ħ,s,z,ʒ,u,i,l,ḷ/

In pos. 'i1' it commutes with /b,f,ṭ,h,ʒ,ḷ,ø/

In pos. 'i2' it commutes with /t,d,ṭ,θ,ð,q,š,ħ,ɣ,s,z,ʒ,r,
,K,X,ž,ø/

c) The identity and distinctive function of /ð/are established in the following comparisons:

1. ð/b see: b. 8.
2. ð/f see: f. 8.
3. ð/m see: m. 8.
4. ð/t see: t. 8.
5. ð/d see: d. 8.
6. ð/ṭ see: t. 8.
7. ð/ð̣ see: . 8.
8. ð/θ see: . 8.
9. ð/n /ðēf/ "guest" /nēf/ "brand new"
10. ð/c /ðam/ "he hid something" /čam/ "how many?"
11. ð/ẓ /ðar/ "he harmed" /zar/ he pulled
12. ð/ṣ /ðar/ " " /sar/ "evil"
13. ð/k /ðar/ " " /kar/ "he repeated"
14. ð/g /ðar/ " " /gar/ "he chatted"
15. ð/q /ðal/ "he remained" /qal/ "it diminished"
16. ð/x /ðar/ "he harmed" /xar/ "it leaked"
17. ð/β /ðar/ " " /βar/ "he tempted"
18. ð/? /ðab/ "he packed" /ʔab/ "father"
19. ð/c /ðal/ "he remained" /ɣal/ "he made sb. ill"
20. ð/h /ðarab/ "he hit" /harab/ "he ran away"
21. ð/h /ðar/ "he harmed" /ħar/ "heat"
22. ð/s /ðēf/ "guest" /sēf/ "sword"
23. ð/z /ðar/ "he harmed" /zar/ "he buttoned"
24. ð/ʂ /ðar/ " " /ʂar/ "he wrapped"
25. ð/l /ðab/ "he packed" /lab/ "it was burnt"
26. ð/ḷ /uaḷḷa/ "by God" /uaḷḷa/ "he washed before prayer"
27. ð/r /ðab/ "he packed" /rab/ "a God"
28. ð/u /ðarab/ "he hit" /uarab/ "he twisted"
29. ð/i /ðam/ "he hid" /iam/ "beside"

d) The realization of /ð/

The realization of this phoneme is an emphatic apico-dental fricative [ð̣]. On the realization of /ð̣/, the back of the tongue is raised to produce a narrower pharyngeal aperture, and the lips are slightly protruded. Similar considerations of pharyngalization mentioned under /ṭ/ apply to /ð̣/. In many other Syrian dialects, it is replaced by [ẓ]. The phoneme /ð̣/ is used in Kamali Arabic and in Modern Standard Arabic.

The phoneme /n/

a) This phoneme belongs to pos. pre-e, pos. 'e1', pos. 'e2', pos. 'i2', pos. 'E', pos. 'I'.

b) In pos. pre-e it commutes with /m,t,b,š,u,i,ø/

In pos. 'e1' it commutes with /b,f,m,t,d,ṭ,θ,k,q,x,β,ʔ,ɣ,ħ,č,ž,š,
s,z,ʒ,u,i,r, s,ø/

In pos. 'e2' it commutes with /b,f,m,t,d,ṭ,θ,ð,ʒ,ɬ,č,ž,š, k, g,q,x,
β,ɣ,h,ħ,s,z,ʒ,r,u,i,l/

In pos. 'i2' it commutes with /m,š,ɣ,ħ,r,l,ʒ,ð,ø/

In pos. 'E' it commutes with /m,d,č,ɣ,s,r,l,/

In pos. 'I' it commutes with /b,f,m,t,d,ṭ, č,ž,š, k,g,q,x,β,ɣ,ħ,
ħ,s,z,ʒ,u,i,r, l, ð /

c) The identity and distinctive function of /n/ are established by the following comparisons:

1. n/b see: b. 9.
2. n/f see: f. 9.
3. n/m see: m. 9.
4. n/t see: t. 9.
5. n/d see: d. 9.
6. n/ṭ see: t. 9.
7. n/θ see: θ. 9.
8. n/ɣ see: ɣ. 9.
9. n/š see: š. 9.
10. n/č /nār/ "fire" /čār/ "solution"
11. n/ž /nār/ " " /žār/ "neighbour"
12. n/š /nūr/ "light" /šūr/ "consult"
13. n/k /nās/ "people" /kās/ "a glass"
14. n/g /nās/ " " /gās/ "he touched"
15. n/q /nās/ " " /qās/ "he measured"
16. n/x /nās/ " " /xās/ "it was spoiled"
17. n/β /nār/ "fire" /bār/ "he got jealous"
18. n/ʔ /nab/ "he shouted at" /ʔab/ "father"
19. n/ɣ /bān/ "he turned up" /bāɣ/ "he sold"
20. n/ħ /nām/ "he has slept" /hām/ "he loved"
21. n/ħ /nōm/ "sleeping" /hōm/ "wandering about"
22. n/s /bān/ "he turned up" /bās/ "he kissed"

23.	n/z	/nār/	"fire"	/zar/	"he visited"
24.	n/š	/nōm/	"sleeping"	/šōm/	"fasting"
25.	n/l	/nōm/	"	/lōm/	"blame"
26.	n/l	/banna/	"a builder"	/balla/	"by God"
27.	n/r	/nās/	"people"	/rās/	"head"
28.	n/u	/nsūr/	"eagles/"	/usūr/	"and a hedge"
29.	n/i	/nibni/	"we build"	/iibni/	"he builds"

d) The realization of /n/

The most frequent realization of this phoneme is a nasal apical [n̥]. It is noticed that it has a tendency towards a post-palatal [ŋ] when it pre-nuclearly precedes an occlusive dorsal element. It is pharyngalized when it lies in the vicinity of emphatics.

The phoneme /č/

a) This phoneme belongs to pos. 'e¹', pos. 'e²', pos. 'E', pos. 'I'.

b) In pos. 'e¹' it commutes with /t, d, ṭ, ḏ, n, ž, š, k, g, q, x, b, ʔ, h, ħ, θ, m, s, z, ʒ, r, u, l, ʕ/

In pos. 'e²' it commutes with /b, f, m, t, d, ṭ, θ, ḏ, ʒ, n, č, ž, š, k, g, q, x, b, ʔ, ʕ, h, ħ, s, z, ʒ, u, i, r, l, ḷ/

In pos. 'E' it commutes with /b, f, m, ṭ, ʕ, n, ž, š, g, q, b, h, ħ, s, z, ʒ, l, u, i, /

In pos. 'I' it commutes with /b, f, m, t, d, ṭ, n, ʕ, ž, š, k, g, q, x, b, h, ħ, s, z, ʒ, u, i, r, l, ʔ /

c) The identity and distinctive function of /č/ are established by the following comparisons:

1. č/b see: b. 10
2. č/f see: f. 10
3. č/m see: m. 10
4. č/t See: t. 10
5. č/d see: d. 10
6. č/ṭ See: t. 10
7. č/θ see: θ. 10
8. č/ḏ see: ḏ. 10
9. č/ʒ see: ʒ. 10
10. č/n see: n. 10

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|-----|-----|---------|----------------------------|---------|-------------------|
| 11. | č/ž | /čanna/ | "daughter in law" | /žanna/ | "paradise" |
| 12. | č/š | /čam/ | "how many?" | /šam/ | "he smelled" |
| 13. | č/k | /čam/ | " " | /kam/ | "sleeve" |
| 14. | č/g | /čanna/ | "daughter in law" | /ganna/ | "nasal tune" |
| 15. | č/q | /čāl/ | "he measured" | /qāl/ | he said |
| 16. | č/x | /čāl/ | " " | /xāl/ | "maternal uncle" |
| 17. | č/ḅ | /čanna/ | "daughter in law"- | /ḅanna/ | "he sang" |
| 18. | č/? | /čab/ | "he turned upside
down" | /ʔab/ | "father" |
| 19. | č/ǧ | /čam/ | "how many?" | /ǧam/ | "paternal uncle" |
| 20. | č/h | /čān/ | "it was" | /hān/ | "he insulted" |
| 21. | č/ħ | /čab/ | "he turned upside
down" | /ħab/ | "he liked" |
| 22. | č/s | /čam/ | "how many?" | /sam/ | "poison" |
| 23. | č/z | /čān/ | "it was" | /zān/ | "he weighed" |
| 24. | č/š | /čab/ | "he turned upside
down" | /šab/ | "he poured" |
| 25. | č/l | /čāḥ/ | "he hit on the
face" | /lāḥ/ | "it appeared" |
| 26. | č/ḷ | /baḷḷa/ | "by God" | /bačča/ | "he made sb. cry" |
| 27. | č/r | /čab/ | "he turned upside
down" | /rab/ | "God" |
| 28. | č/u | /čanna/ | "daughter in law" | /uanna/ | "humming sound" |
| 29. | č/i | /čbūs/ | "pressing" | /ibūs/ | "he kisses" |

d) The realization of /č/

The most frequent realization of this phoneme is an unvoiced pre-palatal occlusive /č/. Some educated people tend to replace it by /k/ in cases where the form is originally derived from Modern Standard Arabic. Thus the realization of /čān/ 'it was', is in free variation between /čān/ and /kān/. The phoneme /č/ does not exist in Modern Standard Arabic. It is originally found in most, if not all, the Iraqi dialects.

The phoneme /ž/

- a) This phoneme belongs to pos. 'e¹', pos. 'e²', pos. 'i¹', pos. 'E', pos. 'I'.
- b) In pos. 'e¹' it commutes with /b, f, m, t, d, ṭ, ṭ̣, n, č, š, k, g, q, x, ḅ, ḍ, ǧ, h, ħ, s, z, š, r, u, i, l, ʔ, Ø/

In pos. 'e2' it commutes with /b, f, m, t, d, ṭ, θ, ɖ, ɗ, n, č, š, k, g, q, x, ḅ,
ʔ, ɣ, h, ħ, u, i, l, ḷ, r/

In pos. 'E' it commutes with /b, f, m, ṭ, θ, ɖ, č, š, k, g, q, ʔ, h, ħ, s, z, ṣ, u, i, ɣ/

In pos. 'I' it commutes with /b, f, m, t, d, ṭ, n, č, š, k, g, q, x, ḅ, ʔ, ɣ, h, ħ,
s, z, ṣ, u, i, r, l, ɗ/

c) The identity and distinctive function of /ž/ are established by the following comparisons:

1. ž/b see: b. 11
2. ž/f see: f. 11
3. ž/m see: m. 11
4. ž/t see: t. 11
5. ž/d see: d. 11
6. ž/ṭ see: t. 11
7. ž/θ see: θ. 11
8. ž/ɖ see: ɖ. 11
9. ž/ɗ see: ɗ. 11
10. ž/n see: n. 11
11. ž/č see: c. 11
12. ž/š /žār/ "neighbour" /šār/ /he consulted"
13. ž/k /žamar/ "amber" /kamar/ "belt"
14. ž/g /žar/ "he pulled" /gar/ "he chatted"
15. ž/q /žām/ "glass" /qām/ "he stood up"
16. ž/x /žār/ "neighbour" /xar/ "he wandered about"
17. ž/ʔ /žēb/ "pocket" /bēb/ "the unknown"
18. ž/ɣ /žamar/ "amber" /ʔamar/ "he ordered"
19. ž/ɣ /žēb/ "pocket" /ɣēb/ "shame"
20. ž/h /žar/ "he pulled" /har/ "it fell down"
21. ž/ħ /žār/ "neighbour" /ħār/ "hot"
22. ž/s /žanna/ "paradise" /sanna/ "he sharpened it"
23. ž/z /žār/ "neighbour" /zār/ "he visited"
24. ž/ṣ /žār/ " " /ṣār/ "it became"
25. ž/l /ħaž/ "he visited Mecca" /hal/ "a solution"
26. ž/ḷ —————
27. ž/r /žanna/ "paradise" /ranna/ "ringing sound"
28. ž/u /žar/ "he pulled" /uar/ "it burnt"
29. ž/i /žibli/ "bring me" /iibli/ "he accuses"

d) The realization of /ž/

The most frequent realization of this phoneme is a voiced pre-palatal occlusive [ẓ̌]. It is pharyngalized when it occurs in the vicinity of emphatics. The realization of /ž/ in /taž/ "it bounced", is pharyngalized [ṭaẓ̌]. It is different from the realization of /ž/ in /daž/ "he bumped against the floor", [daẓ̌]. Notice that [ẓ̌] and [ẓ̣̌] are merely contextual variants of /ž/.

The phoneme /š/

- a) The phoneme /s/ belongs to pre-e, pos. 'e¹', pos. 'e²', pos. 'i¹', pos. 'i²', pos. 'E', pos. 'I'.
- b) In pos. pre-e it commutes with /b,m,t,n,u,i,l,ø/
 In pos. 'e¹' it commutes with /b,f,m,t,d,ṭ,θ,ʒ,č,ž,g,x,β,ʔ,ɣ,h, s,z,ʂ,r,l,ɾ,ɸ,ẓ̌,x/
 In pos. 'e²' it commutes with /b,f,m,t,d,ṭ,θ,ʒ,ʃ,n,č,ž,ś,k,g,q,x, β,ʔ,ɣ,h,ħ,l,s,z,ʂ,u,i,q/
 In pos. 'i¹' it commutes with /b,f,t,ʒ,ž,g,q,x,ñ,s,z,ʂ,r,ɸ,ẓ̌,N/
 In pos. 'i²' it commutes with /b,f,m,t,ʒ,n,q,ɣ,ħ,s,z,ʂ,r,l,l, D,K,X,D,ẓ̌,N,ø/
 In pos. 'E' it commutes with /b,f,m,n,d,ṭ,ž,k,g,q,x,β,ʔ,ħ,ħ,s,z,ʂ,u,i/
 In pos. 'I' it commutes with /b,f,m,t,d,ṭ,n,č,ž,k,g,q,x,β,ɣ,h,ħ,s, z,ʂ,u,i,r,l,ɸ/
- c) The identity and distinctive function of /s/ are established by the following comparisons:
1. s/b see: b. 12
 2. s/f see: f. 12
 3. s/m see: m. 12
 4. s/t see: t. 12
 5. s/d see: d. 12
 6. s/ṭ see: t. 12
 7. s/θ see: . 12
 8. s/ʒ see: . 12
 9. s/ʃ see: . 12
 10. s/n see: n. 12

11.	š/č	see: č. 12		
12.	š/ž	see: ž. 12		
13.	š/k	/sam/	"he smelled"	/kam/ "sleeve"
14.	š/g	/šar/	"evil"	/gar/ "chat"
15.	š/q	/šāl/	"he carried"	/qāl/ "he said"
16.	š/x	/šāl/	"	/xal/ "maternal uncle"
17.	š/č	/šār/	"he consulted"	/čār/ "he got jealous"
18.	š/?	/šim/	"smell"	/?im/ "mother"
19.	š/q	/sam/	"he smelled"	/qam/ "paternal uncle"
20.	š/h	/šam/	"	/ham/ "distress"
21.	š/h	/šāl/	"he carried"	/hāl/ "condition"
22.	š/s	/šāl/	"	/sāl/ "it flowed"
23.	š/z	/šēn/	"bad"	/zēn/ "good"
24.	š/š	/sīh/	"wild plant"	/šīh/ "call"
25.	š/l	/šam/	"he smelled"	/lam/ "he collected"
26.	š/ḷ	/uaḷḷa/	"by God"	/uašša/ "a burning sound"
27.	š/r	/sīh/	"wild plant"	/rīh/ "wind"
28.	š/u	/šēn/	"bad"	/uēn/ "where?"
29.	š/i	/šam/	"he smelled"	/iam/ "beside"

d) The realization of /š/

The most frequent realization of this phoneme is an unvoiced pre-palatal fricative [š̥]. It is liable to pharyngalization in the vicinity of emphatics. Comparing the realization of /š/ in /šaṭ/ "a river" and /šaṭ/ "he flitted", shows the effect of pharyngalization on [š̥] in the first form. The first is realized as [š̥aṭ̤]; the latter [šaṭ̤]. Notice that [š̥] and [š̥̤] are mere contextual variants of /š/.

The phoneme /k/

a) This phoneme belongs to pos. 'e¹', pos. 'e²', pos. 'i¹', pos. 'E', pos. 'I'.

b) In pos. 'e¹' it commutes with /b, m, t, d, ṭ, θ, n, č, ž, f, q, x, ɸ, ʔ, ɣ, ħ, s, z, ʂ, r, u, l, ɬ/

In pos. 'e²' it commutes with /b, f, m, t, d, ṭ, θ, ɸ, ʂ, n, č, ž, š, x, ɣ, q, ɸ, ʔ, ɣ, h, ħ, s, z, ʂ, r, u, i, l, ɬ, ʒ/

In pos. 'i¹' it commutes with /b, f, g, x, ɸ, ħ, ɸ/

In pos. 'E' it commutes with /č, ž, g, q, b, h, ħ, s, š/

In pos. 'I' it commutes with /b, f, m, t, d, ṭ, n, č, ž, š, g, q, x, b, ʔ, ʕ, h, ħ, s, z, ʕ, u, i, r, l, θ/

c) The identity and distinctive function of /k/ are established by the following comparisons:

1. k/b see: b. 13
2. k/f see: f. 13
3. k/m see: m. 13
4. k/d see: d. 13
5. k/t see: t. 13
6. k/ṭ see: ṭ. 13
7. k/θ see: θ. 13
8. k/š see: š. 13
9. k/ʕ see: ʕ. 13
10. k/n see: n. 13
11. k/č see: č. 13
12. k/ž see: ž. 13
13. k/š see: š. 13
14. k/g /kās/ "glass" /gās/ "he touched"
15. k/q /kās/ " /qās/ "he measured"
16. k/x /kās/ " /xās/ "it went bad"
17. k/b /kāfi/ "enough" /bāfi/ "sleeping"
18. k/? /kamar/ "belt" /ʔamar/ "he ordered"
19. k/ʕ /kam/ "sleeve" /ʕam/ "paternal uncle"
20. k/h /kās/ "a glass" /hās/ "he shouted"
21. k/ħ /kōm/ "a heap" /ħōm/ "wandering about"
22. k/s /kōm/ " /sōm/ "giving a price"
23. k/z /kar/ "he repeated" /zar/ "he buttoned up"
24. k/s /kōm/ "a heap" /sōm/ "fasting"
25. k/l /kam/ "sleeve" /sam/ "poison"
26. k/ḷ /ualla/ "by God" /uaḷḷa/ "he leaned s.th. against"
27. k/r /kas/ "a glass" /ras/ "head"
28. k/u /kar/ "he repeated" /uar/ "he burnt"
29. k/i /kōm/ "a heap" /iōm/ "a day"

d) The realization of /k/

The realization of this phoneme is an unvoiced post-palatal /k/. It tends towards 'fricative' when it precedes /θ/. Some educated people tend to employ /k/ instead of /č/ in forms which are originally derived from Modern Standard Arabic.

The phoneme /g/

- a) This phoneme belongs to pos. 'e1', pos. 'e2', pos. 'i1', pos. 'E' pos. 'I'.
- b) In pos. 'e1' it commutes with /b, f, d, θ, č, ž, š, b, ɣ, s, ʒ, u, l, ø/
 In pos. 'e2' it commutes with /b, f, m, t, d, ṭ, θ, ʃ, ʒ, n, č, ž, š, k, q, x, b, ɣ, h, ħ, s, z, ʒ, u, i, r, l, ɭ /
 In pos. 'i1' it commutes with /b, ž, š, k, l, ħ, ø/
 In pos. 'E' it commutes with / č, ž, š, k, q, ɣ, h, ħ, s, ʒ, b /
 In pos. 'I' it commutes with /b, f, m, t, d, ṭ, n, č, ž, š, k, q, x, b, ɣ, h, ħ, s, z, ʒ, r, l, u, i /
- c) The identity and distinction function of /g/ are established by the following comparisons:

1. g/b see: b. 14
2. g/f see: f. 14
3. g/m see: m. 14
4. g/t see: t. 14
5. g/d see: d. 14
6. g/ṭ see: t. 14
7. g/θ see: θ. 14
8. g/ʃ see: ʃ. 14
9. g/ʒ see: ʒ. 14
10. g/n see: n. 14
11. g/c see: c. 14
12. g/z see: z. 14
13. g/s see: s. 14
14. g/k see: k. 14
15. g/q /gās/ "he touched" /qās/ "he measured"
16. g/x /gar/ "chat" /xar/ "it leaked"
17. g/ḅ /gar/ " " /bār/ "he tempted"
18. g/? /gamar/ "moon" /ʔamar/ "he ordered"
19. g/ɣ /gar/ "chat" /ɣar/ "he pulled"
20. g/h /gās/ "he touched" /hās/ "he shouted"
21. g/ħ /gās/ " " /ħās/ "he ate it all"
22. g/s /gūs/ "you.m.touch!" /sūs/ "kind of a drink"
23. g/z /gar/ "chat" /zar/ "he buttoned up"
24. g/ʒ /gar/ " " /ʒar/ "he wrapped"
25. g/l /gōm/ "hostility" /lōm/ "blame.n"

26. g/l /ʔalla/ "God" /ʔagrab/"nearer"
 27. g/r /gās/ "he touched" /rās/ "a head"
 28. g/u /garab/ "it became closer"/uarab/ "he twisted"
 29. g/i /gōm/ "hostility" /iōm/ "a day"

d) The realization of /g/

The realization of this phoneme is post-palatal [g̠], the voiced counterpart of /k/. It is liable to pharyngalization in the vicinity of empanics. Some educated people tend to replace it by /q/ in cases where the form is encountered in Modern Standard Arabic. Thus the realization of /gamar/ "moon", freely varies between [gamar] and [qamar].

The phoneme /q/

a) This phoneme belongs to pos. 'e1', pos. 'e2', pos. 'i1', pos. 'i2', pos. 'E', pos. 'I'.

b) In pos. 'e1' it commutes with /b, f, m, t, d, ṭ, n, č, ž, k, x, β, ɣ, ħ, s, z, θ, ð, ɣ, r, u, i, l, ∅/

In pos. 'e2' it commutes with /b, f, m, t, d, ṭ, n, č, ž, š, k, g, l, x, β, ɣ, h, ħ, s, z, ɣ, r, u, i, l/

In pos. 'i1' it commutes with /b, m, t, θ, š, k, β, ɣ, ħ, s, z, ɣ, l, ∅/

In pos. 'i2' it commutes with /b, t, θ, š, ɣ, ħ, ɣ, r, l, D, K, X, ž, ∅/

In pos. 'E' it commutes with /č, ž, š, k, g, h, ħ, s, ɣ, β/

In pos. 'I' it commutes with /b, f, m, t, d, ṭ, n, č, ž, š, k, g, x, β, ɣ, ɣ, h, ħ, s, z, ɣ, u, i, r, l, ∅/

c) The identity and distinctive function of /q/ are established by the following comparisons:

1. q/b see: b. 15
2. q/f see: f. 15
3. q/m see: m. 15
4. q/t see: t. 15
5. q/d see: d. 15
6. q/ṭ see: ṭ. 15
7. q/θ see: θ. 15
8. q/ð see: ð. 15
9. q/ɣ see: ɣ. 15
10. q/n see: n. 15
11. q/č see: č. 15

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|-----|-----|---------|-----------------------------|---------|----------------------|
| 12. | q/ž | see: ž. | 15 | | |
| 13. | q/š | see: š. | 15 | | |
| 14. | q/k | see: k. | 15 | | |
| 15. | q/g | see: g. | 15 | | |
| 16. | q/x | /qās/ | "he measured" | /xās/ | "it went bad" |
| 17. | q/b | /qadar/ | "he could manage" | /βadar/ | "he deceived" |
| 18. | q/? | /qadar/ | " | /ʔamar/ | "he ordered" |
| 19. | q/ǧ | /qal/ | "it diminished" | /ǧal/ | "it made (s.b.) ill" |
| 20. | q/h | /qās/ | "he measured" | /hās/ | "he shouted" |
| 21. | q/ħ | /qāl/ | "he said" | /ħal/ | "condition" |
| 22. | q/s | /qūm/ | "stand up" | /sūm/ | "suggest a price" |
| 23. | q/z | /qūri/ | "kettle" | /zūri/ | "you.f. visit" |
| 24. | q/š | /qām/ | "he stood" | /šām/ | "he fasted" |
| 25. | q/l | /qūm/ | "stand up" | /lūm/ | "blame," |
| 26. | q/ḷ | /uaḷḷa/ | "by God" | /uaqqa/ | "he protected" |
| 27. | q/r | /qās/ | "he measured" | /rās/ | "a head" |
| 28. | q/u | /qalla/ | "he said to her" | /ualla/ | "he went away" |
| 29. | q/i | /qmūʔ/ | "the tops of
vegetables" | /imūʔ/ | "it melts" |

d) The realization of /q/

It is the emphatic counterpart of /k/. Compared with the realization of /k/, the realization of /q/, has a narrower pharyngeal aperture. In many other Syrian dialects /q/ is replaced by the glottal stop /ʔ/. Like all emphatic phonemes, it exerts a retracting influence on the adjacent phonemes; on /a/, /ā/ in particular.

The phoneme /x/

a) This phoneme belongs to pos. 'e1', pos. 'e2', pos. 'i1', pos. 'E', pos. 'I'.

b) In pos. 'e1' it commutes with /b, f, m, t, d, ṭ, ʃ, n, č, ž, š, k, q, β, ǧ, ʕ, ħ, s, z, ʒ, r, u, l, ø/

In pos. 'e2' it commutes with /b, f, m, t, d, ṭ, β, ʃ, ʒ, n, č, ž, š, k, g, q, b, ʔ, ǧ, h, ħ, s, z, ʒ, r, l, u, i, l/

In pos. 'i1' it commutes with /b, β, ʃ, š, k, β, ǧ, ħ, s, z, ʒ, r, l, l, N, ø/

In pos. 'E' it commutes with /f, m, d, š, β, ʔ, t, β, l/

In pos. 'I' it commutes with /b, f, m, t, d, ṭ, n, č, ž, š, k, g, q, ǧ, β, h, ħ, s, z, ʒ, u, i, r, l/

c) The identity and distinctive function of /x/ are established by the following comparisons:

1. x/b see: b. 16
2. x/f see: f. 16
3. x/m see: m. 16
4. x/t see: t. 16
5. x/d see: d. 16
6. x/ṭ see: ṭ. 16
7. x/θ see: θ. 16
8. x/ð see: ð. 16
9. x/ð̣ see: ð̣. 16
10. x/n see: n. 16
11. x/č see: č. 16
12. x/ž see: ž. 16
13. x/š see: š. 16
14. x/k see: k. 16
15. x/g see: g. 16
16. x/q see: q. 16
17. x/ḅ /xāli/ "my uncle" /bāli/ "expensive"
18. x/? /xam/ "he called on s.b." /ʔam/ "he headed"
19. x/ɣ /xāli/ "my uncle" /ɣāli/ "high"
20. x/h /xāl/ "maternal uncle" /hāl/ "he gave plentifully"
21. x/ḥ /xāl/ " " /hāl/ "condition"
22. x/s /xāl/ " " /sāl/ "it flowed"
23. x/z /xar/ "it leaked" /zar/ "he buttoned up"
24. x/ṣ̌ /xām/ "cloth material" /šam/ "he fasted"
25. x/l /xēl/ horses /lēl/ "night"
26. x/ḷ /baḷḷa/ "by God" /baxxa/ "gentle rain (a shower)"
27. x/r /xās/ "it went bad" /rās/ "a head"
28. x/u /xāli/ "my uncle" /uāli/ "governor"
29. x/i /xbūl/ "fools" /ibūl/ "he urinates"

d) The realization of /x/

The most frequent realization of this phoneme is an unvoiced post-palatal fricative [x̣]. It is in free variation between unvoiced/emphatic and unvoiced/non/emphatic. When it is pharyngalized it functions as an emphatic phoneme in exerting a retracting effect on the adjacent vowels; on /a/, /ā/ in particular. It is called semi-emphatic.¹

1. The term semi-emphatic should be regarded as a purely phonetic term e.g. there is no non-semi-emphatic */x/ to which the semi-emphatic /x̣/ might be opposed.

The phoneme /b/

- a) This phoneme belongs to pos. 'e¹', pos. 'e²', pos. 'i¹', pos. 'E', pos. 'I'.
- b) In pos. 'e¹' it commutes with /b, f, m, t, d, ṭ, θ, θ̣, ð, ð̣, n, č, ž, š, k, g, q, x, ʔ, ʕ, h, ħ, s, z, ʒ, r, u, l, ø/
- In pos. 'e²' it commutes with /b, f, m, t, d, ṭ, θ, θ̣, ð, ð̣, n, č, ž, š, k, g, q, x, ʔ, ʕ, h, ħ, s, z, ʒ, r, u, i/
- In pos. 'i¹' it commutes with /k, q, x, l, ḷ/
- In pos. 'E' it commutes with /č, ž, š, k, g, q, x, h, ħ, s, ʒ/
- In pos. 'I' it commutes with /b, f, m, t, d, ṭ, n, č, ž, š, k, g, q, x, ʔ, ʕ, h, ħ, s, z, ʒ, u, i, r, l/

c) The identity and distinctive function of /b/ are established by the following comparisons:

1. b/b see: b. 17
2. b/f see: f. 17
3. b/m see: m. 17
4. b/t see: t. 17
5. b/d see: d. 17
6. b/ṭ see: ṭ. 17
7. b/θ see: θ. 17
8. b/θ̣ see: θ̣. 17
9. b/ð see: ð. 17
10. b/n see: n. 17
11. b/č see: č. 17
12. b/ž see: ž. 17
13. b/š see: š. 17
14. b/k see: k. 17
15. b/g see: g. 17
16. b/q see: q. 17
17. b/x see: x. 17
18. b/ʔ /bamar/ "the water covered" /ʔamar/ "he ordered"
19. b/ʕ /bēb/ "the unknown" /ʕēb/ "shame"
20. b/h /banna/ "he sang" /hanna/ "he congratulated"
21. b/ħ /banna/ " " /ħanna/ "a humming sound"
22. b/s /banna/ " " /sanna/ "he sharpened it"
23. b/z /bār/ "he got jealous" /zār/ "he visited"

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|-----|-----|---------|------------------|----------|--------------------------|
| 24. | č/s | /čār/ | "he got jealous" | /šar/ | "it became" |
| 25. | č/l | /čat/ | "he dipped it" | /lat/ | "he hit" |
| 26. | č/l | /ʔaḷḷa/ | "God" | /ʔabrab/ | "stranger (comparative)" |
| 27. | č/r | /čaš/ | "he cheated" | /raš/ | "he sprinkled" |
| 28. | č/u | /čāli/ | expensive | /uāli/ | "governor" |
| 29. | č/i | /čam/ | "distress" | /iam/ | "beside" |

d) The realization of /č/

The most frequent realization of this phoneme is a voiced fricative post-palatal [č̣]. Contrary to other 'non-emphatic' phonemes, /č/ freely oscillates between voiced/emphatic and voiced/non-emphatic without being governed by an emphatic vicinity. Thus I call it a semi-emphatic consonant. This term is to be regarded purely phonetic. The realization of /čāb/ 'he disappeared', is in free variation between [č̣ab] and [čā:b]. Similar to emphatic phonemes, /č/ can have a pharyngalization effect on the adjacent phonemes when it is itself pharyngalized; on /a/ and /ā/ in particular.

The phoneme /ʔ/

a) This phoneme belongs to pos. 'e¹', pos. 'e²', pos. 'E', pos. 'I'.

b) In pos. 'e¹' it commutes with /b, f, d, t, n, ž, š, k, č, ħ, s, z, u, h, /

In pos. 'e²' it commutes with /b, f, d, ž, š, k, x, q, ħ, i, ǰ/

In pos. 'E' it commutes with /ž, x, š, q, h, ħ/

In pos. 'I' it commutes with /b, f, m, t, d, t, ž, k, q, q, h, ħ, u, i, r, l/

c) The identity and distinctive function of /ʔ/ are established by the following comparisons:

1. ʔ/b see: b. 18
2. ʔ/f see: f. 18
3. ʔ/m see: m. 18
4. ʔ/t see: t. 18
5. ʔ/d see: d. 18
6. ʔ/ṭ see: ṭ. 18
7. ʔ/θ see: θ. 18
8. ʔ/ð see: ð. 18
9. ʔ/ð̣ see: ð̣. 18

10.	ʔ/n	see: n. 18		
11.	ʔ/č	see: č. 18		
12.	ʔ/ž	see: ž. 18		
13.	ʔ/š	see: š. 18		
14.	ʔ/k	see: k. 18		
15.	ʔ/g	see: g. 18		
16.	ʔ/q	see: q. 18		
17.	ʔ/x	see: x. 18		
18.	ʔ/b	see: b. 18		
19.	ʔ/ɣ	/ʔamal/ "hope"	/ɣamal/ "job"	
20.	ʔ/h	/ʔab/ "father"	/hab/ "the wind stirred"	
21.	ʔ/ħ	/ʔab/ "	/ħab/ "he liked"	
22.	ʔ/s	/ʔab/ "	/sab/ "he cursed"	
23.	ʔ/z	/ʔamān/ "safety"	/zamān/ "time"	
24.	ʔ/ʂ	/ʔab/ "father"	/ʂab/ "he poured"	
25.	ʔ/l	/ʔab/ "	/lab/ "it burnt"	
26.	ʔ/l	—	—	
27.	ʔ/r	/ʔab/ "	/rab/ "God"	
28.	ʔ/u	/ʔāli/ mechanical	/uāli/ "governor"	
29.	ʔ/i	/ʔamīn/ "trustworthy"	/iamīn/ "right"	

d) The realization of /ʔ/

The most frequent realization of this phoneme is an 'unvoiced' glottal stop [ʔ]. It is characterized by a complete glottal closure. It is liable to pharyngalization in the vicinity of emphatics. The sound [ʔ] in [ʔaṭbaɣ] 'I type' is phonetically different from [ʔ] in [ʔatbaɣ] 'I follow!'. It is in free variation with zero when it occurs in pos. 'e²' and preceded by /l/, /b/, /u/, /i/. Thus the realization of /lʔab/ 'the father' and /uʔab/ 'and a father' freely varies between [lʔabb], [labb] and [uʔab], [uabb].

The phoneme /ɣ/

- a) This phoneme belongs to pos. 'e¹', pos. 'e²', pos. 'i¹', pos. 'i²', pos. 'E', pos. 'I'.
- b) In pos. 'e¹' It commutes with /b, f, m, t, d, ṭ, θ, ɣ, n, č, ž, š, k, g, q, ʔ, h, ħ, X, ʁ, s, z, ʂ, r, u, l, ɐ, ž, q, x, s, š, ø/
- In pos. 'e²' it commutes with /b, f, m, t, d, ṭ, θ, ɣ, ɣ̣, č, ž, š, k, g, q, h, ʔ, ħ, s, z, ʂ, u, r, i, l, l/

In pos. 'i1' it commutes with /b,f,t,ð,š,q,x,ħ,s,z,s,r,l, D, K, X, h,ø/

In pos. 'i2' it commutes with /f,m,t,ð,n,š,q,ħ,z,s,s,r,l,D, K, X, ž,ø/

In pos. 'E' it commutes with /f,m,t,n,ž,g,ʔ,h,ħ,t,l,ð,ø/

In pos. 'I' it commutes with /b,f,m,t,d,t,n,č,ž,š,k,g,q,x,č,ʔ,h,
ħ,s,z,s,r,u,i,l/

c) The identity and distinctive function of /q/ are established by the following comparisons:

1. q/b see: b. 19
2. q/f see: f. 19
3. q/m see: m. 19
4. q/t see: t. 19
5. q/d see: d. 19
6. q/ṭ see: ṭ. 19
7. q/θ see: θ. 19
8. q/ð see: ð. 19
9. q/ð̣ see: ð̣. 19
10. q/n see: n. 19
11. q/č see: č. 19
12. q/ž see: ž. 19
13. q/š see: š. 19
14. q/k see: k. 19
15. q/g see: g. 19
16. q/q see: q. 19
17. q/x see: x. 19
18. q/č̣ see: č̣. 19
19. q/? see: ?. 19
20. q/h /qam/ "paternal uncle" /ham/ "distress"
21. q/ħ /qāli/ "high" /hāli/ "my condition"
22. q/s /qam/ "paternal uncle" /sam/ "poison"
23. q/z /qam/ " " /zam/ "he got hold of"
24. q/ṣ /qar/ "he wrenched" /sar/ "he wrapped"
25. q/l /qam/ "paternal uncle" /lam/ "he collected"
26. q/ḷ /uaḷḷa/ "by God" /uaḷḷa/ "he cautioned"
27. q/r /qāš/ "he lived" /rāš/ "he wandered about"
28. q/u /qēn/ "an eye" /uēn/ "where?"
29. q/i /qam/ "paternal uncle" /iam/ "beside"

d) The realization of /g/

It is the voiced counterpart of the glottal stop /ʔ/. I call it semi-emphatic as its realization freely varies between voiced-emphatic and voiced/non-emphatic. The term semi-emphatic has got to be regarded a purely phonetic term. When it is realized as emphatic, it is noticed that it exerts a pharyngealization effect on the adjacent phonemes; on /a/ and /ā/ in particular. The realization of a form like /nʔād/ "it was repeated", freely varies between [nʔa:d] and [nʔa:d]. Notice that [ʔ] and [g] are merely free variants of /g/.

The phoneme /h/

- a) This phoneme belongs to pos. 'e1', pos. 'e2', pos. 'i1', pos. 'E', pos. 'I'.
- b) In pos. 'e1' it commutes with /m,d,ʒ,č,ž,b,ʔ,s,z,l, t,ʔ,ʂ,ʃ,o/
 In pos. 'e2' it commutes with /b,f,m,t,d,t,θ,ð,ǧ,n,č,ž,š,k,g,q,
 x,ʃ,ʕ,ħ,s,z,ʂ,r,i,l ,l,u/
 In pos. 'i1' it commutes with /b,m,t,θ,ð,ʕ,r,ʒ/
 In pos. 'E' it commutes with /m,č,ž,š,k,g,q,ʔ,ʕ,ħ,s,ʂ,ʃ/
 In pos. 'I' it commutes with /b,f,m,t,d,t,n,č,ž,š,k,g,x,ʃ,ʔ,ʕ,ħ,
 s,z,ʂ,u,i,r,l, ð/
- c) The identity and distinctive function of /h/ are established by the following comparisons:

- 1. h/b see: b. 20
- 2. h/f see: f. 20
- 3. h/m see: m. 20
- 4. h/t see: t. 20
- 5. h/d see: d. 20
- 6. h/ṭ see: ṭ. 20
- 7. h/θ see: θ. 20
- 8. h/ð see: ð. 20
- 9. h/ǧ see: ǧ. 20
- 10. h/n see: n. 20
- 11. h/č see: č. 20
- 12. h/ž see: ž. 20

- | | | | | |
|-----|------|-----------------------------|---------|--------------------|
| 13. | h/š | see: s. 20 | | |
| 14. | h/k | see: k. 20 | | |
| 15. | h/g | see: g. 20 | | |
| 16. | h/q | see: q. 20 | | |
| 17. | h/x | see: x. 20 | | |
| 18. | h/b | see: b. 20 | | |
| 19. | h/? | see: ?. 20 | | |
| 20. | h/ɣ | see: ɣ. 20 | | |
| 21. | h/h̄ | /hāl/ "he gave plentifully" | /hāl/ | "condition" |
| 22. | h/s | /hāl/ " | /sāl/ | "it flowed" |
| 23. | h/z | /ham/ "distress" | /zam/ | "he packed" |
| 24. | h/s | /hab/ the wind started | /sab/ | "he poured" |
| 25. | h/l | /hān/ "he insulted" | /lan/ | "it became softer" |
| 26. | h/l | _____ | _____ | |
| 27. | h/r | /has/ "he shouted" | /ras/ | "a head" |
| 28. | h/u | /hanna/ "he congratulated" | /uanna/ | "a humming sound" |
| 29. | h/i | /ham/ "distress" | /iam/ | "beside" |

d) The realization of /h/

The most frequent realization of this phoneme is an unvoiced glottal /h / with the glottis half-closed. When it occurs in the vicinity of emphatics the glottal aperture tends towards narrowing.

The phoneme /h̄/

- a) This phoneme belongs to pos. 'e¹', pos. 'e²', pos. 'i¹', pos. 'i²', pos. 'E', pos. 'I'.
- b) In pos. 'e¹' it commutes with /b, f, m, t, d, t̄, θ, ʃ, ʒ, n, č, ž, š, k, q, x, ʙ, ʔ, ɣ, s, z, ʒ, r, u, i, l, ʒ̣, q, x, s, š, ø/
- In pos. 'e²' it commutes with /b, f, m, t, d, t̄, θ, ʃ, ʒ, n, č, ž, š, k, q, g, x, ʔ, ʙ, ɣ, h, s, z, ʒ, r, u, i, l, ḷ/
- In pos. 'i¹' it commutes with /b, f, t̄, θ, ʃ, ʒ, š, k, g, q, x, ɣ, s, z, ʒ, r, l, ḷ, K, X, ø/
- In pos. 'i²' it commutes with /b, ʒ, n, š, q, ɣ, s, ʒ, r, l, f, m, ø/
- In pos. 'E' it commutes with /f, č, ž, š, k, g, q, ʔ, h, s, s, t, ʙ/
- In pos. 'I' it commutes with /b, f, m, t, d, t̄, n, č, ž, š, k, g, q, x, ʙ, ʔ, ɣ, h, s, z, ʒ, r, l, u, i/

c) The identity and distinctive function of /ħ/ are established by the following comparisons:

1. ħ/b see: b. 21
2. ħ/f see: f. 21
3. ħ/m see: m. 21
4. ħ/t see: t. 21
5. ħ/d see: d. 21
6. ħ/ṭ see: ṭ. 21
7. ħ/θ see: θ. 21
8. ħ/ð see: ð. 21
9. ħ/ḏ see: ḏ. 21
10. ħ/n see: n. 21
11. ħ/ċ see: ċ. 21
12. ħ/ž see: ž. 21
13. ħ/š see: š. 21
14. ħ/k see: k. 21
15. ħ/g see: g. 21
16. ħ/q see: q. 21
17. ħ/x see: x. 21
18. ħ/ḃ see: ḃ. 21
19. ħ/? see: ?. 21
20. ħ/ǧ see: ǧ. 21
21. ħ/h see: h. 21
22. ħ/s /ħāl/ "condition" /sāl/ "it flowed"
23. ħ/z /ħar/ "heat" /zar/ "he buttoned up"
24. ħ/ṣ /ħar/ " " /ṣar/ "he wrapped"
25. ħ/l /ħām/ "it hovered" /lām/ "he blamed"
26. ħ/l /baḷḷa/ "by God" /baḥḥa/ "harsh voice"
27. ħ/r /ħab/ "he liked" /rab/ "God"
28. ħ/u /ħāli/ "my condition" /uāli/ "governor"
29. ħ/i /ħōm/ "hovering" /iōm/ "a day"

d) The realization of /ħ/

The most frequent realization of this phoneme is in free variation between emphatic and non-emphatic. When it is realized as 'emphatic', it is noticed that it tends to have an affinity towards 'voicedness'. In such a case, it also exerts a retracting influence on the adjacent vowels; on /a/, /ā/, in particular. Thus the realization of a form like /ħāli/

"my condition" can freely vary between /hali/ and /ħali/. Notice that /h/ and /ħ/ are only free variants of /h/.

The phoneme /s/

- a) This phoneme belongs to pos. 'e1', pos. 'e2', pos. 'i1', pos. 'E', pos. 'I', pos. 'i2'.
- b) In pos. 'e1' it commutes with /b,f,m,t,d,ṭ,θ,ð,ʒ,n,č,ž,š,k,g,q,x, ḅ,ʔ,ɣ,h,ħ,z,s,r,u,l,š.ø/
- In pos. 'e2' it commutes with /b,f,m,t,d,ṭ,θ,ð,ʒ,n,č,ž,š,k,g,q,x, ḅ,ɣ,h,ħ, z,s,r,u,i,l,ḷ,ʰ/
- In pos. 'i1' it commutes with /b,f,ɕ,š,x,ɣ,ħ,z,s,ḷ,k,N,ø/
- In pos. 'i2' it commutes with / m,t,d,ð,š,x,ɣ,r,t,ħ,s,ð,ð,ž,N,ø/
- In pos. 'E' it commutes with /b,f,m,t,θ,č,ž,š,k,g,q,h,z,s,ħ,u,i/
- In pos. 'I' it commutes with /b,f,m,t,d,ṭ,n,č,ž,š,k,g,q,x,ḅ,ɣ,h, ħ,s,z,ṣ,u,i,r,l,ð/
- c) The identity and distinctive function of /s/ are established by the following comparisons:
 1. s/b see: b. 22
 2. s/f see: f. 22
 3. s/m see: m. 22
 4. s/t see: t. 22
 5. s/d see: d. 22
 6. s/ṭ see: ṭ. 22
 7. s/θ see: θ. 22
 8. s/ð see: ð. 22
 9. s/ʒ see: ʒ. 22
 10. s/n see: n. 22
 11. s/č see: č. 22
 12. s/ž see: ž. 22
 13. s/š see: š. 22
 14. s/k see: k. 22
 15. s/g see: g. 22
 16. s/q see: q. 22
 17. s/x see: x. 22
 18. s/ḅ see: ḅ. 22
 19. s/ʔ see: ʔ. 22

- 20. s/ɣ see: ɟ. 22
- 21. s/h see: h. 22
- 22. s/ħ see: ħ. 22
- 23. s/z /sam/ "poison" /zam/ "he collected"
- 24. s/ʂ /sam/ " /ʂam/ "he closed his hand"
- 25. s/l /sam/ " /lam/ "he gathered"
- 26. s/l /baɫɫa/ "by God" /bassak/ "do not go over your limits!"
- 27. s/r /sab/ "he cursed" /rab/ "God"
- 28. s/u /salla/ "a basket" /ualla/ "he went away"
- 29. s/i /sam/ "poison" /iam/ "beside"

d) The realization of /s/

The most common realization of this phoneme is an unvoiced spirant [s]. It is liable to pharyngalization in the vicinity of emphatics.

Thus the realization of /saɫr/, 'line' is [ʂaɫr].

The phoneme /z/

a) This phoneme belongs to pos. 'e¹', pos. 'e²', pos. 'i¹', pos. 'i²', pos. 'E', pos. 'I'.

b) In pos. 'e¹' it commutes with /b, f, m, t, d, ṭ, ɟ, n, ɟ̣, ʒ, ʂ, s, k, q, x, ɸ, ɣ, h, ħ, s, ʂ, r, u, i, l, ɫ/

In pos. 'e²' it commutes with /b, f, m, t, d, ṭ, ɟ, ɟ̣, n, c, s, k, g, q, l, ʔ, ɣ, h, ħ, s, ʂ, r, u, i, l, ɫ, x/

In pos. 'i¹' it commutes with /b, f, t, d, ɟ, ʂ, q, x, ɣ, ħ, s, ʂ, r, ɸ/

In pos. 'i²' it commutes with /b, m, t, d, ṭ, ɟ, ɟ̣, ʂ, x, ɣ, r, l, ʂ, ɟ, ɸ, ɟ̣, ʒ, ɸ/

In pos. 'E' it commutes with /b, f, t, ɟ̣, ʒ, ʂ, s, ʂ, u, i, m, ɸ/

In pos. 'I' it commutes with /b, f, m, t, d, ṭ, n, ɟ̣, ʒ, ʂ, k, g, q, x, ɸ, ɟ̣, ʂ, u, i, r, l, ɸ/

c) The identity and distinctive function of /z/ are established by the following comparisons:

- 1. z/b see: b. 23
- 2. z/f see: f. 23
- 3. z/m see: m. 23
- 4. z/t see: t. 23
- 5. z/d see: d. 23

6. z/ṭ see: ṭ. 23
7. z/θ s33:θ . 23
8. z/ḏ see: ḏ. 23
9. z/ḏ̣ see: ḏ̣. 23
10. z/n see: n. 23
11. z/ċ see: ċ. 23
12. z/ž see: ž. 23
13. z/š see: š. 23
14. z/k see: k. 23
15. z/g see: g. 23
16. z/q see: q. 23
17. z/x see: x. 23
18. z/ḅ see: ḅ. 23
19. z/? see: ?. 23
20. z/ʕ see: ʕ. 23
21. z/h see: h. 23
22. z/ħ see: ħ. 23
23. z/s see: s. 23
24. z/š /zar/ "he buttoned up" /ṣar/ "he wrapped"
25. z/l /zam/ "he collected" /lam/ "he collected"
26. z/l /ualla/ "by God" /uazza/ "a goose"
27. z/r /ziḥ/ "remove!" /riḥ/ "wind"
28. z/u /zēn/ "good" /uēn/ "where?"
29. z/i /zai/ "he collected" /iam/ "beside"

d) The realization of /z/

It is the voiced counterpart of /s/. It is always realized as a voiced spirant [z]. It does not appear to be influenced by emphatics.

In many Syrian dialects it has an emphatic counterpart /ẓ/. The emphatic counterpart of /z/ neither exists in Kamali Arabic, nor in Modern Standard Arabic.

The phoneme /s/

- a) This phoneme belongs to pos. 'e¹', pos. 'e²', pos. 'i¹', pos. 'i²', pos. 'E', pos. 'I'.
- b) In pos. 'e¹' it commutes with /b, f, t, d, ṭ, ḏ, n, ċ, ž, š, k, g, q, x, ḅ, ʕ, ħ, s, z, r, u, i, l, ø/

In pos. 'e2' it commutes with /b,f,m,θ,ð,ʒ,n,ć,ž,š,k,g,q,x,ʙ,ɣ,
h,ħ,s,z,ʂ,u,i,r,l,l, ž/

In pos. 'i1' it commutes with /b,f,t,d,θ,ð,š,g,q,x,ɣ,ħ,s,z,r,l,l, ž,ð,d/

In pos. 'i2' it commutes with /m,t,ʒ,n,ś,q,ɣ,ħ,s,z,r, k, x, θ, ø, N, ø/

In pos. 'E' it commutes with /b,f,m, t,θ,ć,ž,š,k,g,q,h,s,z,ʂ,u,i, θ, š,ʙ,ħ/

In pos. 'I' it commutes with /b,f,m,t,d,t,n,ć,ž,š,k,g,q,x,b,s,z,ʂ,l/

c) The identity and distinctive function of /ʂ/ are established by the following comparisons:

1. ʂ/b see: b. 24
2. ʂ/f see: f. 24
3. ʂ/m see: m. 24
4. ʂ/t see: t. 24
5. ʂ/d see: d. 24
6. ʂ/ṭ see: ṭ. 24
7. ʂ/θ see: θ. 24
8. ʂ/ð see: ð. 24
9. ʂ/ʒ see: ʒ. 24
10. ʂ/n see: n. 24
11. ʂ/ć see: ć. 24
12. ʂ/ž see: ž. 24
13. ʂ/š see: š. 24
14. ʂ/k see: k. 24
15. ʂ/g see: g. 24
16. ʂ/q see: q. 24
17. ʂ/x see: x. 24
18. ʂ/ʙ see: ʙ. 24
19. ʂ/ɣ see: ɣ. 24
20. ʂ/ɣ see: ɣ. 24
21. ʂ/h see: h. 24
22. ʂ/ħ see: ħ. 24
23. ʂ/s see: s. 24
24. ʂ/z see: z. 24
25. ʂ/l /ʂōm/ "fasting" /lōm/ "blame.n"
26. ʂ/ḷ /ualḷ/ "by God" /uaṣṣa/ "he recommended"
27. ʂ/r /ṣab/ "he poured" /rab/ "God"
28. ʂ/u /ṣar/ "he wrapped" /uar/ "he burnt"
29. ʂ/i /sōm/ "fasting" /iōm/ "a day"

d) The realization of /s/

This is the emphatic counterpart of /s/. It always exerts a retracting influence on the adjacent phonemes; on /a/, /ã/ in particular. When a retracted [a:] is produced, it is noticed that such a retracted vowel, in its turn, starts to exert a pharyngalized influence on the following or preceding phonemes. In the realization of /šām/ "he fasted" [š:a:m] and /sām/ "he paid a price" [sa:m], one can clearly notice the difference between [a:] and [a:].

The phoneme /l/

a) This phoneme belongs to pos. 'pre-e', pos. 'e1', pos. 'e2', pos. 'i1', pos. 'i2', pos. 'E', pos. 'I'.

b) In pos. 'pre-e' it commutes with /u,b,š,ø/

In pos. 'e1' it commutes with /b,t,d,ṭ,θ,ð,č,ž,š,k,q,x,β,ɣ,h,f,m,
ħ,s,z,š,r,i,T,Q,X,S,ø/

In pos. 'e2' it commutes with /b,f,m,t,d,ṭ,θ,ð,ɟ,n,č,ž,š,k,g,q,x,
β,ʔ,ɣ,h,ħ,s,z,š,r,u,i,l,ɸ,H/

In pos. 'i1' it commutes with /f,t,d,ṭ,x,β,š,r,l,h,X,D,d/

In pos. 'i2' it commutes with /b,f,m,n,š,ɣ,ħ,r,q,D,N,ɸ/

In pos. 'E' it commutes with /n,š,x,r,č/

In pos. 'I' it commutes with /b,f,m,t,d,ṭ,n,č,ž,š,k,g,q,x,β,ʔ,ɣ,ʌ,
h,ħ,s,z,š,r,i,ɸ/

c) The identity and distinctive function of /l/ are established by the following comparisons:

1. l/b see: b. 25
2. l/f see: f. 25
3. l/m see: m. 25
4. l/t see: t. 25
5. l/d see: d. 25
6. l/ṭ see: ṭ. 25
7. l/θ see: θ. 25
8. l/ð see: ð. 25
9. l/ɟ see: ɟ. 25

- 10. l/n see: n. 25
- 11. l/č see: č. 25
- 12. l/ž see: ž. 25
- 13. l/š see: š. 25
- 14. l/k see: k. 25
- 15. l/g see: g. 25
- 16. l/q see: q. 25
- 17. l/x see: x. 25
- 18. l/б see: б. 25
- 19. l/? see: ?. 25
- 20. l/г see: г. 25
- 21. l/h see: h. 25
- 22. l/ћ see: ћ. 25
- 23. l/s see: s. 25
- 24. l/z see: z. 25
- 25. l/ѕ see: ѕ. 25
- 26. l/l /ualla/ "by God" /ualla/ "he went away"
- 27. l/r /laf/ "he turned" /raf/ "a shelf"
- 28. l/u /laffa/ "a turn" /uaffa/ "it was enough"
- 29. l/i /lōm/ "a blame" /iōm/ "a day"

d) The realization of /l/

The most frequent realization of this phoneme is a lateral /l̥/.

It is liable to pharyngalization in the vicinity of emphatics.

The phoneme /l/

- a) This phoneme belongs to pos. 'e²', pos. 'i¹'.
- b) In pos. 'e²' it commutes with /b, f, m, t, d, ṭ, ṭ̣, ʃ, ʃ̣, n, č, ž, š, k, g, q, x,
б, в, г, h, ћ, s, z, ѕ, r, l, u, i/

In pos. 'i¹' it commutes with the same phonemes mentioned in pos. 'e²'.

c) The identity and distinctive function of /l/ are established by the following comparisons:

- 1. l̥/b _____
- 2. l̥/f _____
- 3. l̥/m _____
- 4. l̥/t _____
- 5. l̥/d see: d. 26

6. ɭ/t see: t. 26
7. ɭ/θ see: θ. 26
8. ɭ/ʃ see: ʃ. 26
9. ɭ/ʒ see: ʒ. 26
10. ɭ/n see: n. 26
11. ɭ/ʒ̣ see: ʒ̣. 26
12. ɭ/ʒ̣̣ ———
13. ɭ/s see: s. 26
14. ɭ/k see: k. 26
15. ɭ/g see: g. 26
16. ɭ/q see: q. 26
17. ɭ/x see: x. 26
18. ɭ/b see: b. 26
19. ɭ/p̣ ———
20. ɭ/ɟ see: ɟ. 26
21. ɭ/h ———
22. ɭ/ḥ see: h. 26
23. ɭ/ṣ see: s. 26
24. ɭ/ẓ see: z. 26
25. ɭ/ʂ̣ see: s. 26
26. ɭ/ḷ see: l. 26
27. ɭ/ṛ see: r. 26
28. ɭ/ụ ———
29. ɭ/ị ———

d) The realization of /ɭ/

It is always realized as an emphatic lateral [ɭ̣]. It exerts a retracting influence on /a/ and /ā/. Phonemically the occurrence of this phoneme is very restricted. Phonetically, it is frequently noticed in the vicinity of emphatic phonemes. It occurs in forms originally derived from Qurʾān, such as ualla/ualla balla/balla. Technically speaking, i.e. purely from the point of view of consistency, it would be possible to establish an archiphoneme exhibiting neutralization of opposition between /l/ and /ɭ/. However, I choose the equally consistent alternative for reasons of material adequacy. It is namely, the case that elsewhere in the dialect free variance between 'emphatic' and 'non-emphatic' always exclusively affects

the 'non-emphatic' phonemes, whereas 'emphatic phonemes retain their phonetic emphatic quality in all contexts. This makes the variant 'non-emphatic' in the vicinity of emphatics, phonetically speaking, implausible, unless it was phonemically speaking, non-emphatic in the first place.

The phoneme /r/

- a) This phoneme belongs to pos. 'e¹', pos. 'e²', pos. 'i¹', pos. 'i²', pos. 'E', pos. 'I'.
- b) In pos. 'e¹' it commutes with /b, f, m, t, d, ṭ, n, č, ž, š, k, q, x, β, γ, ħ, s, z, ʒ, i, l, u, i, ẓ̌, q/
- In pos. 'e²' it commutes with /b, f, m, t, d, ṭ, θ, ð, ʒ̣, n, č, ž, š, k, g, q, x, β, γ, h, ħ, s, z, ʒ, u, i, l, ḷ, ɖ, q, x, s, h, ɔ/
- In pos. 'i¹' it commutes with /b, f, t, d, ṭ, ž, š, x, γ, h, ħ, z, ʒ, l, ḷ, ẓ̌, x, ɔ/
- In pos. 'i²' it commutes with /b, ṭ, ʒ̣, n, q, s, z, l, f, ħ, ʒ, ɖ, ɖ, N, ɔ/
- In pos. 'E' it commutes with /d, n, l, m, ṣ̌/
- In pos. 'I' it commutes with /b, f, m, t, d, ṭ, n, č, ž, š, k, g, q, x, β, γ, u, i, h, ħ, s, z, ʒ, l, u, i, ɖ/
- c) The identity and distinctive function of /r/ are established by the following comparisons:
1. r/b see: b. 27
 2. r/f see: f. 27
 3. r/m see: m. 27
 4. r/t see: t. 27
 5. r/d see: d. 27
 6. r/ṭ see: ṭ. 27
 7. r/θ see: θ. 27
 8. r/ð see: ð. 27
 9. r/ʒ̣ see: ʒ̣. 27
 10. r/n see: n. 27
 11. r/č see: č. 27
 12. r/ž see: ž. 27
 13. r/š see: š. 27
 14. r/k see: k. 27
 15. r/g see: g. 27
 16. r/q see: q. 27

c) The identity and distinctive function of /u/ are established by the following comparisons:

1. u/b see: b. 27
2. u/f see: f. 27
3. u/m see: m. 27
4. u/t see: t. 27
5. u/d see: d. 28
6. u/ṭ see: ṭ. 28
7. u/θ see: θ. 28
8. u/ð see: ð. 28
9. u/ð̣ see: ð̣. 28
10. u/n see: n. 28
11. u/č see: č. 28
12. u/ž see: ž. 28
13. u/š see: š. 28
14. u/k see: k. 28
15. u/g see: g. 28
16. u/q see: q. 28
17. u/x see: x. 28
18. u/β see: β. 28
19. u/? see: ?. 28
20. u/ɣ see: ɣ. 28
21. u/h see: h. 28
22. u/ħ see: ħ. 28
23. u/s see: s. 28
24. u/z see: z. 28
25. u/ʂ see: ʂ. 28
26. u/l see: l. 28
27. u/ḷ —————
28. u/r see: r. 28
29. u/i /ubīq/ "and sell!" /ibīq/ "he sells"

It also commutes with all the vowels as we shall see in chapter VIII.

d) The realization of /u/

In explosive position the phoneme /u/ is realized as a bilateral fricative [w̥], as in forms like /urāq/ 'papers', /uqāf/ "stand up", /uēn/ 'where!' realized as [wra:q], [wqa:f], [wern]. It is noticed that it does not have an affinity towards the nuclear position when it occurs pre-nuclearly. It has a similar realization post-nuclearly, but

in such a position it seems to have an affinity toward the nuclear position.

In nuclear position the realization of /u/ is a rounded back close /u/. It occurs in open syllables and in closed ones as well. Forms like /šur/ "spred", /šāfu/ "he saw him" are realized as [šurr] and [šā:fu].

The phoneme /i/

a) This phoneme belongs to pos. pre-e, pos. 'e1', pos. 'e2', pos. 'n', pos. 'E', pos. 'I'.

b) In pos. pre-e it commutes with /m,t,n,š,u, ,b,ǫ/

In pos. 'e1' it commutes with /b,m,d,t,θ,n,ž,q,z,š,r,l,t,ɪ,N/

In pos. 'e2' it commutes with /b,f,m,t,d,t,θ,ɣ,ɥ,n,č,ž,š,k,g,q,x,
b,ʔ,q,h,ñ,s,z,š,u,r,l,l/

In pos. 'n' it commutes with /u,ū,ī,a,ā,ē,ō/

In pos. 'E' it commutes with /b,f,θ,č,ž,š,s,z,š,u,m,t/

In pos. 'I' it commutes with /b,f,m,t,d,t,n,č,ž,š,k,g,q,x,b,ʔ,
q,h,ñ,s,z,š,u,r,l/

c) The identity and distinctive function of /i/ are shown by the following comparisons:

1. i/b see: b. 28
2. i/f see: f. 28
3. i/m see: m. 28
4. i/t see: t. 28
5. i/d see: d. 29
6. i/ṭ see: ṭ. 29
7. i/θ see: θ. 29
8. i/ɣ see: ɣ. 29
9. i/ɥ see: ɥ. 29
10. i/n see: n. 29
11. i/č see: č. 29
12. i/ž see: ž. 29
13. i/š see: š. 29
14. i/k see: k. 29
15. i/g see: g. 29
16. i/q see: q. 29

17. i/x see: x. 29
18. i/ʃ see: ʃ. 29
19. i/ʔ see: ʔ. 29
20. i/ɣ see: ɣ. 29
21. i/h see: h. 29
22. i/ħ see: ħ. 29
23. i/s see: s. 29
24. i/z see: z. 29
25. i/ʂ see: ʂ. 29
26. i/l see: l. 29
27. i/ɭ see: ɭ. 29
28. i/r see: r. 29
29. i/u see: u. 29

It also commutes with all the vowels as we shall see in chapter VII.

d) The realization of /i/

Pre-nuclearly, /i/ has a post-alveolar fricative realization [j] as in /ilūm/ "he blames" and /ifut/ "he enters", realized as [jlu:m] and [jfu:t]. It has a similar realization post-nuclearly.

In nuclear position, it has two contextual variants. When it occurs in an open syllable, it is realized as a short front close /i/ as in /māli/ "mine", /qāli/ "high" realized as [ma:li] and [qa:li]. When it occurs in a closed syllable it tends to have a realization like that of /ə/ as in forms like /fil/ "go away", /til/ "pull!", realized as [fəll], [təll].

CHAPTER VI

Neutralization and Archiphonemes ✓

'Neutralization' is a theoretical notion in Mulder's axiomatic approach. It represents the suspension of the distinctive opposition between two or more phonemes in specific context(s). It is an essential pre-requisite that the terms of neutralization i.e. the phonemes partaking in the suspension of opposition, should necessarily have at least one distinctive feature in common. In certain phonological context(s), it is noticed that certain phonological features cease to have the function of preserving the distinctive opposition between two or more phonemes that minimally share one distinctive feature. The result of neutralizations is what is termed 'archiphonemes', conventionally symbolized by capital letters. In comparison with 'concord' which designates the suspension of the contrastive function between two or more adjacent elements in a chain, 'neutralization' designates the suspension of the distinctive opposition of two or more elements in a paradigm. Mulder defines the archiphoneme as follows: "An archiphoneme is a phoneme in a subsystem which represents two or more phonemes in the overall system"¹. Thus the archiphoneme may be regarded as a simultaneous bundle of distinctive features resulting from a suspension of the distinctive opposition between two or more phonemes. The distinctive features of the archiphoneme are included in each of its terms. In the following section(s) I am going to discuss five types of neutralizations encountered in my description of Kamali Arabic.

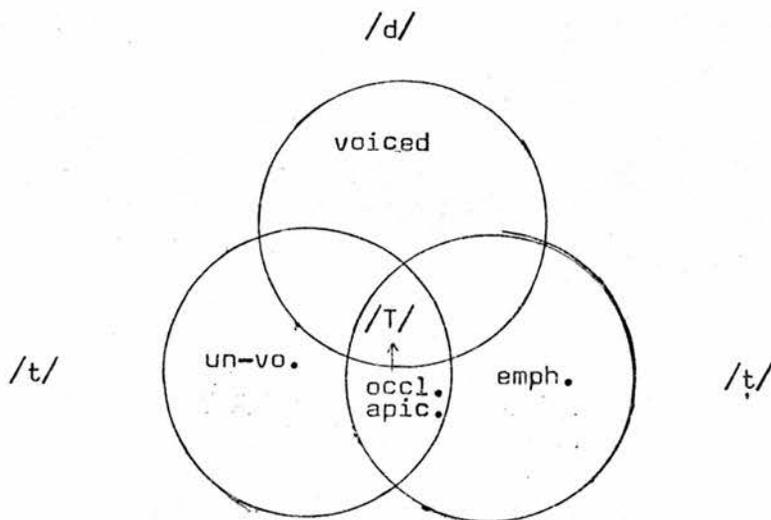
1. The voiced ~ unvoiced ~ emphatic neutralization.
2. The voiced ~ unvoiced neutralization
3. The occlusive ~ fricative neutralization
4. Double neutralization
5. The Nasal neutralization.

1. Sets and Relation in Phonology, Mulder. p. 140
(See: p. 112 for a slightly different version of this definition.)

1. Voiced ~ Unvoiced ~ Emphatic Neutralization:

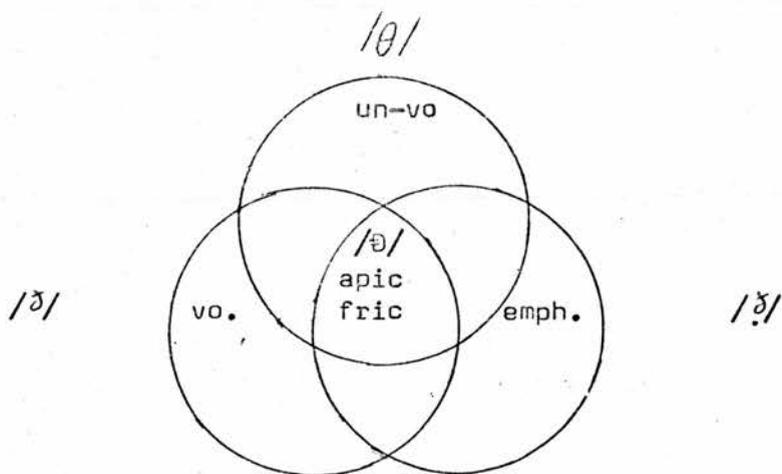
The phoneme /t/ is opposed to /d/ and to /t̥/ by the features voiced unvoiced ~ emphatic. In certain contexts it is noticed that the opposition between these three phonemes is neutralized and the archiphoneme /T/ is established. For instance, ^{if} /t̥/ pre-nuclearly precedes /s/, it is noticed that the opposition between /t/, /d/, /t̥/ is neutralized. In a form like /Tsū m/, 'she suggests a price', the features 'apical' and 'occlusive' are the only features that can be functional in respect to /T/.

Whether /T/ is 'unvoiced', 'voiced', 'emphatic' is of no functional value, as we are unable in this context to establish a functional opposition between the 'unvoiced' /t/, the 'voiced' /d/ and the 'emphatic' /t̥/. We cannot establish a phoneme /t/ in */tsū m/ because, in the absence of the 'voiced' /d/, and the 'emphatic' /t̥/ to which /t/ might be opposed, /t/ cannot be shown to be an 'unvoiced', 'apical' 'occlusive'. Thus the archiphoneme /T/ has only the features 'occlusive' and 'apical'. It is 'occlusive' by being opposed to 'fricative' and 'nasal'; it is apical as it is opposed to 'labial' 'hushing', 'dorsal', 'glottal'. The archiphoneme /T/ is represented, in the overall system, by the (unvoiced, apical, occlusive) /t/, the (voiced apical occlusive) /d/, the (emphatic apical occlusive) /t̥/. Diagrammatically the archiphoneme /T/ can be represented as follows:



I It has been mentioned in the preceding definition of archiphoneme that the archiphoneme derives its value from its terms. Thus Mulder stipulates that the archiphoneme is a subset of each of its terms, consequently it is included in each of its terms. The features 'occlusive' 'apical' of /T/ are included, as shown in the above diagram, in each of /t/, /d/, /t̥/.

The above discussion shows one case of the voiced~unvoiced~emphatic neutralization in pos. 'e¹'. Similar cases of this neutralization occur in pos. 'e²', i.e. immediately before the nucleus. The phonemes /θ/, /a/ and /ð/ are opposed by the features unvoiced ~ voiced ~ emphatic. In certain phonological contexts the opposition between these three phonemes is neutralized and the archiphoneme /@/ is established. When [θ] occurs after the occlusive dorsal, /k/ for instance, it is noticed that the opposition between the above three phonemes is neutralized. In a form like /kθā r/ 'many', realized [kθa:r], the features 'occlusive', 'fricative' are the only features that are functional in respect to /@/. Whether /@/ is described 'unvoiced', 'voiced', or 'emphatic' is of no distinctive value, as we are unable to establish, in this context, a functional opposition between the 'voiced' /ð/, the 'unvoiced' /θ/, and the 'emphatic' /ɸ/. We cannot establish a phoneme /θ/, in */kθā r/ because in the absence of the voiced /ð/, and the emphatic /ɸ/ to which /θ/ might be opposed, /θ/ cannot be shown to be an 'unvoiced' 'occlusive'. Thus /@/ is 'fricative' by being opposed to 'occlusive' and 'nasal', and 'apical' by being opposed to 'labial', 'hushing', 'dorsal', 'glottal'. In the overall system the archiphoneme /@/ is represented by the (unvoiced, apical, fricative) /θ/, the (voiced, apical, fricative) /ð/, and the (emphatic, apical, fricative) /ɸ/. The following diagram illustrates this neutralization:



The opposition voiced ~ unvoiced ~ emphatic is neutralized in pos. 'E'. A neutralization linked with concord is termed strong neutralization. We cannot establish a phoneme /ð/ as emphatic fricative in */ðarf/ as in this context, it cannot be opposed to the unvoiced /θ/ and the voiced /ð/ in such a context. Thus the correct identification, phonologically speaking, of /ð/ in the previous form is /ðarf/ 'envelope'. The occurrence of /ð/ pre-nuclearly precludes the occurrence of any other element in pos. 'e¹'. This form is projected onto the distributional unit as follows:

pre-e	e ¹	e ²	'n'	i ¹	i ²
pre-e	e ¹	e ²	'n'	i ¹	i ²
∅	ð	a	r	f	

Having discussed some of the cases where the opposition voiced ~ unvoiced ~ emphatic is neutralized, I am going to introduce the statements specifying the contexts in which such a neutralization can occur.

- a) The opposition voiced ~ unvoiced ~ emphatic is neutralized in pos. e¹ when pos. e² is filled by an occlusive apical, an 'occlusive hushing', a 'hissing' a 'dorsal' or /n/.
- b) The opposition voiced ~ unvoiced ~ emphatic is neutralized in pos. e² when pos. e¹ is filled by an 'apical fricative', 'occlusive hushing',

a 'hissing', a dorsal and pos. e² is filled by any element, other than hissing or occlusive apical, belonging to the correlation voiced~unvoiced~emphatic.

- c) The opposition voiced unvoiced emphatic is neutralized in pos. 'E' when this position is filled by an apical fricative.

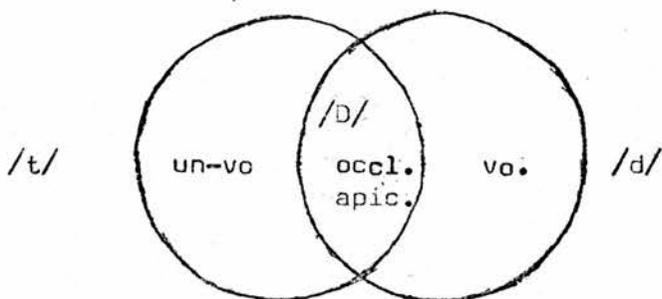
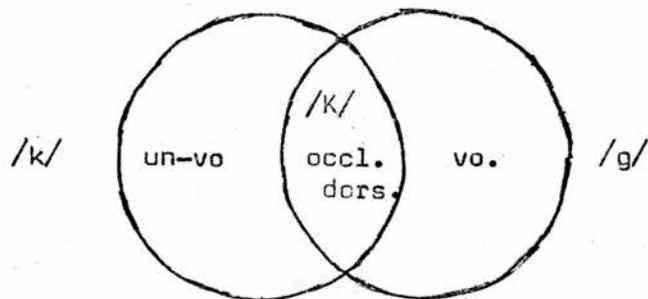
The archiphonemes established by such a neutralization are:

/T/	represented in the overall system by	/t/, /d/, /t̥/.
/θ/	" " " " " "	/θ/, /ð/, /θ̥/.
/ʒ/	" " " " " "	/ʒ/, /ʒ̥/.
/q/	" " " " " "	/k/, /g/, /q/.
/x/	" " " " " "	/x/, /β/.
/s/	" " " " " "	/s/, /z/, /s̥/.

2. Voiced~Unvoiced Neutralization.

It is noticed that in certain contexts the opposition voiced ~ unvoiced is neutralized. The phoneme /g/ is opposed to /k/ by the features voiced~unvoiced. When /k / occurs in pos. 'i²' it is noticed that it cannot be opposed to /g /. In a form like /farK/, 'rubbing', the features 'dorsal' and 'occlusive' are the only functional features in respect to /K/. Whether the archiphoneme /K/ is 'unvoiced' or voiced remains of no functional value as in this context we cannot establish a functional opposition between the unvoiced /k/ and the voiced /g/. We are unable to establish an unvoiced /k/ in */farK/ because, in the absence of the voiced /g/ to which /k/ might be opposed, /k/ cannot be shown to be unvoiced. Thus /K/ is 'occlusive' as it is opposed to 'fricative', and 'dorsal' as it is opposed to 'glottal', 'hushing', 'apical' and 'labial'. We cannot, on the other hand, identify the previous form as */farQ/. The archiphoneme /Q/ is represented in the overall system by /k/, /g/, /q/ and /K/ is represented by /k/, /g/ only. As we can encounter a form like /farq/ 'difference', /q/, therefore, is opposed to the archiphoneme /K/, farq/farK. The archiphoneme /K/ derives its identity from the mere pos. 'i²' in which it occurs and is not resulting from 'a phonetic harmony'.

A neutralization of this kind i.e. governed by the position, is termed weak neutralization. The following diagrams illustrate this neutralization:



The following statements specify the contexts for neutralization.

- a) The opposition voiced unvoiced is suspended in pos. 'i²' when any element, other than hissing, belonging to the correlation voiced unvoiced occurs in this position.
- b) The opposition voiced unvoiced is suspended in pos. 'i¹' when pos. 'i²' is filled by any element other than a 'labial', a 'glottal', /r/, /p/, and 'i¹' is filled by an 'apical' or a 'dorsal'.

The opposition between the unvoiced /c/ and the voiced /z/ is neutralized in pos. 'i¹' whenever pos. 'i²' is filled by any element other than /ø/.

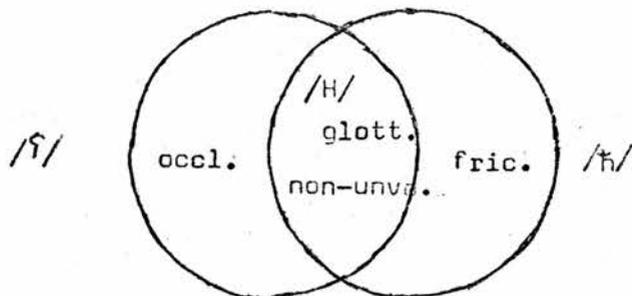
- c) The opposition voiced unvoiced is neutralized in pos. 'I' when the apical fricative occurs in this position.

The archiphonemes established by the voiced unvoiced neutralization are:

- /D/ represented in the overall system by /t/, /d/.
- /θ/ " " " " " " /θ/, /ð/.
- /K/ " " " " " " /k/, /g/

3) Occlusive Fricative Neutralization

A third type of neutralization is to be established. In certain phonological contexts the opposition occlusive fricative is subject to neutralization. The phonemes /ʒ/, /ħ/ are opposed by the features occlusive~fricative. When /ħ/ is preceded by /k/, it is noticed that the opposition between /ʒ/ and /ħ/ is suspended and the archiphoneme /H/ is established. In a form like /k^Haaf/ "have a handful", realized as [kha:f], it is noticed that in this particular context the features 'occlusive' and 'fricative' cease to have the function of preserving the distinctive opposition between /ħ/ and /ʒ/. Thus the only functional features in respect to /H/ are 'non-unvoiced' by being opposed to 'unvoiced'; 'glottal' as opposed to 'labial', 'apical', 'hushing', 'dorsal'. Whether the archiphoneme /H/ is 'occlusive' or 'fricative' remains devoid of any functional value. This neutralization can be illustrated by the following diagram:



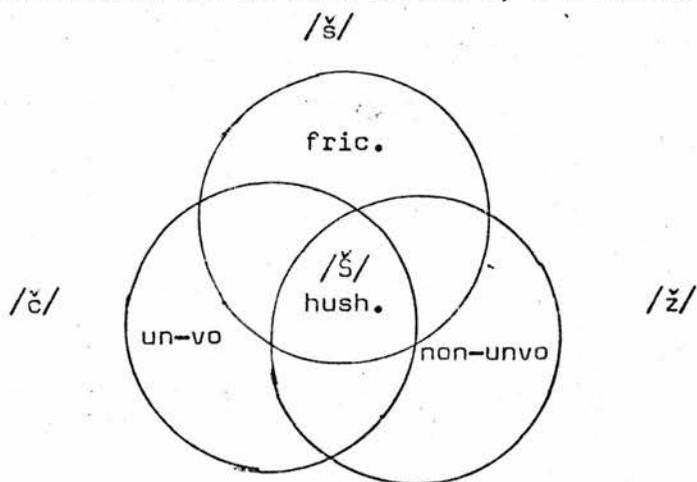
The context for the occlusive fricative neutralization is specified by the following statement:

The opposition occlusive fricative is neutralized in pos. 'e²' when /ʒ/ or /ħ/ occurs in this position and pos. 'e¹' is filled by a dorsal.

The archiphoneme /ʰ/ established in the explosive subsystem is represented by /q/ and /h/ in the overall system.

4) Double Neutralization

The phonemes /č/, /ž/ are opposed by the features unvoiced~non-unvoiced. The latter feature represents a systemic suspension of opposition between the features voiced~emphatic. Both /č/ and /ž/ are opposed to /š/ by the features occlusive fricative. In certain phonological contexts, it is noticed that the distinctive opposition between these three phonemes is suspended and the archiphoneme /š̥/ is established. Thus the archiphoneme /š̥/ represents the suspension of opposition between the features unvoiced~non-unvoiced in respect to /č/ and /ž/ on the one hand, and the suspension of opposition between occlusive~fricative involving both the occlusives /č/ and /ž/ as opposed to the fricative /š/. For instance when [š̥] is pre-nuclearly preceded by a dorsal, it is noticed that this double neutralization obtains. In a form like /kš̥em/, the only functional feature in respect to /š̥/ is 'hushing'. Whether it is 'unvoiced' or 'non-unvoiced', 'occlusive' or 'fricative' remains devoid of any functional value. The archiphoneme /š̥/ has the distinctive feature 'hushing' by being opposed to 'labial', 'apical', 'dorsal', 'glottal'. This double neutralization can be illustrated by the following diagram:



The contexts for this neutralization are specified by the following statements:

1. A systemic suspension of opposition is established for simplifying the comparing of items in the scheme, therefore it should not be confused with "neutralization". See: fns.on page 29.

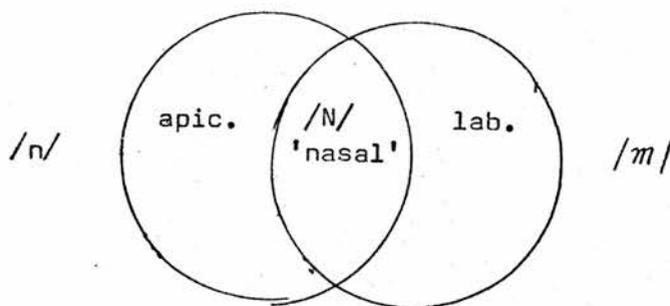
- a) The distinctive opposition between /č/, /ž/, /š/ is suspended pre-nuclearly following or preceding a 'dorsal'.
- b) The distinctive opposition between /č/, /ž/, /š/ is neutralized in pos. 'E' when pos. 'i¹' is filled by any element other than a labial, a nasal, /l/, /r/, /ø/.

The archiphoneme /ṣ̌/ established pre-nuclearly is represented in the overall system by /č/, /ž/, /š/.

5. Nasal Neutralization

The phonemes /n/, /m/ are opposed by the features apical labial.

In certain phonological contexts it is noticed that the features 'apical' and 'labial' cease to have the function of holding the opposition between /n/ and /m/ therefore the archiphoneme /N/ is established. We cannot establish a phoneme /n/ in a form like */ɒanb/ realized as [ʃanb] or [ɸamb]. We cannot assert that /n/, in the previous form, is apical because in the absence of a nasal labial to which /n/ can be opposed, the feature 'apical' becomes non-functional. The correct presentation of that form is /ɒaNb/. Thus the archiphoneme /N/ represents the suspension of the distinctive opposition between /m/ and /n/. This type of neutralization can be illustrated by the following diagram:



The contexts for this neutralization are specified by the following statements:

- a) The distinctive opposition between /m/, /n/ is suspended in pos. 'e¹'. When 'e²' is filled by an 'apical fricative', a 'hushing' or a 'glottal occlusive' and pos. 'n' is filled by a long vowel¹ vowel.

1. See the realizations of vowels in the following chapter.

- b) The distinctive opposition between /m/ and /n/ is suspended in pos. 'e²' whenever 'e²'⁽¹⁾ is filled by any element other than a 'glottal', 'occlusive dorsal', /l/, /r/, /ø/ and pos. 'n' is filled by a long vowel.
- c) The distinctive opposition between /m/ and /n/ is suspended in pos. 'i¹' when pos. 'i²' is filled by any element other than /ø/.

The archiphoneme /N/ established in the subsystem is represented in the overall system by /m/ and /n/.

The archiphoneme /T/

- a) The archiphoneme /T/ belongs to pos. e¹.
- b) In pos. e¹ it commutes with /b, u, i, l, N, ø/
- c) The identity and distinctive function of /T/ are established by the following comparisons:

- | | | | | | |
|----|-----|--------|------------------|--------|----------------|
| 1. | T/N | /Tčil/ | "she measures" | /Nčil/ | we "measure" |
| 2. | T/u | /Tčil/ | " | /učil/ | "and measure!" |
| 3. | T/i | /Tčil/ | " | /ičil/ | "he measures" |
| 4. | T/l | /Tzir/ | "she buttons up" | /lzir/ | "the button" |
| 5. | T/b | /Tzir/ | " | /bzir/ | "by a button" |

- d) The realization of /T/

This archiphoneme has two contextual variants. Before unvoiced consonants it has an unvoiced apical realization [t] as in /Tčil/ "she measures", realized as [tči:l]. Before voiced consonants it tends to have a voiced realization [d] as in /Tzir/, "she buttons up", realized as [dzir].

The archiphoneme /θ/

- a) The archiphoneme /θ/ belongs to pos. 'e¹', pos. 'e²', pos. 'E'.
- b) In pos. 'e¹' it commutes with /b, ž, š, ģ, N, ø/
 In pos. 'e²' it commutes with /b, l, r, #, S/
 In pos. 'E' it commutes with /x, ģ, b, z, š, m, ṣ̌/
- c) The identity and distinctive function of /θ/ are established by the following comparisons:

- | | | | | | |
|----|-----|--------|------------|--------|----------------|
| 1. | θ/N | /θQōr/ | "mention!" | /Nāōr/ | "deny!" |
| 2. | θ/b | /θQor/ | " | /bgōr/ | "make a hole!" |
| 3. | θ/c | /θQōr/ | " | /qkōr/ | "squeeze!" |
| 4. | θ/z | /θNūb/ | "sins" | /žNūb/ | "south" |
| 5. | θ/s | /θNūb/ | " | /šNūb/ | "moustache" |
| 6. | θ/L | /θAb/ | " | /klāb/ | "hold!" |
| 7. | θ/H | /θRb/ | " | /gHāb/ | "prostitutes" |
| 8. | θ/s | /θRb/ | " | /QsAb/ | "make profits" |
| 9. | θ/ġ | /θArf/ | " | /ġArf/ | "knowing" |

- | | | | | | |
|-----|-----|--------|---------------|--------|------------|
| 10. | θ/h | /θarf/ | "bag" | /ħarf/ | "letter" |
| 11. | θ/z | /θarf/ | " | /zarf/ | "envelope" |
| 12. | θ/s | /θarf/ | " | /sarf/ | "change" |
| 13. | θ/x | /θabt/ | "controlling" | /xabt/ | "slamming" |
| 14. | θ/s | /θabt/ | " | /šabt/ | "beating" |

d) The realization of /θ/

This archiphoneme has a fricative voiced realization /ð/ when it occurs in pos. 'e¹'. Most frequently it tends to have an emphatic realization /ð̣/ when it occurs in pos. 'e²' and preceded by an emphatic.

The archiphoneme /ž/

a) The archiphoneme /ž/ belongs to pos. 'e¹', pos. 'e²', pos. 'i¹', pos. 'i²'.

b) In pos. 'e¹' it commutes with /l, u, š, b, r, ɣ, ħ, q, ø/

In pos. 'e²' it commutes with /b, f, t, ṭ, ð, k, h, s, ṣ, q/

In pos. 'i¹' it commutes with /f, š, r, ṣ/

In pos. 'i²' it commutes with /q, ð, ṭ, ɣ, š, m, s, z, D, K, X, ž, ø/

c) The identity and distinctive function of /ž/ are established by the following comparisons:

- | | | | | | |
|-----|------|---------|--------------------|----------|-------------------------|
| 1. | ž/q | /žsām/ | "bodies" | /qsām/ | "divisions" |
| 2. | ž/l | /žsam/ | " | /lsām/ | "the poisonous..." |
| 3. | ž/u | /žsām/ | " | /usām/ | "and poisonous" |
| 4. | ž/š | /žsām/ | " | /šsām/ | "what a poisonous!" |
| 5. | ž/b | /žsām/ | " | /bsām/ | "with a poisonous..." |
| 6. | ž/r | /žrēm/ | "you.m. determine" | /rzēm/ | "you.m. pack!" |
| 7. | ž/ɣ | /žzem/ | " | /ɣzēm/ | "you.m. invite!" |
| 8. | ž/h | /žzēm | " | /ħzem/ | "you.m. wrap!" |
| 9. | ž/t | /šžaru/ | "he burnt it" | /staru/ | "he protected him" |
| 10. | ž/ṣ | /šžaru/ | " | /nšaru/ | "he supported him" |
| 11. | ž/x | /šžaru/ | " | /nxaru/ | "he dug a hole in it" |
| 12. | ž/k | /šžaru/ | " | /nkaru/ | "he denied it" |
| 13. | ž/ṭ | /šžaru/ | " | /sṭaru/ | "he smacked him" |
| 14. | ž/f | /šžaru/ | " | /šfaru/ | "he blew it" |
| 15. | ž/ṣ | /šžaru/ | " | /šbaru/ | "he made it very salty" |
| 16. | ž/D | /fArž/ | "lap, n," | /fArD/ | "pistol" |
| 17. | ž/K | /fArž/ | " | /fArK/ | "rubbing" |

- | | | | | | |
|-----|-----|--------|----------|--------|--------------------|
| 18. | ž/x | /fArž/ | "lap.n." | /fArX/ | "baby-bird" |
| 19. | ž/q | /fArž/ | " | /fArq/ | "difference" |
| 20. | ž/t | /fArž/ | " | /fArt/ | "money change .n." |
| 21. | ž/š | /fArž/ | " | /fArš/ | "duty" |

d) The realization of /ž/

This archiphoneme has a voiced apico-alveolar realization [ž] in pos. 'e1' and pos. 'e2'. In pos. 'i2', the realization of /ž/ freely varies between voiced [ž] and unvoiced [č].

The archiphoneme /Q/

a) The archiphoneme /Q/ belongs to pos. 'e1', pos. 'e2'.

b) In pos. 'e1' it commutes with /b, h, q, r, l, ž, s, N, ø/

In pos. 'e2' it commutes with /b, f, t, š, r, x, ž, N/

c) The identity and distinctive function of /Q/ are established by the following comparisons:

- | | | | | | |
|-----|-----|--------|------------------------|--------|--------------------|
| 1. | Q/Z | /Qsām/ | "divisions" | /žsām/ | "bodies" |
| 2. | Q/S | /Qṭōm/ | "you.m. cut!" | /Stōm/ | "stuff with food!" |
| 3. | Q/l | /Qṭōm/ | " | /lṭōm/ | "hit!" |
| 4. | Q/h | /Qṣōr/ | "you.m. shorten!" | /hsōr/ | "you.m. trap!" |
| 5. | Q/q | /Qṣōr/ | " | /qṣōr/ | "you.m. crush!" |
| 6. | Q/b | /Qṣōr/ | " | /bṣōr/ | "you.m. conceive!" |
| 7. | Q/N | /Qṣōr/ | " | /Nṣōr/ | "you.m. support!" |
| 8. | Q/r | /Qṣās/ | "pieces of wood" | /rṣās/ | "bullets" |
| 9. | Q/š | /dQōr/ | "support! (by a pole)" | /dšōr/ | "wander freely!" |
| 10. | Q/b | /dQōr/ | " | /dbōr/ | "wear it away!" |
| 11. | Q/f | /dQōr/ | " | /dfōr/ | "kick!" |
| 12. | Q/t | /sQōr/ | "close!" | /Stōr/ | "protect!" |
| 13. | Q/ṭ | /sQōr/ | " | /Stōr/ | "smack!" |

d) The realization of /Q/

This archiphoneme is realized as an emphatic dorsal [q] in pos. 'e1'. In pos. 'e2', it is realized as a voiced dorsal [g] when it is preceded by a voiced consonant; and as an unvoiced dorsal [k] when it is preceded by an unvoiced consonant.

The archiphoneme /X/

a) This archiphoneme belongs to pos. 'e1', pos. 'e2', pos. 'i1', pos. 'i2'.

b) In pos. 'e1' it commutes with /š, t, ɟ, ħ, l, ʃ/

In pos. 'e2' it commutes with /z, r, ɠ/

In pos. 'i1' it commutes with /l, ħ, ɟ, r, k/

In pos. 'i2' it commutes with /q, ʒ, t, ɟ, š, m, s, z, ʒ, D, k, ž, ʃ/

c) The identity and distinctive function of /X/ are established by the following comparisons:

- | | | | | | |
|-----|-----|--------|-------------|--------|-------------------------------------|
| 1. | X/ɟ | /Xdēm/ | "serve!" | /ɟdēm/ | "hang!" |
| 2. | X/ħ | /Xtēm/ | "stamp!" | /ħtēm/ | "determine!" |
| 3. | X/l | /Xtēm/ | " | /ltēm/ | "connect!" |
| 4. | X/s | /Xtem/ | " | /štēm/ | "curse!" |
| 5. | X/t | /Xnām/ | "sheep" | /tnām/ | "she sleeps" |
| 6. | X/Q | /TXōm/ | "snatch!" | /dQōm/ | "break! (the tiny end of a pencil)" |
| 7. | X/z | /žXōm/ | "chew!" | /žzōm/ | "decide!" |
| 8. | X/r | /žXōm/ | " | /žrōm/ | |
| 9. | X/k | /bAXš/ | "a hole" | /bAKš/ | "pricking" |
| 10. | X/h | /bAXš/ | " | /bAħs/ | "searching" |
| 11. | X/D | /fArX/ | "baby-bird" | /fArD/ | "pistol" |
| 12. | X/ž | /fArX/ | " | /fArž/ | "lap" |
| 13. | X/ʒ | /fArX/ | " | /fArʒ/ | "religious duty" |
| 14. | X/t | /fArX/ | " | /fArt/ | "money change" |
| 15. | X/m | /fArX/ | " | /fArm/ | "cutting" |
| 16. | X/ɟ | /fArX/ | " | /fArɟ/ | "branch" |
| 17. | X/z | /fArX/ | " | /fArz/ | "sorting out" |
| 18. | X/s | /fArX/ | " | /fArs/ | "eating greedily" |

d) The realization of /X/.

This archiphoneme has a voiced fricative realization [β] when it is pre-nuclearly preceded or followed by a voiced consonant. It has an unvoiced fricative realization [x], when it is pre-nuclearly followed or preceded by an unvoiced consonant. In pos. 'i2' the realization of this archiphoneme usually oscillates between the realization of /x/ and that of /β/.

The archiphoneme /S/

- a) This archiphoneme belongs to pos. 'e¹'.
- b) In pos. 'e¹' it commutes with /n, f, m, b, ħ, ɣ, h, l, q, š, ʃ/
- c) The identity and distinctive function of /S/ are established by the following comparisons:

- | | | | | | |
|-----|-----|---------|--------------------------|---------|------------------------|
| 1. | S/l | /Stōm/ | "support!" (with a pole) | /lṭōm/ | "hit!" |
| 2. | S/q | /Stōm/ | " | /Qtōm/ | "cut!" |
| 3. | S/n | /Stōr/ | "protect!" | /nṭōr/ | "keep an eye!" |
| 4. | S/f | /Stōr/ | " | /ftōr/ | "have breakfast!" |
| 5. | S/m | /Stōr/ | " | /mṭōr/ | "let it rain!" |
| 6. | S/h | /Stōr/ | " | /hṭōr/ | "beat badly!" |
| 7. | S/ɣ | /Sžōr/ | "burn!" | /ɣžōr/ | "make a bruise!" |
| 8. | S/b | /Sžōr/ | " | /bžōr/ | "let the colour fade!" |
| 9. | S/ħ | /Sžōr/ | " | /ħžōr/ | "trap!" |
| 10. | S/š | /Stara/ | "he protected it" | /štara/ | "he bought" |

- d) The realization of /S/

This archiphoneme has an unvoiced hissing realization [s] when it pre-nuclearly precedes an unvoiced consonant. It tends to have a voiced realization [z] when it precedes a voiced consonant.

The archiphoneme /š/

- a) This archiphoneme belongs to pos. 'e¹', pos. 'e²', pos. 'E'.
- b) In pos. 'e¹' it commutes with /s, f, ɣ, ħ, S, N, ʃ, ʄ/
 In pos. 'e²' it commutes with /b, d, r, R/
 In pos. 'E' it commutes with /m, b, r, ʒ, ʈ/
- c) The identity and distinctive function of /š/ are established by the following comparisons:

- | | | | | | |
|----|-----|--------|-------------------|--------|----------------|
| 1. | š/N | /škōr/ | "thank!" | /Nkōr/ | "deny!" |
| 2. | š/s | /škōr/ | " | /sqōr/ | "close!" |
| 3. | š/c | /škōr/ | " | /qkōr/ | "press!" |
| 4. | š/f | /škak/ | "he reported you" | /fkak/ | "loosening" |
| 5. | š/h | /škāk/ | " | /ħkak/ | "rubbing" |
| 6. | š/b | /qšōr/ | "peel!" | /qbōr/ | "bury!" |
| 7. | š/r | /kšēm | "tear!" | /krēm/ | "be generous!" |

- 8. Š/d /qšarlu/"he peeled for him"/Qdarlu/ "he beat him"
- 9. Š/m /sAqt/ 'cut' /mAqt/ "wrenching"
- 10. Š/r /sAqt/ "a cut" /rAqt/ "a serious cut"
- 11. Š/s /sAqb/ "people" /sAqb/ "difficult"
- 12. Š/k /šAqb/ " " /kAqb/ "heel"
- 13. Š/S /štara/ "he bought" /Stara/ "he protected it"

d) The realization of /š/

The realization of this archiphoneme is an unvoiced hussing [š̥].

The archiphoneme /h/

- a) This archiphoneme belongs to pos. 'e²'.
- b) In pos. 'e²' it commutes with /b,s,r,l, N, š, Ø/
- c) The identity and distinctive function of /h/ are established by the following comparisons:

- 1. h/l /kHAb/ "heels" /klAb/ "dogs"
- 2. h/s /kHAb/ " " /ksAb/ "win!"
- 3. h/r /qHAd/ "sitting down" /qrAd/ "monkeys"
- 4. h/N /qHAt/ "scrape!" /qNAt/ "swaddling"
- 5. h/S /qHAt/ " " /qšAt/ "belt"

d) The realization of /h/

The realization of this archiphoneme usually oscillates between the realization of /g/ and that of /h/. (See the realizations of these two phonemes in the previous chapter).

The archiphoneme /θ/

- a) This archiphoneme belongs to pos. 'i²', pos. 'I'.
- b) In pos. 'i²' it commutes with /t,s,r,š,s,z, D, ž, Ø/
In pos. 'I' it commutes with /m,s,z,b,s,r,s,t,ž, f,t,č,k,q,l,u/
- c) The identity and distinctive function of /θ/ are established by the following comparisons:

- 1. θ/D /bAθD/ "rebirth" /bAθD/ "after"
- 2. θ/t /bAθD/ " " /bAθt/ "pricking"

3.	θ/s	/bAqθ/	"rebirth"	/bAqs/	"pricking"
4.	θ/z	/bAqθ/	"	/bAqž/	"a hole"
5.	θ/r	/bAħθ/	"searching"	/bAħr/	"sea"
6.	θ/š	/bAħθ/	"	/bAħš/	"searching"
7.	θ/s	/thūθ/	"it is thrown around"	/thūs/	"she sweeps"
8.	θ/z	/thūθ/	"	/thūz/	"she wins"
9.	θ/m	/thūθ/	"	/thūm/	"it hovers around"
10.	θ/z	/bqāθ/	"send!"	/bqāž/	"pierce!"

d) The realization of /θ/

The realization of this archiphoneme is an unvoiced fricative apical [θ].

The archiphoneme /D/

a) This archiphoneme belongs to pos. 'i¹', pos. 'i²'.

b) In pos. 'i¹' it commutes with /b, f, q, š, l/

In pos. 'i²' it commutes with /m, n, š, r, q, t, q, s, z, l, θ, ž, k, x, ø/

c) The identity and distinctive function of /D/ are established by the following comparisons:

1.	D/l	/ħAšD/	"a crowd"	/ħAšl/	"throwing"
2.	D/r	/ħAšD/	"	/ħAšr/	"flocking together"
3.	D/š	/mArD/	"squeezing"	/mArš/	"eating greedily"
4.	D/ž	/mArD/	"	/mArž/	"prairie"
5.	D/m	/lAħD/	"a tomb"	/lAħm/	"meat"
6.	D/k	/fArD/	"a pistol"	/fArk/	"rubbing"
7.	D/q	/fArD/	"	/fArq/	"difference"
8.	D/š	/fArD/	"	/fArš/	"duty"
9.	D/t	/fArD/	"	/fArt/	"money change"
10.	D/q	/fArD/	"	/fArq/	"branch"
11.	D/x	/fArD/	"	/fArx/	"baby-bird"
12.	D/D	/bAqD/	after	/bAqθ/	"rebirth"

d) The realization of /D/

The realization of this archiphoneme freely oscillates between the realizations of /d/ and that of /t/.

The archiphoneme /K/

- a) This archiphoneme belongs to pos. 'i1', pos. 'i2'.
- b) In pos. 'i1' it commutes with /b, f, q, ħ, s, x/
In pos. 'i2' it commutes with /q, ǰ, t, ʧ, š, m, s, ʂ, D, X, ž, ǵ/
- c) The identity and distinctive function of /K/ are established by the following comparisons:

1.	K/D	/fArK/	"rubbing"	/fArD/	"pistol"
2.	K/X	/fArK/	"	/fArX/	"baby-bird"
3.	K/Z	/fArK/	"	/fArž/	"lap"
4.	K/q	/fArK/	"	/fArq/	difference
5.	K/ǰ	/fArK/	"	/fArǰ/	"duty"
6.	K/t	/fArK/	"	/fArt/	"money change"
7.	K/ʧ	/fArK/	"	/fArʧ/	"branch"
8.	K/š	/fArK/	"	/fArš/	"spreading"
9.	K/s	/fArK/	"	/fArs/	"eating greedily"
10.	K/z	/fArK/	ʧ	/fArz/	"sorting out"
11.	K/ʂ	/fAnK/	"deceiving"	/fAnʂ/	"pressing together"
12.	K/b	/nAKz/	"jumping"	/nAbz/	"a sudden blow"
13.	K/h	/bAKš/	"pricking"	/bAhš/	"searching"

- d) The realization of /K/

The most common realization of this archiphoneme is an unvoiced dorsal occlusive [k̥]. Sporadically it is in free variation with [g̊], particularly in pos. 'i2'.

The archiphoneme /N/

- a) This archiphoneme belongs to pos. 'e1', pos. 'e2', pos. 'i2'.
- b) In pos. 'e1' it commutes with /u, i, t, θ, ʒ, b, f, T, ʈ, q, š, ǵ/
In pos. 'e2' it commutes with /H, š, q/
In pos. 'i2' it commutes with /b, f, t, t̥, ʒ, š, x, ʧ, ħ, s, z, ʂ, r, l/
- c) The identity and distinctive function of /N/ are established by the following comparisons:

1.	N/T	/Nčīl/	"we measure"	/Tčīl/	"she measures"
2.	N/u	/Nčīl/	"	/učīl/	"and you.m. measure!"
3.	N/i	/Nčīl/	"	/ičīl/	"he measures"
4.	N/θ	/Niāb/	fangs	/θiāb/	"clothes"
5.	N/ð	/Niāb/	"	/ðiāb/	"wolves"
6.	N/b	/dANž/	"combining"	/dAbž/	"country dance"
7.	N/ɣ	/dANž/	"	/dAɣž/	"spoiling (clothes)"
8.	N/r	/dANž/	"	/dArž/	"quickly"
9.	N/g	/nANl/	"ants"	/nAql/	"transportation"
10.	N/f	/sANt/	"stripping off"	/sAft/	"arranging things together"
11.	N/Q	/dNōr/	"destroy"	/dQōr/	"support (with a pole)"

d) The realization of /N/

Most commonly the realization of /N/ in pos. 'e¹' is [n]. In pos. 'i', the realization of this archiphoneme usually oscillates between the realization of /m/ and that of /n/.

The distinctive features of phonemes and archiphonemes

The following tables exhibit the phonemes and archiphonemes of Kamali Arabic and their distinctive features. The mark (+) indicates a positive feature of the phoneme or archiphoneme in question, while (-) indicates its functional opposition in respect to other distinctive features. The nil mark (o) indicates a non-functional feature in respect to the phoneme or archiphoneme i.e. such a feature does not contribute to the distinctive function of that particular phoneme or archiphoneme. The letter {n} which appears in table two, indicates the suspension of the functional opposition of the feature(s) in respect to the archiphoneme in question. Its function is, in fact, similar to that of (o), but I have chosen to use (n) rather than (o) for an easier reference to neutralization.

"Archiphonemes and Their Distinctive Features".

	t	d	ṭ	D	T	θ	ð	ð̣	ɸ	ɸ̣	ʈ	ʈ̣	ʂ	ʂ̣	ʐ	ʐ̣	ʑ	ʑ̣	ʎ	ʎ̣	x	χ	X	ç	ç̣	ʃ	ʃ̣	ʒ	ʒ̣	s	z	ẓ	ʒ̣	Z	S				
labial	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
apical	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
fricative	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
nasal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
unvoiced	+	-	-	n	n	+	-	n	-	n	n	n	n	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
voiced	-	+	-	n	n	-	+	n	-	n	n	n	n	n	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
emphatic	-	-	+	-	n	-	-	n	-	n	n	n	n	n	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
fricative	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
lateral	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

CHAPTER VII

The Vowels of Kamali Arabic

As I have already pointed out in the introduction, under an axiomatic functionalist approach, a linguistic entity derives its identity from the set of oppositions in which it partakes, Keeping this view in mind we expect to arrive at different descriptions for different fields of speech phenomena by applying one and the same linguistic theory. On the application of this view, our description of the vowels of Kamali Arabic is necessarily going to be different from our description of the vowels in Modern Standard Arabic. It is also going to be different from any other description employing a different theory.

The vowels of Kamali Arabic are, in terms of a "functional opposition", tabulated in the manner shown by the following scheme:

	neutral	spread	rounded
short	a	i	u
long	ā	ī	ū

/ō/, /ē/ unclassified

This scheme exhibits two dimensions in which there are classes of opposing phonemes. The distinctive features of each phoneme are, in fact, the Cartesian product of the intersection of these two dimensions. Setting up such a scheme involves considerations of consistency, adequacy (among other things in respect to the phonetic data) and simplicity. It is to be borne in mind that we should not strive for the last requirement, i.e. simplicity, at the expense of the facts encountered in our data. In certain cases it seems difficult to choose between

describing certain facts in terms of "reduplication", e.g. the occurrence of [a:] as a phoneme cluster /aa/ or "correlation of length", e.g. the occurrence of [a:] as a single phoneme /ā/. There is no choice between the two on grounds of congruence with the phonetic data. Let us for the sake of the argument, assume that "reduplication" is our favourite alternative. On the basis of this assumption, one may regard each of /aa/, /ii/, /uu/ as a mere succession of one and the same phoneme occurring twice, and occupying one and the same position. This alternative sounds simpler in the sense that it helps in reducing the number of vowels in the overall system, i.e. there will be three phonemes instead of six (in addition to /ō/ and /ē/ which are going to be discussed presently). So, at first sight, "reduplication" seems preferable to "correlation of length", on the grounds of simplicity. However, establishing archiphonemes, exhibiting a neutralization between vowels and their "reduplications" is, of course, not possible as it conflicts with our notions "archiphoneme" and "neutralization". Neutralization represents the suspension of the distinctive opposition between two or more phonemes having, at least, one distinctive feature in common, but also at least one distinctive feature not in common. However, looking more closely at the data we find certain cases where particular distributional considerations determine, phonetically speaking, the occurrence of a short vowel and preclude the occurrence of a long one, in which case we are, therefore, unable to set up a functional opposition between the vowel and its reduplication. It is noticed that the occurrence of an actual element (i.e. other than /ø/ in each of pos. i¹ and pos. i², consistently determines the occurrence of, phonetically speaking, a short vowel in pos. 'n'. For instance the realization of /a/ in a form like [qalb] is always short [a], we can never find a long vowel occurring in pos. 'n' when the two explosive positions are filled by actual elements. If we recognise a phoneme /a/ in */qalb/ then we are, in fact, contradicting the conditions for distinctive

opposition which are clearly stated in the theory. Therefore, in order to preserve consistency and keep our descriptive statements justified by the theory, we find it imperative to the form /qAlb/ rather than /qalb/. But this we can only do if we regard long [a:] as being the realization of a single phoneme i.e. if we have adopted, as our solution, a "correlation of length", rather than "reduplication". Similarly the occurrence of any of /d,t,ḏ,ṣ,ḥ,ž,k,g,q,x,ḅ,ʔ,ḡ,/, in pos. e¹, which, incidently implies the occurrence of an element other than ∅ in e², consistently determines the occurrence of, phonetically speaking, a long vowel in pos. 'n'. In a form like /klāb / "dogs", the realization of the vowel is always long [ā:]. We can never find a short vowel in pos. 'n', when pos. 'e¹' is filled by any of the elements that I have listed above. If we recognise a long vowel as a phoneme in */klāb/, then we are in fact contradicting the rules for distinctive opposition. Therefore to preserve consistency with the theory, and adequacy in respect to the facts encountered in our data, we find it imperative to recognise an archiphoneme /A/ in /klAb/. Establishing an archiphoneme /A/, which is triggered off by the occurrence of a particular element in 'e¹',¹ can only be done if we have adopted "correlation of length" rather than "reduplication", because the 'terms' of an archiphoneme must be phonemes having at least one distinctive feature in common, and at least one distinctive feature not in common. As in "reduplication" this condition is not satisfied, we have to opt for "correlation of length".

From what has preceded it becomes clear that by adopting "correlation of length" rather than "reduplication" we satisfy two major requirements; adequacy in respect to the phonetic data, and consistency in respect to the theory (i.e. by keeping consistent with the notions "neutralization" and "archiphoneme" in particular). Thus consistency and adequacy take the precedence over simplicity. Having adopted "correlation of length",

1. Pos. 'e²' is always filled by an element other than /∅/ by distribution. This is applicable to all Arabic dialects, as we can never find a form starting with a vowel.

it follows that /a/ /ā/, /i/ /ī/, /u/ /ū/ should be regarded as six fully-fledged phonemes exclusively belonging to Kamali Arabic. In addition to this we have to recognise three archiphonemes /A/ /I/ /U/. The latter two are established by the same conditions which determine /A/ as we have seen above.

We are also faced with the problem of whether to regard /ō/ and /ē/ as two fully-fledged phonemes or regarding [o:] and [e:] as purely phonetic representations of the combinations /au/ and /ei/ respectively. One may, from first sight, think that opting for the latter alternative is a simpler solution in the sense that it leads to reducing the number of vowels in the overall system on the one hand, and to avoiding an irregularity in the vowel-table on the other. One may be inclined to opt for this solution as in the realization of /ō/ in certain forms (forms mainly derived from Modern Standard Arabic), one frequently notices a slight trace of [w] towards the release of [o:] and a slight trace of [j] towards the release of [e:]. That is, the realization of /ō/ and of /ē/ in certain contexts tends to be rather "flattish", but not completely free from diphthongization. They are always realised long. Taking this into consideration, /ō/ and /ē/ seem to be in full agreement with the distributional regularity of the long vowels /ā/, /ī/, /ū/ i.e. the occurrence of either /ō/ or /ē/ is totally precluded from pos. 'n' when both implosive positions are filled by actual elements (other than zero). Similarly they can always occur in pos. 'n' when each of pos. 'e1' and pos. 'e2' is filled by any element other than /ø/. On the other hand, regarding [o:] and [e:] as purely phonetic representations of /au/ /ei/, it becomes imperative that we should recognise a form like */btaur/ realised as [bto:r]. In previous statements about the distributional unit I stipulated that the occurrence of an element other than /ø/ in each of pos. 'e1' and pos. 'e2' precludes the occurrence of more than one element post-nuclearly i.e. it leads to establishing a post-nuclear

archiposition 'I'. If I were to regard [o,e:] as realizations of /au,ai/, I would have to review my position, and establish a slightly more complex rule. Similarly filling both pos. 'i¹' and pos. 'i²' by any element other than /ɛ/ leads to establishing a pre-nuclear archiphoneme 'E'. Hence recognising a form like */btaur/, makes it imperative to recognise a simultaneous occurrence of an explosive and implosive phoneme-cluster. This would, as I have already hinted at, lead to making our description more complicated as it requires setting up additional distributional rules. In view of those circumstances, and also in view of my decision with regard to /ā, ī, ū/, I prefer to regard /ō, ē/ as separate additional phonemes, rather than combinations of already established phonemes. This solution is also satisfactory with regard to distribution, as we have seen, and it commensurates with the phonetic facts, Finally by the aid of the functional principle we can account for leaving /ō/ and /ē/ unclassified. Implicitly /ō/ which has the only distinctive feature "ō'ness" is opposed to "non-ō'ness" which is present in all the other phonemes within the vowel-table. In a similar manner we can account for leaving /ē/ unclassified.

The realizations and distinctive oppositions of the vowels are introduced in the following section.

The phoneme /a/

- a) This phoneme belongs to pos. 'n'
- b) In pos. 'n' it commutes with /ā, i, ī, u, ū, ē, ō/
- c) The identity and distinctive function of /a/ are established by the following comparisons:

1.	a/ā	/dar/	"it produced"	/dār/	a house
2.	a/i	/dam/	"blood"	/dim/	"bury"
3.	a/ī	/dar/	"it produced"	/dīr/	"turn around!"
4.	a/u	/dar/	"	/dur/	"precious stone"
5.	a/ū	/dar/	"	/dūr/	"houses"
6.	a/ē	/dar/	"	/dēr/	"monastery"
7.	a/ō	/dar/	"	/dōr/	"turn"

- d) The realization of /a/

The most common realization of this phoneme is a short open front vowel [a] with lips neutral as in forms like /fal/ "he unwrapped", and /dal/ "he directed", realized as [fall] and [dall].

It has a pharyngalized contextual variant [a̠] when it occurs in the vicinity of emphatic; or semi-emphatic consonants (when they are realized as emphatic; see the realizations of x, ḅ, ḡ, ḥ, r). In closed mono-syllabic forms, the realization of /a/ gets very near the sound [ʌ]. Forms like /maṣ/ "he sucked", and /ṣab/ "he poured", are realized as [m̠aṣṣ] and [ṣaḅḅ]. When /a/ is realized as dark [a̠] or [ʌ], it is noticed that it exerts a retracting influence on the adjacent consonants as shown in [m̠] and [ḅ] in the above examples.

The phoneme /ā/

- a) This phoneme belongs to pos. 'n'.
- b) In pos. 'n' it commutes with /a, i, ī, u, ū, ē, ō/
- c) The identity and distinctive function are established by the following comparisons:

1. Only when one of the peripherals is emphatic.

- | | | | | | |
|----|-----|-------|-----------|-------|------------------|
| 1. | ā/a | /dār/ | "a house" | /dar/ | "it produced." |
| 2. | ā/i | /bāl/ | "mind" | /bil/ | "make wet!" |
| 3. | ā/ī | /dār/ | "a house" | /dīr/ | "turn around" |
| 4. | ā/u | /dār/ | " | /dur/ | "precious stone" |
| 5. | ā/ū | /dār/ | " | /dūr/ | "houses" |
| 6. | ā/ē | /dār/ | " | /dēr/ | "monastery" |
| 7. | ā/ō | /dār/ | " | /dōr/ | "turn" |

d) The realization of /ā/

It is the long counterpart of /a/. Like the realization of /a/, /ā/ has a long front open realization [a:] when it is not in the vicinity of emphatics as in forms like /sām/, "he paid a price" /sa:m/, and /nam/ "he slept", [na:m].

It has a pharyngalized (back) realization [ɑ:] when it occurs in the vicinity of emphatics or semi-emphatics (when they have an emphatic realization). The sound [ɑ:] in turn exerts a retracting influence on the following or preceding consonants. Forms like /ṣām/ "he fasted" and /faṣ/ "it flooded", are realized as [ṣɑ:m] and [fɑ:ṣ]. Notice that [ṣ] and [f] are merely contextual variants of /m/ and /f/. In the realization of long back [ɑ:], the oral cavity tends to be narrower and the labial aperture is slightly more rounded. It is important to note that /a:/ and [ɑ:] are purely lengthened /a/ and /a/ i.e. there is no diphthongization involved.

The phoneme /i/¹ For the realization and distinctive opposition of this phoneme see page 79.

The phoneme /ī/

- This phoneme belongs to pos. 'n'
- In pos. 'n' it commutes with /a, ā, i, u, ū, ē, ō/
- The identity and distinctive function of this phoneme are established by the following comparisons:

- | | | | | | |
|----|-----|-------|----------------|-------|---------------|
| 1. | ī/a | /dīr/ | "turn around!" | /dar/ | "it produced" |
|----|-----|-------|----------------|-------|---------------|

-
- As I have already mentioned, phonemes that can occur in both peripheral and nuclear positions are to be called semi-vowels. Thus /u, i/ are to be regarded as semi-vowels.

- | | | | | | |
|----|-----|-------|---------------|-------|--------------------|
| 2. | ī/ā | /dīr/ | "turn around" | /dār/ | "a house" |
| 3. | ī/i | /fīl/ | "an elephant" | /fil/ | "unwrap!" |
| 4. | ī/u | /dīr/ | "turn around" | /dur/ | "a precious stone" |
| 5. | ī/ū | /dīr/ | " | /dūr/ | "houses" |
| 6. | ī/ē | /dīr/ | " | /dēr/ | "monastery" |
| 7. | ī/ō | /dīr/ | " | /dōr/ | "a turn" |

d) The realization of /ī/

It is the long counterpart of /i/, realized as long [i:]. It occurs in open syllables as well as in closed ones. Forms like /sīm/ "wire", and /šūfī/ "you.f. see him!" are realized as [si:m] and [šu:fi:]. In the vicinity of emphatics, it tends towards a slightly lower and more tense realization. Thus /šīh/ "call!" is realized as [ʃi:h], whereas /sīm/ is realized as [si:m].

The phoneme /u/. For the realization and distinctive opposition of this phoneme see page 77

The phoneme /ū/

- a) This phoneme belongs to pos. 'n'.
- b) In pos. 'n' it commutes with /a, ā, i, ī, u, ē, ō/
- c) The identity and distinctive function of /ū/ are established by the following comparisons:

- | | | | | | |
|----|-----|-------|----------|-------|------------------|
| 1. | ū/a | /dūr/ | "houses" | /dar/ | "it produced" |
| 2. | ū/ā | /dūr/ | " | /dār/ | "a house" |
| 3. | ū/i | /dūm/ | "last!" | /dim/ | "bury" |
| 4. | ū/ī | /dūr/ | "houses" | /dīr/ | "turn around" |
| 5. | ū/u | /dūr/ | "houses" | /dur/ | "precious stone" |
| 6. | ū/ē | /dur/ | " | /dēr/ | "monastery" |
| 7. | ū/ō | /dūr/ | " | /dōr/ | "a turn" |

d) The realization of /ū/

It is the long counterpart of /u/, realized as [u:]. It occurs in open syllables, as well as in closed ones. Forms like /šūf/ "you.m. look!" and /šūfū/ "you.pl. see him!", are realized as [šu:f] and [šu:fu:]. A slight trace of [w] is noticed on the release of [u:] in open syllables.

When it occurs in the vicinity of emphatics, it tends to have a darker realization. Thus [u:] in [ʃu:m] "you.m. fast!", is darker than [u:] in [su:m], "you.m. pay a price!".

The phoneme /ē/

- a) This phoneme belongs to pos. 'n'.
- b) In this pos. it commutes with /a,ā,i,ī,u,ū,ō/
- c) The identity and distinctive function of /ē/ are established by the following comparisons:

1.	ē/a	/dēr/	"monastery"	/dar/	"it produced"
2.	ē/ā	/dēr/	"	/dār/	"a house"
3.	ē/i	/sēf/	"sword"	/sif/	"go away"
4.	ē/ī	/dēr/	"monastery"	/dīr/	"turn around"
5.	ē/u	/dēr/	"	/dūr/	"precious stone"
6.	ē/ū	/dēr/	"	/dūr/	"houses"
7.	ē/ō	/dēr/	"	/dōr/	"a turn"

- d) The realization of /ē/

The most common realization of /ē/ is a long front mid-high [e:], as in forms like /bēt/ "house", /mēl/ "tendency", /sēl/ "flow", realized as [be:t], [me:l], [se:l]. In the vicinity of emphatics, the realization of /e/ sounds slightly darker. [e:] in [se:f] "sword", is clearer than [e:] in [ʃēf], "summer". One can also notice a slight trace of [j] towards the release of [e:], particularly in the realization of forms that are originally derived from Modern Standard Arabic. It is to be noticed that the realization of /ē/ is always "long" and that it does not have a "short" counterpart.

The phoneme /ō/

- a) This phoneme belongs to pos. 'n'.
- b) In pos. 'n' it commutes with /a,ā,i,ī,u,ū,ē/
- c) The identity and distinctive function of /ō/ are established by the following comparisons:

1.	ō/a	/dōr/	"turn"	/dar/	"it produced"
2.	ō/ā	/dōr/	"	/dār/	"a house"
3.	ō/i	/bōl/	"urine"	/bil/	"make wet!"
4.	ō/ī	/dōr/	"turn"	/dīr/	"turn around"
5.	ō/u	/dōr/	"	/dur/	"precious stone"
6.	ō/ū	/dōr/	"	/dūr/	"houses"
7.	ō/ē	/dōr/	"	/dēr/	"monastery"

d) The realization of /ō/

The most common realization of this phoneme is a long, rounded, back, half-closed [o:] as in forms like /mōz/ "banana", /žōz/ "nuts", realized as [mo:z] and [žo:z]. In the vicinity of emphatics, the realization of /ē/ tends towards the sound [ō:] as in forms like /šōm/ "fasting" realized as [ṣ̌o:m]. A slight trace of [w] can be traced towards the release of [o:], particularly in the realization of forms that are originally derived from Modern Standard Arabic. It is to be noticed that the realization of /ō/ is always 'long' and that it does not have a 'short' counterpart.

Neutralization

In the introduction of this chapter I have discussed the vowel-neutralization, and stated the contexts which govern the establishment of the archiphonemes /A/, /I/, /U/.

The archiphoneme /A/

- a) This archiphoneme belongs to pos. 'n'.
- b) In this position it commutes with /I/, /U/.
- c) The identity and distinctive function of this archiphoneme are established by the following comparisons:

- 1. A/I /fArš/ "furnishing" /fIrš/ "mattresses"
- 2. A/U /dArž/ "quickly" /dUrž/ "a drawer"

d) The realization of /A/

For the realization of the archiphoneme /A/ see the realizations of /a/ and /ā/.

The archiphoneme /I/

- a) This archiphoneme belongs to pos. 'n'.
- b) In this position it commutes with /A/, /U/.
- c) The identity and distinctive function of this archiphoneme are established by the following comparisons:

- 1. I/A /fArs/ "furnishing" /fIrs/ "mattresses"
- 2. I/U /bIšt/ "a wool garment" /bUšt/ "pander"

d) The realization of /I/.

For the realization of this archiphoneme see the realizations of /i/ and /ī/.

The archiphoneme /U/

- a) This archiphoneme belongs to pos. 'n'.
- b) In this position it commutes with /A/, /I/.
- c) The identity and distinctive function of this archiphoneme are established by the following comparisons:

- 1. U/A /dUrž/ "a drawer" /dArž/ "quickly"
- 2. U/I /bUšt/ "pander" /bIšt/ "a wool garment used by peasants"

d) The realization of /U/

For the realization of this archiphoneme see the realizations of /u/ and /ū/.

"The Vowels and Vowel Archiphonemes in Kamali Arabic"

	a	ā	A	i	ī	I	u	ū	U
neutral	+	+	+	-	-	-	-	-	-
spread	-	-	-	+	+	+	-	-	-
rounded	-	-	-	-	-	-	+	+	+
short	+	-	n	+	-	n	+	-	n
long	-	+	n	-	+	n	-	+	n

For the symbols(+, -, n,) see chapter VI.

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