Morphophonemics in standard Arabic

and

Kuwaiti dialect

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Abstract

This study is concerned with Arabic phonology. In particular it deals with morphophonemic alternations in standard Arabic and Kuwait dialect. The research is carried out within the framework of generative phonology. The work is arranged in four parts. Part one is a theoretical introduction which includes an outline of the different views on the phoneme since early in the century, phonemic analyses, taxonomic and systematic, the different variants of the phoneme, and the different thoughts on treating alternations are all reviewed. Similarly, an outline is provided on the theory of generative phonology. The first impression of it - the transformational view - and its strong abstraction is discussed. The other version of generative phonology - the natural view - which came as a reaction to the transformational abstractness is also outlined.

Part two is devoted to standard Arabic. It is divided into two sections. The first of which deals with the phonological system. This includes a discussion on the vocalic system, the consonantal system, the syllable structure, assimilation and stress. Section two deals with the morphophonemic alternations in the language, both masculine and feminine.

Part three is concerned with Kuwait dialect. It is also divided into two sections, the first of which discusses the phonological system of the dialect in the same way that the first section of part two discusses

the phonological system of standard Arabic. Section two of part three deals with the morphophonemic alternations in the dialect in the same way that section two of part two deals with the morphophonemic alternations in standard Arabic.

Part four attempts to account for the phonological dissimilarities between standard Arabic and Kuwait dialect. Such dissimilarities are grouped under: emphatic influence, phonemic merger, phonemic split, vowel insertion and deletion, vowel raising, syllable structure, and neutralization.

Illustrations

U.F.	Underlying form
VIR	Vowel insertion rule
S.F.	Surface form
T.G.P.	Transformational generative phonology
N.G.P.	Natural generative phonology
S.D.	Syllable division
Sg.	Singular
dl.	Dual
Pl.	Plural
Masc.	Masculine
Fem.	Feminine
S.A.	Standard Arabic
K.D.	Kuwait dialect
Gloss.	Glossary
emph.	Emphatic
$	Syllable
/ /	Phonemic
[ ]	Phonetic
.	Syllable boundary
-	Syllable boundary for geminates
#	Word boundary
##	Utterance boundary
$\longrightarrow$	Becomes
$\not\longrightarrow$	Does not become
C	Consonant (or a glide in canonical or U.F. representation)
$\dot{C}$	Emphatic consonant
V	Vowel
$\bar{V}$	Tense vowel

∽	Alternates with
~	Not
——	No change
∅	Nil

Acknowledgement

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Preface

Obviously, every speaker knows his language perfectly and is capable of recognizing what is and what is not correct. However, in every day communication, speakers conversing with one another do make mistakes, slips of the tongue, etc. due, maybe, to personal or societal reasons or both.

This actual use of language in concrete situations, or what the speaker/hearer actually does is termed "performance". Performance is not of the greatest interest to theoretical linguistics, although it is studied in greater detail in sociolinguistics.(1)

Human brain has the capacity to acquire and master language, to interpret infinite number of sentences and to produce perfect language. The objective of any linguistic investigation is primarily to reveal what transformational grammarians call 'the tacit knowledge' of the native speaker about his language. This knowledge, which is also termed 'competence', is described as psychological, perfect and normally unconscious (Chomsky and Halle 1968). It is this native speaker's competence which underlies his performance, and which the linguist wishes to describe and to state systematically, and in as simple and economical set of rules as possible.

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(1) That is: linguistic analysis goes beyond the phonetic form in order to establish the rules of a language.

Part One

Introduction

The phoneme

The literature on phonology seems to show that all phonologists differentiate between two areas: phonetic units (phones), and phonemic units (phonemes). But they have different views on the basic assumptions about the nature of phonology.

The phoneme has been looked at in a lot of different views. The main views of defining the phoneme can be outlined as follows:

1. The mental view

Baudouin de Courtenay and his followers (e.g. Sapir) (1) consider the phoneme from a psychological point of view. That is, as a mental reality, the intention of the speaker or the impression of the hearer or both. So, an image of the sound is idealized in the mind of the native speaker.

This view has been criticized later (2). For example, Twaddell (1935) believes that the mental view "fails to meet the requirement of methodological feasibility". Furthermore, he accuses it of trying to identify an identity (i.e. the mind) which is inaccessible. And thus the view was considered a guess which ensures no advantage.

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(1) In their early works Trubetzkoy and R. Jakobson followed the mental view of the phoneme, but later they both abandoned it.

(2) By the American structuralists.

2. The functional view

The 'refined' view of the Prague school in defining the phoneme seems to be summed up in Trubetzkoy (1939) where the phoneme is looked at neither on the basis of its psychological nature nor on the basis of its relation to the phonetic variants but purely and solely on the basis of its function in the system of language.

In "Project ..." TCLP (1) IV the phoneme is defined as the minimal phonological unit "unités phonologique non susceptible d'être dissociée en unités phonologiques plus petites et plus simples". Prague phonologists are clearly influenced by F. de Saussure. They established 'phonological opposition', defined as a difference of sound which may distinguish meanings. This phonological opposition, according to them, is the fundamental concept upon which other definitions were to be based.

The analysis in terms of distinctive features is characteristic of the Prague school. This has been rejected by Bloomfield and most of his successors as purely phonetic.

3. The physical view

For D. Jones and L. Bloomfield, the phoneme is a physical unit. Jones, who is interested in language teaching and orthography (like K. Pike) defines the phoneme as a family of sounds which are related in character and are used so that no one member ever occurs in a word in the same phonetic context as any other member.

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(1) Project d'une terminologie phonologique standardisée. Travaux du cercle linguistique de Prague IV.

Unlike Prague phonologists, he did not mention the distinctive function of the phoneme in his definition, but in fact we can say that according to Jones the distinctive function is used in determining speech sounds. This is clear from the fact that he considers the discovery of minimal pairs the fastest and safest method of establishing the phonemes of a language.

Bloomfield (1933) defines the phoneme as "a minimum unit of distinctive sound-feature ... these distinctive features occur in lumps or bundles" P.79. On another occasion he calls it "the smallest unit which makes a difference in meaning" P.136.

A number of the American structuralists reject the view that the phoneme is a physical unit. Twaddell (1935) believes that the physical features of the phonemes have not been found experimentally. His own view of the phoneme is that it is "an abstractional fictitious unit."

4. The class view

Most of the American structuralists (the post-Bloomfieldians) share the notion of "class" constituting the phoneme. But they used different methods for establishing them. Bloch (1948) believes that a class rather than a feature is what constitutes the phoneme.

Bloch and Trager (1942) define the phoneme as "a class of phonetically similar sounds contrasting and mutually exclusive with all similar classes in the language".

Comment

Of all four views above, the function and class views seem to me to be the most practically appealing ones,

particularly the latter; and it is adopted by the generative phonologists.

However, Twaddell's criticism of the mental and physical views does not seem to be good enough to reject them; although it is clear that in terms of practice, the mental view is of little help. I would argue, though, that his criticism of them is rather short-sighted. This is because the fact that the mind is inaccessible now, and the physical features have not yet been found experimentally does not mean that the mind does not perceive an image of the phoneme and the physical features of the phoneme do not exist.

Twaddell's mistake, it seems, is that he took human knowledge, at a certain stage, to be an unquestionable law. In reality, nobody can tell whether or not human knowledge is going to be advanced enough as to explore mind in this respect or to analyse - in complete detail - the speech organs.

Furthermore, Twaddell's own definition of the phoneme as an 'abstractional fictitious unit' does not seem to have a lot of merit - and that is using his own argument against the mental and the physical views. In other words, an abstractional fictitious unit has not yet been found experimentally.

I believe that all the views above - including Twaddell's - are acceptable depending on what angle one is looking at the phoneme from. In practice, however, i.e. phonological analysis, the class view seems to be the most helpful of them all and the one that is still in fashion.

Allophones

All phonologists of various schools recognise the fact that there are "forms" of one and the same phoneme. Such forms appear in specifiable circumstances. The terminology of such forms differ from one school to another. Prague school calls them variants (combinatory and facultative).

Daniel Jones calls the variety of sounds a speaker uses 'variphones and diaphones'. Bloomfield was not much interested in these forms of the same phonemes. He mentioned 'secondary phonemes' by which he meant stress and tone (1933) pp.90-92. The successors of Bloomfield use the term 'allophone' for a phonetic realization of a phoneme in a particular environment. This term is the most used in recent works and will be adopted in this study. Example of an allophone:

In Spanish the voiced stops /b/ /d/ and /g/ spirantize into [β] [ð] and [ɣ] in intervocalic position.

banca	'bench'	[la βanka]	'the bench'
demora	'delay'	[la ðemora]	'the delay'
gana	'desire'	[la ɣana]	'the desire'

That is, the intervocalic position is responsible for the spirantation of [β, ð and ɣ], elsewhere they do not spirantize. Accordingly [β], [ð] and [ɣ] are allophones of the phonemes /b/, /d/ and /g/ respectively.

Free variation

When two forms appear in the same environment without changing the meaning, they are called free variants.

In English, final voiceless stops occur both aspirated and unaspirated. [mæpʰ] or [map°] 'map' [cætʰ] or [cæt°] 'cat'.

These different phones do not affect the phonemic inventory of a language (1).

Overlapping

Bloch (1941) points out that it is possible to assign one phone once to one phoneme and another time to a different phoneme depending on the environment.

In Danish /t/ and /d/ in syllable - final position are pronounced [d] and [ð] respectively.

/hat/	[had]	'hat'
/had/	[hað]	'hate'

but

/tag/	[tag]	'roof'
/dag/	[dag]	'day'

Accordingly, [d] of 'day' must be assigned to the phoneme /d/, but [d] of 'hat' must be assigned to the phoneme /t/.

This shows that it is not possible to predict what phoneme a given phone will be assigned to on the basis of its phonetic character alone. Instead one must evaluate the phonetic data on the basis of the whole phonological system of the language (cf. 'biuniqueness' in Chomsky (1964).

Neutralization

a) Partial: that is overlapping.

b) Complete: that is when successive occurrences of a sound in the same environments are sometimes assigned to one phoneme, and sometimes assigned to another phoneme.

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(1) Labov (1971) suggests that free variants often have sociological significance.

An example of complete neutralization would be the phonemes /d/ and /t/ in English, in an intervocalic position as in rider/writer or bedding/betting in American English.

Grammar and phonemic analysis

Hockett (1942) makes it clear that phonological analysis must not assume any part of the grammar. He, and other phonologists, who follow the same line of thought, do not believe in 'mixing the levels' in linguistic research. To them, a phonemic analysis should be justified on the basis of phonetic grounds only. So, they established a 'discovery procedure' which progresses by well-defined steps and by which the elements of a given text can be isolated and classified. Some of them, e.g. Harris, Bloch, Hodge treat junctures as phonemes. Briefly, their theory requires four conditions for phonemic analysis:

1. Linearity: each sequence of a phoneme is associated with one or more phones such that if (A) follows (B) then the phone(s) with (A) also follow(s) those with (B).
2. Invariance: each phoneme is associated with a set of definite features which is present whenever the phoneme occurs.
3. Biuniqueness: each sequence of phones is represented by a unique sequence of phonemes and vice versa.
4. Local determinacy: the unique phonemic representation corresponding to a given phonetic form can be determined by purely phonetic considerations.

Later phonologists, especially the transformationalists' school, reject the above outlined principals for phonological

analysis calling it 'taxonomic phonemics', a term which implies an accusation that earlier schools i.e. Prague and Bloomfield, and his successors were concerned only with segmentation and classification of phonetic data. Consequently achieving only observational adequacy.(1)

Let us look briefly at the transformationalists' reaction. To discard the claim that grammatical information is not necessary, it is pointed out that for some words in English, stress placement cannot be predicted without reference to grammar. Consider the following:

Noun	Verb
ˊobject	objˊect
prˊotest	protˊest
sˊubject	subjˊect

So, when the word is a noun, stress falls on the first syllable, and when it is a verb it falls on the second.

In Nupe (Hyman, 1970 a) /s/ is pronounced [š] before /i/ e.g. /si/ → [ši] 'to buy', but /sa/ 'to cut', is pronounced [sa]. Nupe creates nouns from verbs by process of reduplication, e.g. [ši] 'to buy' → šiši 'buying' (the vowel in the reduplicated prefix is frequently [i]. However, when a verb like /sa/ 'to cut' is reduplicated it is pronounced [sisa] and not *[šisa] as one would expect. Moreover, [šisa] meaning 'to buy a chair' exists in Nupe. Thus, if we were to rely entirely on phonetics we will be forced to conclude that the difference between [s] and [š] is distinctive because [sisa] and [šisa] constitute a

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(1) Jørgensen, E.F. (1975)

minimal pair. Hyman argues, thus, that such a minimal pair, which is possible only when one of the forms is a noun derived through reduplication, should not be allowed to destroy the complementary distribution of [s] and [š] in the language, which is otherwise completely general. So, with a minimum grammatical information, i.e. Nupe speakers palatalize /s/ to [š] before /i/ except in such cases of duplication, we can predict when to find [s] and when to find [š].

Grammatical boundaries (junctures) should be known in phonemic analysis. Consider the following example from fe?fe? - Bamileke (Hyman 1975).

(A)	pŏ	'hand'	mbō	'hands'
	pē:	'accept'	mbē:	'accept'
	pẃa	'two'	ntām pẃa	'two hearts'
	pi:	'profit'	tūm pi:	'send the profit'
(B)	vāp	'whip'	vābi	'whip him/her'
	ŋgăp	'hen'	ŋgābă	'my hen'
	pū:	'children'	pē: pū:	'accept the children'.

In (A) we notice that "p → b/m —" but this rule could not apply where there is a full word boundary as in the last two examples, "ntām ## pẃa" and "tūm ## pi:". Similarly, in (B), "p → b/v-v" and this could not apply where there is a full word boundary as in the last example "pē: ## pū:. Thus, the internal word boundary did not block the application of the rule, while the full word boundary does. Therefore, by reference to boundaries (grammatical information) we can be saved from the mistake of assigning 'b' and 'p' as two phonemes which the phonetic data alone would suggest.

Also, in words like 'bedding' and 'betting' one must know if 'bed' and 'bet' are words (morphemes) that exist by themselves. And this is of course grammatical information.

As for treating junctures as phonemes, and excluding grammatical information, as in some works of Harris, Bloch and Hodge, it was later pointed out by Pike (1947) that to follow such a line of thought means that the analyst writes spaces which he does not hear. He would locate the spaces properly only if he uses his knowledge of the grammar, otherwise he would locate a lot of spaces in the wrong places. Further, those who adhere to grammar exclusion in phonemic analysis seem to be unable to put their theory into practice. In their analyses they failed to account for the junctures and to describe them without reference to grammar. Accordingly, no solid ground could be found for considering junctures as phonemes. Pike asserts "in many languages certain grammatical units - say 'words' have as one of their characteristics the induction of subphonemic modification of some of the sounds. When modifiable sounds happen to occur at the borders of such units, the juncture becomes phonologically recognizable" Pike (1947). However, it has been known as "Pike heresy" that morphological boundaries must be considered in the establishment of phonemes, and prosodic features and junctures in particular cannot be described without doing this. Put briefly, phonological facts are interwoven with grammatical facts.

Chomsky (1964) criticized the four conditions of taxonomic phonemic theory as follows:

1. If the linearity condition is to be maintained, then 'can't', which is sometimes realized as [kæ̃t] might be analysed as /kæ̃t/ instead of the correct form /kænt/. This is because there is no phonetic basis for locating the vowel nasality after the vowel itself. Also, in writer/rider, the phonetic difference lies in the diphthong, but phonologically it should be related to the following consonant.
2. The invariance condition can be dispensed with by the same examples mentioned in the linearity condition above and by examples of partial overlapping.
3. The biuniqueness condition is criticized because it rules out a morphophonemic representation as the only phonological representation as, generally, it is not related to the phonetic representation biuniquely.
4. The local determinacy condition is similar to 3. above. That is partial overlapping determined by phonetic environment is generally permitted, but grammatical conditions are rejected.

Morphophonemics

Morphemes are the minimal meaning - carrying linguistic forms, e.g. 'wife' (concept: married woman). If there are more than one form, belonging to the same meaning and are in complementary distribution, e.g. 'wife/wives' then they are called morphs (concept: e.g. sg. pl.) of the same morpheme Hockett (1947b). Accordingly, morphs are the minimal meaning - carrying units. It should be pointed out that

morphs do not have to be phonetically similar. 'Wife/wives' are members of the same morpheme and so are the plural endings '-s' and '-en', and also the suppletive forms go/went. Morphs belonging to the same root morpheme are called allomorphs (concept: e.g. sg. ∅, pl.s). Allomorphs, then, are members of the same morpheme just as allophones are members of the same phoneme. That is an allomorph is a variant of a morpheme occurring in certain positions.

However, it is not always easy to divide a word into morphs. As a word like "beautifully" is divided into 'beauti-ful-ly', there are other cases which are less straightforward. Examples like 'fish', 'sheep' and the tense in verbs like 'put' and 'cut' have what Hockett (1947b) calls zero-morphs. Examples like 'speak/spoke', 'man/men' have what is called replacive morphs. (1) It should be pointed out though, that the label 'morph' is not widely used. Instead, 'morpheme' is used for both lexical and alternant cases.

It was Bloomfield (1939b) who set a special level in linguistic analysis which is separate from phonemics and called it morphophonemics. The basic units at this level are morphophonemes. It is a particular method of describing alternations; and, in essence, it is quite similar to Prague school morphonology, Trobetzkoy (1931). Example:

In German, voiced obstruents are devoiced in syllable-final position, for example, 'rɑt', 'advice', and 'rɑd' 'wheel' are both pronounced [ra:t]. Here, the final 't' has to be

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(1) Zero and replacive morphs are called by Bloomfield zero and substitution alternants respectively.

accounted for. Prague school introduced what is called an archiphoneme represented as a capital segment, i.e. 'T' in this case, which, as far as voicing is concerned, is [zero voiced], but shares all the properties common to both phonemes /t/ and /d/. Thus /rɑt/ and /rɑd/ will be represented as /ra:T/.

The American structuralists, on the other hand, have to represent both as /ra:t/. This is because they adhere to the principle that the phoneme is a class of phonetically similar sounds. And that in fact rules out complete overlapping, i.e. neutralization.

However, the two solutions above fail to explain adequately the fact that the 't' in [rɑt] 'advice' alternates with 't' i.e. it is underlying /t/; while the 't' in [rɑt] 'wheel' alternates with 'd', i.e. it is underlying /d/. To solve the problem, then, a rather abstract level called 'the morphophonemic level' was introduced. The main idea is to make it possible to give one representation to each morpheme and consider it the base; and derive all other allomorphs from that base. The basic representations for the German examples, then, can be {raT} where 'T' is a morphophoneme which is sometimes i.e. specific environments, represented by /t/, and sometimes by /d/.

The generative view

The generativists look at the grammar of a human language as "a system of rules that specifies this sound-meaning correspondence". Chomsky and Halle (1968). Further, a grammar should not only be descriptive but also capable of predicting all possible sentences, and rejecting unacceptable

ones. This is the core of generativeness, and descriptive methods are dealt with from this point of view.

Levels of adequacy postulated by Chomsky (1964) are taken into consideration by generative analysts. Here is an outline of these levels:

1. Observational adequacy: a description which accounts for the units in a given corpus. For example, a rule which states that in a combination of 'b-ik' in English, only 'r' is found.
2. Descriptive adequacy: to establish more general rules which go beyond the data and account for the actually found forms and permit the prediction of non-occurring ones. An example of such rules is: 'only a liquid can occur between 'b' and a vowel in English'.
3. Explanatory adequacy: this concerns the theory, not the individual grammar. To achieve this level of adequacy, there must be basis in the theory according to which a descriptively adequate grammar is selected among observationally adequate ones. For example, a rule which says that only a liquid occurs between 'b' and a vowel, is better than a rule which says that only 'r' can occur in the combination 'b-ik'. That is, the former rule is more general and explicit than the latter.

In generative phonology, the analysis is morphophonemic, that is, one underlying form is set up for each morpheme, and all other forms can be derived from that basic form by rules. Postal (1968) put it clearly that "phonological structure is essentially 'morphophonemic' in character, i.e. that it is concerned fundamentally with the question of how the pronun-

ciation of whole sentences is predicted from the inherent phonological properties of individual morpheme." p.197.

This line of thought, obviously, presupposes a division of inflection and derivation into minimal units and grammatical analysis, and is more connected with the lexicon than traditional phonemic analysis. However, unlike traditional phonologists, what interests those in the generative school is not "systems of units", but the structure of morphemes and the rules which convert a given underlying form into various surface forms.

However, in establishing the underlying form for a word there are four points that should be taken into consideration. They are:

1. Predictability: that is to choose a phonological alternation to be the underlying form, if other alternations can be predicted. For example, if the German "ra:t", 'wheel' is represented phonemically as /ra:t/, and we know the 't' alternates with 'd' intervocalically, then apart from a need for a rule of voicing the 't' in certain positions, 'ra:t'is phonetically similar to another word meaning 'advice', and whose final 't' does not alternate with 'd'. Here it would be impossible to predict which 't' alternates with 'd', and which 't' does not. Accordingly, representing the German word for wheel as /ra:d/ is much more reasonable because we need only one rule to devoice the 'd' in final positions.
2. Economy: this means fewer phonemes; and an analysis which establishes fewer phonemes usually has a lot more complexity in phonological rules. For example, it is

more economical and simpler to represent the English word 'sing' as /sing/ rather than /siŋ/. For the former representation i.e. /sing/ a rule of homorganic nasal assimilation is needed which yields [siŋg] and another rule which deletes the final 'g'. However, if we were to accept the representation /siŋ/ then a 'g' must be inserted in 'longer' but not in 'singer'. Further, if only /ng/ is postulated, then the 'g' would be deleted in 'singer' but not in 'longer'.

3. Pattern congruity: this point requires that a solution conforms to the overall pattern of the phonological system. For example, as mentioned in 2. above, if we accept a phoneme /ŋ/ we cannot explain why it does not appear initially like /m/ or /n/. But accepting /ng/ suggests that the phonetic form [ŋ] does not appear initially simply because /mb/, /nd/, and /ng/ do not appear initially, and this is a general overall pattern in the language.

4. Plausibility: this point favours a solution which appears to be more natural. For example, deriving [š] from /s/ before front vowels is a natural assimilatory rule, i.e. $s \rightarrow š / - \begin{Bmatrix} i \\ e \end{Bmatrix}$. That is in [ši] both segments agree in palatality. On the other hand, to say that š → s does not seem to be plausible or a natural assimilation.

N. Chomsky and M. Halle (1968) advocate a theory of transformational generative phonology (henceforth TGP). Under that theory, phonological rules apply sequentially, each rule applies only once and on the output of a previous

rule. The distance between the U.F. and the S.F. can be little (where the analysis would be termed concrete), or it can be very wide indeed (and the analysis would be called abstract). To an extent, the concreteness and the abstractness correspond to item-and-arrangement and item-and-process respectively. Let us look at some examples:

Concrete analysis

Here, the alternating morphophonemes are actually stated in the U.F. The S.Fs are then derived by rules that select one alternant in each environment. For example, the U.F. for 'electric' alternating with 'electricity', 'electrician' would be as follows:

$$/\text{electri}\left\{\begin{matrix}\text{k}\\ \text{s}\\ \check{\text{s}}\end{matrix}\right\}/$$

The disjunction in the item-and-arrangement is represented at the level of the allomorph, that is /electrik/ ∽ /electris/ ∽ /electriš/.

Such an analysis, which uses disjunctive U.Fs tend to make morphophonemic representation maximally concrete, e.g. Trobetzkoy's morphophonemes.

However, the concrete analysis has been criticized for being redundant. That is, the information is given twice; once in the U.F. and once more in the derivation. This might be understood as indicating exceptions to regular processes, i.e. when a morpheme does not undergo an alternation where it should have done so, its U.F. is made to exclude this alternation. Accordingly, this approach makes an exception to everything it applies to.

Abstract analysis

TGP is known to be a very powerful theory which allows a great deal of abstractness. To take but a few examples, the word "resign", which can be transcribed phonetically as [riyzayn], was given the U.F. /re=sign/. That is,[iy] is assigned U.F. /e/, a morphological boundary is imposed /=/ and [ay] is assigned U.F. /ig/, i.e. a completely different vowel with a consonant which is not realized phonetically.

Lightner (1971) suggests to assign U.Fs. for English from proto-Germanic stage. For example, the alternation between [f] and [p], [ð] and [t], and [h] and [k]:

foot	pedestrian
father	paternal
full	plenary
mother	maternal
father	paternal
brother	fraternal
heart	cardiac
horn	unicorn
hound	canine

Although this is hard to accept, the main point seems to be that this thoery knows no limits.

Finally, another example of abstractness is the analysis of Nupe by Hyman (1970). He states that the morpheme structure of Nupe is (V)CVCV, and that structure is violated by the clusters CW and CY which occur only before /a/. He also states that in Nupe consonants are labialized before rounded back vowels, and palatalized before unrounded front vowels. That is:

$$[+\text{cons.}] \rightarrow \begin{bmatrix} +\text{rnd.} \\ +\text{high} \end{bmatrix} / \underset{\text{v}}{\quad} [+\text{rnd.}]$$

$$[+\text{cons.}] \rightarrow \begin{bmatrix} -\text{back} \\ +\text{high} \end{bmatrix} / \underset{\text{v}}{\quad} [-\text{back}]$$

Accordingly:

$$k \rightarrow kw / - \begin{Bmatrix} u \\ o \end{Bmatrix}$$

$$k \rightarrow ky / - \begin{Bmatrix} i \\ e \end{Bmatrix}$$

Etc.

He then pointed out that before /a/ there is no such complementary distribution but a three-way contrast CW, CY and C. For example:

egwa	'hand'
egya	'blood'
ega	'stranger'

To account for this phenomenon, Hyman invents two phonemes, /ɔ/ and /ɛ/[1] and claims that each of these phonemes is the U.F. of an [a] in the S.F. That is, /ɔ/ is the U.F. of [a] where labialization takes place, and /ɛ/ is the U.F. of [a] where palatalization takes place. This is as well as another phoneme which is /a/ in both U.F. and S.F. and before which no labialization or palatalization takes place. Further, Hyman thinks that /ɔ/ and /ɛ/ neutralize absolutely to [a] in the surface. That is:

(1) /ɔ/ is a short back half open rounded vowel.
/ɛ/ is a short front half open spread vowel.

$$\overset{v}{[+\text{low}]} \longrightarrow \begin{bmatrix} +\text{back} \\ -\text{rnd.} \end{bmatrix}$$

In reality, the phonemes which Hyman invents do not exist in the Nupe language, and the Nupe speakers do not know them. Furthermore, Hyman himself states that those phoneme do not have any historical existence in the language; "the positing of /ɔ/ and /ɛ/ is clearly unjustified from a purely historical point of view" (Hyman 1970 p.67).

It seems clear then that according to TGP the analyst would feel free to the extent that he can posit to a S.F. an U.F. which may never have existed either in the synchronic or in the diachronic data of the language. This would imply that there are no limits whatsoever, and one can relate the S.F. to anything one fancies and explain the data according to what one believes to be the case. With such examples of abstractness in mind, one feels justified to believe that TGP is capable of accounting for almost any data, even if it is not a natural language.

The power of TGP has been realized quite early in the early stages of the theory; and consequently not only constraints were set up to limit the abstractness, but also a different branch of generative phonology was introduced in the early years of the last decade.

Constraints on TGP

Kiparsky (1968a) accepts, as a linguistic fact, the phenomenon of context-sensitive neutralization (which he calls contextual neutralization) where two distinct segments merge into one, but only in specific environments which are phonologically or morphologically conditioned, and elsewhere each segment is retained. For example:

Phonologically conditioned

In German, obstruents are devoiced word finally.

rat	'advice'
rad	'wheel'

both words are pronounced [ra:t]. But the final underlying obstruent /d/ is retained when something is added, e.g. the plural suffix:

räte	'advices'
räder	'wheels'

Morphologically conditioned

In K.D. 'i:' and 'u:' which appear in the imperative mood are collapsed to "a:" in the past tense.

Imper.			Past	
ši:l	'carry'	sg. masc.	ša:l	'he carried'
ṛu:ħ	'go'		ṛa:ħ	'he went'
ši:.lay	'carry'	sg. fem.	ša:.lat	'she carried'
ṛu:.ħay	'go'		ṛa:.ħat	'she went'

Kiparsky rejects absolute neutralization where two identical segments are related to different U.Fs. just to satisfy the requirements of a rule. This is because certain predictions of change in phonological systems based on absolute neutra-

lization are simply not true; and the theory cannot be adjusted to exclude them.

In the Nupe example above, [a] is given even more than two U.Fs., namely, /ɔ/, /ɛ/ and /a/. And with the absolute neutralization the derivation is as follows:

1.	/egɔ/	/egɛ/	/ega/
2.	egw	egy	ega
3.	egwa	ega	ega

And we note that the derivation has to take place in the above order.

The other freedom in TGP rejected by Kiparsky is what he calls 'diacritic use of phonological features' and 'phonological use of diacritic features'. In the Nupe situation, for instance, the first of these would be positing /ɔ/ and /ɛ/ and recognizing them responsible for the labialization and palatalization respectively. The second, would be recognizing the glides 'w' and 'y' responsible for assigning to [a] a back or front U.F. i.e. /ɔ/ or /ɛ/ depending on which glide precedes it. In other words, instead of stating back and front vowels and claiming that they cause labialization and palatalization, a quasi-phonological rule generalizing the labialization or palatalization to the vowel; and accordingly, the vowel, by a late rule, is assigned a back or front U.F. Kiparsky discards the two solutions as the theory enforces no choice between them and the evaluation measure assigns no relative weight to one over the other. The solution he suggests is to enter such cases in the lexicon as they are and specify them as such.

The major theme in Kiparsky's paper is the proposal of an alternation condition which has two alternatives: strong and weak.

The strong alternation condition

This rules out absolute neutralization completely.

The weak alternation condition

Here the alternation might have to allow absolute neutralization, but it is regarded as quite complex. The alternation condition, in this case, would balance out the generalization gained by absolute neutralization against some fixed cost assigned to it in the theory. The relation of absolute neutralization between U.F. and S.F. would still be excluded in cases where rule features do the job.

It is not only Kiparsky who reacted to the abstractness of TGP, but his reaction is well-known and an early one. Zwicky (1972), for example, postulates twenty-six principles in which he criticizes abstractness and recommends the more concrete analysis.

N.G.P.

The main concern of constraints proposed to limit the power of TGP was in limiting the abstractness of the U.Fs. In formulating the theory of NGP Vennemann (1971) proposed the no-ordering condition on rules, and the strong naturalness condition on U.Fs.

The no-ordering condition

NGP discards the extrinsic rule ordering of TGP where rules apply sequentially, each applies once; and an output of a rule serves as an input of a following rule, because TGP

rule-ordering allows abstract analyses. Instead, NGP requires that a rule should be allowed to apply more than once, if need be, to any form which meets its structural description; and not necessarily in a fixed order. This condition eliminates some abstractness, for example, in the Nupe situation if rule 3. applies before rule 2. then the wrong result is obtained, i.e. there would be no justification for labialization and palatalization.

The strong naturalness condition

Under this condition the U.Fs. of non-alternating morphs are identical to their S.Fs. For the alternating morphs, however, one of the allomorphs is listed in the lexicon in its phonetic form, and the others are derived from it. This condition does not allow abstractness at all, and thus is considered to be the strongest constraint on the abstractness of U.Fs. Vennemann's major constraint was on U.Fs. rather than on rules.

Hooper (1976) proposed a condition on rules; she calls it 'the true generalization condition'. This condition requires that rules express only surface generalizations which are true for all S.Fs. and also express the relation between S.Fs. as directly as possible. This would mean that speakers formulate rules which are directly based on S.Fs., these rules relate one S.F. to another, rather than relating S.Fs. to U.Fs. In terms of this condition, then, no rule is allowed to refer to a non-existing segment. Accordingly, Hyman's analysis which allows positing /ɔ/ and /ɛ/, which do not exist as phonetic forms, is ruled out.

Hooper's major constraint was on rules rather than on U.Fs. This is because, as she believes, U.Fs. are accessible only through the rules of the grammar, never directly, and they are more difficult to resolve than rules.

In NGP it is important to classify the types of rules. For example:

Phonological rules (P-rules)

These are phonologically conditioned rules, they describe alternations which take place in phonetically specified environments. An example of these rules would be the devoicing of obstruents word-finally in German (cf. Kiparsky's contextual neutralization - phonologically conditioned).

Morphophonemic rules (MP-rules)

These rules change phonological features in morphological, syntactic, or lexical environments. For example, the collpse of 'i:' and 'u:' of the imperative in K.D. into 'a:' in the past tense, (cf. Kiparsky's contextual neutralization - morphologically conditioned). Besides these rules there are 'via rules' to account for unrelated alternations; syllabification rules, and morphological spell-out rules.

Natural phonologists emphasize that P-rules and MP-rules must be differentiated. They consider this difference as a very important innovation in NGP and believe that it makes very strong claims about the nature of language.

It should be mentioned, however, that as for the expression of phonetically motivated processes, both TGP and NGP follow more or less the same line. They part company in considering the derivation of morphophonemic alternations.

TGP adopts the view that it is the result of abstract phonological representations and ordered rules, while NGP considers it as a function of morphological and lexical categories. Furthermore, NGP considers the accessible S.Fs. as the data in the analysis, while TGP can employ segments which may not exist or even have existed in the language under discussion. On these grounds, however, NGP is said to be more plausible and realistic than TGP.

A lot of linguistic analyses, particularly in the Arab world, take traditional Arab grammarians almost as the only legal source for Arabic linguistic analysis - standard or dialect.

My view is to consider traditional Arab linguists and also modern linguistic theory, in particular, to put under the light of modern theory what many analysts would look at through traditional views.

Part Two

Standard Arabic

Introduction

As is well-known, standard Arabic is the official language in the Arab world. It is the language of government administration, education, mass media and formal speeches. The written language in particular is always in the standard form.

The standard form is one and the same all over the Arab world. However, there is one sound in Arabic which one might find rather different in some regions and that is the phoneme /dž/. In general, the anomaly of /dž/ can be specified as follows:

1. The Egyptian 'g'

   In Egypt /dž/ is rarely used. Instead of it one hears 'g', not only in the spoken dialect but also in the standard. However, it should be made clear that the Egyptians know and agree that their 'g' is a realization of /dž/. Furthermore, they do not have a symbol in the alphabet to represent their 'g'; they always use the symbol for /dž/.

2. The continuant 'ʒ'

   In north Africa (except Egypt), Lebanon and the western parts of Syria, /dž/ is usually not heard. Instead of it 'ʒ' is used. As in Egypt, speakers know and agree that their 'ʒ' is a realization of /dž/. And they do not have a symbol in the alphabet to represent their 'ʒ'; they always use the symbol for /dž/.

It seems obvious, however, that 'g' and 'ʒ' are only substitutions for the standard /dž/ in certain regions of the Arab world. Accordingly, in our treatment of standard Arabic we shall consider the phoneme /dž/.

Distinctive Features Chart

	b	m	f	θ	ð	ɣ̊	d	ɖ	t	ʈ	ʤ	s	ʂ	z	n	l	r	ʃ	y	k	x	ɣ	w	q	ħ	ʕ	h	ʔ	ɛ̈	g	ŋ
Cons.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	−	+	+	+	−	+	+	+	+	+	+	+	+
Syll.	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−
Son.	−	+	−	−	−	−	−	−	−	−	−	−	−	−	+	+	+	−	+	−	−	−	+	−	−	−	−	−	−	−	+
High	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	+	+	+	+	+	+	−	−	−	−	−	−	−	−
Emph.	±	±	±	−	−	+	−	+	−	+	−	−	+	−	−	−	±	−	−	−	−	−	−	−	−	−	−	−	−	−	−
Back	−	−	−	−	−	+	−	+	−	+	−	−	+	−	−	−	±	−	−	+	+	+	+	+	+	+	+	+	+	−	+	+
Gut.	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	+	+	−	+	+	+	−	+	-	-	-
Low	−	−	−	−	−	+	−	+	−	+	−	−	+	−	−	−	±	−	−	−	−	−	−	−	+	+	+	+	−	−	−
Ant.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	−	−	−	−	−	−	−	−	−	−	−	−	−	−
Cor.	−	−	−	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	−	−	−	−	−	−	−	−	−	+	+	−	−
Voice	+	+	−	−	+	+	+	+	−	−	+	−	−	+	+	+	+	−	+	−	−	+	+	−	−	+	−	−	−	+	+
Cont.	−	−	+	+	+	+	−	−	−	−	−	+	+	+	−	+	+	+	+	−	+	+	+	−	+	+	+	−	−	−	−
Nas.	−	+	−	−	−	−	−	−	−	−	−	−	−	−	+	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	+
Strid.	−	−	+	−	−	−	−	−	−	+	+	+	+	−	−	−	−	+	−	−	−	−	−	−	−	−	−	−	+	−	−
Del. rel.	−	−				−	−		−	−	+				−					−				−				−	+	−	−
Round	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	+	−	−	−	−	−	−	−	−
Grave	+	+	+	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	+	+	+	+	+	+	+	+	+	−	+	+
Lab.	+	+	+	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	+	−	−	−	−	−	−	−	−
Pal.	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	+	+	−	−	−	−	−	−	−	−	−	−	−	−
Lat.																+	−														

The chart shows the distinctive features used in the thesis.

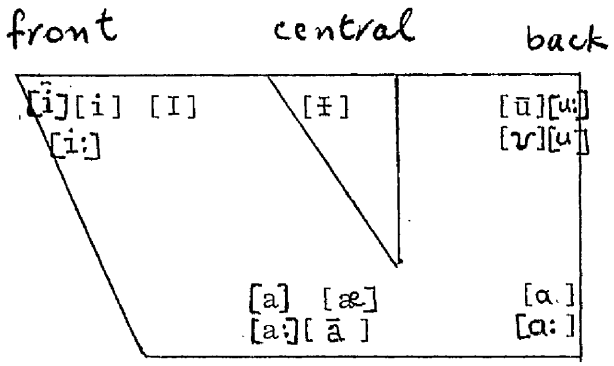
Section One

The phonological system of Arabic

Chapter One

The vocalic system

Vowels Chart



The chart shows the approximation of vowels.

1. [i], [ɪ] and [ɨ] are allophones of /i/.
2. [ī] and [i:] are allophones of /i:/.
3. [a:], [ā] and [ɑ:] are allophones of /a:/.
4. [a], [æ] and [ɑ] are allophones of /a/.
5. [ū] and [u:] are allophones of /u:/.
6. [ʊ] and [u] are allophones of /u/.

It seems that for the phonological system of Arabic, we can make the following statement:

(1) "Phonemically, no words in Arabic end in a short vowel; and phonetically, no utterances end in a long vowel."(1)

Let us apply this statement to some examples from the language.

I. (1) min ʕin.dɪ [-lax] 'from'

(2) min ʕin.di ʔaħ.mad [+lax] 'from Ahmad'

(3) min ʕin.dī [+tense] (2) 'from me'

(4) min ʕin.di: dža:.ʔal.ʔamr̥ 'from me, came the order'

(5) min baʕ.dɪ [-lax] 'after'

(6) min baʕ.di ʔaħ.mad [+lax] 'after Ahmad'

(7) min baʕ.dī [+tense] 'after me'

(8) min baʕ.di: tɑ:.li.ba:n 'after me, (are) two students'.

In (1) and (5) the words 'ʕin.dɪ' and 'baʕ.dɪ' end in the same vowel 'ɪ' which is not part of either word. In isolation such words can be 'ʕind' and 'baʕd' respectively. The vowel is -lax utterance finally. It is short in its U.F. and S.F. However, in continuous speech its presence is syntactically required as in (2) and (6) where it only gains laxness, but remains short.

---

(1) See the syllable structure p. 54

(2) The features [-lax] and [+tense] do not mean the same thing here. What is intended is that [+tense] is more tense than [-lax].

On the other hand, the final vowel 'ī' in the same words in (3) and (7) is a suffix added to the words 'ʕind' and 'baʕd' respectively. It is the morpheme 'me'. It is long in the U.F. as can been seen in (4) and (8). In the S.F. it becomes short and tense utternace finally as clear from (3) and (7).

II.

(9)	ʔa.ha.bæ [-lax]		'he went'
(10)	ʔa.ha.ba [+lax]	ma.ʕī	'he went with me'
(11)	ʔa.ha.bā [+tense]		'they went (dl. masc.)
(12)	ʔa.ha.ba:	ma.ʕī	'they (dl. masc.) went with me'
(13)	ʔaħ.sa.næ [-lax]		'he did well'
(14)	ʔaħ.sa.na [+lax]	sun.ʕan	'he did a good job'
(15)	ʔaħ.sa.nā [+tense]		'they (dl. masc.) did well'
(16)	ʔaħ.sa.na:	sun.ʕan	'they (dl. masc.) did a good job'.

Here, the same thing happens. The final vowel in (9) and (13) has the same status as the final one in (1) and (5). Also, the final vowel in (11) and (15) is a morpheme suffix as that in (3) and (7). Here it means 'they' (dl. masc.). In (10), (14) on the one hand, and (12), (16) on the other, we can see the vowels at the end of the first word with their U.F. revealed in continuous speech.

III.

(17)	ʔak.ṛɑ.mʊ [-lax]		'more generous'
(18)	ʔak.ṛɑ.mu [+lax]	min.hā	'more generous than her'

(19) ʔak.ra.mū [+tense] 'they awarded'

(20) ʔak.ra.mu: .nī 'they awarded me'

(21) ʔas.la.mʊ [-lax] ''it is' better'

(22) ʔas.la.mu [+lax] ħal-lun 'the best solution'

(23) ʔas.la.mū [+tense] 'they became Muslims'

(24) ʔas.la.mu: lil-la:h 'they gave up to God'

Here also, exactly the same thing happens, and there seems to be little point in repeating the very same thing. We should only note here that u/u: in (19), (23) and (20), (24) is the suffix morpheme 'they'.

Derived examples

(25) a) /ma:/ 'what' /ha:.ðа:/ 'this'

b) ##mā ## [+tense] ##ha:.ðā ## [+tense]

c) ##ma: #ha:.ðā##

d) [ma: ha:.ðā] 'what 'is' this'

(26) a) /ma:/ 'what' /ʔal-la.ði:/ 'who/which'

b) ##mā ## [+tense] ##ʔal-la.ðī ## [+tense]

c) ##ma: #ʔal-la.ðī##

d) ma: ʔal-la.ðī

e) ma: al-la.ðī

f) ma l-la.ðī

g) mal la.ðī

h) [mal-la.ðī]

Example (25) seems to be straightforward, but there are interesting things about (26).
At stage e) the glottal stop was deleted. And since we can find examples like 'ϕal' for 'ʔal' meaning 'the', we can state the following rule:

(27) ʔ → ϕ/ ($) #(#) —V (optional)

This rule normally applies, but it is not a must that it does. (26) could have ended at state (d) if special emphasis is intended. Also if its deletion obscures the meaning it stays, though may be reduced. Example:

(28) ##ða.ha.ba:#ʔi.layh## 'they (dl. masc.) went to him'
[ðaˑhaˑbaˑʔilayh]

However, in example (26), rule (27) applies. Also at stage f) we notice that not only one vowel is omitted, but two. This is because v:=vv of the same quality. Accordingly, no vowel succession is allowed in the language.(1) This is because no examples can be found in Arabic with two or more vowels successively. Thus, we can state the following obligatory rule.

(29) v → ϕ/v— (obligatory)

---

(1) cv: = cvv does not contradict the fact that no vowel succession is allowed in the language. Because what is actually allowed is only one long vowel.

In (26), it should be noted, the glottal stop deletion, rule (27), feeds the vowel deletion rule (29). Also, (29) in this example applies twice because its structural description is met twice. This is because in e):

ma: al-la.ðī = maaʔal-la.ðī

Also, at the syllable adjustment stage g), the first 'l' of 'al.la.ðī' was taken back to the cv syllable 'ma' to close it as CVC in the S.F. "mal — ". That 'l' could not be taken forward to the CV syllable 'la' because the result would have been a CCV syllable; a form which does not exist in the syllable structure of the language. Therefore, 'cc —' is not allowed syllable initially in Arabic. From the foregoing discussion we have seen that [ɪ] is an allophone of /i/, [æ] is an allophone of /a/ and [ʊ] is an allophone of /u/. And all of these allophones are lax utterance finally. This can be stated as follows:

(30) $\overset{V}{[-\text{long}]} \rightarrow [-\text{lax}] / \text{—} \#\#$

Likewise, we have seen that [ī] is an allophone of /i:/, [ā] is an allophone of /a:/ and [ū] is an allophone of /u:/. These allophones are short and tense utterance finally. Accordingly:

(31) $v \rightarrow \begin{bmatrix} -\text{long} \\ +\text{tense} \end{bmatrix} / \text{—} \#\#$

In fact (30) and (31) can be collapsed in one rule:

(32) $\overset{V}{[\alpha\text{long}]} \rightarrow \begin{bmatrix} \alpha\text{tense} \\ \beta\text{-lax} \\ -\text{long} \end{bmatrix} / \text{——}\#\#$

The allophones accounted for so far are not the only ones in the language. Let us consider the following:

(33) sɨfr 'zero'
sifr 'chapter'

(34) tɑ:b 'he/it 'got' better'
ta:b 'he repented'

(35) dɑmm 'he included/hugged'
damm 'blood'

And also:

(36) nitɋ 'sheepskin'
xisb 'fertility'
qatt 'never'

(37) ɣa:r 'cave'
xa:n 'he betrayed'
xa:m 'cloth'

(38) ɣa:s 'he dived'
xa:t 'he sewed'
naɣm 'verse'

From examples as (33) to (38) we can see that the emphatic consonants (1) exert influence on the vowel that follows, but not on the one that precedes. So, /i/ becomes [ɨ], /a:/ becomes [ɑ:] and /a/ becomes [ɑ] after an emphatic. Thus, we can state this observation in the following rule:

---

(1) See the consonantal system p. 43

(39) $$\begin{bmatrix} \overset{V}{} \\ \alpha \begin{bmatrix} +\text{high} \\ +\text{front} \\ -\text{long} \end{bmatrix} \\ \beta \begin{bmatrix} -\text{high} \end{bmatrix} \end{bmatrix} \rightarrow \begin{bmatrix} \alpha \text{ central} \\ \beta \text{ back} \end{bmatrix} \Big/ \underset{\cdot}{c} \_\_$$

Finally, it should be noted that there are only two dipthongs in Arabic. They are:

1.	ay	as in	ʕayn	'eye'
			bayt	'house'
2.	aw	as in	qawm	'folk'
			ṣawm	'fasting'

Chapter Two

The consonantal system

Consonants chart

		bi-labial	labio-dental	inter-dental	dental alveolar	Palato-alveolar	palatal	velar	uvular	gutturals	glottal
Stops	voiced	b b̤			d d̤						ʔ
	voiceless				t t̤			k	q		
Affri-cates	voiced					ʤ					
	voiceless										
Frica-tives	voiced				z			ɣ		ʕ	
	voiceless		f f̤	θ	s s̤	ʃ		x		ħ	h
Nasals		m m̤			n			ŋ			
Liquids					l l̤ r r̤						
Glides		w					j				

[b] and [b̤] are allophones of /b/

[f] and [f̤] " " of /f/

[m] and [m̤] " " of /m/

[l] and [l̤] " " of /l/

[r] and [r̤] " " of /r̤/

[n], [m]. [l], [r], [w], [y] and [ŋ] may occur as allophones of /n/

The consonantal system of Arabic, standard or dialect, consists of three main groups. They are:

1. Emphatics
2. Gutturals
3. Plain

Some consonants influence others in certain environments, and such influence is allophonic and is always in disjunctive order. Let us take the above groups in turn:

1. Emphatics

The emphatics are /s̤/, /d̤/, /t̤/, /ẓ/, and the semi-emphatic /r̤/. (1) They are independent phonemes in Arabic. Let us consider the following:

(40)	/s/ and /s̤/	sa:r	'he walked'
		s̤a:r	'he/it became'
(41)	/d/ and /d̤/	ħadd	'border'
		ħad̤d	'he urged'
(42)	/t/ and /t̤/	ti:n	'figs'
		t̤i:n	'mud'
(43)	/ð/ and /ẓ/	na.ðar	'he devoted'
		na.ẓ̤ar	'he looked'

Accordingly, the emphatics are phonemically distinct from their plain counterparts.

---

(1) I shall call /r̤/ a semi-emphatic for reasons which will be clear later in this chapter.

As was shown in the vocalic system, an emphatic consonant influences a following vowel. As far as other consonants are concerned, the emphatics have no influence on them. Let us consider the following:

(44)	qabḍ	'seizing'
	ʔibṭ	'armpit'
	hirṣ	'caution'
(45)	ṣɬfr	'zero'
	fiṭr	'mushroom'
	niftṭ	'oil'
(46)	mištṭ	'comb'
	ʕaḍm	'bone'
	ɣɬll	'shade'

Here, we can see that the consonants that can acquire emphaticness, 'b', 'f' and 'm' (as we shall see later) did nor acquire it adjacent to an emphatic. Even the semi-emphatic /ṛ/ could not gain its emphaticness for being close to an emphatic.

Although emphatics may all seem 'front' according to the consonant chart, the actual physical effort made to produce an emphatic, comes from the back of the throat. That is, without preparing the back of the throat for the pronunciation of an emphatic, it would not be possible to produce one. It is not only the vowel following the emphatic that is back (or central if it is /i/), but the consonant itself is pronounced with a back-intended position by the organs of speech. This is clear from the fact

that a vowel preceding an emphatic does not have to be back, as is clear from (44) to (46).

In the vocalic system, we have seen that emphatic consonants influence some vowels, thus some allophones emerged. Here, in the consonantal system it is the other way round. That is some vowels exert influence on some consonants. Consider the following:

(47)	bun.ya:n	'building'
	ya.subb	'he pours'
(48)	fus.hā	'standard language'
	ya.suff	'he assembles'
(49)	mu.ti:ʕ	'obedient'
	ya.dumm	'he includes/hugs'

Here, we notice that /b/, /f/ and /m/ become emphatic [b̤], [f̤] and [m̤] respectively when preceding a high back short vowel, not when following it. Moreover, let us consider the following:

(50)	bu:.mah	'owl'
	ʕu.yu:b	'bad habits'
(51)	fu:.tah	'towel'
	su:f	'wool'
(52)	mu:.mis	'prostitute'
	ya.ʕu:m	'he swims'

(50) -(52) show that the length of the back-high vowel does not make any difference regarding the influence on /b/, /f/ and /m/. What is crucial, as is clear from (47) - (52), is whether that vowel precedes or follows the consonant in question. When it precedes, it does not affect, but when it follows, it does. Accordingly, we can state the following rule:

(53) $\begin{bmatrix} c \\ +\text{ant.} \\ -\text{cor.} \end{bmatrix} \rightarrow \begin{bmatrix} +\text{emph.} \end{bmatrix} / \_\_ \begin{bmatrix} v \\ +\text{back} \\ +\text{high} \end{bmatrix}$

I would like to point out, however, that since [ḅ], [ḟ] and [ṃ] acquire the feature emphatic only in the environments stated above, they are not to be considered emphatics themselves. Thus I shall refer to them as "emphables". That is those that can become emphatic in specific circumstances.

2. Gutturals (pharyngeals)

These are /q/, /x/, /ɣ/, /ħ/, /ʕ/, and /ʔ/. They do not exert influence on vowels or on other consonants.

3. Plain

The plain consonants do not seem to have something special to be said about them. But, there are some discussions about /dž/, /k/ and /q/, and other possible realizations of them. (1) However, it should be made clear that standard Arabic in this respect recognizes only /dž/, /k/ and /q/.

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(1) Johnstone (1963 and 1967), Brame (1970) and Kay (1970).

Now let us consider the following:

(54)	ri.dža:l	'men'
	ri:ħ	'wind'
	xa.ṭi:r	'dangerous'
	ṭayr	'bird'
(55)	ṭa:ṛ	'he/it flew'
	xa.ṭaṛ	'danger'
	ṣabṛ	'patience'
	ṛu:ħ	'soul'
	ṛuq.ʕah	'leather piece'
	ṛaʔy	'opinion'

In (54) we find that /ṛ/ is always clear, i.e. not emphatic as it is adjacent to /i/, /i:/ or /y/ whether it is before or after any of them. In (55) on the other hand, the /ṛ/ is emphatic, i.e. elsewhere from (55). This tells us that where a front-high vowel or the glide /y/ is adjacent to /ṛ/, the /ṛ/ loses its emphaticness. Thus /ṛ/ has an allophone which is its plain counterpart [r], and we can state the following rule:

(56) $$\overset{C}{[-\text{lat.}]} \longrightarrow [-\text{emph.}] \;/\; \_\_ \begin{bmatrix} -\text{low} \\ -\text{back} \\ \pm\text{syll.} \end{bmatrix} \_\_$$

It should be noted that when /ṛ/ is not in the environment of (54), it has a status of a full emphatic, and does exercise the same emphatic influence on vowels exactly as any other emphatic. But because it does lose its emphaticness in particular phonetic environments, I choose to call it "semi-emphatic".

The word for 'God' in Arabic is 'ʔaḷ-ḷa:h'. It has the geminated "emphatic" 'ḷ' sound. In fact the emphatic 'ḷ' is heard only in this word in the language. Thus, its emphaticness in this context must be semantically motivated rather than anything else. So, I consider 'ḷ' an allophone of /l/. Ferguson (1956) argues that this emphatic 'ḷ' should be considered an independent phoneme in Arabic, but his argument does not seem to be satisfactory. The pairs he quotes are not minimal pairs in the true sense of phonemic theory. From standard Arabic he quotes:

(57) wallaahu[1] 'and God'

wallaahu 'he appointed him'

and claims that these two "constitute a perfect pair". Phonemically, a minimal pair should be two words that are the same in everything except in one segment, and consequently mean different things. Here, we are not dealing with two words, but at least three,[2] plus two different suffixes. Let us analyse (57):

First: [waḷ-ḷa:.hu]

wa	'and'
ʔaḷ-ḷa:h	'God'
u	a suffix, syntactically required in continuous speech. It can be 'i', or 'a' or 'ø'.

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(1) His spelling.

(2) Possibly, 'ʔaḷ-ḷa:h < ʔal.ʔi.la:h 'the God'.

Accordingly, we have: ## wa #ʔal - la: .h(u)##

We recall rules (27) and (29) which will apply as follows:

	wa ʔ al - la: .h(u)
(27)	wa al - la: .h(u)
(29)	wa l - la: .h(u)
S.D.	wal la: .h(u)
S.F.	[wal - la: .h(u)]

Second: [wal - la: .hu]

wal - lā — A past tense 3rd. Sg. Masc. finally weak verb which means either 'he got lost' or 'he appointed.(1) We should note here that the final vowel 'ā' is long because a final underlying /y/ is dropped (see rule (98) p.82), and this is what makes it long in this S.F. when a morpheme is added to it.

h(u) — Him, and the 'u' can be omitted when nothing follows.

Accordingly: wal - la: .h(u)
[wal - la: .h(u)]

Now, it should be clear that while 'wal.lā, the second, is one unit with either of the two meanings mentioned; the first 'wal - la' is not one unit, and it means nothing on

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(1) In the first sense it is intransitive, in the second it is transitive.

its own. This situation would support the idea that if the analyst ignores the phonological processes that an utterance undergoes from its U.F. to its S.F., he is likely to be short-sighted in his analysis and to come to incorrect judgements. He will surely miss the psychological reality (cf. E. Sapir (1933)). Moreover, K. Pike states:

"the phonemics of a language cannot be presented completely until something is known of the grammar; just as the grammar cannot be presented completely until something is known of the phonemics.(1)

Another example quoted by Ferguson is from Moroccan dialect:

(58) l̤l̤a 'God'
l̤la 'no'

Practically, we can say that his argument is ruled out completely here. First of all he jumps from one variety of Arabic to the other in discussing one point. Academically, this is not acceptable. Secondly, the word for 'no' is never with double 'l'.(2) Moreover, the word for 'God' does have both an initial short 'a' and a final short light 'h' which the analyst has probably failed to hear. This is because the initial glottal stop can be omitted, but not both it and the following vowel. The true representation of the two words as I hear them should be: "ăllāʰ " and "lā" respectively.

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(1) Pike, K.L. (1947b).

(2) Personal communication with Moroccans.

In reality, it seems true that missing a sound is a mistake typically made by foreign analysts (Sapir 1933).

In a similar situation, T.M. Johnstone (1967) thinks that in the Kuwaiti dialect:

s-salaam[1] means '(the) peace'

In fact, it cannot mean 'peace', regardless of what the English equivalent is, it can only mean 'the peace'. This is because the first 's' is originally the 'l' of the definite article 'ʔil'.[2] That 'l' was assimilated into the initial 's' of 'sa.la:m' (see assimilation p.61). As the glottal stop can be dropped, the analyst missed the 'i' which might be very short, but is surely there. The representation should be:

ˈs-sa. la:m

Ferguson quotes more of his unsatisfactory examples:

(59) ʔalla 'God'

ʔalla 'he told her'

These, according to him, are from Syrian dialect. That is from the eastern part of the Arab world. However, I would transcribe the two examples as follows:[3]

"ʔal - lāʰ" and "ʔal - lʰa".

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(1) His spelling.

(2) Not only in standard Arabic, but here too.

(3) Personal communication with Syrians.

Similarly,

(60) waḷḷa 'by God'

wɑlla 'he appointed'

Here we can see that the comment of (57) applies here as well. Furthermore, the second word here is typically calssical (the more frequent contemporary item is "ʕay - yan"), and if the classical form is meant here, the first word must have a full final 'h' which he ignores.

Finally, Ferguson seems to be uncertain of his own thesis. He writes: "the phonemic contrast between, say, 'waḷḷa' and 'wɑlla' remains no matter whether it is regarded as a vowel difference or a consonant difference".

Now, let us consider the following:

(61) ṛa.džul 'man'

xa.džu:l 'shy'

ya.lu:m 'he blames'

luʕ.bah 'a doll'

'l' here did not acquire emphaticness. It does so only in the word for 'God', and Ferguson's examples cannot refute that. Thus the phoneme /l/ has the allophone [ḷ] in standard Arabic. And because [ḷ] occurs only in the environment specified above, I shall refer to it as a "semi-emphable".

Chapter Three

The syllable structure

Phonemically, the syllable structure of Arabic seems to be as follows:

(62) 1. /C/ /b/ [bI] 'in'
/l/ [lI] 'for'
/k/ [ka] 'as'
/f/ [fa] 'then
/w/ [wa] 'and'

2. /CVC/ min 'from'
ḍaʕ 'put' (imper.)

3. /CVCC/ qalb 'heart'
ʔabb 'father'

4. /CV:/ /la:/ → [lā] 'no'
e.g. ## la: # tak.tub ## 'don't write'
/fi:/ → [fī] 'in'
e.g. ## fi: # džay.bī ## 'in my pocket'

5. /CV:C/ ʕa:m 'one year'
nu:r̥ 'light' (opp. darkness).

The first syllable only has this structure phonemically, it is not realized phonetically in its phonemic form. In its phonetic form it is realized as [CV], where 'V' is a short vowel. This is due to two reasons: first, words of this syllable structure are always involved in continuous speech, and the syntax of the language forces each of them to be

followed by a vowel. This is so because the "CC" cluster is allowed only in geminates or utterance finally. In fact, words of this syllable structure do not occur word or utterance finally, and mean nothing when geminated. Second, phonetically, there is no syllable in the language which is composed of only one segment.

The second syllable can be realized - only phonetically - as [VC]. This is when the first 'C' is a glottal stop (cf. rule (27)). Other syllables, 3 - 5 seem to be stable. Accordingly, we can say that Arabic has the following, phonetically-possible, syllable structure:

(63) 1. [CV]
2. [VC]
3. [CVC]
4. [CVCC]
5. [CV:]
6. [CV:C]

In dealing with Arabic syllable structure, Tammam Hassaan (1974) says about the second syllable:(1) "...(it is) found in whatever started with a glottal stop ... which comes [the glottal stop] accidental to the word as a means to pronounce the next consonant, or more correctly, the vowel before the consonant; in the middle of speech it never occurs. Thus, the permanent factor to be considered is the vowel and the consonant that follows it."(2)

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(1) The translation is mine.

(2) Tammam Hassaan (1974) pp.132/3.

Hasaan admits that there is always a glottal stop accompanying the syllable. This makes it reasonable to believe that it should be part of the syllable. Here, it cannot be argued that since the syntax requires a vowel for the first phonemic syllable above, it also requires a consonant for this second phonetic syllable. This is because first it was explained above why syntax requires a vowel for the first phonemic syllable; second it is a general characteristic of all semitic languages, not only Arabic, to begin a consonant, not a vowel.

Moreover, since Hassaan thinks that the glottal stop is accidental, why is it necessary, according to him, as "a means" to pronounce the next vowel? Vowels in some other languages can be pronounced without an initial glottal stop. Also, it does not sound acceptable to state that the glottal stop never occurs in the middle of speech. In reality, it does occur in the middle of speech, especially in emphasis, e.g. 'sa.ʔal' 'to ask', 'ṭɑ.ʔā', 'to see' etc.

Far more seriously, he says: "we must point out here that this syllable is only phonological, i.e. it does not exist at the phonetic level because the Arabic syllable from the phonetic point of view has to begin with a consonant".(1)

It is fairly well-known that the glottal stop can be omitted in the flow of speech in Arabic; and this is natural. Therefore the VC syllable that can be heard is

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(1) Ibid. 132/3

not phonological as Hassaan thinks it is, but only phonetic. And Arabic phonetics does not mean that Arabic syllable begins in a consonant, it is rather Arabic phonology that does so, that is, the other way round from what Hassaan thinks.

Finally, if the VC syllable were to be accepted phonologically for Arabic, it violates the syllable structure and the pattern congruity of the language. It will, then, be the only phonological syllable that begins in a vowel.

Let us quote Hassaan's example: he wrote: "is.tix.ṛɑ:dž" 'producing of something'. He said: "what concerns us here is that if we want to pronounce this word without another word preceding it, we will be obliged to pave the way to pronounce it by creating a glottal stop which is not part of it".(1)

There does not seem to be any acceptable reason for the "obligation to create" a glottal stop in order to pronounce words like this. In reality, the glottal stop is part of the word, which should be written with it, i.e. "ʔis.tix.ṛɑ:dž". Hassaan went on "if we say for example 'ʔɑmṛu(2) is tix ṛɑ:dž', 'order of producing something' we will not be obliged to create this glottal stop i.e. for the second word. Why? Because the 'ṛ' of the word 'ʔɑmṛu' did the job ... if the syllable, from the phonetic point of view, is the total of the glottal stop, the short-high vowel and the 's' in the first case; and the total of 'ṛ', the vowel(3)

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(1) Ibid.132/3

(2) It was not clear how he spells it but it has to have the final 'u' in this context according to Arabic syntax.

(3) He did not state which vowel and this makes it very obscure because there are two, i.e. 'u' and 'i'.

and the 's' in the second case; it is from the phonological point of view composed of the vowel[1] and the 's' only. Because both the glottal stop and the 'r' are accidental and new comers to the word."[2] So, according to him:

/is tix ṛɑ:dž/ ⟶ [ʔis.tix.ṛɑ:dž]

ʔamṛu is tix ṛɑ:dž

ʔis = syllable
ṛuis[1] = syllable
} phonetically

vowel + s[1] = syllable } phonologically

The situation as I see it is as follows:

/ʔis.tix.ṛa:dž/

/ʔamṛ/

##ʔ amṛu #ʔ is tix ṛa:dž ##

(27) ʔ amṛu is tix ṛa:dž

(29) ʔ amṛu s tix ṛa:dž

S.D. ʔam.ṛus.tix.ṛa:dž

S.F. [ʔam.ṛus.tix.ṛɑ:dž]

At a syllable division stage, the 's' is moved to be with 'ṛu' because no syllable in Arabic begins in 'CC'.

Ramadān 'Abd al-Tawāb (1980) maintains that no syllable in Arabic begins in a vowel. He lists five syllables for Arabic as: CV, CV:, CVC, CV:C and CVCC. However, he believes that CV: only occurs utterance finally because he gives as an example for it, the word "fī" 'in' which, according to him, would be written "fi:". I do not accept this for reasons

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(1) See note (3), page 57.

(2) Ibid. 132/3

explained earlier.[1] Moreover, in describing the length of the five syllables, he does not seem to be accurate. He states:

CV	short
CV:	long
CVC	long
CV:C	long
CVCC	extra long

In reaction to this, I would argue that if he considers CV: and CVC to be long, then he should have considered CV:C. extra long, as CVCC.

To me, the short ones are those with short vowels, i.e. CV, CVC, CVCC, and the phonetically possible ∅VC; and the long ones are those with long vowels, i.e. CV: and CV:C. Moreover, like Hassaan, 'Abd al-Tawāb seems to be unaware of what is phonetic and what is phonological. He did not say anything about the syllable CV except that it exists.

In a similar situation to 'Abd al-Tawāb's treatment of short/long syllables, T.F. Mitchell (1960) considers the syllable CVV closed, and classifies it with CVC and CVVC.

I believe that this is dragging the theory to extremes of abstractness. If we were to be too abstract we will argue that by the same token both CVC and CVV do not have the same properties, i.e. the number of Cs and Vs, nor do they have the same order; accordingly why should they have

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(1) See the vocalic system, p 35

the same label "closed"? Moreover, CVVC is quite different and should have a different label as well. Even more strikingly, if CVV were to be considered closed, what is wrong with CV? It should be considered closed too, by Mitchell, but it is not.

It seems to me that the argument that a syllable which is composed of more than two segments is to be considered closed, does not stand on solid ground.

Chapter Four

Assimilation

Certain consonants assimilate completely to the next consonant, even when they are not in the same syllable, provided of course no segment intervenes between them. Examples:

1. The lateral /l/ of the definite article 'ʔal' 'the' assimilates into the consonant that follows it, i.e. the initial of the word that follows the definite article and acquires its features if that consonant is a coronal except /dz/. Examples:

(64)

phonemically		phonetically	gloss.
ʔal tamṛ	→	(ʔ)a t - tamṛ	the dates
ʔal θawb	→	(ʔ)a θ - θawb	the dress
ʔal dars	→	(ʔ)a d - dars	the lesson
ʔal ðanb	→	(ʔ)a ð - ðamb	the sin
ʔal ṛaʔs	→	(ʔ)a ṛ - ṛaʔs	the head
ʔal za:d	→	(ʔ)a z - za:d	the food
ʔal sayl	→	(ʔ)a s - sayl	the rain
ʔal šams	→	(ʔ)a š - šams	the sun
ʔal ṣaħn	→	(ʔ)a ṣ - ṣaħn	the plate
ʔal ḍawʔ	→	(ʔ)a ḍ - ḍawʔ	the light
ʔal ṭinb	→	(ʔ)a ṭ - ṭɨmb	the tent rope
ʔal ẓulm	→	(ʔ)a ẓ - ẓulm	the tyranny
ʔal nahr	→	(ʔ)a n - nahṛ	the river

But we notice the following:

(65) ʔal džayš ⟶ ʔal džayš 'the army'

Brame (1970) thinks that the reason why /dž/ does not assimilate to /l/ is because it is originally 'g', and 'g' is not a coronal. However, even if /dž/ is originally 'g' we know that /dž/, not 'g' is used in Arabic for over two thousand years. One would wonder then why generations of Arabs who do not know of 'g' did not assimilate the coronal /dž/ like the rest. I think it is rather hard to prove Brame's point.

Thus we can state the following rule:

(66) $$C \longrightarrow \begin{bmatrix} -\text{lateral} \\ \propto \text{feature} \end{bmatrix} / \_\_ \begin{bmatrix} +\text{coronal} \\ \propto \text{feature} \\ \sim[+\text{del.rel.}] \end{bmatrix}$$

2. The phoneme /n/ is realized as [m] before /b/. Examples:

(67) /ṭinb/ ⟶ [ṭɨmb] 'tent rope'
/ðanb/ ⟶ [ðamb] 'sin'
/dzanb/ ⟶ [dzamb] 'side'

Accordingly:

(68) $$[+\text{nas.}] \longrightarrow [-\text{cor.}] / \_\_ \overset{C}{\begin{bmatrix} -\text{nas.} \\ -\text{high} \\ -\text{cor.} \\ +\text{ved.} \\ -\text{back} \end{bmatrix}}$$

It can also assimilate into the glide /y/ that follows it. Examples:

(69) /ʔan ya.ku:n/ ⟶ [ʔay ya.ku:n] 'to be'

/man yað.hab/ ⟶ [may yað.hab] 'who goes'

Accordingly:

(70) $\begin{bmatrix}+\text{nas.}\\+\text{cor.}\end{bmatrix} \longrightarrow \begin{bmatrix}-\text{cons.}\\-\text{syll.}\\-\text{back}\end{bmatrix} / \text{—} \begin{bmatrix}-\text{syll.}\\-\text{cons.}\\-\text{back}\end{bmatrix}$ (Tentative)

It can also assimilate into the liquid that follows it. Examples:

(71) /ʔan la:/ ⟶ [ʔal lā] 'not to be'

/ʔin ṛa:ħ/ ⟶ [ʔiṛ ṛa:ħ] 'if he/it goes'

/ʔin /ma:t/ ⟶ [ʔim ma:t] 'if he/it died'

Accordingly; we can revise (70) as follows:

(72) $\overset{C}{\begin{bmatrix}+\text{nas.}\\+\text{cor.}\end{bmatrix}} \longrightarrow [\alpha\text{feature}] / \text{—} \begin{bmatrix}+\text{son.}\\-\text{voc.}\\\alpha\text{feature}\end{bmatrix}$ (Revised)

Finally, /n/ is realized as [ŋ] before /k/. Examples:

(73) /ʔin kunt/ ⟶ [ʔiŋ kunt] 'if you (were)'

/man ka.tab/ ⟶ [maŋ ka.tab] 'who wrote'

Accordingly:

(74) $\begin{bmatrix}+\text{nas.}\\+\text{cor.}\end{bmatrix} \longrightarrow \begin{bmatrix}-\text{ant.}\\+\text{back}\end{bmatrix} / \text{—} \begin{bmatrix}+\text{high}\\+\text{back}\\-\text{ved.}\\-\text{cont.}\end{bmatrix}$

3. Both /t/ and /d/ assimilate to a following /ṭ/ or /ḍ/; and to each other. Examples:

(75) /qad ṭɑ:r/ ⟶ [qaṭ ṭɑ:ṛ] 'he/it has flown'

/qad taʕib/ ⟶ [qat taʕib] 'he/it got tired'

/qad ḍa:ʕ/ ⟶ [qaḍ ḍa:ʕ] 'he/it has got lost'

/ṛɑ.faḍt/ ⟶ [ṛɑ.fatt] 'I refused'

/xa.laṭṭ/ ⟶ [xa.latt] 'I mixed'

/ba:.ʕat di:.kan/ ⟶ [ba: .ʕ ad di: . kan] 'she sold a cock'

/ba:.ʕat ṭab.lan/ ⟶ [ba: .ʕ aṭ ṭab.lan] 'she sold a drum'

/ba:.ʕat ḍab.yan/ ⟶ [ba: .ʕ aḍ ḍab.yan] 'she sold a deer'

Accordingly:

(76)
$$\begin{bmatrix} C \\ +cor. \\ -nas. \\ -cont. \\ -del.rel. \\ \pm vcd. \\ \pm emph. \end{bmatrix} \longrightarrow \begin{bmatrix} \alpha\, vcd. \\ \alpha\, emph. \end{bmatrix} / \_\_ \begin{bmatrix} -cor. \\ -nas. \\ -cont. \\ -del.rel. \\ \alpha vcd. \\ \alpha emph. \end{bmatrix}$$

4. The phoneme /t/ can be realized as [d] after /z/. Examples:

(77) /ʔiz.ta:d/ ⟶ [ʔiz.da:d] 'it increased'

/ʔiz.ta:n/ ⟶ [ʔiz.da:n] 'it became nice'

Accordingly:

(78)
$$\begin{bmatrix} C \\ +cor. \\ -nas. \\ -del.rel. \end{bmatrix} \longrightarrow [-vcd.] / \begin{bmatrix} C \\ +sib. \\ -emph. \\ +vcd. \end{bmatrix} \_\_$$

Also /t/ can be realized as [ṭ] after either /ṣ/ or /ḍ/.

Examples:

/ʔiṣ . ta . naʕ/ ⟶ [ʔiṣ . ṭa . naʕ] 'he pretended'

/ʔiḍ . ta . had/ ⟶ [ʔiḍ . ṭa . had] 'he oppressed'

Accordingly:

(80) $$\begin{bmatrix} C \\ +cor. \\ -nas. \\ -del.rel. \end{bmatrix} \longrightarrow [+emph.] \Big/ \begin{bmatrix} C \\ +emph. \\ +cor. \end{bmatrix} \_\_$$

Chapter Five

Stress

Is stress phonemic?

It is indisputable that language is not spoken in the same pattern by all of its speakers. Speech differs from one person to another, and from region to region. Differences in intonation, pitch, tone, intensity or voice quality constitute the differences among individuals, or more so, the regions of the same language.

Such differences may well affect stress placement, but their effect does not disturb understand 'ing. The best they show is dialect identification (cf. Pike 1947b).

In words with the same segments but different meanings, we can say that intensifying or stressing one part rather than the other, cannot be taken as the only cause for difference in meaning. Consider the following:

(81) a) rep´ort b) ´report
obj´ect ´object

In a) each word has its first vowel [+lax] and its second vowel [+tense]. In b), on the other hand, it is the other way round, the first vowels are [+tense] and the second ones are [+lax].

Here, it might be argued that the difference in vowel quality is caused by the shift in stress. This argument can be easily refuted because we can say that, by the same token, the shift in stress is caused by the difference in vowel quality. In fact, we can support this idea by examples from

Arabic. Consider the following:

(82) a)	/ʔak . ṛa . mu:/	⟶	[ʔak . ṛá . mū]	'they awarded'
b)	/ʔak . ṛam/	⟶	[ʔák . ṛa . mv]	'more generous'
a)	/ʔaħ . sa . nu:/	⟶	[ʔaħ . sá . nū]	'they donated'
b)	/ʔaħ . san/	⟶	[ʔáħ . sa . nv]	'it is better'
a)	/ʔas . la . mu:/	⟶	[ʔas . lá . mū]	'they became Muslims'
b)	/ʔas . lam/	⟶	[ʔás . la . mv]	'It is more proper'

Here, the phonetic shape, though it looks very similar, differs not only in stress placement. The final vowels in a's) are all [+tense] because they are [+long] in the U.F. The final vowels in b's), however, are all [-lax] because they are [+short] in the U.F. and in fact not part of the word, but syntactically required in continuous speech. That is, the canonical shape of those in b) is 'CVC . CVC', i.e. without the final vowel. So, that final vowel does not affect stress placement. The canonical form of those in a) is 'CVC . CV . CV', hence stress placement is different from b) (see below).

Stress placement in Arabic

In traditional Arabic linguistics, stress did not attract much attention of the Arab grammarians. It was regarded as less important than other areas in language study. This seems to be true, but it would be interesting to try to account for, and discover the regularity of stress placement. In Arabic, however, we can say that the syntactically-required suffix 'V(C)' does not affect stress placement.

This is in spite of the fact that it affects syllables division and syllable numbers in words. Examples:

(83) 'mare' fá . ṛɑs
fá . ṛɑ . sɾ
fá . ṛɑ . sun

'book' ki . tá:b
ki . tá: . bɾ
ki . tá: . bun

Accordingly, I shall treat stress irrespective to that suffix.

Stress placement regularity, it seems, owes a great deal to the syllable structure, on the one hand, and the number of syllables in the word, on the other hand.

However, since stress falls on a vowel, monosyllabic words do not seem to posit any problems. This is because the vowel in a monosyllabic word will bear the stress regardless of the length of the vowel or the phonemic structure of the word. Examples:

(84) mín 'from'
ʕú:d 'rod'
xúbz 'bread'
ʕázm 'determination'
ṣɑ́:d 'he caught'

That is:

(85) $V \longrightarrow$ [+stress] / C —— CC_o^1

Apart from the monosyllabic words, the following seems to be the case:

I. When a word ends in a consonant cluster ' —— CC', the stress falls on the final syllable. Examples:

(86) fa . hímt 'I understood'
ʕa: . mált 'I treated'
ta . kal - lámt 'I spoke'
ʔiš . ta . ɣált 'I worked'
ta . ṛɑ: . hánt 'I bet 'with someone''

Accordingly:

(87) V ⟶ [+stress] / $_1$ C —— CC ##

II. Stress falls on the third vowel from the end provided that the last three syllables are short and the two syllables before the last are open. Examples:

(89) 1. qá . la . mī 'my pen'
dá . xa . lat 'she entered'
ḅú . xa . lā 'misers'
fá . ṛɑ . suh 'his mare'

2. mun . tá . za . hī 'my country home'
man . zí . lu . kum 'your house' (pl. masc.)
qa: . ʔí . du . hum 'their leader'

3. qi: . θa: . ṛá . tu . kum 'your guitar' (pl. masc.)
ma . ðá: . hí . bu . nā 'our principles'
qa . ṣɑ: . ʔí . du . hā 'her poems'

Accordingly:

(90) V ⟶ [+stress] / ($)$_0$ C —— . C V [-long] . C V [-long] C$_0^1$

III. Elsewhere from above, stress falls on the second vowel from the end. Examples:

(91) 1. qá . lam 'pen'
dún . yā 'world'
xáṣ . muk 'your opponent'
há . wā 'he fell'/'love'
ḍú . ħā 'late morning'

qá: . dī 'judge'
wá: . ħid 'one'
la . ʕú:b 'playful'
maš . ɣú:l 'busy'

qa: . nú:n 'law'
ṭu: . fá:n 'flood'
mi: . ʕá:d 'appointment'
ʔa: . mí:n 'Amen'

2. ʔix . tá . fā 'he/it disappeared'
qaṣ . dú . kum 'your intention'
ta . ħád - dā 'he challenged'
ta . kál - lam 'he spoke'
ʔis . ṭáb . luk 'your stable'
ħi: . lá . tuk 'your trick'
ṣɑ: . ħí . bī 'my friend'
ka . tí: . bah 'battalion'
ħa . ka . má:n 'two referees'
ṣa . ħáw . nā 'we woke up'
ma . šáy . nā 'we walked'

	mas . ʔu: . lú:n	'responsible/officials' (pl. masc.)
	ta . ħad - dá:k	'he challenged you' (sg. masc.)
3.	ta . kal - lám . nā	'we spoke'
	ʔis . ṭab . lú . hum	'their stable' (masc.)
	sa: . ʕa . dát . kum	'she helped you (pl. masc.)
	qa: . ʔi . dá: . nā	'our 'two' leaders
	ṣa . di: . qú . hā	'her boy-friend'
	ṣa . di: . qá: . hā	'her two boy-friends'

Accordingly:

(92) $V \longrightarrow [+\text{stress}] \; / \; \text{——} \; C_o^2 \; \underset{[-\text{long}]}{V} \; C_o^1 \; \#\#$

Section Two

Morphophonemics in standard Arabic

Treatment

In this section, nouns will be grouped according to their plural forms. The dual form will not be discussed. This is due to the fact that there is very little to be said about it, because it is straightforward and regular. It is obtained by simply adding one of the suffixes 'a:n'/'ayn' to the singular form; and syntax decides which of the suffixes should be used according to the syntactic position of the noun. Accordingly, the dual form will not be listed unless seen to be of clear significance. Similarly, the regular plural morpheme is one of the suffixes 'u:n'/'i:n' depending on which syntactic position the noun is in. Regular nouns are straightforward and are obtained by adding the right suffix to the singular form. The singular form has no particular marker.

In fact, a lot of nouns do not take a plural suffix; they rather undergo different vowel insertion from that of the singular. And sometimes with a particular suffix. It is these nouns that are our main interest here. However, sometimes there is more than one plural form, and in such cases both forms will be considered if the two are thought to be common. It is thought here, however, that verbs are far more consistent, predictable and systematic in their paradigms

than nouns or adjectives. Accordingly, the different forms of verbs conjugation are not discussed. Instead samples of that is provided in Appendix I p.214.

The underlying form

In traditional Arabic linguistics, there are two well-known schools: the Kufah and the Basrah, that addressed themselves - not exactly to the analysis and establishment of the U.Fs. of words in its present sense in modern linguistics - but rather to an attempt to make a root/branch dichotomy of words. That is, which word is the basic one in the paradigm.

Both schools argue over verb/infinitive. One considering the verb to be the root, while the other believes that it should be the infinitive. Let us look at the viewpoint and reasoning of each school.(1)

The Kufah(2)

They believe that the verb is the root and the infinitive is a branch. Their reasoning is:

1. If the verb is sound, the infinitive is sound, otherwise it is not. Example:

qa: . wa . mæ	'he resisted'
qi: . wa: . man	'resisting'(3)
qa: . mæ	'he stood'
qi . ya: . man	'standing'

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(1) Al-Anbari, Vol.1 Issue 28 pp.235-245.
(2) The translation is mine.
(3) Markedly so.

2. The verb influences the infinitive. Examples:

ḍɑ . ṛɑb . tu	'I hit'
ḍɑṛ . ban	'hitting'

3. Infinitive emphasizes the verb, and thus the verb is more important. Also, there are verbs without infinitives, like the following:

niʕm	'well'
biʔs	'shame'
lays	'not'

4. Infinitive meaning cannot be conceived unless it is an action of a verb.

The Basrah

They believe that the infinitive is the root and the verb is a branch. Al-Anbari supports this school. Their reasoning is as follows:

1. Infinitive expresses an unspecific time, while verb expresses a specific time, i.e. past, present and future.

2. Infinitive is a noun which can be by itself without a verb; but the verb cannot be by itself and needs a noun.

3. The verb expresses two things: the action and the time; but the infinitive expresses one thing and that is the action.

4. The infinitive has one form, e.g. 'ʔaḍ-ḍ ṛb' 'the hitting', but the verb has different forms.

5. The verb in its form expresses what the infinitive expresses, but the infinitive does not express what the verb expresses.

6. Infinitive would have a certain fixed pattern if it were derived from the verb; as subjects and objects do. But since infinitive has different shapes, like:

ṛɑ . džūl	'man'	tu . ṛɑ:b	'sand'
ma:ʔ	'water'	zayt	'oil'

7. Infinitive is the root as its name suggests, which is: 'maṣ . dar' meaning 'source'.

Comment

It seems clear that the argument of both schools is mainly semantically and syntactically oriented. Neither school considers the phonological aspect of the word. Moreover, the phonemic/allophonic distinction is not mentioned here.

However, the two verbs suggested by the Kufah school, 'qa: . wa . mæ' and qa: . mæ' can be accounted for by showing that although they both have a tri-segmental U.F., they belong to two different semantic formations. Let us treat each verb in turn; and we shall start with 'qa: . mæ'.

'qa: . mæ'

First of all, the final vowel is not part of the word.(1)

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(1) See the vocalic system p. 35-42.

So, we are dealing with 'qa:m'. The U.F. is /qwm/. However, to get to the S.F., first, the vowel 'a' is inserted after the first consonant; that is the VIR for this verb is:

$$CCC \longrightarrow CaCC$$

Then, a rule ((120) p.92) assimilates the glide to the preceding vowel 'a', and the result if 'qa:m'.

The important point to be made here is that verbs of the form 'Ca:C' like qa:m' are simple verbs; i.e. there is no 'marked' semantic intention in them. For example, 'qa:m' simply means 'stood' (sg. masc.). And because this form is the simplest one, it is taken by the Arab grammarians to be the base for inflection and derivation analyses.

'qa: . wa . mæ'

Here too, the final vowel is not part of the word.(1) So we are dealing with 'qa: . wam', and the U.F. is also /qwm/. However, before trying to get to the S.F., let us first make it clear that 'qa: . wam' is not a simple verb. That is, there is a marked semantic intention in it. Not only in this verb in particular but also in all verbs of the form 'Ca:CaC'. Consider the following:

(93)	Ca:C		CaCaC
	na:l	'he got'	na: . wal
	sa:m	'he bargained'	sa: . wam
	ga:l	'he said'	qa: . wal

---

(1) See the vocalic system p.35-42.

All verbs of the form 'Ca: . CaC' express and emphasize mutuality and reciprocity of the action between the subject and the object. So 'na:l' means 'he got (something)', but 'na: . wal' means 'he has something and he is letting someone else have that something'. Similarly, 'qa:m' means 'he stood', but 'qa: . wam' means 'he struggled with someone/thing to stand'.(1)

This form 'Ca:CaC' has its own formation rule. Let us call it "marked formation" (MF), which can be shown as follows:

CCC ⟶ Ca:CaC

Now, we can derive 'qa: . wam' as follows:

'qa: . wam'	U.F.	/qwm/
	(MF)	qa:wam
	S.D.	qa: . wam
	stress	qá: . wam
	S.F.	[qá: . wam]

Now, as for 'qi.ya: . man' and 'qi . wa: . man', we note first that the final '— an' in both is not part of the word, so, we are dealing with 'qi . ya:m' and 'qi . wa:m'. However, it should be made clear that while 'qi . ya:m' is the common noun of the verb 'qa:m'; 'qi . wa:m' is not the common noun of the verb 'qa: . wam'. The common meaning of 'qi . wa:m' is 'core, structure';(2) and the noun of the

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(1) The English translation of 'qa: . wam', 'resisted' is only equivalent.

(2) ʔbn Manzur: Vol.3, pp.191-6.

verb 'qa: . wam' is 'mu . qa: . wa . mah'. In fact, 'qi . wa:m' as the noun of 'qa: . wam' is hardly accepted.

It is the phonological aspect of the word that we will take to be the base for determining its U.F. That is, the alternations of sounds, the insertion/deletion or change that the basic segments in the word undergo until the word is realized in its S.F.

The U.F. is rarely a lexical item. It is the skeleton of the word, its structural segments that are there every time the word is used regardless of the grammatical category in which the word falls, e.g. verb, noun, infinitive, adjective, etc. However, a member or more of the structural segments might undergo a phonetic change, might be deleted, or something might be inserted during the course of derivation. Such changes take place due to phonetic, phonological, or broadly speaking, grammatical reasons. But the underlying segment is always there underlying; and its absence can be accounted for by rules.

In Arabic, the U.F. of a word seems to be regularly the consonants that are involved in the structure of the bare word, i.e. the word without any additions like a suffix, a prefix, an added morpheme or anything else. These structural segments may or may not include (a) glide(s). This means that a glide plays the role of an underlying segment like a consonant. The only difference is that, unlike a consonant, a glide may unite with a short vowel forming a long vowel. This possibility will be specified by rules. These underlying segments are mostly three in a word, sometimes four, and rarely more.

Vowels do not seem to be underlying, but what can be thought to be underlying about them is the fact that the presence of at least one vowel in a word is obligatory. However, the position(s) and the quality of the vowel(s) is/are not predictable and is/are pattern-specific. Therefore, it seems reasonable to content ourselves with the consideration of the consonants in setting up the U.F. and the assertion that there is/are (a) vowel(s) somewhere in the word whose position(s) has/have to be specified by rules. And accordingly, such rules will be pattern-specific and are called vowel insertion rules (VIR).

A long vowel occurs either as part of the VIR, or as a combination of short vowel (which is inserted by the VIR) and an underlying glide. Such a combination will be specified by rules.

Chapter One

Masculine

I. Tri-segmental

I. CuCC(a:n)

1. Consider the following:

(94)	Sg.		Pl.
	ʔaf . ṭas	'snub-nosed'	fuṭs
	ʔa . ṣamm	'dumb'	ṣumm
	ʔas . wad	'black'	su:d
	ʔab . yaḍ	'white'	bi:ḍ
	ʔaʕ . mā	'blind'	ʕumy

Another plural form for these nouns is :

fuṭ . sa:n

ṣum - ma:n

su: . da:n

bi: . dɑ:n

ʕum . ya:n

Initial 'ʔa'

In nouns like these we notice that 'ʔa' is a common denominator prefixed to all of them. It does not appear in either plural forms; and accordingly, this would suggest that 'ʔa' is not part of the U.F. of the noun, but only a prefix in the singular and dual forms. The dual form of the above nouns is as follows:

(95) ʔaf . ṭɑ . sa:n

ʔa . ṣɑm - ma:n

ʔas . wa . da:n

ʔab . ya . ḍɑ:n

ʔaʕ . ma . ya:n

The singular VIR is:

(96) CCC ⟶ CCaC Sg. I.1

Accordingly:

U.F.	/fṭs/
(96)	fṭas
Prefix	ʔafṭas
S.D.	ʔaf . ṭas
Stress	ʔáf . ṭas
S.F.	[ʔáf . ṭɑs]

Rule (96) works well for all the forms in (94) except for the second example 'ʔa . ṣamm'. If we apply (96) to /ṣmm/ we would get *'ʔa . ṣamm'. This does not mean that the rule is incorrect, but would rather indicate that a metathesis has taken place here. That is the first 'm' and the following 'a' have exchanged places. Accordingly, we can state the following rule:

(97) met. CCaC ⟶ CaCC

Condition: $C_2 = C_3$

(Tentative)

And now we can derive 'ʔa . ṣamm' as follows:

U.F.	/ṣmm/
(96)	ṣmam
(97)	ṣamm

Prefix	ʔaṣamm
S.D.	ʔa . ṣamm
Stress	ʔa . ṣámm
S.F.	[ʔa . ṣámm]

However, the last example of them 'ʔaʕ . mā' needs a bit more attention.

From early discussion, (pp.36-40) we know that words like 'ʔaʕ . mā' do not, phonemically, end in a short vowel. Accordingly, the word 'ʔaʕ . mā' cannot, underlyingly, be as it looks. And with the statement on p. 36 in mind, it is not necessarily only one possibility, namely that the final vowel of 'ʔaʕ . mā' is underlyingly long. In fact there could be a missing final segment, and this seems to be the case here.

This hypothesis of a missing final segment is supported by the dual and both plural forms of 'ʔaʕ . mā'. Also, significantly, it is supported by the canonical form of the other singular nouns in the group. This would strongly indicate that there is an underlying glide /y/ at the end of the word, which is deleted. Thus, we can state the following rule:

(98) $\begin{bmatrix}-\text{cons.}\\-\text{voc.}\\-\text{back}\end{bmatrix} \longrightarrow \phi \;/\; V \;\_\_\; \#\#$

This rule should automatically feed rule (30) and 'ʔaʕ . ma' should look like 'ʔaʕ . mæ', but we actually have the S.F. 'ʔaʕ . mā'. We postulate then, that when a segment is deleted word finally, the vowel before it becomes long. Accordingly, we can state the following rule:

(99) $V \longrightarrow [+\text{long}] \;/\; \_\_\; \phi \;\#\#$

(Tentative)

This rule feeds rule (31) and eventually we get the S.F. 'ʔaʕ . mā' which we actually have.

The reason to postulate this and exclude rule (30) is firstly, that the native speaker does not say 'ʕaʔ . mæ' but 'ʔaʕ . mā', and secondly, it seems reasonable to believe that when a final segment is deleted the vowel before it becomes long to keep the balance of the canonical form. And besides, a linguist does not invent the rules, he rather discovers them.

Accordingly, the above discussion would suggest that the process of deriving 'ʔaʕ . mā' should be as follows:

U.F.	/ʕmy/
(96)	ʕmay
Prefix	ʔaʕmay
(98)	ʔaʕma
(99)	ʔaʕma:
(31)	ʔaʕmā
S.D.	ʔaʕ. mā
Stress	ʔáʕ . mā
S.F.	[ʔáʕ . mā]

That is rule (98) feeds (99) which in turn feeds (31). So, since they are in feeding order, their application has to be in the order shown above.

Finally, we notice that among the singular nouns in (94) the noun 'ʔa . s̱amm' does not have the same syllable structure as the rest of the other nouns.(1) This anomaly

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(1) Hence is the difference in stress placement.

can be resolved when we recall that the syllable structure of the language tells us that a syllable may not begin in a vowel. Accordingly, the consonant (ṣ) has to join the second syllable as a result of the metathesis that took place (rule (97). For the same reason (of the syllable structure, not as a result of a metathesis) the glide 'y' which appears in the dual form 'ʔaʕ . ma . ya:n' in (95) did not stay in the second syllable, where it belongs, but had to join the dual suffix 'a:n'.

Looking at the plural forms in (94) we notice that except for 'su:d' and 'bi:ḍ' all seem to be straightforward. 'su:d' and 'bi:ḍ' should, according to the pattern of this plural, be 'suwd' and 'buyḍ' respectively. However, since they look different they need special attention.

First of all, the plural VIR for this group can be stated as follows:

(100) CCC ⟶ CuCC(a:n) Pl. I.1

Applying this rule to the U.F. of 'su:d' and 'bi:ḍ', we get:

U.F.	/swd/	/byḍ/
(100)	suwd	buyḍ
	↓	↓
S.F.	[su:d]	[bi:ḍ]

Now, having applied (100) and got the S.F. as it looks, we can tell that two rules must have applied. Namely:

(101) $\begin{matrix} V \\ [+high] \end{matrix} \longrightarrow [\alpha back] \,/\, \_\_ \begin{bmatrix} -voc. \\ -cons. \\ \alpha back \end{bmatrix}$

(102) $$[-\text{cons.}] \longrightarrow \begin{bmatrix}+\text{voc.}\\ \alpha\text{back}\end{bmatrix} / \begin{bmatrix}\overset{\text{V}}{+\text{high}}\\ \alpha\text{back}\end{bmatrix} \_\_$$

(Tentative)

This does not mean that both (101) and (102) are needed to derive 'su:d' and 'bi:ḍ'. In fact it is not necessary to apply rule (101) during the derivation process of 'su:d' because (100) does the job. The derivation of 'su:d' would look as follows:

U.F.	/swd/
(100)	suwd
(102)	suud
Stress	súud
S.F.	[sú:d]

To derive 'bi:ḍ', the situation is rather different. In fact, not only are both (101) and (102) needed but the order of their application is crucial. Rule (101) has to apply before (102). The derivation of 'bi:ḍ' would be as follows:

U.F.	/byḍ/
(100)	buyḍ
(101)	biyḍ
(102)	biiḍ
Stress	bíiḍ
S.F.	[bí:ḍ]

If rule (102) applies before (101) we would get the wrong result *'bu:ḍ' and the application of rule (101) would then be blocked.

Another singular form that takes the same canonical plural shape is:

2.

Sg.		Pl.
ṛa: . kib	'rider'	ṛakb(1)
ṣa: . ħib	'companion'	ṣaħb(2)

We can state the following rule as the singular VIR.

(103) CCC ⟶ Ca:CiC Sg. I.2

And for the plural, the VIR is:

(104) CCC ⟶ CaCC Pl. I.2

Accordingly:

Singular:	U.F.	/ṛkb/
	(103)	ṛa:kib
	S.D.	ṛa: . kib
	Stress	ṛá: . kib
	S.F.	[ṛá: . kib]
Plural:	U.F.	/ṛkb/
	(104)	ṛakb
	Stress	ṛákb
	S.F.	[ṛákb]

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(1) Also ṛuk.ba:n and ṛuk - ka:b.

(2) Also ṣi.ħa:b and ʔaṣ.ħa:b.

II. CVCVC

Consider the following:

		Sg.		Pl.
1.	(105)	xa: . dim	'servant'	xa . dam / xud - da:m
		ħa: . ris	'guard'	ħa . ṛas / huṛ - ṛa:s
2.		ki . ta:b	'bank'	ku . tub
		ṛa . su:l	'messenger'	ṛu . sul

In 1. the singular VIR is (103). That is:

(103) + Sg. II.1.

In 2., however, the vowel specification does not seem to be possible, but the quality of shortness/length is regular. Accordingly, the singular VIR for 2. can be as follows:

(106) CCC ⟶ CVCV:C Sg. II.2.

The plural VIR for 1. is as follows:

(107) CCC ⟶ CaCaC Pl. II.1.

And 2. has the following VIR:

(108) CCC ⟶ CuCuC Pl. II.2.

The other plural form in 1. has the following VIR:

(109) CCC ⟶ CuCCa:C

III. CVCV:C

Here too there are two different plural patterns under this canonical form.

1. Consider the following:

(110)

	Sg.		Pl.
(A)	baɦr̥	'sea'	biɲa:r̥
	r̥umɦ	'spear'	rima:ɦ
	θawb	'dress'	θiya:b
	d̥aby	'deer'	d̥iba:ʔ
(B)	dža . bal	'mountain'	dži . ba:l
	dža . mal	'camel'	dži . ma:l
	r̥ɑ . džul	'man'	ri . dža:l

In (A) the vowel does not seem to be predictable so we can state the following VIR:

(111) CCC ⟶ CVCC Sg. III. 1. (A)

In (B) the first vowel seems to be regular but the second does not, although it seems regularly short. Accordingly, we can state the following VIR:

(112) CCC ⟶ CaCVC Sg. III.1. (B).

For the plural we can state the following VIR:

(113) CCC ⟶ CiCa:C Pl. III.1.

This rule has to be used to derive all nouns in 1. but this does not mean that it is the only rule needed. Let us look at 'θawb' and 'd̥aby':

To derive 'θiya:b', rule (102) has to apply after (113), otherwise we would get the incorrect result *'θiwa:b'. That is:

U.F.	/θwb/
(113)	θiwa:b
(102)	θiya:b
S.D.	θi . ya:b
Stress	θi . yá:b
S.F.	[θi . yá:b]

And similarly, if we were to use only rule (113) to derive the plural of 'ḍaby', we would get the wrong result *'ḍiba:y'. Accordingly, another rule must be involved after the application of (113), which seems to be the following:

(114) $$[-\text{voc.}] \longrightarrow \begin{bmatrix}+\text{cons.}\\+\text{low}\\-\text{cont.}\end{bmatrix} \Big/ \$ \ . \ C \begin{bmatrix}V\\+\text{long}\\-\text{high}\end{bmatrix} \ \_\_ \ \#\#$$

That is: (Tentative)

U.F.	/ḍby/
(113)	ḍiba:y
(114)	ḍiba:ʔ
S.D.	ḍi . ba:ʔ
Stress	ḍi . bá:ʔ
S.F.	[ḍi . bá:ʔ]

2. Consider the following:

(115) (A)

Sg.		Pl.
džild	'skin'	džu . lu:d
šayx	'minister'	šu . yu:x

	xaṭṭ	'line'	xu . ṭu:ṭ
(B)	ʔa . sad	'lion'	ʔu . su:d
	ma . lik	'king'	mu . lu:k
	na . mir	'tiger'	nu . mu:r

In (A) the vowel does not seem to be regular, so it has to be listed. Accordingly, the VIR would be (111). That is:

(111) + Sg. III.2. (A)

In (B), however, the situation is very similar to that in 1.(B). Thus, the VIR (112) applies here too.

(112) + Sg. III.2. (B)

The plural VIR is as follows:

(116) CCC ⟶ CuCu:C Pl. III.2.

IV. ʔaCCa:C

Consider the following:

(117) (A)

Sg.		Pl.
ʕi:d	'feast'	ʔ { aʕ . ya:d
su:q	'market'	ʔ { as . wa:q
ba:b	'door'	ʔ { ab . wa:b

Nouns like these indicate that in monosyllabic words, a long vowel is only phonetically long. That is, phonemically, it is a result of a phonological process involving a glide and one or two short vowels. The plural form above supports the hypothesis that a glide exists in the U.F. of these nouns. Moreover, the fact that these nouns fall in a group of a tri-segmental U.F. makes it clear that a glide exists in their U.F.

However, in the first two nouns 'ʕi:d' and 'su:q' it is easy to see which glide is involved with which vowel. This can be seen in the light of rule (101) p.84. Accordingly, their U.F. are /ʕyd/ and /swq/ respectively. The main question here, though, concerns nouns of the form Ca:C like 'ba:b' above, and the determination of their U.F.

Nouns of the form Ca:C

Since the vowel 'a' is [-front] then the glide involved with it would be 'w', rule (102). Accordingly, the U.F. of nouns like 'ba:b' is /cwc/, that is, /bwb/ for 'ba:b', and for which the canonical form is 'CawC'. However the fact that the back glide takes the features

of the low vowel does not seem to be a phonological fact. Consider the following:

(118)	ħawl	'one year'	ħa:l	'condition'
	ɣawṛ	'deepness'	ɣa:ṛ	'cave'
	ʕawm	'swimming'	ʕa:m	'one year'
But	*xawl		xa:l	'uncle'
	*bawb		ba:b	'door'
	*tawdž		ta:dž	'crown'
And	θawb	'dress'	*θa:b	
	džayš	'army'	*dža:š	
	layθ	'lion'	*la:θ	
(119)	qawl	'saying'	qa:l	'he said'
	xayṭ	'thread'	xa:ṭ	'he sewed/threaded'
	ṣɑwm	'fasting'	ṣɑ:m	'he fasted'
	šayl	'carrying'	ša:l	'he carried'
	ṣɑyd	'hunting'	ṣɑ:d	'he hunted/caught'
	dawṛ	'a turn'	da:ṛ	'he turned'

Examples like these indicate that when the noun is a verbal one, i.e. a noun which is an act of a verb, the underlying /w/ remains; and when the noun is not verbal, i.e. a pure noun without any trace of a verb in it, the underlying /w/ takes the features of the preceding 'a'. Accordingly, we can state the following tentative rule.

(120)
$$\begin{bmatrix}-\text{cons.}\\+\text{back}\end{bmatrix} \rightarrow \begin{bmatrix}+\text{voc.}\\ \alpha\text{feature}\end{bmatrix} \Big/ C\,\underset{\begin{bmatrix}+\text{low}\\ \alpha\text{feature}\end{bmatrix}}{V}\,\_\_\,C$$

Condition: non-verbal noun

(Tentative)

Let us note here that it would be absurd to claim that nouns like 'ba:b' have the canonical form 'bawab'. This is because an analyst who would claim that, will first break the canonical form CVCC to which nouns of the forms 'Ca:C', 'CawC', and 'CaCC' belong. Also, if he were to posit a canonical form 'CVCVC' for the nouns with a medial S.F. [w] in this group, he must account satisfactorily for the loss of the second vowel. A hypothesis which would seem rather imposed.

Moreover, how about the following nouns:

ħa . wal 'cockeyed'

na . waṛ 'gypsies'

The syllable division here has to be as shown, because no one syllable can exist in Arabic with five segments in it. And this very point cannot be taken to justify the loss of the glide 'w' in the possibly claimed 'bawab' because if 'bawab' were to be accepted, then 'ħa . wal' should be 'ħa:l', and 'na . waṛ' should be 'na:ṛ' which is not the case. Consider the following:

ħa . wal 'cockeyed'

ħawl 'one year'

ħa:l 'condition'

na . waṛ 'gypsies'

*nawṛ

na:ṛ 'fire'

In fact, it is the verbs of the form 'Ca:C' like 'qa:l'

whose canonical form is $Ca\left\{\begin{matrix}y\\w\end{matrix}\right\}aC$

and in which the glide is deleted. Consider the following:

(121)	katb	'writing'	ka . tab	'he wrote'
	qatl	'killing'	qa . tal	'he killed'
	šaḥn	'load'	ša . ḥan	'he loaded'
	qawl	'saying'	qa:l	'he said'
	ṣɑwm	'fasting'	ṣɑ:m	'he fasted'
	xayṭ	'thread'	xa:ṭ	'he threaded' (sewed)
	šayb	'grey hair'	ša:b	'he went grey'

ᵡa . ha:b	'going'
ᵡa . hab	'he went'
qi . ṛɑ: . ʔ ah	'reading'
qa . ṛɑʔ	'he read'
ṣu . mu:d	'resistance'
ṣ ɑ . mad	'he resisted'

Now, it should be clear that the singular noun of the form 'Ca:C' is canonically 'CawC'; and the past tense verb, 3rd Sg. of the form 'Ca:C' is canonically:

$$Ca\left\{\begin{matrix}y\\w\end{matrix}\right\}aC$$

And the glide is deleted by the following rule:

(122) $$\begin{bmatrix}-\text{cons.}\\-\text{voc.}\end{bmatrix} \longrightarrow \phi \,/\, C \begin{bmatrix}V\\-\text{high}\\-\text{front}\end{bmatrix} \text{—} \begin{bmatrix}V\\-\text{high}\\-\text{front}\end{bmatrix} C$$

Condition: Past 3rd Sg. verb

Now let us consider the following:

	Sg.		Pl.
(B)	mawdž	'wave'	ʔam . wa:dž
	ṣawt	'voice'	ʔaṣ . wa:t
	lawn	'colour'	ʔal . wa:n
(C)	fiʕl	'verb	ʔaf . ʕa:l
	ħizb	'party'	ʔaħ . za:b
	silk	'wire'	ʔas . la:k
(D)	šakl	'shape'	ʔaš . ka:l
	madžd	'glory'	ʔam . dža:d
	šaxṣ	'person'	ʔaš . xa:ṣ
(E)	luɣs	'fiddle'	ʔal . ɣa:z
	ʕuðr̥	'excuse'	ʔaʕ . ðˠa:r̥
	šuɣl	'work'	ʔaš . ɣa:l
(F)	biʔr	'well (pit)'	ʔa: . ba:r̥
	r̥aʔy	'opinion'	ʔa: . r̥a:ʔ
	ʕuḍw	'member'	ʔaʕ . ḍa:ʔ

The VIR for the singular so far seems to be (111). That is:

(111) + Sg. IV (A) —— (F)

Now let us consider the following:

	Sg.		Pl.
(G)	qa . dam	'foot'	ʔaq . da:m
	ʕa . mal	'work'	ʔaʕ . ma:l
	ʕa . dad	'number'	ʔaʕ . da:d

(H)	Sg.		Pl.
	ša . ri:f	'noble'	ʔaš . rɑ:f
	ħa . bi:b	'beloved'	ʔaħ . ba:b
	qa . ri:n	'companion'	ʔaq . ṛɑ:n

The VIR for (G) is (107). That is:

(107) + Sg. IV (G)

And for (H) the VIR is the following:

(123) CCC ⟶ CaCi:C Sg. IV (H)

Now let us consider the following:

(I)	Sg.		Pl.
	may - yit	'dead'	ʔam . wa:t/maw . tā
	say - yid	'lord'	ʔas . ya:d
(J)	ṣɑ . dā	'echo'	ʔaṣ . da:ʔ
	ha . wā	'intention'	ʔah . wa:ʔ
(K)	ṣɑ: . ħib	'friend'	ʔaṣ . ħa:b
	ša: . hid	'overlooking point'	ʔaš . ha:d

The examples in (I) seem to have a very similar structure. Phonetically, the geminated glide in the middle looks the same in both examples. But phonemically, it may or may not be one and the same glide, not only in both nouns, but even in one and the same noun.

In the first example 'may - yit' the underlying glide is /w/ not 'y'. This assumption is supported by the plural

form above and by the collective noun 'mawt' meaning 'death'. Accordingly, the U.F. for 'may - yit' is /mwt/. On the other hand, the underlying glide in 'say - yid' is /y/. This is supported by the plural form above and by the noun 'si . ya: . dah' meaning 'lordship'. So the U.F. for 'say - yid' is /syd/.

Now, it may be assumed that the VIR for examples like those in (I) is in fact (123) with rules that split the long vowel 'i:' into 'yi' and change 'w' to 'y' in this context. Such an assumption, though it sounds appealing, is not supportable. Consider the following:

(124)	ṭɑ . wi:l	'tall/long'	*ṭɑy - yil
	ʕa . wi:l	'wailing'	*ʕay - yil
	ʕa . wi:ṣ	'difficult'	*ʕay - yiṣ
But	*dža . wi:d	džay - yid	'good'
	*ha . wi:n	hay - yin	'easy'
	*ḍɑ . wi:q	ḍay - yiq	'narrow'

Now it should be clear that examples like those in (I) have their own VIR which looks as follows:

(125) CCC ⟶ CaCyiC Sg. IV. (I)

This rule would be sufficient for examples with /y/ as their medial underlying segment like 'say - yid'. However, when /w/ is the underlying segment as in 'may - yit', another rule is involved; namely, the following:

(126) $\begin{bmatrix} -\text{cons.} \\ -\text{voc.} \end{bmatrix} \longrightarrow [-\text{back}] \; / \; \_\_ \; \begin{bmatrix} -\text{cons.} \\ -\text{voc.} \\ -\text{back} \end{bmatrix}$

More support for this rule is as follows:

	ṭɑ . wā	'he folded'	yaṭ . wī	'he folds'
But	ṭayy	'folding', i.e. < /ṭawy/.		
	ṛɑ . wā	'he watered'	yaṛ . wī	'he waters'
But	ṛayy	'watering', i.e. < /ṛawy/		
	ka . wā	'he cauterised'	yak . wī	'he cauterises'
But	kayy	'cauterisation, i.e. < /kawy/		

Accordingly, we can derive 'may - yit' as follows:

U.F.	/mwt/
(125)	mawyit
(126)	mayyit
S.D.	may - yit
stress	máy - yit
S.F.	[máy . yit]

In (J), however, 'ṣɑ . dā' ends in a tense vowel; this, as suggested earlier, indicates that the vowel is phonemically not as it looks phonetically. And since the noun falls in a group which has a tri-segmental U.F., there must be a deleted segment (cf. pp.82-83). The plural form suggests that the deleted segment is the final 'ʔ' but rule (114) tells us that 'ʔ' in a position like that of the final 'ʔ' in 'ʔaṣ . da:ʔ' is underlyingly a glide. The dual form of 'ṣɑ . dā' is 'ṣɑ . da . ya:n'. So, we can say now that the deleted segment here is /y/ and the U.F. for 'ṣɑ . dā' is /ṣdy/. Accordingly, the VIR for (J) is (107). That is:

(107) + Sg. IV (J)

Let us derive 'ṣɑ . dā':

U.F.	/ṣdy/
(107)	ṣaday
(98)	ṣada
(99)	ṣada:
(31)	ṣadā
S.D.	ṣa . dā
Stress	ṣá . dā
S.F.	[ṣ ɑ́. dā]

The examples in (K) seem to be straightforward, their VIR is (103). That is:

(103) + Sg. IV (K)

The plural VIR for this group is as follows:

(127) CCC ⟶ ʔaCCa:C Pl. IV

This rule is sufficient to produce the plural forms of most nouns in this group in a straightforward way. However, this means that not all the plural forms can be obtained by simply applying (127) to the U.F.

Looking at the examples in (F) we notice that (127) does not give us the correct plural form directly. Applying it will give us the incorrect forms *ʔab . ʔ a:ṛ, *ʔaṛ . ʔ a:y and *ʔaʕ . ḍɑ:w respectively. These incorrect forms indicate that to obtain the correct forms, other rules are involved. Among such rules is a metathesis which takes

place when a glottal stop is involved in the U.F. as in the first two examples 'biʔr' and 'ɾaʔy'. This metathesis rule can be stated as follows:

(128) ʔaCʔa:C ⟶ ʔaʔCa:C

Also, it seems from these examples that when a segment is deleted - anywhere in the utterance - its preceding vowel becomes long. Thus rule (99) needs to be revised as follows:

(99) V ⟶ [+long] / —— ϕ

(Revised)

Let us derive all the examples in (F)

'ʔa: . ba:ɾ'

U.F.	/bʔɾ/
(127)	ʔabʔa:ɾ
(128)	ʔaʔba:ɾ
(27)	ʔaba:ɾ
(99)	ʔa:ba:ɾ
S.D.	ʔa: . ba:ɾ
Stress	ʔa: . bá:ɾ
S.F.	[ʔa: . bá:ɾ]

'ʔa: . ɾa:ʔ'

U.F.	/ɾʔy/
(127)	ʔaɾʔa:y
(128)	ʔaʔɾa:y
(114)	ʔaʔɾa:ʔ
(27)	ʔaɾa:ʔ
(99)	ʔa:ɾa:ʔ

S.D.	ʔa: . ṛa:ʔ
Stress	ʔa: . ṛáːʔ
S.F.	[ʔa: . ṛáːʔ]

'ʔaʕ . ḍa:ʔ'

U.F.	/ʕḍw/
(127)	ʔ aʕḍa:w
(114)	ʔ aʕḍa:ʔ
S.D.	ʔaʕ . ḍa:ʔ
Stress	ʔaʕ . ḍáːʔ
S.F.	[ʔaʕ . ḍáːʔ]

V. CuC - Ca:C

Consider the following:

(129)

Sg.		Pl.
ħa: . kim	'ruler'	ħuk - ka:m
ʕa: . mil	'worker'	ʕum - ma:l
na: . ʔ ib	'deputy'	nuw - wa:b

The VIR for the singular is (103). That is:

(103) + Sg. V

However, we notice from the plural form that in the last example 'na: . ʔ ib' the medial underlying segment is /w/ not 'ʔ'. This assumption can be supported by rule (114), though not in its present form. But before we revise it let us look at the following:

(130) qa: . wim 'resist' qa: . ʔ im 'upright'
ħa: . wil 'try' ħa: . ʔ il 'barrier'
ṛa: . wid 'persuade' ṛa: . ʔ id 'colonel'

Accordingly, we revise rule (114) as follows:

$$(114)\quad [-\text{voc.}] \longrightarrow \begin{bmatrix} +\text{cons.} \\ +\text{low} \\ -\text{cont.} \end{bmatrix} \Big/ \begin{matrix} \text{V} \\ [+\text{long}] \end{matrix} \_\_$$

Condition: [-verb]

(Revised)

The plural VIR for this group is (109). That is:

(109) + Pl. V.

VI. CVCVCah

Consider the following:

(131)1.	Sg.		Pl.
	fi:l	'elephant'	fi . ya . lah
	di:k	'cock'	di . ya . kah
	qird	'monkey'	qi . ṛa . dah
2.	ʕa: . džiz	'disable'	ʕa . dža . zah
	ɣ̣a: . lim	'tyrant'	ɣ̣a . la . mah
	ka: . tib	'writer'	ka . ta . bah

In 1. both the plural form and rule (101) tell us that the U.Fs. for the first two nouns 'fi:l' and 'di:k' are /fyl/ and /dyk/ and their canonical forms are 'fiyl' and 'diyk' respectively. Accordingly, the VIR for 1. would be as follows:

(132) CCC $\longrightarrow$ CiCC VI 1.

This rule has to be stated for 1. because in 1. the vowel is regularly 'i'.

The VIR for 2. is (103). That is:

(103) + Sg. VI. 2.

The VIR for the plural can be stated tentatively as follows:

(133) CCC $\longrightarrow$ CVCaCah Pl. VI.

(Tentative)

It seems from the examples in this group that the Identification of the first vowel in the plural form depends on whether the singular form has 'i' as its only vowel or not. That is, when the singular form is as that in 1., then the first vowel in the plural form is 'i', apart from that it is 'a'. Accordingly, rule (133) can be revised as follows:

(133) $C \begin{bmatrix} i \\ a: \end{bmatrix} C(i)C \longrightarrow C \begin{bmatrix} i \\ a \end{bmatrix} CaCah$

Pl. VI.

(Revised)

We notice that this plural form has a suffix 'ah'.

VII. ʔaCCiCah

Consider the following:

(134)

	Sg.		Pl.
(A)	di . ma:ɣ	'brain'	ʔad . mi . ɣah
	ħi . ɣa:ʔ	'shoe'	ʔaħ . ɣi . yah
(B)	dža . na:ħ	'wing'	ʔadž . ni . ħah
	da . wa:ʔ	'medicine'	ʔad . wi . yah
(C)	ʕa . mu:d	'pillar'	ʔaʕ . mi . dah
	ša . ri:ṭ	'tape'	ʔaš . ri . ṭah
	du . ʕa:ʔ	'praying'	ʔad . ʕi . yah

What seems to be regular in the singular form is that it has two vowels the first of which is short and the other is long. Accordingly, the VIR here would be (106). That is:

(106) + Sg. VII.

The VIR for the plural can be stated as follows:

(135) CCC ⟶ ʔaCCiCah Pl. VII.

We notice that this plural form has a prefix 'ʔa' and a suffix 'ah'.

VIII. CiCCa:n

Consider the following:

	Sg.		Pl.
(136)(A)	faʔɻ	'mouse'	fiʔ . ɻa:n
	θawɻ	'ox'	θi: . ɻa:n
(B)	dža:ɻ	'neighbour'	dži: . ɻa:n
	ħu:t	'whale'	ħi: . ta:n

The VIR for the singular is (111). That is:

(111) + Sg. VIII.

For the nouns in (B) we recall an earlier discussion (pp. 91-94), according to which the U.Fs. for 'dza:ɻ' and 'hu:t' would be /dzwɻ/ and /ħwt/, and their canonical forms would be 'dzawɻ' and 'ħuwt' respectively.
The plural VIR is as follows:

(137) CCC ⟶ CiCCa:n Pl. VIII.

We notice here, that this plural form has the suffix 'a:n'. Let us derive 'dzi: . ɻa:n':

U.F.	/džwɻ/
(137)	džiwɻa:n
(102)	džiiɻa:n
S.D.	džii . ɻa:n
Stress	džii . ɻá:n
S.F.	[dži: . ɻá:n]

IX. CuCCa:n

	Sg.		Pl.
(138)(A)	fa: . ris	'knight'	fur . sa:n
	wa: . dī	'valley'	wud . ya:n
	ša:bb	'youth'	šub - ba:n
(B)	dzi . da:ṛ	'wall'	dzud . ṛɑ:n
	ṣɑ . biyy	'boy'	ṣub . ya:n
	ɣu . la:m	'young boy'	ɣul . ma:n
(C)	qa . ḍi:b	'rod'	quḍ . ba:n
	ka . θi:b	'sand hill'	kuθ . ba:n

We notice in (A) that the last example 'ša:bb' does not look like the first two, i.e. there is no 'i' between the last two consonants. And since the last two consonants are identical, then, this would suggest a rule in the language which can be stated as follows:

(139) $$\begin{bmatrix} V \\ +high \\ -back \\ -long \end{bmatrix} \longrightarrow \phi \;/\; \$\ C\ —\ C\ \#\#$$

Condition: $C_1 = C_2$

This rule can be supported by the following examples:

(140)	ʕa:mm	'general'
	ħa:dd	'sharp'
	ša:ɣɣ	'irregular'

But notice:

(141) ka: . min 'implied'
ħa: . kim 'ruler'
ya: . bis 'dry'

Moreover, we notice that while 'wa: . dī' ends in a tense vowel 'ī', which according to rule (102) and the plural form 'wud . ya:n' tells us that there is an underlying /y/ which is deleted here; 'ṣɑ . biyy' has two 'y's' and neither of them is deleted. That is, one would expect rule (102) to apply to 'ṣɑ . biyy' not once but twice.

This phenomenon can be explained by pointing out that 'wa:dī' has the canonical form 'wa: . diy', that is 'Ca: . CiC' as is clear from other nouns.(1) Since it ends in a glide, rule (102) applies to it yielding, in fact, 'wa: . dii' which by rule (31) becomes 'wa: . dī', a word-final-position which is regular and common in the language. With 'ṣɑ . biyy', on the other hand, we notice that its canonical form is 'ṣɑ . bi:y', that is 'Ca . Ci:C', as clear from other nouns with it. Now, if rule (102) were to apply to it we would end up with the incorrect form *'ṣɑ . biii' because the structural description of the rule will be met more than once. Now, since rule (31) shortens and tenses a long vowel word-finally (that is, actually two identical vowels) it cannot apply here, because in fact we will have

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(1) With rules (98) and (139) in mind.

three vowels according to rule (102). Accordingly, since three vowels succession[1] is not tolerable in the language, then we can revise rule (102) as follows:

(102) $$[-\text{cons.}] \longrightarrow \begin{bmatrix}+\text{voc.}\\ \alpha\text{back}\end{bmatrix} \Big/ \overset{V}{\begin{bmatrix}+\text{high}\\ \alpha\text{back}\end{bmatrix}} \text{ —— } C$$

(Revised)

Now, (102) cannot apply to words that end in a glide. This means that 'ṣɑ . biyy' is still in its canonical form 'ṣa . biiy'.

However, this revision, although it may sound appealing, is rule-specific; and for a phenomenon like this, namely, an incorrect form resulting from rule application, it would seem better to make a general constraint according to which a rule does not apply if it will produce an incorrect form. We make the following statement:

(142) "A possible rule application is blocked if the result will be a disallowed sequence."

This statement means that a rule becomes opaque, that is, it does not apply where it should have. What actually happens in words like 'ṣɑ . biyy' is rather the opposite to what rule (102) would suggest. That is a different rule which can be stated tentatively as follows:

(143) $$\begin{bmatrix}-\text{cons.}\\ -\text{back}\\ +\text{high}\end{bmatrix} \longrightarrow [-\text{voc.}] \Big/ \text{ —— } \begin{bmatrix}-\text{cons.}\\ -\text{voc.}\\ -\text{back}\end{bmatrix}$$

(Tentative)

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(1) And indeed three consonants in succession.

Here we can say that (143) can apply to the canonical form 'ṣɑ. biiy' more than once yielding the incorrect form *'ṣɑ. byyy'. And there does not seem to be a way to constrain it except by (142). Further, we can collapse (143) and part of (102) as follows:

(144) $\begin{bmatrix} y \\ i \end{bmatrix} \longleftrightarrow \begin{bmatrix} i \\ y \end{bmatrix}$

Finally, it seems obvious that in 'ṣɑ. biyy' the underlying glide is the final one, not the one before it.
The singular VIR for (A) is (103). That is:

(103) + Sg. IX. (A).

And for (B) it is (106). That is:

(106) + Sg. IX. (B).

And for (C) it is (123). That is:

(123) + Sg. IX. (C).

The plural VIR is the following:

(145) CCC ⟶ CuCCa:n Pl. IX.

We notice here that this plural form has a suffix 'a:n'.

X. CuCaCaːʔ

Consider the following:

(146)

Sg.		Pl.
ʔa . miːr	'prince'	ʔu . ma . ṛɑːʔ
ʕa . miːd	'dean'	ʕu . ma . daːʔ
ṛɑ . ʔiːs	'president'	ṛu . ʔa . saːʔ

The singular VIR is (123). That is:

(123) + Sg. X.

And the plural VIR is the following:

(147) CCC ⟶ CuCaCaːʔ Pl. X.

And here we notice that this plural form takes a suffix 'aːʔ'.

XI. ʔaCCiCaːʔ

Consider the following:

(148)1.

Sg.		Pl.
sɑ . diːq	'friend'	ʔaṣ . di . qaːʔ
qa . riːb	'relative'	ʔaq . ri . baːʔ
na . biyy	'prophet'	ʔan . bi . yaːʔ

2.

ša . qiːq	'brother'	ʔa . šiq - qaːʔ
tɑ . biːb	'doctor'	ʔa . tɪb - baːʔ
ʕa . ẓiːz	'dear'	ʔa . ʕiz - zaːʔ

The singular VIR is (123). That is:

(123) + Sg. XI.

For the last example in 1. 'na . biyy' we recall the discussion on pp.

The plural VIR is the following:

(149) CCC ⟶ ʔaCCiCa:ʔ Pl. XI.

However, we notice that (149) does not give us the correct plural forms in 2. Rather, it will give us the incorrect forms *'ʔaš . qi . qa:ʔ', *'ʔaṭ . bi . ba:ʔ', and *'ʔaʕ . zi . za:ʔ' respectively. But we notice that each noun in 2. has its last two underlying segments identical. Thus, we conclude that a metathesis takes place here which can be stated as follows:

(150) ʔCCiCʔ ⟶ ʔCiCCʔ Pl. XI.

Condition: $C_2 = C_3$

Let us derive 'ʔa . šiq - qa:ʔ'.

U.F.	/šqq/
(149)	ʔašqiqa:ʔ
(150)	ʔašiqqa:ʔ
S.D.	ʔa . šiq - qa:ʔ
Stress	ʔa . šiq - qá:ʔ
S.F.	[ʔa . šiq - qá:ʔ]

Here we notice the difference in syllable adjustment between words like 'ʔa . šiq - qa:ʔ' and 'ʔaṣ . di . qa:ʔ'. This is actually because of the metathesis that takes place in words like 'ʔa . šiq - qa:ʔ'. As a result of this metathesis the syllables have to be readjusted because the syllable structure of the language states that no syllable begins in a vowel.

XII. maCa:CiC

Consider the following:

(151)(A)	Sg.		Pl.
	mim . bar[1]	'tribune'	ma . na: . bir
	miʕ . wal	''big' axe'	ma . ʕa: . wil
(B)	mas . džid	'mosque'	ma . sa: . džid
	maw . qif	'situation'	ma . wa:. . qid
(C)	maš . had	'scene'	ma . ša: . hid
	maʕ . bad	'alter'	ma . ʕa: . bid
(D)	ma . qaṣṣ	'pair of scissors'	ma . qa:ṣṣ
	ma . fakk	'opener'	ma . fa:kk
(E)	muṣ . ħaf	'a copy of the Qur'an'	ma . ṣɑ: . ħif
	mub . ṛad	'metal file'	ma . ba: . rid

(1) N.B. rule (68).

First of all, we notice that the initial 'm' is a common denominator in all of these nouns. In fact, its presence has a certain semantic value; namely, that a noun with 'm' initially is denoting either a place or an instrument, unless the initial 'm' is proved to be underlying, which is not the case here. However, since no consonant cluster is allowed utterance or syllable initially, we can say that the vowel after the initial 'm' is obligatory in that position. That vowel does not seem to be predictable, except that it is short. Therefore, it has to be listed. Now, the VIR for (A), (C), (D) and (E) is as follows:

(152) CCC ⟶ mVCCaC Sg. XII. (A), (C), (D) and (E).

However, we notice that (D) seems to disagree with (152) above, but if we recall rule (97), we realize that (D) actually does agree with (152). Let us derive 'ma . qaṣṣ':

U.F.	/qṣṣ/
(152)	maqṣaṣ
(97)	maqaṣṣ
S.D.	ma . qaṣṣ
Stress	ma . qáṣṣ
S.F.	[ma . qáṣṣ]

For (B) the VIR is as follows:

(153) CCC ⟶ maCCiC Sg. XII. (B).

The plural VIR for the whole group is as follows:

(154) CCC ⟶ maCa:CiC Pl. XII.

XIII. maCa:Ci:C

Consider the following:

	Sg.		Pl.
(155)(A)	mis . ma:ʕ	'nail'	ma . sa: . mi:r
	mif . ta:ħ	'key'	ma . fa: . ti:ħ
(B)	mi: . za:n	'scale'	ma . wa: . zi:n
	mi: . ʕa:d	'appointment'	ma . wa: . ʕi:d
(C)	madž . mu:ʕ	'total'	ma . dža: . mi:ʕ
	madž . nu:n	'mad'	ma . dža: . ni:n

For (A) and (B) the VIR is as follows:

(156) CCC ⟶ miCCa:C Sg. XIII. (A) and (B).

This is because the canonical form for (B) is 'miCCa:C'. However, (B) seems to suggest that there is a rule which is: 'w —— i/i ——'. Consider the following:

	Sg.		Pl.
	mi: . na:ʔ	'port'	ma . wa: . niʔ
	mi: . qa:t	'date'	ma . wa: . qi:t
	mi: . θa:q	'assurance'	ma . wa: . θi:q
	mi: . ʕa:d	'appointment'	ma . wa: . ʕi:d

It is clear here that the canonical form for all the singular begins with 'miw...'. Accordingly, we can state the following rule:

(157)

$$[-\text{cons.}] \longrightarrow \begin{bmatrix} +\text{voc.} \\ -\text{back} \\ +\text{high} \\ -\text{long} \end{bmatrix} \Big/ C \begin{bmatrix} V \\ -\text{back} \\ +\text{high} \\ -\text{long} \end{bmatrix} \text{——} C \; V \; C_{[+\text{long}]}$$

For (C), the VIR is as follows:

(158) CCC ⟶ maCCu:C Sg. XIII. (C).

Let us derive 'mi: . za:n':

U.F.	/wzn/
(156)	miwza:n
(157)	miiza:n
S.D.	mii . za:n
Stress	mii . zá:n
S.F.	[mi: . zá:n]

The plural VIR for the whole group is as follows:

(159) CCC ⟶ maCa:Ci:C Pl. XIII.

Regular Plurals

XIV. Consider the following:

(160)1.(A)

	Sg.		Pl.
	mu . ħar - rir	'editor'	
	mu . dar - ris	'teacher'	
	mu . han . dis	'engineer'	
(B)	mu . ħa: . sib	'accountant'	
	mu . ʕa: . qib	'observer'	Sg. + u:n/i:n
	mu . ħa: . mī	'lawyer'	
(C)	mus . ta . miʕ	'listener'	
	mum . ta . ħin	'examiner'	
	muq . ta . riḍ	'borrower'	

The VIR for the singular can be stated as follows:

(161) mVCCC ⟶ mu(C){Ca / aC / a:} CiC Sg. XIV. 1.

2.(A)

Sg.		Pl.
nadž - dža:r	'carpenter'	Sg. + u:n/i:n
ɣas - sa:l	'washer'	
ṣab - ba:ɣ	'painter'	

(B)

ʕa: . mil	'worker'	Sg. + u:n/i:n
ba: . ħiθ	'researcher'	
na: . ṭɬq	'spokesman'	

These examples also express the instrumentality of the noun, though obviously not by an initially added segment as we have seen earlier, but in (A) by doubling the medial underlying segment, and in (B) only by the pattern that involves a long vowel.

The VIR for (A) is as follows:

(162) CCC ⟶ CaCCa:C Sg. XIV. 2.(A).

And for (B) it is (103). That is:

(103) + Sg. XIV. 2.(B).

3.(A)

šaṛ . qiyy	'from the east'	Sg. + u:n/i:n
ku . way . tiyy	'from Kuwait'	
dža . za: . ʔi . riyy	'from Algeria'	

(B)

si . ya: . siyy	'politician'	Sg. + u:n/i:n
lu . ɣa . wiyy	'linguist'	
ʔiq . ti . ṣa: . diyy	'economist'	

These are called 'nisbah' nouns. That is, nouns which relate somebody or something to a place, a field of knowledge, a job, etc. The final 'iyy' is the nisbah morpheme. However, we recall 'ṣɑ . biyy' and 'na . biyy' earlier in the discussion (pp.106-109 and 110-112 respectively) of which the former is an exception to regular plurals, and the latter can actually take a regular plural, but 'ʔan . bi . ya:ʔ' is in fact the common plural. We note here, however, that 'ṣɑ . biyy' is related to the collective noun 'ṣɪ . bā' meaning 'youthfulness', and 'na . biyy' is related to the feminine noun 'nu . ḅuw - wah' meaning 'prohpecy'.

II. Quadri-segmental

XV. CaCa:CiC

Consider the following:

(163)(A)	Sg.		Pl.
	far . sax	'measure unit'	fa . ṛɑ: . six
	bay . ṛɑq	'flag'	ba . ya: . riq
	kaw . kab	'planet'	ka . wa: . kib
(B)	ša: . riʕ	'street'	ša . wa: . riʕ
	ṭɑ: . biq	'floor'	ṭɑ . wa: . biq
	sa: . ʕid	'arm'	sa . wa: . ʕid
(C)	ḍɑ . mi:r	'conscious'	ḍɑ . ma: . ʔir
	qa . ri:b	'relative'	qa . rɑ: . ʔib/ ʔaq . ri . ba:ʔ

The singular VIR for (A) is as follows:

(164) CCCC ⟶ CaCCaC Sg. XV. (A)

(Tentative)

For (B) we may think of (103) but we should not forget that (103) involves a tri-segmental U.F. which is not what we have here. However, rule (120) tells us that /w/ takes the features of the vowel which precedes it in non-verbal nouns. And those in (B) are non-verbal ones. Accordingly, the canonical form of the nouns in (B) is like 'šawriʕ'.

Now, before stating a VIR for (B), let us examine (C). And here we can see that with rules (144), (120) and (114) in mind, the singular canonical form is 'ḍamyir'. However, it should be noted here, that rule (123) is to be excluded because we are dealing here with a quadri-segmental U.F. Now it seems clear that the VIR for both (B) and (C) is one and the same, and can be stated as follows:

(165) CCCC ⟶ CaCCiC Sg. XV. (B) and (C)

In fact we can put both (164) and (165) in one form as follows:

(166) $$CCCC \longrightarrow CaCC\begin{bmatrix} a \\ i \end{bmatrix}C \quad \begin{matrix} (A) \\ (B) \text{ and } (C) \end{matrix} \quad \text{Sg. XV}$$

(Revised)

Let us derive 'ša: . riʕ' and 'ḍɑ . mi:r':

'ša: . riʕ'

U.F. /šwṛʕ/

(166) šawṛiʕ

(120)	šaaṛiʕ
S.D.	šaa . ṛiʕ
Stress	šaá . ṛiʕ
S.F.	[šá: . riʕ]

'ḍɑ . mi:r'

U.F.	/ḍmyṛ/
(166)	ḍamyiṛ
(144)	ḍamiiṛ
S.D.	ḍa . miiṛ
Stress	ḍa . míiṛ
S.F.	[ḍɑ . mí:r]

The plural VIR is the following:

(167) CCCC ⟶ CaCa:CiC Pl. XV.

This rule seems to be sufficient for nouns in (A) and (B). But for those in (C) rule (114) is also needed because its structural description is met during the course of derivation. Let us derive 'ḍɑ . ma: . ʔir':

U.F.	/ḍmyṛ/
(167)	ḍama:yiṛ
(114)	ḍama:ʔiṛ
S.D.	ḍa . ma: . ʔiṛ
Stress	ḍa . má: . ʔiṛ
S.F.	[ḍɑ . má: . ʔir]

Here, it must be noted that rule (144) cannot apply after rule (167) because if it had, the result would have

been 'dɑ . ma:i:r' which is incorrect because the sequence 'a:i:r' is not allowed in the language. That is, statement (142) blocks the application of rule (144).

However, it should be noted here that some people might think that 'ša: . riʕ' has a tri-segmental U.F., referring it to the verb 'ša . rɑʕ', meaning 'to legislate'. In reaction to such possible confusion, we point out here that the noun of 'ša . rɑʕ' is 'šarʕ', 'legislation', not 'ša: . riʕ', 'street'. Also, the U.F. of a noun does not have to be judged by a verb. Nevertheless, analogy and exceptions exist in every language, but should not be allowed to deprive us of clear generality.

XVI. CaCa:Ci:C

Consider the following:

	Sg.		Pl.
(A)	tim . sa:ħ	'crocodile'	ta . ma: . si:ħ
	sir . wa:l	'pair of pants'	sa . rɑ: . wi:l
(B)	di: . wa:n	'guests' room'	da . wa: . wi:n
	ṣi: . wa:n	'guests' wing'	ṣɑ . wa: . wi:n
(C)	šay . ṭɑ:n	'satan'	ša . ya: . ṭi:n
	nay . ša:n	'badge'	na . ya: . ši:n
(D)	ṣun . du:q	'box'	ṣɑ . na: . di:q
	dzum . hu:r	'crowd'	dza . ma: . hi:r
(E)	qa: . nu:n	'law'	qa . wa: . ni:n
	ṭɑ: . ʔu:s	'peacock'	ṭɑ . wa: . wi:s

(F)	ʕaf , ri:t	'devil'	ʕa . fa: . ri:t
	qan . di:l	'candle'	qa . na: . di:l

In (A) and (B) the VIR is one and the same. This is because the canonical form for (B) is 'CiCCa:C'. That is:

(168) CCCC ⟶ CiCCa:C Sg. XVI (A) and (B).

However, one might think that rule (156) should be used instead of (168). But, we must not forget that rule (156) concerns a tri-segmental U.F., whereas here rule (168) is assigned for a quadri-segmental U.F. Similarly, rule (158) concerns a tri-segmental U.F. while (171) (see below) has a quadri-segmental U.F.

Let us derive 'di: . wa:n':

U.F.	/dwwn/
(168)	diwwa:n
(157)	diiwa:n
S.D.	dii . wa:n
Stress	dii . wá:n
S.F.	[di: . wá:n]

The VIRs for (C), (D), (E) and (F) are as follows:

(169) CCCC ⟶ CaCCa:C Sg. XVI (C)

(170) CCCC ⟶ CuCCu:C Sg. XVI (D)

(171) CCCC ⟶ CaCCu:C Sg. XVI (E)

(172) CCCC ⟶ CaCCi:C Sg. XVI (F)

Let us derive 'qa: . nu:n':

U.F.	/qwnn/
(171)	qawnu:n
(120)	qaanu:n
S.D.	qaa . nu:n
Stress	qaa . nú:n
S.F.	[qa: . nú:n]

The plural VIR can be stated as follows:

(173) CCCC ⟶ CaCa:Ci:C Pl. XVI.

Chapter Two

Feminine

Mostly, it is the case that the feminine marker is the suffix 'ah' for the singular, and the suffix 'a:t' for the plural. Feminine nouns that end in these suffixes are the regular ones, and there seems to be little interest in trying to focus on them because they follow a predictable pattern.

The nouns that do not take the regular suffix are our main interest here. We shall categorise them according to the plural form they take - as we did in the previous chapter.

Moreover, it is often the case that a feminine noun takes, besides its irregular plural form, the regular one and/or a collective noun form. In such cases we will list only the irregular plural form. This is due to the fact that the regular plural form is predictable and the form of a collective noun is masculine.

I. Tri-segmental

XVII. CVCaC

Consider the following:

(174)1.

Sg.		Pl.
daw . lah	'state'	du . wal
qar . yah	'village'	qu . ṛā
džum . lah	'sentence'	džu . mal
ṣu: . ṛah	'picture'	ṣu . waṛ
2. qiṭ . ʕah	'piece'	qi . ṭaʕ
sil . ʕah	''trade' item'	si . laʕ
qi: . mah	'value'	qi . yam
ħi: . lah	'trick'	ħi . yal

The singular form here has the VIR (111). That is:

(111) + Sg. XVII.

However, we notice here that rule (102) has applied to the examples 'ṣu: . ṛah', 'qi: . mah' and 'ħi: . lah'. The plural VIR can be stated, tentatively, as follows:

(175) CCC ⟶ CVCaC Pl. XVII.
(Tentative)

but from the examples in this group we can see that the first vowel in the plural form can be predicted once we have the singular form. That is, when the singular form has the vowel 'i', then the first vowel in the plural form is 'i',

elsewhere, it is 'u'. The second vowel is regularly 'a'. Accordingly, we can revise (175) as follows:

(175) $C \begin{bmatrix} i \\ V \end{bmatrix} CC \longrightarrow C \begin{bmatrix} i \\ u \end{bmatrix} CaC$ Pl. XVII.

(Revised)

In the plural, we notice that rules (98), (99) and (31) have applied to 'qu . ṛā', the U.F. of which is /qṛy/. Let us derive 'qu . ṛā'.

U.F.	/qṛy/
(175)	quṛay
(98)	quṛa
(99)	quṛa:
(31)	quṛā
S.D.	qu . ṛā
Stress	qu . ṛā
S.F.	[qu . ṛā]

XVIII. CiCa:C

Consider the following:

(176)

Sg.		Pl.
qub - bah	'dome'	qi . ba:b
ṛaw . ḍah	'wild field'	ri . ya:ḍ
ḍay . ʕah	'big garden'	ḍI . ya:ʕ
qal . ʕah	'castle'	qi . la:ʕ

Here too, the singular VIR is (111). That is:

(111) + Sg. XVIII.

And the plural VIR is (113). That is:

(113) + Pl. XVIII.

However, we notice that the second example in this group 'ṛɑw . ḍɑh/ri . ya:ḍ' needs more discussion as to which glide is underlying, i.e. the 'w' in the singular or the 'y' in the plural. Let us look at the following examples:

(177)

Sg.		Pl.	
sawṭ	'whip'	si . ya:ṭ	
ħawḍ	'pool'	ħi . ya:ḍ	
Ša:h	'sheep'	Ši . ya:h	
džu:ʕ	'hunger'	dži . ya:ʕ	'hungry' (pl.masc.)
dža . wa:d	'horse'	dži . ya:d	

All these nouns have an underlying medial /w/ (for Ša:h and dzu:ʕ, we recall the discussion (pp.90-94). Now, one might think of a phonological rule like this:

$$w \longrightarrow y \;/\; Ci \;\_\_\; a{:}C$$

but phonetic environment may not be the only justification for phonological change (cf. rule (120). Let us look at the following:

(178)

Sg.		Pl.
ri . wa:q	'sitting place (at a tent'	ʔar . wi . qah
ħi . wa:ṛ	'young camel'	ʔah . wi . ṛɑh
li . wa:ʔ	'regiment'	ʔal . wi . yah

The singular forms here indicate that 'w' changes into 'y', not because of the environment 'Ci - a:C', but only when that environment is marked 'plural'. So, we can state the following rule:

(179) $\begin{bmatrix} -\text{cons.} \\ -\text{voc.} \end{bmatrix} \longrightarrow$ [-back] / Ci —— a:C

Condition: plural

Accordingly, in 'ṛɑw . ḍɑh/ṛi . ya:ḍ' the medial underlying glide is /w/. It changes into 'y' in the plural form as rule (179) above indicates.

However, this does not mean that every 'y' in the environment Ciya:C is underlying 'w'. Consider the following:

(180)

Sg.		Pl.
ḍɑy . ʕah	''big' garden'	ḍI . ya:ʕ
xay . mah	'tent'	xi . ya:m
ri:ħ	'wind'	ri . ya:ħ

All these nouns have an underlying 'y'. But those in (177) have an underlying /w/.

XIX. ʔaCCa:C

Consider the following:

(181)

Sg.		Pl.
ša . dža . ṛɑh	'tree'	ʔaš . dža:ṛ
wa . ṛɑ . qah	'paper'	ʔaw . ṛɑ:q
xa . ša . bah	'log'	ʔax . ša:b

Here, the singular can be handled by the VIR (107). That is:

(107) + Sg. XIX.

And the plural can be handled by the VIR (127). That is:

(127) + Pl. XIX.

XX. ʔaCa:Ci:C

Consider the following:

(182)

Sg.		Pl.	
ʔus . ṭu: . ṛɑh	'myth'	ʔa . sa: . ṭi:r	
ʔuṛ . džu: . ħah	'a swing'	ʔa . ṛɑ: . dži:ħ	
ʔuʕ . džu: . bah	'amazement'	ʔa . ʕa: . dži:b	

Here, we notice that all the singular forms have the initial 'ʔu'. This indicates that 'ʔu' is not underlying, but rather similar to the initial 'ʔa' on (pp. 80). However, the singular VIR can be stated as follows:

(183) CCC ⟶ ʔuCCu:C + Sg. XX.

Similarly, the plural form has the initial 'ʔa', and its VIR can be as follows:

(184) CCC ⟶ ʔaCa:Ci:C Pl. XX.

Regular Plurals

XXI. Consider the following:

(185)1.

Sg.		Pl.
džaw . lah	'a round'	džaw . la:t
θaw . ṛɑh	'revolution'	θaw . ṛɑ:t
ʕam . mah	'aunt'	ʕam - ma:t
sa: . ʕah	'a watch'	sa: . ʕa:t
ɣa: . ṛɑh	'raid'	ɣa: . ṛɑ:t

In these examples, we have to establish the U.F. for the last two nouns, 'sa: . ʕah' and 'ɣa: . ṛɑh'. We know from previous discussion that both nouns have an underlying medial glide, and that glide is /w/. However, with this remark in mind, let us try to trace that underlying /w/.

The plural form above does not help us here, nor does the dual form which is 'sa: . ʕa . ta:n' and 'ɣa: . ṛɑ . ta:n' respectively. In fact the only form which seems to be helpful is the diminutive which is 'su . way . ʕah' and 'ɣu . way . ṛɑh' respectively. But still, one might ask which of the glides in the diminutive form is underlying. Now, apart from the fact that we know that it is /w/ which is underlying, we can discover the underlying glide by comparing other dimutive forms. Consider the following:

(186)

Sg.	Dim.
džaw . lah	džu . way . lah
θaw . ṛɑh	θu . way . ṛɑh
ʕam - mah	ʕu . may . mah

Accordingly, 'sa: . ʕah' and 'ɣa: . ṛah' have the glide /w/ in their underlying forms. That is their U.Fs. are /swʕ/ and /ɣwṛ/, and their canonical forms are 'sawʕ + ah' and 'ɣawṛ + ah' respectively. And the glide 'y' which appears in the diminutive form is only part of that diminutive formation rule.

The VIR for the singular form above is (111). That is:

(111) + Sg. XXI.

2. Consider the following:

Sg.		Pl.
say - ya: . ṛah	'car'	say - ya: . ṛa:t
ɣas - sa: . lah	'washing machine'	ɣas - sa: . la:t
naḍ - ḍa: . ṛah	'eyeglass'	naḍ - ḍa: . ṛa:t

The singular VIR is (162). That is:

(162) + Sg. XXI. 2.

3. Consider the following:

Sg.		Pl.
ʕa . ṛa . bah	'carriage'	ʕa . ṛa . ba:t
ħa . ša . ṛah	'insect'	ħa . ša . ṛa:t
qa . na:h	'canal'	qa . na . wa:t
fa . ta:h	'girl'	fa . ta . ya:t

The U.Fs. of the last two nouns are /qnw/ and /ftw/ respectively. The changing of 'w' into 'y' in the plural form 'fa . ta . ya:t' is an exception.(1) The canonical form

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(1) Ibn Manẓūr: Vol. 2 (pp.1050-51).

of the nouns above is 'CaCaC', and the last two nouns had rule (98) applied to them. The VIR for these nouns is (107). That is:

(107) + Sg. XXI. 3.

Let us derive 'qa . na:h':

U.F.	/qnw/
(107)	qanaw
(98)	qana
(142)	qana
Fem. Sg. Suf.	qanaah
S.D.	qa . naah
Stress	qa . náah
S.F.	[qa . ná:h]

It must be noted here that after the application of rule (98), statement (142) blocks the application of (99). This is because if (99) were to apply here we will end up with the disallowed vowel sequence 'aaa'. That is, 'a' before the deleted 'w', 'a' caused by the lengthening, and 'a' of the feminine singular suffix.

XXII. maCa:CiC[1]

Consider the following:

		Sg.		Pl.
(187)(A)	miʔ . ʒa . nah	'minaret	ma . ʔa: . ʒin
	mad . ṛa . sah	'school'	ma . da: . ris
(B)	ma . ki: . dah	'conspiracy'	ma . ka: . ʔid
	mu . ṣi: . bah	'dilemma'	ma . ṣa: . ʔib

Also, here we are dealing with a group which is the same as group XII in the previous chapter in the sense that the singular (A) here is the same as (A), (C), (D) and (E) there, and the singular (B) here is the same as (B) there. Accordingly, the VIR for (A) here is (152). That is:

(152) + Sg. XXII. (A)

and for (B) the VIR is as follows:

(188) CCC ⟶ mVCiCC + Sg. XXII (B)

Moreover, what is said about the initial 'm' and its following vowel in group XII applies here too. Also, we notice the influence of the feminine suffix 'ah' on the syllable division.

The plural VIR is (154). That is:

(154) + Pl. XXII.

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(1) Cf. XII.

However, let us trace the underlying glides which do not appear in any S.F. of (B) above. For the first noun 'ma . ki: . dah' we find the masculine noun 'kayd' meaning 'conspiring', also all the verbal derivations of that noun have the medial /y/ underlying.(1) This should tell us that the U.F. for 'ma . ki: . dah' is /kyd/.

For the other noun 'mu . ṣi: . bah', we need first of all to make it clear that it literally means 'something - feminine - which hits'. 'ṣɑ:b'(2) means he hit 'the target' and all its verbal derivations have the medial /w/ underlying.(1) And this would indicate that the U.F. of 'mu . ṣi: . bah' is /ṣwb/.

Now, the canonical form for these nouns is 'mV CiC Cah'. However, we should note that this is the only possible canonical form for them, keeping in mind the syllable structure of the language and the fact that we actually have the surface form 'mV . Ci: . Cah'.
Let us derive the two nouns:

'ma . ki: . dah'

U.F.	/kyd/
(188)	makiyd
Fem. Sg. Suf.	makiydah
(144)	makiidah
S.D.	ma . kii . dah

---

(1) See W. Wright (pp. 72-96 and pp. 311-312).
(2) See rule (122).

Stress	ma . ki: . dah
S.F.	[ma . ki: . dah]

'mu . ṣi: . bah'

U.F.	/ṣwb/
(188)	muṣiwb
Fem. Sg. Suf.	muṣiwbah
(157)	muṣiibah
S.D.	mu . ṣii . bah
Stress	mu . ṣii . bah
S.F.	[mu . ṣi: . bah]

XXIII. CaCa:Cī

Consider the following:

(189)

Sg.		Pl.
šak . wā	'complaint'	ša . ka: . wī
daʕ . wā	''court' case'	da . ʕa: . wī
fat . wā	'judgement'	fa . ta: . wī

In the singular here we might think that it is only the 'h' of the feminine singular suffix that is deleted, and rules (98) and (31) gave us the S.F. above.(1) In fact, this is not the case, because if we were to think so, we would have to account for the deletion of 'h' above, which does not seem to be plausible.

---

(1) Cf. XXI. 3.

Consider the following:

(190) qah . wah 'coffee'
nàd . wah 'symposium'
šah . wah 'desire'

To account for the phenomenon above we first establish the VIR which is as follows:

(191) CCC ⟶ CaCCa: Sg. XXIII.

Now the suffix 'ah' cannot be added to this canonical form because its application results in a disallowed sequence of vowels 'aaa'. So, statement (142) does not allow this to happen. Still, one can wonder that since the 'a' cannot be allowed, why the 'h' did not stay? In fact, the reason why the 'h' did not stay is because its stay changes the meaning of the noun making it 'his ...', that is a different morpheme altogether. Accordingly, we can state the following rule:

(192) ah ⟶ ϕ / V: —— ##

Moreover, it would seem from the examples in this group that the final 'w' is underlying in all of them. In fact this does not have to be true. Let us look at the following:

(193) yaš . kū 'he complains'
yaš . ku:k 'he prosecutes you'

yad . ʕū 'he calls'
yad . ʕu:k 'he calls you'

But

yuf . tī 'he judges'

yuf . ti:k 'he tells you a judgement'

Accordingly, the U.Fs. of the nouns in this group are /škw/, /dʕw/ and /fty/ respectively. And the change of /y/ into 'w' in the last example seems to be because the first vowel is [+back, +high]. Accordingly:

(194) $$\begin{bmatrix}-\text{cons.}\\-\text{voc.}\end{bmatrix} \longrightarrow [+\text{back}] \;/\; C\ \underset{\begin{bmatrix}+\text{back}\\+\text{high}\end{bmatrix}}{V}\ C\ .\ CV{:}\ \_\_\_\ \#\#$$

Similar examples are:

yuʕ . ṭī 'he gives'

yub . dī 'he expresses'

yuš . fī 'he cures'

Let us derive 'fat . wā':

U.F.	/fty/
(191)	fatya:
(142)	fatya:
(194)	fatwa:
(31)	fatwā
S.D.	fat . wā
Stress	fát . wā
S.F.	[fát . wā]

The plural VIR can be stated as follows:

(195) CCC $\longrightarrow$ CaCa:Ci: Pl. XXIII.

XXIV. CaCa:Cā

Consider the following:

(196)1.

Sg.		Pl.
qa . ḍiy - yah	'matter'	qa . ḍɑ: . yā
ha . diy - yah	'present'	ha . da: . yā
wa . ṣiy - yah	'will'	wa . ṣɑ: . yā

These are nisbah nouns; they are related to 'qa . ḍɑ:ʔ' meaning 'judging', 'ʔih . da:ʔ' meaning 'presenting', and 'wi . ṣɑ: . yah' meaning 'willing' respectively. The U.Fs. of these nouns are /qḍy/, /hdy/ and /wṣy/ respectively, and the singular VIR is as follows:

(197) CCC ⟶ CaCiC + Sg. XXIV. 1.

However, we have seen earlier (XIV.3.) that the nisbah morpheme is 'iyy', but it should be made clear that what we see in the S.Fs. of the singulars above i.e. 'iy - y' is not actually the nisbah morpheme as we know it. In fact, 'iy' in the S.Fs. is part of the canonical form of the nouns, because no noun has an U.F. which involves only two consonants. The last 'y' is actually the last 'y' of the nisbah morpheme. That is, since the nouns above end in 'iy', the first 'iy' of the nisbah morpheme is not needed. We notice also that the nisbah morpheme comes before the feminine singular suffix.

The plural VIR is as follows:

(198) CCC ⟶ CaCa:Ca: Pl. XXIV. 1.

2. Sg.

baṣ . riy - yah 'from Basrah'

ku . way . tiy - yah 'from Kuwait'

si . ya: . siy - yah 'politician'

ʔiq . ti . ṣa: . diy - yah 'economist'

Pl.

baṣ . riy - ya:t

ku . way . tiy - ya:t

si . ya: . siy - ya:t

ʔiq . ti . ṣa: . diy - ya:t

Etc.

These are regular nisbah nouns in the sense that they are related to nouns that appear in the S.Fs. that is: 'Basr + ah', 'Kuwait', 'siya:s + ah' and ''iqtiṣad'.

II. Quadri-segmental

XXV. CaCa:CiC[1]

Consider the following:

	Sg.		Pl.
(199)(A)	džaw . ha . ṛah	'jewel'	dža . wa: . hir
	qan . ṭa . ṛah	'ford'	qa . na: . ṭir
(B)	ṣa: . ʕi . qah	'thunder storm'	ṣa . wa: . ʕiq
	dža: . ʔi . zah	'prize'	dža . wa: . ʔiz

(1) This group is the same as XV except that it is feminine.

(C)	Sg.		Pl.
ʕa . zi: . mah	'will'	ʕa . za: . ʔim
wa . si: . lah	'a means'	wa . sa: . ʔil
ħa . qi: . bah	'case, bag'	ħa . qa: . ʔib

In fact everything said about XV in the previous chapter, applies here. Accordingly, the VIR for the singular is (166). That is:

(166) + Sg. XXV.

And for the plural it is (167). That is:

(167) + Pl. XXV.

We notice however, that the feminine suffix 'ah' does not affect the singular[1] formation in (A), (B) or (C) except in syllable division.

XXVI. CaCa:Ci:C[2]

Consider the following:

(200)

	Sg.		Pl.
(A)	ṛɑy . ħa: . nah	'scented flower'	ṛɑ . ya: . ħi:n
(B)	džur . θu: . mah	'germ'	dža . ṛɑ: . θi:m
(C)	ṭɑ: . ħu: . nah	'mill'	ṭɑ . wa: . ħi:n

---

(1) No suffixes in the plural form here.

(2) This group is the same as XVI except that it is feminine.

In this group, (A), (B) and (C) correspond to (C), (D) and (E) in group XVI in the previous chapter respectively. And what applies there applies here as well. Accordingly, the VIRs for (A), (B) and (C) above are (169), (170) and (171) respectively. That is:

(169) + Sg. XXVI. (A)

(170) + Sg. XXVI. (B)

(171) + Sg. XXVI. (C)

However, feminine examples corresponding to (A), (B) and (F) in group XVI seem to be hard to find.

As in the previous group XXV, we notice here that the feminine singular suffix has influence only on the syllable division.

The plural VIR is (168). That is:

(173) + Pl. XXVI.

Part Three

Kuwait Dialect

Introduction

As mentioned earlier, standard Arabic is the official language everywhere in the Arab world; and Kuwait is, obviously, no exception to this fact.

However, the everyday spoken language is, in fact, a local dialect which varies from region to region, but no dialect of Arabic seems to block mutual understanding. Nevertheless, it is natural to find that the geographically closer dialects are also linguistically closer. Thus, the spoken Arabic in the upper half of the Arabian gulf, the south-west part of Iraq and the east-north part of the Arab peninsula is, generally speaking, similar. In Kuwait, there are two main Kuwaiti dialects, besides the other dialects of the non-Kuwaiti Arabs who live in Kuwait.

1. The city dialect

This is the main spoken dialect in Kuwait. Its speakers represent the more advanced, educated and modernized citizens. They are also the majority. The city dialect is the one which is considered, if any, by other Arabs living in Kuwait, and by younger people of suburban background. Therefore, it is the 'followed' pattern of speech and the most dominant dialect in Kuwait.

It is this dialect we are considering in this study.

2. The bedouin dialect

This is spoken only by the bedouins whose background is tribal life. They are less fortunate in education and modern life than the city people. It is for these facts that their dialect is regarded as a sign of a primitive life and, thus, unadmired by others; even the younger generation of the bedouins themselves.

3. Other dialects

The other familiar dialects in Kuwait are mainly the Egyptian, the Palestinian and the Iraqi ones. The first two are normally found and expected in academic and consulting fields. The Egyptian dialect, however, is quite common in films and radio songs.

Treatment of K.D.

As in the standard, and for the same reasons, the dual form will not be discussed (see p.72). However, a clear remark about both the dual form and the regular plural in K.D. is that they always take the suffixes '— e:n' and '— i:n' respectively in all syntactic positions (see pp. 208-213).

Furthermore, alternations which are the same as in the standard will not be discussed, as there will be little point in doing so. Also, as in the standard, the U.F. in K.D. is consonantal (see p.78).

Moreover, it should be made clear that in this part we intend to consider the typical Kuwait city dialect. Obviously, there is what is called theoretically 'borrowing' in K.D. That is to say there are typical standard words,

and indeed phrases, in K.D. but our discussion will focus here on the typical dialect use. Accordingly, a possibility that the speaker, of a given example, might have the standard form, or any other form in mind is ruled out. This is because if another form is intended, then the dialect form does not count. However, this does not mean that we shall avoid words that occur in the dialect as they are in the standard.

Section One

The phonological system

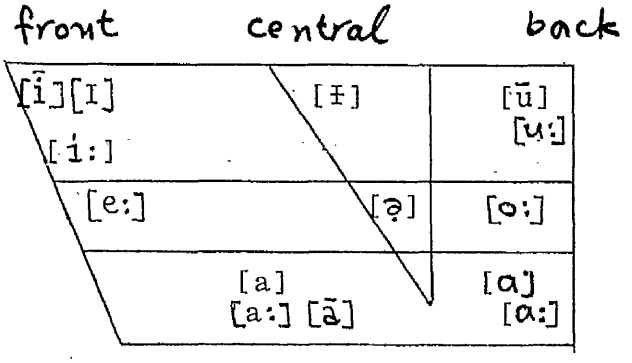
of

Kuwaiti Dialect

Chapter One

The vocalic system

Vowels Chart



Approximation of vowels positions in K.D.

1. [I], [ɨ] and [ə̣] are allophones of /I/
2. [a:], [ā] and [ɑ:] are allophones of /a:/
3. [a] and [ɑ] are allophones of /a/
4. [u:] and [ū] are allophones of /u:/
5. [i:] and [ī] are allophones of /i:/
6. [e:] is a realization of /ay/
7. [o:] is a realization of /aw/

Statement (1) (p.36) about standard Arabic applies to K.D. as well. However, the situation in the dialect is not exactly the same. The syntactically-required and governed vowels are dropped in K.D. (see pp.200-203). Example:

(201)

S.A.	K.D.	Gloss.
ki . ta:b {u, a, i} Ahmad	kta:b Ahmad	Ahmad's book

Accordingly, a word-final vowel in K.D. is phonetically short but tense; but underlying (or phonemically) long. Examples:

(202)

ha . lā	'welcome'
ha . la: . bɪk	'you are welcome' (sg. masc.)
lā	'no'
la: tɪṭ . laʕ	'do not go out'

Another point to be made clear initially is that the vowels 'e:' and 'o:' are not phonemically so in the dialect. They are, in fact, realizations of 'ay' and 'aw' respectively. This is because their occurrence is restricted and predictable. Unlike /i:/, /a:/ and /u:/, [e:] and [o:] can be described as follows:

1. They do not exist in a short form. That is, 'e' and 'o' do not exist in the dialect.

2. They do not occur word-finally; i.e. in a tense form as the vocalic system requires a long vowel to be.

They only occur in the following context:(1)

'Between consonants, with or without a syllable division, provided that an underlying segment is a glide occurring with the inserted vowel between those consonants.' Examples:

(203)	Sg.		Pl.
	gạḷḅ	'heart'	gḷu:b
	yamb	'side'	ynu:b
	šams	'sun'	šṃu:s
	haldž	'mouth'	hlu:dž
	ṣạfḟ	'queue'	ṣfu:f
	be:t	'house'	byu:t
	ʕe:n	'eye'	ʕyu:n
	ṭe:r	'bird'	ṭyu:r

It is obvious here that the U.F. is the three consonants, the inserted vowel for the Sg. is 'a' and for the plural it is 'u:'. Furthermore, it is equally obvious that the medial underlying segment for the last three examples is /y/. This suggests the following:

(204) $$\overset{V}{[-\text{long}]} \longrightarrow \begin{bmatrix} -\text{low} \\ +\text{front} \end{bmatrix} \Big/ \text{—} \begin{bmatrix} -\text{voc.} \\ -\text{cons.} \\ -\text{back} \end{bmatrix}$$

which is a feeding rule. It feeds (102) and they both give us the S.F. 'Ce:C'.

Now let us consider the following:

(1) Some analysts might consider 'e:' & 'o:' independent phonemes. My analysis rests on the regular alternation with /y/ & /w/ in the morphological form. Non alternating 'e:' & 'o:' occur in only few words such as "le:t" 'would that', "fo:g" 'above'.

(205)

Sg.		Pl.
šaxṣ	'person'	aš . xa:ṣ
madžd	'glory'	am . dža:d
ša . kIl[1]	'shape'	aš . ka:l
xa . tIm	'seal'	ax . ta:m
ħa . džIm	'size'	aħ . dža:m
lo:n	'colour'	al . wa:n
ṣo:t	'sound'	aṣ . wa:t
do:ṛ	'turn'	ad . wa:ṛ

(ʔ)

Here too, we can see that the underlying form is the three consonants, the vowel inserted for the Sg. is 'a', and the plural formation is 'ʔaCCa:C'. Also, it is clear that the medial underlying segment for the last three examples is /w/. Accordingly, we can state the following:

(206)
$$\begin{matrix} V \\ [-long] \end{matrix} \longrightarrow \begin{bmatrix} -low \\ +back \end{bmatrix} / \_\_ \begin{bmatrix} -voc. \\ -cons. \\ +back \end{bmatrix}$$

This rule, too, feeds (102) and they give us the S.F. 'Co:C'.

As shown on the chart, there are front and back phonemic vowels, i.e. the front /I/, /i:/, /a:/ and /a/; and the back /u:/. Some of these vowels are influenced by certain environment and thus have allophones. Let us look at each of them in turn:

1. The front-high /I/

This vowel occurs in plain environments, that is, where no emphatic environment is present. Whether it occurs

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(1) See 'vowel insertion' (p.200).

stressed or unstressed, in open or closed syllables seems to make no difference. Examples:

(207)1.1	lI . ga	'he found'		1.2	ʕa: . gIl	'wise'
	bI . ča	'he cried'			ṛɑ: . kId	'stable'
	mI . ša	'he walked'			ba: . čIr	'tomorrow'
	čI . fa	'he turned something upside down'			da: . xIl	'inside'

/I/ is stressed in 1.1 but not stressed in 1.2.

Allophones

(a) [ɨ]. This occurs after an emphatic consonant regardless of stress or syllable structure provided that not the whole syllable is emphatic (see (b) below). Examples:

(208)1.3	ṭɨ . ri:dž	'road'		1.4	na: . ðɨr	'headmaster'
	ṣɨ . fIr	'zero'			ɣɑ: . ṭɨs	'diving'
	ḷɨṣ . gah	'stick it'			ga: . nɨṣ	'hunting'

Accordingly, rule (39) applies here provided that not the whole syllable is emphatic. That is:

(39) cond. ...../ $ [-emph.]

(b) [ə̣]. This is, in part, /I/ lowering.(1) As we have seen, the presence of an emphatic centralizes /I/ to [ɨ], but when an emphatic, a guttural and an emphable are in one syllable, the emphatic environment is obviously stronger, i.e. the

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(1) Another origin of [ə̣] is the standard /u/ and /a/. See part IV.

whole syllable becomes emphatic. Now, if /I/ is in such a syllable; it not only becomes centralized, but also acquires emphaticness and is lowered to a schwa. /I/ is also lowered when it precedes an emphatic syllable. Examples:

(209)1.5 xɑ: . bə̣t̪ 'unclear 'water'' cf. sa: . kIt 'silence'
ħa: . mə̣ð̪ 'bitter' ħa: . sId 'envious'
ɣə̣t̪ . wah 'face cover'
xə̣b̪ . zah 'piece of bread'

1.6 kə̣ . bə̣ɑr̪ 'he grew'
də̣ . mə̣ɑr̪ 'he destroyed'
lə̣ . bə̣ɑg 'he squeezed 'himself''
šə̣ . ɣə̣l̪ 'work'

1.7 xə̣mm̪ 'clean' (imperative)
sə̣f̪f̪ 'assemble' (imperative)
ð̪ə̣b̪b̪ 'tighten' (imperative)

Accordingly:

(210) $\overset{V}{[-long]} \longrightarrow \begin{bmatrix} -front \\ +low \\ +emph. \end{bmatrix} \quad (\$(C \text{ —— } C_o^1)\$)$

Condition: emphatic environment is present

2. The front-high /i:/

This is not influenced by emphatic environment. Examples:

(211)2.1 di: . rah 'town' 2.2 xa . t̪i:r 'dangerous'
šiːl 'carry' ʕa . ð̪i:m 'great'
ʕa . dži:b 'strange' t̪i:n 'mud'

Allophones

The short [ī] is an allophone of /i:/. It occurs only in word-final position. Examples:

(212)2.3	na: . dī	'club'	cf.	na: . di: . nā	'our club'
	ṛɑ: . ʔ̣ī	'happy'		ṛɑ: . ʔ̣i:n	'they are happy'
	ša: . wī	'shepherd'		ša: . wi: . nā	'our shepherd'

3. The front-long [e:]

This realization of /ay/ is not influenced by emphatic environment. Examples of its occurrences:

(213)3.1	be:t	'house'
	be:t . nā	'our house'
	we: . nik	'where are you?'

4. The low /a:/

Like /I/, this vowel occurs in plain environments. Examples:

(214)4.1	sa:g	'he drove/calf'
	ʕa: . mIl	'coolie'
	mI . dza: . lIs	'boards'

Allophones

The back [ɑ:] which occurs only in emphatic environments. Examples:

(215)4.2	ṭɑ:ḅ	'he recovered'	cf.	ta:b	'he repented'
	ʔ̣ɑ:g	'it became narrow'		ʔ̣a:g	'he tasted'
	ṣɑ:d	'he caught'		sa:d	'he ruled'

5. The low /a/

This vowel also occurs in plain environments like /I/ and /a:/. Examples:

(216)5.1 čatf 'shoulder'
mal . ʕab 'playground'
ʕa . sal 'honey'

Allophones

There is one allophone for this vowel. It is the back [ɑ] which occurs in emphatic environments. Examples:

(217)5.2 ṣɑmɣ 'glue'
ṭɑ . lɑʕ 'he went out'
ẖɑ . ħak 'he laughed'

6. The back-long [o:]

This is a realization of 'aw'. Examples of its occurrences:

(218) šo:k 'thorns'
xo:r 'small bay'
ṭo: . fɑh 'wall'

7. The back-long /u:/

Examples of its occurrences:

(219)7.1 su:g 'market/drive'
ṛu:ħ 'soul/go'
ṭu:l 'light, length'

Allophones

Similar to /i:/, this vowel has the short [ū] as its allophone which occurs only word-finally. Examples:

(220)7.2	ga . ṭū	'cat'	7.3 ga . ṭu: . nā	'our cat'
	yI . rū	'puppy'	yI . ru: . nā	'our puppy'

It should be remembered, however, that the phonemes and the allophones; and the allophones themselves, are all in disjunctive order; i.e. once a form of the segment applies, no other form can apply.

Back vowels influence on emphables

Back vowels exercise an influence on /b/, /m/ and /f/; but not on /l/ unless there is a high guttural in the same syllable. Let us consider some examples:

(221)	fo:z	'success'	fu:z	'succeed' (imperative)
	ḅo:s	'kissing'	ḅu:s	'kiss' (imperative)
	mo:t	'death'	mu:t	'die' (imperative'
	šo:f	'vision'	šu:f	'look'
	so:m	'bargaining'	su:m	'bargain'
	θo:ḅ	'a dress'	tu:ḅ	'repent'

But compare:

(222)	zo:l	'figure (of a person)'	gu:l	'say'
	lo:n	'colour'	lu:t	'bend'
	ḅo:l	'urine'	ḅu:l	'pass water'

	lo:m̩	'blame' (noun)	lu:m̩	'blame' (imperative)
	fu:l̩	'kind of beans'		

with

(223)	ɣo:l̩	'strangling'	ɣu:l̩	'strangle'
	maš . xu:l̩	'sifted'	maš . ɣu:l̩	'engaged'

and

(224)	ɣa . su:l	'washing water'	xa . dzu:l	'shy'
	maš . lu:x	'cracked'	bI . lu:ɣ	'maturity'
	ka . fū	'well done'	ħI . lū	'sweet'

From these examples, we can see that /b/, /m/ and /f/ become emphatic adjacent to a back vowel. Accordingly:

(225) $$\begin{bmatrix} +\text{ant.} \\ -\text{cor.} \end{bmatrix} \longrightarrow [+\text{emph.}] \; / \; \underline{\quad} \; \overset{\text{V}}{[+\text{back}]} \; \underline{\quad}$$

However, we notice that /l/ does not behave in the same way. It does not become emphatic adjacent to a back vowel unless the back vowel and a high guttural are both present with /l/ in the same syllable, and /l/ is in the final position. Accordingly:

(226) $$[+\text{lat.}] \longrightarrow [+\text{emph.}] \Big/ \begin{bmatrix} \overset{\text{C}}{+\text{back}} \\ +\text{high} \\ +\text{cont.} \end{bmatrix} \overset{\text{V}}{[+\text{back}]} \; \underline{\quad} \; \#\#$$

And thus, I call /l/ a "semi-emphable."

Dipthongs

K.D. has the following dipthongs:

(227)1. aʸ as in šu: . fay 'look' (Sg. fem.)

2. aʷ as in šu: . faw 'look' (Pl. both genders)

3. a:ʸ as in ča:y 'tea'

4. o:ʸ as in mo:y 'waves'

5. a:ʷ as in ya:w 'they came' (both genders)

Chapter Two

The consonantal system

Consonants chart

		bi-labial	labio-dental	inter-dental	dental alveolar	Palato-alveolar	palatal	velar	uvular	gutturals	glottal
Stops	voiced	b ḅ			d			g			ʔ
	voiceless				t ṭ			k	q		
Affri-cates	voiced					ʤ					
	voiceless					ʧ					
Frica-tives	voiced				z			ɣ	ʁ	ʕ	
	voiceless		f f̣	θ	s ṣ	ʃ		x	χ	ħ	h
Nasals		m ṃ			n			ŋ			
Liquids					l ḷ r ṛ						
Glides		w					j				

[b] and [ḅ] are allophones of /b/
[f] and [f̣] " " of /f/
[m] and [ṃ] " " of /m/
[l] and [ḷ] " " of /l/
[ṛ] and [r] " " of /ṛ/
[n], [m], [l], [r] and [ŋ] may occur as allophones of /n/

1. The emphatics

In K.D. there are three emphatic consonants, namely, /ð̣/, /s̤/ and /t̤/. They are the emphatic counterparts of /ð/, /s/ and /t/ respectively. What distinguishes an emphatic consonant from its plain counterpart is the feature of backness. Thus, an emphatic consonant is a back coronal. However, it must be made clear that the emphatics are phonemically distinct from their plain counterparts.(cf.p.44) Consider the following:

(228)	ð̣ɑ:g	'it became narrow'	ðа:g	'he tasted'
	s̤ɑ:m	'he fasted'	sa:m	'he bargained'
	t̤ɑ:b̤	'he recovered'	ta:b	'he repented'

Belonging to the group of emphatics - though not exactly a full member - is the phoneme /r̤/ which I shall refer to as a semi-emphatic (cf. rule (56)). This is because:

a) /r̤/ is pronounced emphatically, and exercises a full influence as an emphatic over other segments except when adjacent to a front-high vowel or 'y', where it even loses its emphaticness.

b) The emphatic and the plain forms of /r̤/ are not phonemically distinct. The use of one for the other is usually avoided. That is, [r] is an allophone of /r̤/.

Emphatic influence on other consonants

Here, the situation is similar to that in the standard. That is, emphatics influence the emphables /b/, /m/ and /f/, unless a front-high vowel is preceding the emphable in the same syllable.

Examples:

(229) ʔˤmɑ . naw 'they guaranteed'

bˤɐr . mɑh 'drink container'

bsˤɑ:t 'rug'

tˤɑ . bˤɐl 'drum'

sˤɐ . mɑx 'deafness'

fˤɑ . xɑr 'pride'

ħa . tˤɑb 'fire wood'

xɑ: . bˤɐt 'unclear water'

ħa: . fˤɐʔ 'he is memorizing'

mxɑ: . mɑt 'grabbing'

But

(230) sˤɪmt 'I/you (sg.masc.) fasted'

tˤɪbt 'I/you (sg.masc.) recovered'

ʔˤe:f 'guest'

tˤi:b 'goodness'

be:ʔˤ 'eggs'

bi:ʔˤ 'white' (pl.fem.)

xɑ: . tˤɪb 'engaged' (sg.masc.)

nI . ʔˤi:f 'clean'

Accordingly:

(231) $\begin{bmatrix} +\text{ant.} \\ -\text{cor.} \end{bmatrix} \longrightarrow [+\text{emph.}] \; / \; \underset{[+\text{emph.}]}{C}$

Cond. 1. $\overset{V}{\begin{bmatrix} +\text{high} \\ -\text{back} \end{bmatrix}}$ is not preceding

2. $\overset{V}{\begin{bmatrix} +\text{long} \\ -\text{low} \\ -\text{back} \end{bmatrix}}$ is not adjacent

(Tentative)

Emphatic influence on gutturals

Of the gutturals, /x/ and /ɣ/ are influenced by the emphatic presence. These high velars become uvulars in the emphatic environment. Examples:

(232) xa:n 'he betrayed' χɑ:ṭ 'he sewed'
ɣaššˇ 'he cheated' ʁɑṣṣˇ 'he chocked'

Accordingly:

(233) $\begin{bmatrix} C \\ +back \\ -cont. \end{bmatrix} \longrightarrow [-high] \,/\, \underset{[emph.]}{C}$

2. Gutturals

The gutturals, or the pharyngeals, as they are sometimes called, are /x/, /ɣ/, /q/, /ʕ/, /ħ/ and /ʔ/. Only the first two exercise influence on emphables, so does the back-voiced [g] which is an allophone of /q/, as we shall see later. Examples:

(234) xɑ:f̣ 'he became scared'
ɣɑ:ḅ 'he absented himself'
gɑ:ṃ 'he stood up'

dḅɑ . ɣah 'he hit him'
yxa . ṃəˇšˇ 'he scratches'
xɑ . f̣ɑs 'he sank (in sand)'
ḅə . xə̣ḷ 'meanness'

But

(235) xIft 'I became scared'

ɣIbt 'I absented myself'

gIlt 'I said'

xe:l 'horses'

ɣe:m 'clouds'

ta: . f̣ə̣x 'he has blown'

da: . ḅə̣ɣ 'he has hit'

xḅə̣ . zah 'he baked it'

ɣṃə̣ . zah 'he blinked at him'

This would suggest that the gutturals /x/ and /ɣ/ influence the emphables in the same way as the emphatics do. Accordingly, (231) can be revised as follows:

(231)

$$\begin{bmatrix}+\text{ant.}\\-\text{cor.}\end{bmatrix} \longrightarrow [+\text{emph.}] \Big/ \begin{matrix} C \\ [+\text{emph.}] \end{matrix} \quad \begin{matrix} C \\ \begin{bmatrix}+\text{back}\\+\text{cont.}\\+\text{high}\end{bmatrix}\end{matrix}$$

Cond. 1. $\begin{matrix} V \\ \begin{bmatrix}+\text{high}\\-\text{back}\end{bmatrix}\end{matrix}$ is not preceding

2. $\begin{matrix} V \\ \begin{bmatrix}+\text{long}\\-\text{low}\\-\text{back}\end{bmatrix}\end{matrix}$ is not adjacent

(Revised)

Now let us look at the following examples:

(236) xa:n 'he betrayed' ṭɑ:ɤ 'it boiled'

ɣa:z 'gas' ɣ̣ɑ:ʕ 'he/it is lost'

ga:s 'he measured' ṣɑ:d 'he caught'

xaš . mIk	'your nose'	ṭaš . tIk	'your washing sink'
gas . mIk	'your share'	ṣad . rIk	'your chest'
ɣan . čah	'food tray'	ʕ̣an - nIk	'your guessing'

These examples and the foregoing discussion show that the emphatics and the gutturals exercise influence on /I/, /a:/ and /a/. The emphatics influence them always while the gutturals have influence on them only when there is an emphable either in the same syllable or in the adjacent one. Accordingly, we can state the following:

(237) $$\begin{bmatrix} V \\ +high \\ -long \end{bmatrix} \longrightarrow \begin{bmatrix} -front \\ +emph. \end{bmatrix} \Big/ \begin{matrix} \$ \\ [+emph.] \end{matrix}$$

(238) $$\begin{matrix} V \\ [+low] \end{matrix} \longrightarrow [+back] \Big/ \begin{matrix} \$ \\ [+emph.] \end{matrix}$$

The plain consonants

There does not seem to be a lot to be said about the plain consonants except that the phonemes /dz/, /k/ and the guttural /q/ have the allophones[1] [y], [č]; and [g] and [dz] respectively, according to what I call 'part time rules'. (See Part IV.) Here are some examples:

1. /dž/ ⟶ [y] /dž/ ⟷ [y]

(239)	yI . rū	'puppy'	dža:m	'glass'
	yaṛ . ḅu:ʕ	'desert rat'	džay - yId	'good'
	ya:ṛ	'neighbour'	džId - dan	'very'

(1) I shall call them allophones because their use seems to be controlled though, not necessarily by phonological rules (see Part IV).

/dz/ ⟶ [y]		/dž/ ↛ [y]	
mas . yad	'mosque'	man . džam	'mine'
may . nu:n	'mad'	madž . mu:ʕ	'total'
yi:b	'bring'	dže:š	'army'
yu:ʕ	'hunger'	maʕ . džu:n	'paste'
wa: . yId	'plenty'	ta: . džIr	'merchant'

Thus, phonologically, it does not seem possible to set a rule which states the environments in which /dz/ becomes [y]. However, to use /dz/ always is quite correct in the dialect, but the typical city native speaker would use the variant [y] intuitively.

2. /k/ ⟶ [č] /k/ ↛ [č]

(240)				
	čla:b	'dogs'	kta:b	'book'
	čal . bah	'dog' (fem.)	kaš . tah	'picnic'
	čIl . wah	'kidney'	kIs . rah	'piece'
	čI . fIl	'sheep's back	kI . tIṛ	'side'
	ču: . lah	'cooker'	ku: . ṛaḥ	'ball'
	fIčč	'get lost'	fIkk	'open'
	ʕlu:č	'chewing gums'	mlu:k	'kings'

Here too, there does not seem to be a plausible way of writing a phonological rule for using [č] instead of/k/. This situation so far is as 1. above. But consider the following:

(241)		
	kta: . bIč	'your book' (fem.sg.)
	kta: . bIk	'your book' (masc.sg.)
	Etc.	

Here, there can be a morphological rule stated as follows:

(242) $\begin{bmatrix} C \\ -cont. \\ -vcd. \end{bmatrix} \longrightarrow \begin{bmatrix} -back \\ +high \\ +dl-rel. \end{bmatrix} / \quad \underline{\quad} \quad \#\#$

Condition: Sg.fem. suffix.

3. a) /q/ ⟶ [g]

(243)

ga: . ʕId	'he is sitting down'
gaṭ . wah	'cat' (fem.)
giṭ . ʕah	'piece/cut it'
maṛ . gu:g	'a Kuwaiti meal'
ga . ṛɑ: . dah	'recklessness'
ħa . gi: . gah	'reality'
dI . gi: . gah	'a second'

/q/ ⟶/ [g]

qa: . tIl	'killer'
qaṣ . di:r	'foil'
qIṣ - ṣɑh	'story'
maʕ . qu:l	'reasonable'
qa . ri:b	'near'
qi: . mah	'value'
wa . θi: . qah	'document'
ṣɑ . di:q	'friend'

b) /q/ ⟶ [dž]

fI . ri:dž	'local district'
ħa . ri: . džah	'fire'

dž I . dIr 'pot'

dž Id - da:m 'ahead'

Also here, a phonological rule for the variants of /q/ would not seem plausible. And the alternation does not seem to be phonological. However, it should be mentioned that the phoneme /q/ can be in almost free variation with the phoneme /ɣ/. Examples:

(244) ma {ɣ, q} . rIb 'sunset'

ṣɑ . di: {ɣ, q} 'friend'

{ɣ, q} a . di:m 'old'

This is in spite of the fact that they are phonemically distinct in some other lexical units. Examples:

(245) ɣa . ri:b 'stranger'

qa . ri:b 'near'

ɣa: . dIr 'wicked'

qa: . dIr 'able'

Chapter Three

The syllable structure

K.D., like the standard, has a phonemic syllable which consists of only one consonant (see p.54). That is the prepositions and joiners /b/, /l/, /f/ and /w/. Phonetically, they are realized as follows:

(246) [bI] e.g. bIl ɣə̤r̤ . f̤ɑh 'in the room'

That is: ## bI #ʔ al # ɣə̤r̤ . f̤ah ##

(27) bI al ɣə̤r̤ . f̤ah

(29) bI l ɣə̤r̤ . f̤ah

[bIl ɣə̤r̤ . f̤ɑh]

Similarly:

[lI] e.g. lIl mak . tab 'for the office'

[fa] e.g. fal mas . ʔa . lah 'then/so the matter is'

[wI] e.g. wIl madž̆ . lIs 'and the council'

However, since the dialect allows two consonant cluster word-initially, the above prepositions and joiners do occur without a vowel accompanying them. Examples:

(247) bdž̆e: . bIk 'in your pocket'

lʕam - mIk 'for your uncle'

fkIn - nā 'then/so we were'

wr̤ɑ: . ħaw 'and they went'

The possible syllables, then, are:

(248)1.	/C/	⟶ [C(V)]	e.g.	bIl ɣʔr̥ . f̥ah	'in the room'
				bdže: . bIk	'in your pocket'
2.	/CVC/	⟶ [(C)VC]	e.g.	(ʔ)al	'the'
		[CVC]	e.g.	ʿmIn	'from'
3.	/CV:/	⟶ [CV̄]	e.g.	lā	'no'
4.	/CV:C/		e.g.	be:t	'house'
5.	/CVCC/		e.g.	čabd	'liver'
6.	/CCVC/		e.g.	čla:b	'dogs'

However, the situation here does not seem to be different from the standard. We notice the following:

1. No three consonant cluster is allowed, even when the third is a glide.

2. No two vowel sequence is allowed.

3. No syllable begins, underlyingly, with a vowel. However, when a syllable begins with a glottal stop, it is possible that the glottal stop may drop in the normal tempo of speech. But underlyingly it is there.
   Moreover, when a suffix beginning with a vowel e.g. dual formation is added, it is always the case that the added suffix takes with it (i.e. in its syllable) the last segment of the form to which it was added. If that

segment is not a consonant, then either it changes into a glide, or a glide is inserted to break a disallowed sequence. Examples:

(249)

Sg.		Dl.
ba:b	'door'	ba: . be:n
kwe: . tī	'from Kuwait'	kwe: . ti . ye:n

Chapter Four

Assimilation

I. The definite article '(ʔ)Il'

Here, the assimilation of the definite article is almost the same as that in the standard. The 'l' of the definite article assimilates to a following coronal, compulsory if that coronal is followed by a vowel. Examples:

(250)	phonemically		phonetically		Gloss.	
ʔIl	ta . mə̣r	(ʔ)I	t - ta . mə̣r	the	dates	
	θo:b̤		θ - θo:b̤		robe	
	dars		d - dars		lesson	
	ð̠amb		ð̠ - ð̠amb		sin	
	ṛa:s		ṛ - ṛa:s		head	
	za:d		z - za:d		food	
	se:l		s - se:l		flood	
	šams		š - šams		sun	
	ṣa . ħan		ṣ - ṣa . ħan		dish	
	ṭImb		ṭ - ṭImb		tent rope	
	ð̠ə̣lm		ð̠ - ð̠ə̣lm		tyranny	
	na . haṛ		n - na . haṛ		river	

And we notice:

dže:š	(ʔ)Il dže:š	'the army'

Thus rule (66) operates here.

However, when the word begins with two consonant cluster, then the 'l' assimilation has two alternatives:

1. The assimilation takes place according to rule (66) provided the first consonant is a coronal. Examples:

(251)

indef.			def.
ṛgạ . ḅah	'neck'		Iṛṛ . gạ . ḅah
sṛa:y	'oil candle'	(ʔ)	Iss . ṛa:y
ǰǰ̣ʕi:f	'weak'		Iǰǰ̣ . ʕi:f
lẖa . mah	'piece of meat'		Ill . ẖa . mah

2. The glottal stop is dropped, and 'Il' metathesizes to 'lI' in order to break up a resulting three consonant cluster which is not allowed in the dialect. This would take place whether the initial consonant is a coronal or not. Using the examples above, yields:

(252)

lIṛ . gạ . ḅah	'the neck'
lIs . ṛa:y	'the oil candle'
lǰǰ̣ . ʕi:f	'the weak'
lIl . ẖa . mah	'the piece of meat'

Also:

kta:b	'book'	lIk . ta:b	'the book'
džḍu:ṛ	'pots'	lIdž . ḍu:ṛ	'the pots'
bʕi:r	'camel'	lIb . ʕi:r	'the camel'
qlI . me:n	'two pens'	lIq . lI . me:n	'the two pens'

Accordingly:

(253) Il ⟶ lI / ## —— CC

(Optional)

II. /ṣ/, /s/ and /z/

Any of these sibilants assimilates to the other in the order of the preceding assimilates to the following: Examples:

(254) a) /nɬṣ sa: . ʕah/
[nɬs sa: . ah] 'half an hour'

b) /xa: . mɪs ṣɑ . ħan/
[xa: . mɪṣ ṣɑ . han] 'fifth dish'

c) /fa:z sab . ʕah/
[fa:s sab .ʕah] 'seven won'

d) /fa:z ṣɑ:ħ . bɪk/
[fa:ṣ ṣɑ:ħ . bɪk] 'your friend won'

e) /xa . l̤ɑṣ za: . mɪ/
[xa . l̤ɑz za: . mɪ] 'my duty is over'

f) /na:s za:h . bi:n/
[na:z za:h . bi:n] 'ready people'

We notice that the influence of the emphatic stays after the assimilation to a non-emphatic consonant took place. For example, in a) the [ɬ] stayed centralized even after the emphatic /ṣ/ has assimilated to the non-emphatic /s/. Similarly, the assimilation of a plain consonant to an emphatic one does not affect what was originally in a non-emphatic environment. For example, in d) the /a:/ in 'fa:z' did not become [+back] after the /z/ which is not emphatic has assimilated to /ṣ/ which is.

Accordingly:

(255) [+sibil.] $\longrightarrow$ [ved. emph.] / — [+sibil. vcd. emph.]

III. /ɮ̣/, /θ/ and /ð/

These too assimilate to each other in the same order in II.

Examples:

(256)a) /ɦa . fɑɮ̣ θa . la:θ/

[ɦa . fɑθ θa . la:θ 'he memorized three'

b) /(ʔ)I . xið θIlθ/

[(ʔ)I . xiθ θIlθ] 'take one third'

c) /xəɮ̣ ða:k/

[xəð ða:k] 'shake that'

d) /(ʔ)I . xIð ɮ̣e: . fIk/

[(ʔ)I . xIɮ̣ ɮ̣e: . fIk] 'take your guest'

e) /ʕa . baθ ɮ̣əḅ . ḅɑ:ṭ/

[ʕa . baɮ̣ ɮ̣əḅ . ḅɑ:ṭ] 'negligence of sergeants'

f) /ðIθθ ða:k/

[ðIðð ða:k] 'annoy that'

Accordingly:

(257) [+cont. +int.dent.] $\longrightarrow$ [αvcd. βemph.] / — [+cont. +int.dent. αvcd. βemph.]

Also the same remarks about the emphatic influence in II. apply here.

IV. /ṭ/, /t/ and /d/

Also these consonants assimilate to each other as those in II. and III. above. Examples:

(258)a) /ð̣ɑ: . b̥ə̣ṭ taʕ . ba:n/
[ð̣ɑ: . b̥ə̣t taʕ. ba:n] 'lazy sergeant'

b) /hə̣ṭṭ daf . tI . ṛIk/
[hə̣dd daf . tI . ṛIk] 'put your notebook'

c) /ṣɑ: . dat ṭe:r/
[ṣɑ: . daṭ ṭe:r] 'she caught a bird'

d) /kI . tabt dars/
[kI . tabd dars] 'I wrote a lesson'

e) /ma . ħad ta . ħač - ča/
[ma . ħat ta . ħač - ča] 'no one talked'

f) /ma . had ṭɑ:ħ/
[ma . ħaṭ ṭɑ:ħ] 'no one fell'

And here too, the emphatic influence is as in II. and III. above.

Accordingly; rule (76) applies here.

V. [g] and /k/

Examples of their assimilation:

(259)a) /ɦa . ɾɑg kta: . bah/

[ɦa . ɾɑk kta: . bah] 'he burnt his book'

b) /ʂɑ:ɦ . bIk ga: . ʔId/

[ʂɑ:ɦ . bIg ga: ʔId] 'your friend is sitting'

Accordingly:

(260) $\begin{bmatrix} -\text{cont.} \\ +\text{back} \\ +\text{high} \end{bmatrix} \longrightarrow [\alpha\text{vcd.}] \; / \; \text{—} \; \begin{bmatrix} -\text{cont.} \\ +\text{back} \\ +\text{high} \\ \alpha\text{vcd.} \end{bmatrix}$

VI. /x/ and /ɣ/

Examples of their assimilation:

(261)a) /yəʈ . bɑx ɣa . za:l/

[yəʈ . bɑɣ ɣa . za:l] 'he cooks a deer'

b) /ʂə . bəɣ xɑɾ . b:n/

[ʂə . bəx xɑɾ . bɑ:n] 'spoiled paint'

Accordingly:

(262) $\begin{bmatrix} +\text{cont.} \\ +\text{back} \\ +\text{high} \end{bmatrix} \longrightarrow [\alpha\text{vcd.}] \; / \; \text{—} \; \begin{bmatrix} +\text{cont.} \\ +\text{back} \\ +\text{high} \\ \alpha\text{vcd.} \end{bmatrix}$

VII. One way assimilation

1. /n/ to /l/, /r/ or /m/

When /n/ is followed by /l/, /r/ or /m/, it assimilates to what follows it. But neither of them assimilates to /n/.

Examples:

(263)a) /ʔIn lI . gā/
[ʔIl lI . gā] 'if he found'

b) /mIn ṛɑ:ħ/
[mIṛ ṛa:h] 'who went'

c) /ʔIn ma:t/
[ʔIm ma:t] 'if he died'

But:

a) /šẹ . ɣẹḷ nā/ 'our work'

b) /ya:ṛ nā/ 'our neighbour'

c) /ʕam - m nā/ 'our uncle'

Accordingly; rule (72) operates here.

Also /n/ becomes [ŋ] before /k/. Examples:

a) /mInk/ —— [mIŋk] 'from you'

b) /lIk nIsṣ/ —— 'a half is yours'

2. /ʕ/ to /ħ/

Here too, when /ʕ/ is followed by /ħ/, then /ʕ/ assimilates to /ħ/, but not the other way round. Examples:

(264)a) /ṭɑ: . lIʕ ħa . ri: . džah/

[ṭɑ: . lIħ - ħa . ri: . dzah] 'look, fire'

b) /ṛə . ḅɑħ ʕaš . ṛɑh/

[ṛə . ḅɑħ ʕaš . ṛɑh] 'he won ten'

Accordingly:

$$\begin{bmatrix} -\text{emph.} \\ +\text{back} \\ +\text{low} \end{bmatrix} \longrightarrow [-\text{vcd.}] \; / \; \text{—} \; \begin{bmatrix} -\text{emph.} \\ +\text{back} \\ +\text{low} \\ -\text{vcd.} \end{bmatrix}$$

VIII. When /n/ is followed by /b/, it assimilates to [m].

Examples:

(265) /ðanb/ ⟶ [ðamb] 'sin'

/ṭɨnb/ ⟶ [ṭɨmb] 'tent rope'

Thus, rule (68) applies here. However, the underlying /n/ is retained when /b/ is no longer directly after /n/.

The plural forms of the two words above are:

(266) ðnu:b 'sins'

(ʔ)aṭ . na:b 'tent ropes'

Chapter Five

Stress

It seems that the placement of stress in K.D. can be specified in either of the following two areas:

1. When a word ends in a two consonant cluster, then the stress falls on the vowel which precedes that cluster. Examples:

(267)	kI . tábt	'I/you (sg.masc.) wrote'
	ta . ʕal - lámt	'I/you learnt'
	šÍft	'I saw'

Accordingly, rule (87) applies here. Also rule (85) for monosyllabic words applies here.

2. Elsewhere from 1. the stress falls on the second vowel from the end. Examples:

(268)	qá . lam	'pen'
	qa . lám . kə̣m̩	'your pen' (pl.)
	mad . rÍ . sah	'school'
	mad . rI . sát . kə̣m̩	'your school' (pl.)
	ma . xád - dah	'pillow'
	ma . xad - dÍ . tIk	'your pillow' (sg.masc.)
	dža:m . ʕah	'university'
	dža:m . ʕát . nā	'our university'
	ħa . dá:g	'fishing'
	ħa . da:g . nā	'our fishing'
	ma . ħal - lá:t	'stores'
	ma . ħal - la:t . nā	'our stores'

Accordingly, rule (92) applies here.

Rule (92) might be taken to indicate that a sequence of two vowels is allowed in the dialect. In fact, such a sequence is not allowed in K.D. and rule (92) does not mean that it is. What it means is that when there are no consonants between the last vowel and the stress placement, the stress is actually on a long vowel. Consider the following:

(269) sa . lá:m 'peace'
sá: . lIm 'he is alright'

That is, where the stress falls on the long vowel, it is still considered on the second vowel from the end. This is because a long vowel is actually a sequence of two short vowels of the same quality. That is, 'a:' = aa, 'u:' = uu, etc.

Section Two

Morphophonemics in Kuwait dialect

Chapter One

Masculine

I. CCV:C

Consider the following:

(270)1.

Sg.		Pl.
čalb	'dog'	čla:b
θo:ḅ	'dress'	θya:b
ṛɑ . mə̣l	'sand'	rma:l
ʕa . ð̣ə̣m	'bone'	ʕðɑ:ṃ

Keeping in mind the observation that the long vowel 'o:' is a S.F. of /aw/, we notice that the VIR here is regularly 'a' Accordingly:

(271) CCC ⟶ CaCC Sg. I.1.

The second vowel in the last two examples seems to be inserted when the last consonant is a sonorant (see p.200). Accordingly:

(272) ∅ ⟶ I / $. C —— C [+son.] ##

(Tentative)

2.

ba . dIṛ	'moon'	bdu:ṛ
ḅɑ . ɣɑḷ	'mule'	ḅɣu:ḷ
ḅɑ . ħaṛ	'sea'	bħu:ṛ
nIhd	'breast'	nhu:d

Sg.		Pl.
be:t	'house'	byu:t
ʧɪrs	'tooth'	ʧru:s

Here the VIR (111) applies. The second vowel in the first three examples is inserted for the same reason as in A. but (272) can be revised as follows:

(272) $\phi \longrightarrow \begin{matrix} V \\ [\alpha \text{high}] \end{matrix} \Big/ \$ \cdot \begin{matrix} C \\ [\beta \text{gut.}] \end{matrix} \text{ —— } \begin{matrix} C \\ [+\text{son.}] \end{matrix}$

(1st Revision)

Let us derive an example from each section:

'ɳɑ. ʧəm'

U.F.	/ɳ ʧ m/
(271)	ɳ aʧm
(272)	ɳ aʧIm
S.D.	ɳa . ʧ Im
Stress	ɳá . ʧIm
S.F.	[ɳá . ʧəm]

'bɑ . ʰɑr'

U.F.	/bʰr/
(111)	baʰr
(272)	baʰar
S.D.	ba . ʰar
Stress	bá . ʰar
S.F.	[bɑ́ . ʰɑr]

The plural VIR would be as follows:

(273)1. $CCC \longrightarrow CC \begin{bmatrix} a: \\ u: \end{bmatrix} C \quad \begin{matrix} 1. \\ 2. \end{matrix}$ Pl. I.

II. CCa:C + ah

Consider the following:

(274)

	Sg.		Pl.
	di:č	'cock'	dya: . čah
	gi:z	'peasant'	gya: . zah
	dI . rū	'fool'	dṛɑ: . wah
	sI . rū	'an insect'	sṛɑ: . wah

The plural form seems to suggest that there is an underlying /y/ in the first two singular, and /w/ in the last two. Accordingly, the VIR for the singular would be (132).

Furthermore, it seems clear that rule (144) applies here when the adjacent vowel is 'I'. Let us derive the first example:

'di:č'

U.F.	/dyk/
(132)	dIyk
(144)	di:k
S.F.	[dí:č]

The last two singulars suggest the following rule:

(275) $$\begin{bmatrix} -\text{cons.} \\ -\text{front} \end{bmatrix} \longrightarrow \begin{bmatrix} +\text{voc.} \\ +\text{long} \end{bmatrix} \Big/ \_\_ \ \#\#$$

Accordingly:

dI . rū

U.F.	/dṛw/
(132)	dIṛw
(275)	dIṛu:

(31)	dIrū
S.D.	dI . ṛū
Stress	dÍ . ṛū
S.F.	[dÍ . rū]

The plural VIR is as follows:

(276) CCC ⟶ CCa:Cah

III. mCV:CCV:n

Consider the following:

(277)

Sg.		Pl.
mṛɑ: . qIb 'observer'	}	Sg. + i:n
msa: . ʕId 'assistant'		
mẖa: . mī 'lawyer'	}	Sg. + yi:n

The initial 'm' is not underlying. Its presence indicates the profession of a person. However, there are other nouns where the initial 'm' indicates place or instrumentality.

We notice, however, that the last word 'mẖa: . mī does not have the same shape as the first two. That is, one would expect a CVC second syllable or an explanation for what we actually have. In fact, the form we have above ends underlyingly in a glide 'y', i.e. its canonical form is 'mẖa: . miy'. That /y/ appears in the plural form as above, and also in the dual form which is 'mẖa: . mi . ye:n'. This would indicate that rule (98) is operative here as well.

Accordingly, the VIR for the singular forms above would be as follows:

(278) mCCC ⟶ mCa:CIC Sg. III.

IV. Consider the following:

(279)

Sg.		Pl.
kwe: . tī	'from Kuwait'	Sg. + y i:n
ʔIq . tI . ṣɑ: . dī	'economist'	
sya: . sī	'politician'	

These are 'nisbah' nouns, which relate someone or something to a place or profession. On the face of it, it seems that the 'nisbah' marker is the final 'ī', but we notice that in the plural there is a glide 'y' which appears before the plural suffix 'y i:n'. Now, the question is: is that 'y' underlying but deleted from the singular form by rule (98) as in 'mẖa: . mī' in III. above, or is it only inserted in the plural form to break up a disallowed vowel sequence '—— i + i:n'? First of all we notice that the nisbah nouns do not have to have the same canonical form and they do not have a prefix or an infix. The nisbah morpheme can suffix an ordinary noun, or an utterance which, without the nisbah morpheme, means nothing, as 'sya:s' above. The final short and tense vowels in the examples above tell us that they are either underlyingly long or there is a deleted segment word-finally. The glide 'y' appears in the plural form and in the dual form which is 'kwe: . ti . ye:n', 'ʔiq . ti . ṣɑ: . di . ye:n' and 'sya: . si . ye:n' respectively.

Furthermore, rule (98) tells us that y —— ϕ / — ##. Accordingly, we conclude that 'y' is underlying as part of the nisbah morpheme, in the above nouns.

Other groups in the dialect seem to be almost of the same form as in the standard with mostly one difference only; and that is vowel(s) quality. Sometimes that difference appears only in the plural form while the singular remains as in the standard, and vice-versa.(1)

Accordingly, it seems obvious that to list such groups and analyse them would be an undesirable repetition. However, it would be interesting to look at that difference in vowel(s) quality and to attempt an explanation for it. So, in this chapter, let us list examples of such groups. And to show the vowel(s) difference both the standard and the dialect forms will be listed. However, an attempt to account for the difference phonologically, will be postponed until the next part.

The singular

	S.A.	K.D.	Gloss.
V.	ma . qaṣṣ	mə̣ . gaṣ̣ṣ	'pair of scissors'
	ma . fakk	mə̣ . f̣ɑkk	'opener'
VI.	muṣ . ħaf	mə̣ṣ . ħaf̣	'a copy of the Qur'an'
	mub . r̥ɑd	mə̣b . r̥ɑd	'metal file'

(1) We have already seen that 'aw' and 'ay' in the standard became 'o:' and 'e:' in the dialect respectively, e.g. 'lawn' ⟶ 'lo:n', 'bayt' ⟶ ''be:t', etc.

	S.A.	K.D.	Gloss.
VII.	ša . ri:ṭ	šI . ri:ṭ	'tape'
	ṭɑ . ri:q	ṭɪ . ri:dz	'road'
VIII.	faʔr	ʈɑ:ɾ	'mouse'
	ɾɑʔs	ɾɑ:s	'head'
IX.	ṣun . du:q	ṣɑn . du:g	'box'
	dzum . hu:ɾ	dzam . hu:r	'crowd'
	The plural		
V.	ma . qa:ṣṣ	mɐ . ga:ṣṣ	'pairs of scissors'
	ma . fa:kk	mɐ . ʈɑ:kk	'openers'
VI.	ma . ṣɑ: . ħif	mI . ṣɑ: . ħif	'copies of the Qur'an'
	ma . ba: . rid	mI . ba: . rId	'metal file'
VII.	ša . wa: . riʕ	šI . wa: . rIʕ	'streets'
	ṭɑ . wa: . bIq	ṭɪ . wa: . bIq	'floors'
VIII.	ħuk - ka:m	ħIk - ka:m	'rulers'
	ʕum - ma:l	ʕIm - ma:l	'coolies'
XI.	ma . sa: . mi:r	mI . sa: . mi:r	'nails'
	ma . fa: . ti:h	mI . fa: . ti:h	'keys'

Chapter Two

Feminine

X. (ʔ)ICCaC

Consider the following:

(280)

Sg.		Pl.	
gIṭ . ʕah	'piece'	((ʔ)I)	gṭaʕ
ɣIt . ṛah	'scarf'		ɣaṛ
ħi: . lah	'trick'		ħyal
di: . rah	'town'		dyaṛ
ṭo: . ḟah	'wall'		ṭwaḟ
do: . lah	'country'		dwal
ṣu: . ṛah	'picture'		ṣwaṛ
fu: . ṭah	'towel'		ḟwaṭ

The VIR for the singular form is (111). That is, keeping in mind rules (102) and (144) and the vocalic system of the dialect. Let us derive 'ħi: . lah', ṭo: . ḟah' and 'ṣu: . ṛah'.

'ħi: . lah'

U.F.	/ħyl/
(111)	ħIyl
fem.suf.	ħIylah
(144)	ħi:lah
S.D.	ħi: . lah
Stress	ħí: . lah
S.F.	[ħí: . lah]

'ṭo: . ḟah'

U.F.	/ṭwf/
(111)	ṭawf
fem.suf.	ṭawfah
(206)	ṭo:fah
S.D.	ṭo: . fah
Stress	ṭó: . fah
S.F.	[ṭó: . ḟah]

'ṣu: . ṛah'

U.F.	/ṣwṛ/
(111)	ṣuwṛ
fem.suf.	ṣuwṛah
(102)	ṣu:ṛah
S.D.	ṣu: . ṛah
Stress	ṣú: . ṛah
S.F.	[ṣú: . ṛah]

As for the plural, we notice that there is an optional syllable, and that is ((ʔ)I)C. This syllable can be either 'ʔIc' or 'IC, since the glottal stop is optional, but never *'ʔC'. This is because these examples begin in two consonants; so the result would be three, and no three consonant cluster is allowed in the dialect, so the 'I' is vital to break up the disallowed consonant cluster, if the glottal stop is to be pronounced. However, the vowel in the plural form is regularly 'a'; thus, the plural VIR can be as follows:

(281) CCC ⟶ (ʔ)I CCaC Pl. X.

XI. <u>CaCaC</u>

Consider the following:

(282)1.(A)

	Sg.		Pl.
	wṛɨ . gah	'paper'	wa . ṛɑg
	xšI . bah	'log'	xa . šab
(B)	nxa . ḷɑh	'palm tree'	na . xaḷ
	šʕa . ṛɑh	'one hair'	ša . ʕaṛ

Here, we notice in the singular form that the inserted vowel seems to depend on the third consonant. That is, if the third consonant is a stop, then the inserted vowel is 'I', and if the third consonant is a continuant, the vowel is 'a'. This can be put as follows; which seems to be the VIR for the singular.

(283)

$$\begin{bmatrix} V \\ -\text{long} \\ -\text{back} \end{bmatrix} \longrightarrow [\alpha \text{high}] \;/\; C \;\; C \;\; \_\_\_\_ \;\; \underset{[\beta \text{cont.}]}{C} \;\; +$$

The plural VIR can be tentatively stated as follows:

(284) CCC $\longrightarrow$ CaCaC

Pl. XI.

(Tentative)

2.	smI . čah	'fish'	sI . mač
	fšI . gah	'bullet'	fI . šag

The singular here is handled by rule (283) without any difficulties. However, it is the plural here that seems to be different from that in 1. We notice that the first vowel

is 'I' rather than 'a'; and we can see also that that 'I' is not adjacent to any back consonant or a guttural. Accordingly, (284) can be revised as follows:

(284) $\begin{bmatrix} V \\ -long \\ -back \end{bmatrix} \longrightarrow [\alpha high] \Big/ \begin{matrix} C \\ [\alpha front] \end{matrix} \_\_ \begin{matrix} C \\ [\alpha front] \end{matrix}$ a C

Pl. XI.

(Revised)

XII. CVCa:Cī

Consider the following:

		Sg.		Pl.
(285)1.(A)		čIl . wah	'kidney'	ča . la: . wī
		ɣəṭ . wah	'cover'	ɣa . ṭɑ: . wī
	(B)	ħza: . yah	'anecdote'	ħa . za: . wī
		ɣna: . yah	'song'	ɣa . na: . wī

The singular VIR for 1.(A) seems to be (137); for (B), however, the VIR can be stated as follows:

(286) CCC ⟶ CCa:C + Sg. XII.

As for the plural, we notice first of all that the underlying glide /y/ in (B) is realized as [w] in the plural form. This is clearly a contextual collapsing, (cf. Kiparsky 1968), which is phonologically conditioned. However, the plural VIR can be tentatively stated as follows:

(287) CCC ⟶ CaCa:Cī Pl. XII.

(Tentative)

	Sg.		Pl.
2.	zu: . liy - yah	'carpet'	zI . wa: . lī
	yu: . niy - yah	'rice bag'	yI . wa: . nī

Here, we are dealing with 'nisbah' nouns. The nisbah morpheme is 'iy' in the singular form. However, the second 'y' seems to be inserted in such position in feminine singular nouns. It does not appear in the dual form which is 'zu: . liy . te:n' and 'yu: . niy . te:n' respectively. The singular VIR is as follows:

(288) CCC ⟶ CuCC Sg. XII.2.

But the plural form here seems to be rather different from that in 1. above. Namely, the first vowel is 'I' rather that 'a'. However, we notice that the examples in 2. are medially weak whereas those in 1. are not. Accordingly, we can revise (287) as follows:

(287) $\begin{bmatrix} V \\ -\text{long} \\ -\text{back} \end{bmatrix} \longrightarrow [\propto \text{high}] \; / \; C \underset{[\propto \text{glide}]}{\text{——}} C \; a{:}C\bar{I}$

Pl. XII.

(Revised)

Let us derive 'zu: . liy - yah' and 'zI . wa: . lī'.

'zu: . li . yah'

U.F.	/zwl/
(288)	zuwl
Nisbah morpheme	zuwliy
fem. suf.	zuwliyah
'y' insertion	zuwliyyah

(102)	zu:liyyah
S.D.	zu: . liy - yah
Stress	zu: . líy - yah
S.F.	[zu: . líy - yah]

'zI . wa: . lī'

U.F.	/zwl/
(287)	zIwa:lī
S.D.	zi . wa: . lī
Stress	zi . wá: . lī
S.F.	[zI . wá: . lī]

Here are now some examples that differ from the standard mostly in vowel quality.

The singular

	S.A.	K.D.	Gloss.
XIII.	nuq . ṭɑh	nIg . ṭɑh	'dot'
	ṣud . fah	ṣɨd . fah	'coincidence'
XIV.	qa . ṣi: . dah	gI . ṣi: . dah	'poem'
	sa . bi: . kah	sI . bi: . čah	'alloy'
XV.	mid . xa . nah	mId . xa . nah	'chimney'
	miš . ħa . mah	mIs . ħa . mah	'greaser'
	mix . ṛɑ . ṭɑh	məx . ṛə . ṭɑh	'moulder'
	miɣ . ṛɑ . fah	məɣ . ṛə . ḟɑh	'big spoon'
XVI.	mad . ṛɑ . sah	mad . rI . sah	'school'
	mak . ta . bah	mak . tI . bah	'library'

The plural

	S.A.	K.D.	Gloss.
VIII.	nu . qaṭ	nI . gaṭ	'dots'
	ṣu . daf	ṣI . daf	'coincidences'
XIV.	qa . ṣɑ: . ʔid	gI . ṣɑ: . yId	'poems'
	sa . ba: . ʔik	sI . ba: . yIƙ	'alloys'
XV.	ma . da: . xin	mI . da: . xIn	'chimneys'
	ma . ša: . him	mI . ǰa: . ħIm	'greasers'
XVI.	ma . da: . ris	mI . da: . rIs	'schools'
	mak . ta . ba:t	mak . tI . ba:t	'libraries'

Part Four

Phonological Drift

On the phonological level, the drift of the K.D. from the standard can be mainly characterised in the following areas:

1. Emphatic influence
2. Phonemic merger
3. Phonemic split
4. Vowel insertion
5. Vowel raising and deletion
6. Syllable structures
7. Neutralization.

Let us take these areas in turn with some elaboration:

1. Emphatic influence

From the previous chapters, it should be noticed that the emphatic influence is greater in the dialect than it is in the standard. We have seen that in the standard, the emphables 'm', 'b' and 'f' become emphatic before a back vowel, not after it. (pp.46-47). Further, they do not acquire emphaticness just by occurring adjacent to an emphatic consonant.

In the dialect, however, an emphable acquires emphaticness when it occurs before or after a back vowel or adjacent to an emphatic consonant. Examples:

(289)	S.A.	K.D.	Gloss.
	ṣubb	ṣəḅḅ	'pour'
	ṣuff	ṣəḟḟ	'assemble'

S.A.	K.D.	Gloss.
ʃu:l	———	'beans'
ya . mu:t	yI . mu:t	'to die'
su . ʃu:f	sʃu:ʃ	'queues'
dɑ: . biṭ	ðɑ: . bðṭ	'sergeant'
ħa: . fið	ħa: . ʃðð	'he is memorizing'
xasm	xa . səm	'opponent'

Furthermore, unlike the standard, the emphables in the dialect can acquire emphaticness because of the presence of the back consonants /x/, /ɣ/ and [g] (p.159). Examples:

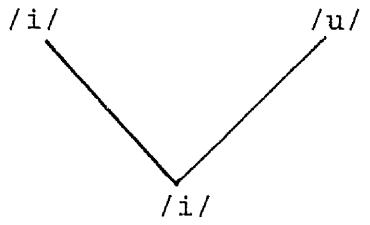
(290) S.A.	K.D.	Gloss.
xa:f	xɑ:ʃ	'he got scared'
ɣa:b	ɣɑ:b	'he absented himself'
qa:m	gɑ:m	'he stood up'
šuɣl	šə . ɣəl	'work'
buxl	bə . xəl	'meanness'
xa . fas	xa . ʃas	'he sank'

The phonological rules which govern this emphatic occurrence are given on (pp.158-159).

2. Phonemic merger

A. Vocalic

The standard /u/ has disappeared in the dialect, except as an allophone of /u:/. Instead of it /i/ is used unconditionally. Thus, we can say that /u/ has merged with /i/.



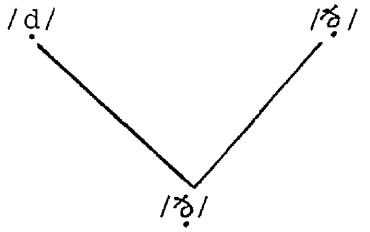
Examples:

(291)	S.A.	K.D.	Gloss.
	ṣud . fah	ṣɨd . fah	'chance'
	nuq . ṭɑh	nIg . ṭɑh	'dot'
(292)	šudd	šIdd	'hold'
	xuṭṭ	xIṭṭ	'draw a line'
	ṣun . du:q	ṣIn . du:g	'box'
	šuh . ṛɑh	šIh . ṛɑh	'fame'
	yaṛ . quṣ	yaṛ . gIṣ	'to dance'
	yaq . ʕud	yag . ʕId	'to sit down'

B. Consonantal

1. Full merger

The standard /ḍ/ has disappeared in the dialect. Instead of it /ð̣/ is used unconditionally. That is, /ḍ/ has merged with /ð̣/.



Examples:

(293)	S.A.	K.D.	Gloss.
	yaṛ . ḍā	yaṛ . ð̣ā	'to be pleased'
	naḍ . ħak	nað̣ . ħak	'we laugh'
	ḍayf	ð̣e:f	'guest'
	bay . ḍɑh	be: . ð̣ɑh	'egg'

2. Occasional merger

Besides the full phonemic merger, there is what I would call 'occasional merger'.

The standard /dž/ still exists in the dialect as a phoneme; but in some cases, [y] is used instead of it.

Examples:

(294)	S.A.	K.D.	Gloss.
	dža:ṛ	ya:ṛ	'neighbour'
	dža . bal	yI . bal	'mountain'
	ħa . ṛɑ:dž	ħa . ṛɑ:y	'auction'
	nadžd	nayd	'highland'
	ʕa . dži:n	ʕa . yi:n	'dough'
	madž . nu:n	may . nu:n	'mad'

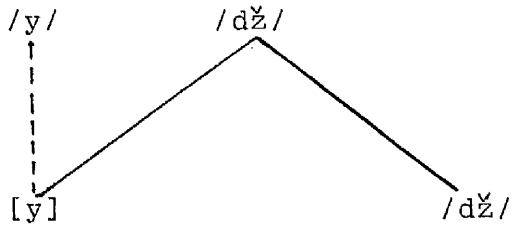
But let us look at the following:

(295)	S.A.	K.D.	Gloss.
	ʕa . dži:b	———	'strange'
	džism	džI . sIm(1)	'body'
	džis . muk	džIs . mIk(2)	'your body'

(1) See vowel insertion (p.200).
(2) See neutralization (p.208).

S.A.	K.D.	Gloss.
ʔir . džaς	———	'reverse'
nadž . dah	———	'help'
ςa: . dži	———	'ivory'
xa . li: dž	———	'gulf'
dža:s	———	'touched'(1)

So, in many examples like these, the /dž/ has not changed. And looking at both sets of examples, i.e. where /dž/ has changed into [y], and where it remains, we notice that the change does not seem to be context-sensitive. We shall come to this point later. However, this type of merger can be shown as follows:



The standard /q/ which exists in the dialect as a phoneme is sometimes realized as [dz].(2) Examples:

(296)	S.A.	K.D.	Gloss.
	qidr	džI . dIr	'pot'
	qa: . si	dža: . si	'hard'
	ςa . ti:q	ςa . ti:dž	'ancient'

---

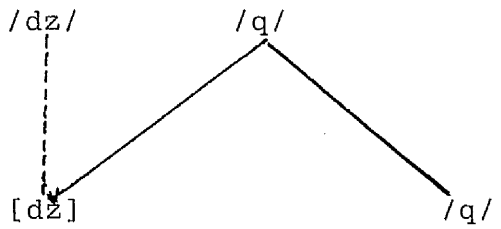
(1) Semantic shift: 'dža:s' S.A. 'inspected', K.D. 'touched'.

(2) Also, /q/ is sometimes realized as [g]. See 'phonemic split' (p.196).

But compare the following:

(297)	S.A.	K.D.	Gloss.
	qism	qI . sIm(1)	'section'
	ṭɑ . ri: . qah	———	'way'
	qa: . ḍī	qa: . ǰ̣ ī(2)	'judge'
	ṣɑ . di:q	———	'friend'

Here too, there does not seem to be a phonological reason for the alternation of /q/ to [dž]. We shall come to this point later, but for now we shall represent this type of merger as follows:



3. Phonemic split

The standard /q/ which, as said earlier, is a phoneme in the dialect is sometimes realized as [g]. Examples:

(298)	S.A.	K.D.	Gloss.
	qa . ṣi:r	gI . ṣi:r	'short'
	qa: . ʕid	ga: . ʕId	'sitting'
	qish	gi: . sah(3)	'measure it'
	ħa . qi: . qah	ħa . gi: . gah	'truth'
	maṛ . qu:ʕ	mɑṛ . gu:ʕ	'sealed'

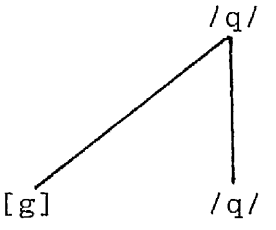
---

(1) See vowel insertion (p.200).
(2) See phonemic merger (p.192).
(3) See neutralization (p.208).

But let us look at the following:

(299)	S.A.	K.D.	Gloss.
	qa . di:m	———	'old'
	qa: . ḍi	qa: . ǰ̄i[1]	'judge'
	qi: . mah	———	'value'
	ṭɑ . ri: . qah	———	'way'
	maʕ . qu:l	———	'reasonable'

Also here, we can see from these sets of examples that the q/g alternation does not seem to rest on phonological grounds. We shall come back to this point later. Now we shall represent this split as follows:



The standard /k/ which exists in the dialect as a phoneme is sometimes realized as [č].[2] Examples:

(300)	S.A.	K.D.	Gloss.
	ka:n	ča:n	'was'
	kiǰ . bah	čIǰ . bah	'a lie'
	ba: . kir	ba: . čIr	'tomorrow'[3]
	ħa . ki	ħa . čī	'talking'

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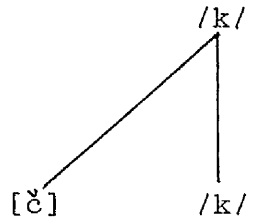
(1) See phonemic merger (p.192).
(2) See neutralization (p.208).
(3) Semantic shift: 'ba: . kir' S.A. 'early', K.D. 'tomorrow'.

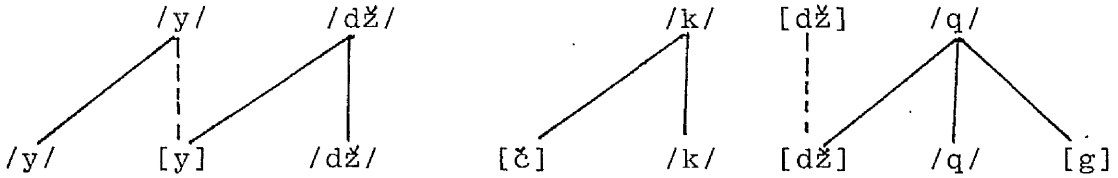
But let us look at the following:

(301)	S.A.	K.D.	Gloos.
	ka?s	ka:s(1)	'glass'
	kis . rah	_____	'piece'
	ʾa: . kir	_____	'study'
	ʾa . kī	_____	'clever'

So, here as well there does not seem to be a phonological reason for k/č alternation. The split can be represented as follows:



To recapitulate; we have discussed above a phonemic merger and a phonemic split which can be represented as follows:



All of the phonetic realizations [y], [č] and [dž] and [g] have been considered above as allophons of the phonemes /dž/, /k/ and /q/ respectively. However it should have been clear by now that practically no phonological

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(1) See 'syllable structure' (p.205).

data was found to specify the environments where the alternations take place. In other words, phonologically speaking, it would seem hard to accept them as allophones since the environments in which they occur do not seem to be specifiable on phonological grounds.

Johnstone (1963, 1965, and 1967) gives only examples of the occurrence of dž/y and the affrication of /k/ and /q/. He believes that dž/y occurrence is unconditioned whereas k/č, q/dž is conditioned by the presence of front vowels. Nevertheless, he gives examples where affrication does not take place in contiguity of front vowels. The point to be made here is that the specification of the occurrence and the non-occurrence of the affrication could not be achieved, and this enforces our claim here that such occurrences do not seem to be possible to specify on phonological grounds.

However, it is well-known that the phonetic nature of language is not only governed by the phonological rules. We refer here to societal factors or sociolinguistics, which influence the phonetic form we hear. Clearly, it is not the purpose of this study to research into the sociology of language, but we mention here what we think relevant to our discussion.

As a speaker of K.D. I feel confident to say that the phonetic realizations [y], [č] and [dž] and [g] of /dž/, /k/ and /q/ respectively, are used because of social rules rather than phonological ones. Such rules depend on several factors, not only who the speaker is, but also who the speaker is talking to, the social context, the social class of both the

speaker and the interlocutor, the degree of formality between them, the type of the discourse; the particular lexical item used, and probably many others. Accordingly, these phonetic realizations are considered allophones of their phonemes mentioned on the basis that the environments in which they occur are controlled, not by phonological or sound rules, but by social ones. This implies that there is a change and fluctuation in using these allophones; which is the case. Such social rules are characteristically flexible, i.e. they are unpredictable and not systematic. Therefore, I call them 'part time rules'.

4. Vowel insertion

Words of the form CVCC in the standard which end in a sonorant have become CVCVC in the dialect; where the inserted vowel is 'i' except in specified circumstances. Examples:

(302)	S.A.	K.D.	Gloss.
	faṣl	fɑ . ṣəl	'season'
	badr	ba . dIr	'half-moon'
	ʕazm	ʕa . zIm	'intention'
	ʔibn	ʔI . bIn	'son'
	ṭɬfl	ṭɬ . fIl	'child'
	ðɬfr	ðɬ . fIr	'nail'
	rɑsm	rɑ . sIm	'drawing'

But compare the following:

(303)	S.A.	K.D.	Gloss.
	naxl	na . xal	'palm trees'
	baɣl	bɑ . ɣɑl	'mule'
	faxr	fɑ . xɑr	'pride'

S.A.	K.D.	Gloss.
šaʕr̥	ša . ʕar̥	'hair'
laħn	la . ħan	'tone'
laħm	la . ħam	'meat'
nahr̥	na . har̥	'river'
šahr̥	ša . har̥	'month'

This seems to suggest that the inserted vowel is 'i' except when the medial consonant is [+back, +cont.]. Accordingly, we can revise (272) as follows:

(272) $$\phi \longrightarrow \begin{bmatrix} V \\ -\text{long} \\ -\text{back} \\ \alpha\text{high} \end{bmatrix} \Big/ C \begin{matrix} V \\ [-\text{back}] \end{matrix} \beta \begin{bmatrix} V \\ +\text{back} \\ +\text{cont.} \end{bmatrix} \_\_ \begin{matrix} C \\ [+\text{son.}] \end{matrix}$$

(2nd Revision)

The syntactically-governed word-final vowels 'u', 'a' and 'i' might be thought to have been neutralized to 'i'. However, we shall see shortly that this does not seem to be the case. Consider the following:

(304)

S.A.	K.D.	Gloss.
ki . ta: . buk	kta: . bIk	'your book'
ki . ta: . bak	kta: . bIk	'your book'
ki . ta: . bik	kta: . bIk	'your book'

But consider the following, where V can be 'u', 'a' or 'i':

(305)

S.A.	K.D.	Gloss.
ki . ta: . bV . nā	kta:b . nā	'our book'
si . r̥ɑ: . džV . hā	sr̥ɑ:y . hā	'her candle'
ba . la . dV . nā	ba . lad . nā	'our country'
dža: . r̥V . kum	ya:r̥ . kə̥m	'your neighbour' (Pl.)

S.A.	K.D.	Gloss.
zaṛ . ʕV . hā	zaṛʕ . hā	'her crop'
ri . sa: . la . tV . hum	rI . sa: . lat . hə̣m	'their letter'
qis . mV . kum	qi . sɪ̈m . kə̣m	'your section' (pl.)
šuɣ . lV . hum	šə̣ . ɣə̣l . hə̣m	'their work'

'— nā, '— hā', '— kum' and '— hum' mean our, her, your (pl.) and their respectively. The vowel preceding the possessive morpheme, i.e. V above, is dropped in the dialect. Accordingly, I would argue that the syntactically-governed word-final vowels 'u', 'a' and 'i' are not neutralized in the dialect but actually dropped altogether, and whenever a consonant cluster, which is not allowed in the dialect syllable structure, is to be formed as a result of an added morpheme, it is broken by the vowel 'i'. Notice the vowel insertion in the last two examples. Accordingly, we can revise rule (272) finally as follows:

(272)
$$\phi \longrightarrow \begin{bmatrix} V \\ -\text{long} \\ -\text{back} \\ \text{high} \end{bmatrix} \Big/ \begin{matrix} C & V \\ [-\text{back}] & \end{matrix} \beta \begin{bmatrix} C \\ +\text{back} \\ +\text{cont.} \end{bmatrix} \text{——} \begin{matrix} C \\ [+\text{son.}] \end{matrix} \quad (\$)$$

(Revised)

However, we should not confuse the word final 'u' which is dropped in the dialect with 'u' which has merged with /i/, e.g. that in the possessive morphemes '— kum' and '— hum' above. In fact, we would expect '— kim' and '— him' respectively in the dialect. But we recall that 'm' is an

emphable, and in the dialect - as we have seen - emphables acquire emphaticness after a back vowel. Now, 'i' is obviously not back, but since it is originally back, the influence of the original backness is still effective; not only on the emphable 'm' but also on 'i' itself as it is centralized and lowered acquiring emphaticness (cf. E. Sapir 1933 "1972"). Notice, however, that this does not take place with the possessive morpheme ' — hin' meaning 'their pl.fem. as in 'kta:b . hin' 'their book' (pl.fem.). The reason is simply because the final consonant 'n' is not an emphable.

5. Vowel raising and deletion

The standard /a/ which exists in the dialect has acquired another allophone [I] in certain circumstances./a/ is raised to [I] in words which are of the form CaC $\overset{a}{((i:)\ C(+))}$ provided that none of the first two consonants is [+back, + cont.]. Examples:

(306)	S.A.	K.D.	Gloss.
	ka . sar̤	kI . sar̤	'he broke'
	sa . baq	sI . ḇag	'he won the race'
	dža . bal	yI . bal	'mountain'
	sa . mak	sI . mač	'fish'
	ka . bi:r	čI . bi:r	'big'
	ka . bi: . r̤ah	čI . bi: . rah	'big' (fem.)

But consider the following:

(307)	S.A.	K.D.	Gloss.
	qa . ʕad	ga . ʕad	'he sat down'
	ša . ħan	———	'he loaded'

S.A.	K.D.	Gloss.
Ša . xaṭ	———	'he drew a line'
ðа . hab	———	'gold'
xa . ṭi:r	———	'dangerous'
Ša . hi:d	———	'martyr'

Accordingly, we can state the following:

(308) $$\begin{bmatrix} V \\ -\text{long} \\ -\text{back} \end{bmatrix} \longrightarrow [\alpha\text{high}] \; / \; \beta \begin{bmatrix} C \\ +\text{back} \\ +\text{cont.} \end{bmatrix} \text{ —— } . \; \beta \begin{bmatrix} C \\ +\text{back} \\ +\text{cons.} \end{bmatrix}^{a} ((\text{i:})\ C(+))$$

Now let us look at the following:

(309) S.A.	K.D.	Gloss.
Ša . ba . kah	ŠbI . kah	'net'
sa . ma . kah	smI . čah	'fish'
ṛɑ . qa . bah	ṛgʔ . ḅɑh	'neck'
xa . Ša . bah	xsI . bah	'log'
qa . ṣa . bah	gṣʔ . ḅɑh	'reed'

And:

(310) S.A.	K.D.	Gloss.
ba qa . ṛɑh	ḅgɑ . ṛɑh	'cow'
ʕa . dža . lah	ʕya . lah	'speed'
sa . ʕa . fah	sʕa . fah	'palm tree branch'
Ša . dža . ṛɑh	šya . ṛɑh	'tree'
θa . ma . ṛɑh	θm̰ . ṛɑh	'harvest'

We notice here that the change in the first set is two things:

a) deletion of the first vowel.

b) raising of the second vowel from 'a' to 'I'.

However, the deletion takes place in both sets, accordingly, we can state the following:

(311) $$\begin{bmatrix} V \\ -back \\ -high \\ -long \end{bmatrix} \longrightarrow \phi \;/\; C \;\_\; CaC \;+$$

But if we look closely at the two sets, regardless to the feminine suffix, we can see that the first one ends in a stop, while the second ends in a continuant, accordingly rule (283) applies here.

6. Syllable structure

The dialect allows two consonant cluster word-initially. Therefore, it has one syllable structure more than the standard. The syllable structures of both the standard and the dialect are repeated here for convenience (see pp. 54-55 , and pp.164-165 respectively).

(312)

S.A.		K.D.			
phonemic	phonetic	phonemic	phonetic	Examples	
/C/	[CV]	/C/	[CV]	bi	'in'
/CVC/	[(C)VC]	/CVC/	[(C(VC]	(ʔ)al	'the'
/CV:/	[CV:]	/CV:/	[CV:]	lā	'no'
/CV:C/	[CV:C]	/CV:C/	[CV:C]	ba:b	'door'
/CVCC/	[cvCC]	/CVCC/	[CVCC]	ʕabd	'slave'
		/CCV:C/	[CCV:C]	glu:ḅ	'hearts'

Let us now look at some examples that begin in two consonant cluster in the dialect.

313)

S.A.	K.D.	Gloss.
ki . ta:b	kta:b	'book'
ħi . ma:ṛ	ħmɑ:ṛ	'donkey'
ši . ṛɑ:ʕ	šṛɑ:ʕ	'sail'
ṛɑ . xi:ṣ	ṛxi:ṣ	'cheap'
ṣɑ . ɣi:r	ṣɣi:r	'small'
ba . ʕi:d	bʕi:d	'far'
ʕu . yu:n	ʕyu:n	'eyes'
šu . hu:d	šhu:d	'witnesses'
ðu . ba:b	ðba:b	'a fly'
ṣu . ṛɑ:x	ṣṛɑ:x	'crying'

As stated earlier, the standard /u/ has merged with /i/. Accordingly, the last four examples do not have 'u' in them as far as the dialect is concerned. If they have a short vowel after the first consonant, it has to be 'i'. Furthermore, we notice above that where the short vowel is 'a', the medial consonant is [+back], + cont.]. Accordingly, we can state the following:

(314)1. $C \begin{bmatrix} V \\ -long \\ +high \end{bmatrix} . \; CV:C \longrightarrow CCV:C$

2. $C \begin{bmatrix} V \\ -long \\ -high \end{bmatrix} . \begin{bmatrix} C \\ +back \\ +cont. \end{bmatrix} \longrightarrow CCV:C$

(Tentative)

1. and 2. can be collapsed in one rule as follows:

(314) $C \begin{bmatrix} V \\ -long \\ -high \end{bmatrix} . \begin{bmatrix} C \\ +back \\ +cont. \end{bmatrix} V: \; C \longrightarrow CCV:C$

(Revised)

Notice that if (314) is not met, no change takes place.

Examples:

(315)	S.A.	K.D.	Gloss.
	ʕa: . dži:b	———	'strange'
	fa . qi:r	———	'pour'
	ṣa . di:q	———	'friend'
	ṛa . ʔi:s	———	'president'

Now let us look at the following:

(316)	S.A.	K.D.	Gloss.
	ṃu . han . dis	mhan . dIs	'engineer' (sg.masc.)
	ṃu . ṛa: . qib	mṛa: . qIb	'observer' (sg.masc.)

And

S.A.	ṃu . ṛa: . qi . bah	
K.D.	mṛa:q . bah	'observer' (sg.fem.)
S.A.	ṃu . ṛa: . qi . ba: . tu . nā	
K.D.	mṛa:q . ba:t . nā	'our observers' (pl.fem.)

This seems to suggest the following:

(317) $V_{[+high]} \longrightarrow \phi \;/\; C \;\text{——}\; . \;\$_1^n$

Finally, words of the form 'CV C' in the standard have become 'CV:C' in the dialect. Examples:

(318)	S.A.	K.D.	Gloss.
	kaʔs	ka:s	'glass'
	ṛaʔy	ṛa:y	'opinion'

S.A.	K.D.	Gloss.
ðiʔb	ði:b	'wolf'
biʔr	bi:r	'well/pit'

7. Neutralization

a) All the relative pronouns in the standard have been neutralized into one single relative pronoun in the dialect. That is:

(319)

S.A.		K.D.	Gloss.
al . la . ðī	sg. masc.		Who/which
al . la . tī	" fem.		"
al . la . ðaːn	dl. masc.		"
al . la . taːn	" fem.	(ʔ)il . lī	"
al . la . ðiːn	pl. masc.		"
al . laː . tī	" fem.		"

b) The front -high vowel /i/ of the standard is realized slightly less front in the dialect; but this does not seem to be a remarkable difference. Examples:

(320)

S.A.	K.D.	Gloss.
ʔibn	ʔI . bIn	'son'
ħaː . kim	ħaː . kIm	'ruler'
nimt	nImt	'I slept'

c) The possessive morpheme of the 3rd. sg. masc. which is preceded by 'u' in the standard, is always preceded by 'a' in the dialect.

Examples:

(321)	S.A.	K.D.	Gloss.
	ki. ta: . buh	kta: . bah	'his book'
	ʔam . ṛuh	ʔam . ṛɑh	'his order'
	šuɣ . luh	šəɣ . l̥ɑh	'his work'
	bay . tuh	be: . tah	'his house'

d) Similarly, the possessive morpheme of the 2nd sg.fem. which is '— ki' in the standard is always '— ič' in the dialect. Examples:

(322)	S.A.	K.D.	Gloss.
	ki . ta: . bu . ki	kta: . bIč	'your book' (sg.fem.)
	ʔam . ṛu . ki	ʔaṃ . ṛIč	'your order'(sg.fem.)
	šuɣ . lu . ki	šəɣ . l̥əč	'your work' (sg.fem.)
	bay . tu . ki	be: . tIč	'your house'(sg.fem.)

e) The imperative verbs of the form CVC, where the vowel is high, have become CV:C in the dialect. Examples:

(323)	S.A.	K.D.	Gloss.
	ṛuḥ	ṛu:ḥ	'go'
	ṣum	ṣu:ṃ	'fast'
	qul	gu:l	'say'
	šil	ši:l	'carry'
	ṭib	ṭi:b	'recover'
	dir	di:r	'turn'

Accordingly:

(324) $\overset{V}{[+high]} \longrightarrow [+long] \;/\; C \;\_\_\; C$

Condition: imperative verb

f) Also, when the imperative is addressed to pl.masc. the final 'ū' becomes 'aw'; and when it is addressed to the 2nd sg.fem. the final 'ī' becomes 'ay'. Examples:

	S.A.	K.D.	Gloss.
(325)	qu: . lū	gu: . law	'say' (pl.masc.)
	ta . ʕa: . lū	ta . ʕa: . law	'come' (pl.masc.)
	ṣu: . mū	ṣu: . maw	'fast' (pl.masc.)
	di: . rū	di: . raw	'turn' (pl.masc.)
	ṛu: . ħī	ṛu: . ħay	'go' (2nd sg.fem.)
	qu: . mī	gu: . may	'stand' (2nd sg.fem.)
	ta . ʕa: . lī	ta . ʕa: . lay	'come' (2nd sg.fem.)
	di: . rī	di: . ray	'turn' (2nd sg.fem.)

Accordingly:

(326) ū ⟶ aw / — ##

Condition: imperative verb

(327) ī ⟶ ay / — ##

Condition: imperative verb

g) Furthermore, when an imperative is addressed to the sg.masc., the sg.fem. or to the plural, and such imperative is composed of more than one syllable, the first of which is closed, a metathesis takes place. However, with the sg. masc. the metathesis takes place only if the object is a 3rd sg.masc. pronoun attached to the imperative verb.

Examples:

(328)		S.A.	K.D.	Gloss.
ʔ		is . ʔalh	sIʔ . lah	'ask him'
		iq . ṭaqh	gIṭ . qah	'cut it'
		ik . sirh	kIs . ṛah	'break it'
		iš . ṛabh	šIṛ . ḅah	'drink it'
		is . ʔa . lī	sIʔ . lī	'ask' (sg.fem.)
		is . ʔa . li:h	sIʔ . li:h	'ask him' (sg.fem.)
		is . ʔa . li ʔal	sIʔ . lay Il	'ask the porter' (sg.fem.)
		baw . wa:b	baw . wa:b	
ʔ		iš . ṛa . bū	šIṛ . ḅaw	'drink' (pl.)
		iš . ṛa . ḅu:h	šIṛ . ḅu:h	'drink it' (pl.)
		iš . ṛa . ḅu ʔal	šiṛ . ḅ w il	'drink the juice' (pl.)
		qa . ṣi:r	qa . ṣi:r	

h) The dual verbal form has disappeared in the dialect. It has merged with the plural in both genders and in all tenses. Examples:

(329)	S.A.	K.D.	Gloss.
	ʔuk . tu . bā	ʔik . tI . baw	'write' imp. dl./pl.
	tak . tu . bā	tak . tI . bu:n	'you write' imp. dl./pl.
	yak . tu . bā	yak . tI . bu:n	'they write' imp. dl./pl.
	ka . ta . bā (m.)	ktI . baw	'they write' past dl./pl.
	ka . ta . ba . tā (f.)	ktI . baw	'they write' past dl./pl.

However, the nominal dual did not disappear in the dialect. But its syntactically-governed suffixes '— a:n' and '— ayn' have been neutralized into one suffix '— e:n' in all positions. Examples:

(330)	S.A.	K.D.	Gloss.
	ki . ta: . ba:n ki . ta: . bayn	kta: . be:n	'two books'

Similarly, the syntactically-governed suffixes of the regular plural in the standard '— u:n' and '— i:n' have been neutralized into one suffix '— i:n' in all positions. Examples:

S.A.	K.D.	Gloss.
nadž - dža: . ṛu:n nadž - dža: . ri:n	nadž - dža: . ri:n	'carpenters'

i) Finally, weak verbs which end in underlying /w/ in the standard, end in /y/ in the dialect. That is, underlying final /w/ in verbs has been neutralized into /y/. Examples:

(331)	S.A.	K.D.	Gloss.
	yad . nū	yad . nī	'to come nearer'
	yaṣ . ħū	yaṣ . ħī	'to wake up'
	yaš . kū	yaš . kī	'to complain'

Finally, assimilation in the dialect seems to be as that in the standard, and so does stress. The deletion of some vowels which results in a change in the syllable division does not seem to affect stress placement in the dialect.

Examples:

(332)	S.A.	K.D.	Gloss.
	sa . ʔá . la . hum	sa . ʔál . hə̣m	'he asked them'
	šaː . rí . ʕu . nā	šaː . rÍʕ . nā	'our street'
	qaː . ʔí . du . kum	qaː . ʔÍd . kə̣m	'your leader' (pl.)
	ħaː . sab . tú . hā	ħaː . sáb thā	'I checked with her'
	ʔin . ti . ṣɑː . ṛú . nā	in . tI . ṣɑ́ː . ṛ . nā	'our victory'

Appendix I

Samples of verbs derivation

1. Standard Arabic

Theoretically, there are up to fifteen forms of verbs conjugation in Arabic. However, certain of these forms are of extremely rare occurrence, and are hardly even heard in day to day speech. Equally, a verb U.F. does not occur in every form. This is a semantic matter. For example, the U.F. /xṛb/ does not occur in the form 'fa: . ʕal', in other words, there is no verb *'xa: . ṛɑb', although it is a morphological possibility. However, since it is not the purpose of this study to research in semantics influence on verbs forms, we shall give examples from some forms which are very commonly used in both the standard and the dialect. We shall give the imperative, the present, and the past; and we shall bring examples from sound (or strong) verbs and from weak (or hollow) verbs.

a) Sound verbs

An example of these verbs can be 'ka . tab': 'to write':

	Imperative	Gloss.	
ʔ	uk . tub	write	(sg.masc.)
	uk . tu . bī	"	(sg.fem.)
	uk . tu . bā	"	(dl. both)
	uk . tu . bū	"	(pl.masc.)
	uk . tubn	"	(pl.masc.)

Present	Gloss.	
ʔak . tub	I write	
tak . tub	you "	(sg.masc.)
tak . tu . bī	you "	(sg.fem.)
tak . tu . bā	you "	(dl.both)
yak . tub	he writes	
tak . tub	she "	
yak . tu . bā	they write	(dl.masc.)
tak . tu . bā	they "	(dl.fem.)
nak . tub	we "	
tak . tu . bū	you "	(pl.masc.)
tak . tubn	you "	(pl.fem.)
yak . tu . bū	they "	(pl.masc.)
yak . tubn	they "	(pl.fem.)

Past	Gloss.	
ka . tabt	I wrote	
ka . tabt	you "	(sg.masc.)
ka . tab . tī	you "	(sg.fem.)
ka . tab . tā	you "	(dl.both)
ka . tab	he "	
ka . ta . bat	she "	
ka . ta . bā	they "	(dl.masc.)
ka . ta . ba . tā	they "	(dl.fem.)
ka . tab . nā	we "	
ka . tab . tū	you "	(pl.masc.)
ka . tab . tun	you "	(pl.fem.)
ka . ta . bū	they "	(pl.masc.)
ka . tabn	they "	(pl.masc.)

b) Weak verbs

When it is the case that not all the underlying segments of a verb are consonants, such a verb is a weak verb. A weakening segment is an underlying glide. A verb can be initially weak, medially weak or finally weak. Let us have an example of each.

i) Initially weak

An example of initially weak verbs with underlying /w/ initially can be the verb 'wa . ʕad', 'to promise'.

Imperative	Gloss.	
ʕid	promise	(sg.masc.)
ʕid . dī	"	(sg.fem.)
ʕi . dā	"	(dl.both)
ʕi . dū	"	(pl.masc.)
ʕidn	"	(pl.fem.)

Present	Gloss.	
ʔa . ʕid	I promise	
ta . ʕid	you "	(sg.masc.)
ta . ʕi . dī	you "	(sg.fem.)
ta . ʕi . dā	you "	(dl.both)
ya . ʕid	he promises	
ta . ʕid	she "	
ya . ʕidā	they promise	(dl.masc.)
ta . ʕidā	they "	(dl.fem.)
na . ʕid	we "	
ta . ʕi . dū	you "	(pl.masc.)
ta . ʕidn	you "	(pl.fem.)

Present	Gloss.	
ya . ʕi . dū	they promise	(pl.masc.)
ya . ʕidn	they "	(pl.fem.)

Past	Gloss.	
wa . ʕatt[1] /wa . ʕadt/	I promised	
wa . ʕatt	you "	(sg.masc.)
wa . ʕat . tī	you "	(sg.fem.)
wa . ʕat . tā	you "	(dl.both)
wa . ʕad	he "	
wa . ʕa . dat	she "	
wa . ʕa . dā	they "	(dl.masc.)
wa . ʕa . da . tā	they "	(dl.masc.)
wa . ʕad . nā	we "	
wa . ʕat . tū	you "	(pl.masc.)
wa . ʕat . tun	you "	(pl.fem.)
wa . ʕa . dū	they "	(pl.masc.)
wa . ʕadn	they "	(pl.fem.)

An example of initially weak verbs with underlying /y/ initially can be the verb 'yas - saṛ', 'to facilitate'.

Imperative	Gloss.	
yas - sir	facilitate	(sg.masc.)
yas - si . rī	"	(sg.fem.)
yas - si . rā	"	(dl.both)
yas - si . rū	"	(pl.masc.)
yas - sirn	"	(pl.fem.)

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(1) N.B. Assimilation throughout the paradigm.

Present	Gloss.	
ʔu . yas - sir	I facilitate	
tu . yas - sir	you "	(sg.masc.)
tu . yas - si . rī	you "	(sg.fem.)
tu . yas - si . ṛā	you "	(dl.both)
yu . yas - sir	he facilitates	
tu . yas - sir	she "	
yu . yas - sir . rā	they facilitate	(dl.masc.)
tu . yas - si . ṛā	they "	(dl.fem.)
nu . yas - sir	we "	
tu . yas - si . rū	you "	(pl.masc.)
tu . yas - sirn	you "	(pl.fem.)
yu . yas - si . ṛū	they "	(pl.masc.)
yu . yas - sirn	they "	(pl.fem.)

Past	Gloss.	
yas - saṛt	I facilitated	
yas - saṛt	you "	(sg.masc.)
yas - saṛ . tī	you "	(sg.fem.)
yas - saṛ . tā	you "	(dl.both)
yas - saṛ	he "	
yas - sa . ṛɑt	she "	
yas - sa . ṛɑ̄	they "	(dl.masc.)
yas - sa . ṛɑ . tā	they "	(dl.masc.)
yas - saṛ . nā	we "	
yas - saṛ . tū	you "	(pl.masc.)
yas - saṛ . tun	you "	(pl.fem.)
yas - sa . rū	they "	(pl.masc.)
yas - sarn	they "	(pl.fem.)

ii) Medially weak verbs

An example of medially weak verbs with underlying /w/ medially can be the verb 'qa:l', 'to say'.

Imperative	Gloss.	
qul	say	(sg.masc.)
qu: . lī	"	(sg.fem.)
qu: . lā	"	(dl.both)
qu: . lū	"	(pl.masc.)
quln	"	(pl.fem.)

Present	Gloss.	
ʔa . qu:l	I say	
ta . qu:l	you "	(sg.masc.)
ta . qu: . lī	you "	(sg.fem.)
ta . qu: . lā	you "	(dl.both)
ya . qu:l	he says	
ta . qu:l	she "	
ya . qu: . lā	they say	(dl.masc.)
ta . qu: . lā	they "	(dl.fem.)
na . qu:l	we "	
ta . qu: . lū	you "	(pl.masc.)
ta . quln	you "	(pl.fem.)
ya . qu: . lū	they "	(pl.masc.)
ya . quln	they "	(pl.fem.)

An example of medially weak verbs with underlying /y/ can be the verb 'sa:r', 'to walk'.

Imperative	Gloss.	
sir	walk	(sg.masc.)
si: . rī	"	(sg.fem.)
si: . ṛā̃	"	(dl.both)
si: . rū	"	(pl.masc.)
sirn	"	(pl.fem.)

Present	Gloss.	
ʔa . si:r	I walk	
ta . si:r	you "	(sg.masc.)
ta . si: . rī	you "	(sg.fem.)
ta . si: . ṛā̃	you "	(dl.both)
ya . si:r	he walks	
ta . si:r	she "	
ya . si: . ṛā̃	they walk	(dl.masc.)
ta . si: . ṛā̃	they "	(dl.fem.)
na . si:r	we "	
ta . si: rū	you "	(pl.masc.)
ta . sirn	you "	(pl.fem.)
ya . si: . ṛū	you "	(pl.masc.)
ya . sirn	they "	(pl.fem.)

Past	Gloss.	
sirt	I walked	
sirt	you "	(sg.masc.)
sir . tī	you "	(sg.fem.)
sir . tā̃	you "	(dl.both)
sa:ṛ	he "	
sa: . ṛat	she "	

Past	Gloss.	
sa: . ṛā	they walked	(dl.masc.)
sa: . ṛa . tā	they "	(dl.masc.)
sir . nā	we "	
sir . tū	you "	(pl.masc.)
sir . tun	you "	(pl.fem.)
sa: . rū	they "	(pl.masc.)
sirn	they "	(pl.fem.)

iii) Finally weak verbs

An example of finally weak verbs with an underlying /w/ can be the verb 'ɣa . zā', to invade'.

Imperative	Gloss.	
ʔuɣz	invade	(sg.masc.)
ʔuɣ . zī	"	(sg.fem.)
ʔuɣ . zā	"	(dl.both)
ʔuɣ . zū	"	(pl.masc.)
ʔuɣ . zun	"	(pl.fem.)

Present	Gloss.	
ʔaɣ . zū	I invade	
taɣ . zū	you "	(sg.masc.)
taɣ . zī	you "	(sg.fem.)
taɣ . zu . wā	you "	(dl.both)
yaɣ . zū	he invades	
taɣ . zū	she "	
yaɣ . zu . wā	they invade	(dl.masc.)
taɣ . zu . wā	they "	(dl.fem.)

Present	Gloss.	
naɣ . zū	we invade	
taɣ . zū	you "	(pl.masc.)
taɣ . zi:n	you "	(pl.fem.)
yaɣ . zū	they "	(pl.masc.)
yaɣ . zi:n	they "	(pl.fem.)

Past	Gloss.	
ɣa . zawt	I invaded	
ɣa . zawt	you "	(sg.masc.)
ɣa . zaw . tī	you "	(sg.fem.)
ɣa . zaw . tā	you "	(dl.both)
ɣa . zā	he "	
ɣa . zat	she "	
ɣa . za . yā	they "	(dl.masc.)
ɣa . za . tā	they "	(dl.fem.)
ɣa . zaw . nā	we "	
ɣa . zaw . tū	you "	(pl.masc.)
ɣa . zaw . tun	you "	(pl.fem.)
ɣa . zaw	they "	(pl.masc.)
ɣa . zayn	they "	(pl.fem.)

An example of finally weak verbs with an underlying /y/ can be the verb 'ṛa . mā', 'to throw'.

Imperative	Gloss.	
ʔirm	throw	(sg.masc.)
ʔir . mī	"	(sg.fem.)
ʔir . mi . yā	"	(dl.both)

Imperative	Gloss.	
ʔir . ṃū	throw	(pl.masc.)
ʔir . mi:n	"	(pl.fem.)

Present	Gloss.	
ʔar . mī	I throw	
tar . mī	you "	(sg.masc.)
tar . mī	you "	(sg.fem.)
tar . mi . yā	you "	(dl.both)
yar . mī	he throws	
tar . mī	she "	
yar . mi . yā	they throw	(dl.masc.)
tar . mi . yā	they "	(dl.masc.)
nar . mī	we "	
tar ṃū	you "	(pl.masc.)
tar . mi:n	you "	(pl.fem.)
yar . ṃū	they "	(pl.masc.)
yar . mi:n	they "	(pl.fem.)

2. Kuwait Dialect

As mentioned earlier, the dual verbal form has merged with the plural form in the dialect. However, it should be made clear that choice and the meaning of some items, nouns, adjectives or verbs, is not always exactly the same in the dialect as it is in the standard. For example, while the verbs 'ħa . mal'/'ša:l' both mean 'to carry'; and the verbs 'sa:ṛ'/'ma . šā, both mean 'to walk', the standard prefers the first in each set and the dialect prefers the second.

But neither is strange in either.

Now, let us give verbs samples from the dialect as we did from the standard.

a) Sound verbs

An example of the sound verbs in the dialect can be the verb 'ki . tab', 'to write'.

Imperative	Gloss.	
ʔik . tib	write	(sg.masc.)
kit . bay	"	(sg.fem.)
kit . baw	"	(dl. & pl.both)

Present	Gloss.	
ʔak . tib	I write	
tak . tib	you "	(sg.masc.)
tak . tɪ . bi:n	you "	(sg.fem.)
tak . tɪ . bu:n	you "	(dl. & pl.both)
yak . tib	he writes	
tak . tib	she "	
nak . tib	we write	
yak . tɪ . bu:n	they "	(dl. & pl.both)
yak . tɪ . bin	they "	(pl.fem.)

Past	Gloss.	
kɪ . tabt	I wrote	
kɪ . tabt	you "	(sg.masc)
kɪ . tab . tī	you "	(sg.fem.)
kɪ . tab . taw	you "	(dl. & pl.both)

Past	Gloss.	
kI . tab	he wrote	
ktI . bat	she "	
kI . tab . nā	we "	
ktI . baw	they "	(dl. $ pl.both)
ktI . ban	they "	(pl.fem.)

b) Weak verbs

i) Initially weak

It seems a bit hard to find a verb in the dialect with an underlying initial /y/. The verb 'yas - saṛ', 'to facilitate' which is used in the standard above is not very commonly used in the dialect. Moreover, it has a different uncomplementary connotation. Instead of it the verb 'sah - hal' is used, which also exists in the standard and means 'to facilitate', or 'to simplify'.

Accordingly, we shall give an example of the initially weak verbs with a verb which begins in an underlying /w/, and that is the verb 'wa .ʕad', 'to promise'.

Imperative	Gloss.	
ʔu: . ʕid	promise	(sg.masc.)
ʔu: .ʕday	"	(sg.fem.)
ʔu: .ʕdaw	"	(dl. & pl.both)

Present	Gloss.	
ʔo: . ʕid	I promise	
to: . ʕid	you "	(sg.masc.)

Present	Gloss.	
to: . ʕdi:n	you promise	(sg.fem.)
to: . ʕdu:n	you "	(dl. & pl.both)
yo: . ʕid	he promises	
to: . ʕid	she "	
no: . ʕid	we promise	
yo: . ʕdu:n	they "	(dl. & pl.both)
yo: . ʕdin	they "	(pl.fem.)

Past	Gloss.	
wa . ʕatt	I promised	
wa . ʕatt	you "	(sg.masc.)
wa . ʕat - tay	you "	(sg.fem.)
wa . ʕat - taw	you "	(dl. & pl.both)
wa . ʕad	he "	
wʕa . dat	she "	
wa . ʕad . nā	we "	
wʕa . daw	they "	(dl. & pl.both)
wʕa . dan	they "	(pl.fem.)

ii) Medially weak verbs

An example of medially weak verbs with an underlying /w/ can be the verb 'ga:l̤', 'to say'.

Imperative	Gloss.	
gu:l	say	(sg.masc.)
gu: . lay	"	(sg.fem.)
gu: . law	"	(dl. & pl.both)

Present	Gloss.	
ʔa . u:l	I say	
tI . gu:l	you "	(sg.masc.)
tI . gu: . li:n	you "	(sg.fem.)
tI . gu: . lu:n	you "	(dl & pl.both)
yI . gu:l	he says	
tI . gu:l	she "	
nI . gu:l	we say	
yI . gu: . lu:n	they "	(fl. & pl.both)
yI . gu: . lin	they "	(pl.fem.)

Past	Gloss.	
gilt	I said	
gilt	you "	(sg.masc.)
gil . tay	you "	(sg.fem.)
gil . taw	you "	(dl. & pl.both)
ga:l	he "	
ga: . lat	she "	
gil . nā	we "	
ga: . law	they "	(dl. & pl.both)
ga: . lan	they "	(pl.fem.)

An example of medially weak verbs with an underlying /y/ can be verb 'ša:l', 'to carry'.

Imperative	Gloss.	
ši:l	carry	(sg.masc.)
ši: . lay	"	(sg.fem.)
ši: . law	"	(dl. & pl.both)

Present	Gloss.	
ʔa . ši:l	I carry	
tI . ši:l	you "	(sg.masc.)
tI . ši: . li:n	you "	'sg.fem.)
tI . ši: . lu:n	you "	(dl. & pl.both)
yI . ši:l	he carries	
tI . ši:l	she "	
nI . ši:l	we carry	
yI . ši: . lu:n	they "	(dl. & pl.both)
yI . ši: . lin	they "	(pl.fem.)

Past	Gloss.	
šilt	I carried	
šilt	you "	(sg.masc.)
šil . tay	you "	(sg.fem.)
šil . taw	you "	(dl. & pl.both)
ša:l	he "	
ša: . lat	she "	
šil . nā	we "	
ša: . law	they "	(dl. & pl.both)
ša: . lan	they "	(pl.fem.)

iii) Finally weak verbs

An example of finally weak verbs which end in underlying /y/ can be the verb 'da . r̤ɑ̄', 'to know'.

Imperative	Gloss.	
ʔi . dir	know	(sg.masc.)
ʔid . ray	"	(sg.fem.)
ʔid . raw	"	(dl. & pl.both)

Present	Gloss.	
ʔad . rī	I know	(sg.masc.)
tad . rī	you "	(sg.masc.)
tad . ri:n	you "	(sg.fem.)
tad . ru:n	you "	(dl. & pl.both)
yad . rī	he knows	
tad . rī	she "	
nad . rī	we know	
yad . ru:n	they "	(dl. & pl.both)
yad . rin	they "	(pl.fem.)

Past	Gloss.	
da . ṛe:t	I knew	
da . ṛe:t	you "	(sg.masc.)
da . ṛe: . tay	you "	(sg.fem.)
da . ṛe: . taw	you "	(dl. & pl.both)
da . ṛɑ̃	he "	
da . ṛɑt	she "	
da . ṛe: . nā	we "	
da . ṛɑw	they "	(dl. & pl.both)
da . ṛɑn	they "	(pl.fem.)

Bibliography

In Arabic

Abbas, Hasan — al-Naḥw al-wafi 'a compaative grammar of Arabic language. 4 vol. Cairo (1960).

Al-Anbari, Muhammad — al - inṣaf... 'a discussion on different views of grammar'.

Al-Maghribi, 'Abd al-Qadir (1947) — al - ishiqaq wa'l ta'rīb 'on derivation and arabicisation in the Arabic language'. Cairo (1947).

Al-Tha'ālibi, 'Abd al Malik — Figh al - lughah. 'A treatise on Arabic lexicology'. Ed. M. al-Saqqā. Cairo (1938).

Amin, Abdullah — al - ishtiqāq 'On derivation and declention'. Cairo (1956).

Hassan, Tammān (1974) — Manāhij al-baḥth... 'Principles of investigation in language'.

Ibn Duraid, Muhammad — al - ishtiqāq 'a genealogical and philological handbook'. Ed. A. Harūn, Cairo (1958).

Ibn Jinni, 'uthman — al-khaṣā'iṣ 'a treatise on grammar and lexicography'. 3 vol. Ed. M. al-Najjār, Cairo (1956).

——— — sirr ṣinā'at al-i'rāb 'a treatise on desinential inflexion in Arabic'. Ed. M. al-saqqā, Cairo (1954).

Ibn Manzūr, Muhammad — lisān al-'Arab 'A thesaurus of the Arabic language' 3 vol.

Matar, Abdul-Aziz (1969) Characteristics of the Kuwaiti dialect. Kuwait, al-Risālah Press.

——— (1970) From the secrets of the Kuwaiti dialect. Kuwait, al-Risālah Press.

Qafesha, Hamdi A. (1977) A short reference grammar of gulf Arabic. University of Arizon Press.

Sībawaih, 'Amr ibn 'uthman — al-kitāb 'A book of grammar'. 5 vol. Ed. M. Harūn, Cairo (1966).

In English

Al-Qannoor, Nasser M. (1980) 'Some morphophonemic alternations in the Kuwaiti dialect' unpublished M.A. dissertation, University of Ireland, Dublin.

Applegate, Joseph R. (1961) 'Phonological rules of a subdialect of English' In Word 17 pp. 186-193.

Bjarkman, Peter C. (1974) 'Rule order and Stampe's natural phonology'. Reproduced by Indiana University club, Oct. 1974.

Blau, Joshua (1977) 'The beginnings of Arabic diglossia. A study of the origins of neo arabic'. Afro asiatic Linguistics 4,4.

Bloomfield, L. (1933) Language. New York.

Brame, Michael K. (1970) 'Arabic phonology implications for phonological theory and Historical Semitics' unpublished Ph.D. theses, MIT.

Bynon, Theodora (1977) Historical linguistics Cambridge.

Chao, Yen-Ren (1934) 'The non-uniqueness of phonemic solutions of phonetic systems'. In Martin Joos (ed.) (1966) Readings in linguistics I pp.38-54. University of Michigan Press.

Chomsky, N. (1964) 'Current issues in linguistic theory'. In J.A. Fodor and J.J. Katz (eds.) (1964) The Structure of Language pp.50-114 Englewood Cliffs, New Jersey, Prentice Hall.

Chomsky, N. and Halle, M. (1968) The sound pattern of English. New York, Harper and Row.

Didier, L. Goyvaerts (ed.) (1975) Essays on the sound pattern of English. Scientific publishers Ghent.

Dinnsen, Daniel A. (ed.) (1979) Current approaches to phonological theory. Indiana univ. Press.

Ferguson, Charles A. (1959b) 'The Arabic Koine' in language 35 pp.616-630.

——— (1956) 'The emphatic 'l' in Arabic'. In language 32 pp.446-452.

Halle, M. (1962) 'Phonology in generative grammar'. In J.A. Fodor and J.J. Katz (eds.) (1964) The structure of language. pp.334-352 Englewood Cliffs. New Jersey. Prentice Hall.

——— (1964) 'On the basis of phonology'. In J.A. Fodor and J.J. Katz (eds.) (1964) The structure of language pp.324-333 Englewood Cliffs, New Jersey, Prentice Hall.

Hocket, Charles F. (1958) A course in modern linguistics. The MacMillan Co. U.S.A.

Hooper, Joan B. (1976) An introduction to natural generative phonology. New York Academic Press.

Hyman, Larry M. (1970) 'How concrete is phonology?'. In language 46 pp.58-76.

——— (1975) Phonology: theory and analysis. Holt, Rinehart and Winston.

Johnstone, T.M. (1963) 'The affrication of "Kaf" and "Gaf" in the Arabic dialects of the Arabian peninsula. Journal of semitic studies vol. 8, pp.210-226.

——— (1965) 'The sound change j > y in the Arabic dialects of peninsular Arabia'. In BSOAS vol. XXViii 2 pp.233-241.

——— (1967) Eastern Arabian dialects studies. Oxford univ. Press.

Jørgensen, Eli, Fischer (1975) Trends in phonological theory. Akademisk Forlug, Copenhagen.

Kaye, Alan S. (1970) 'Arabic/ziim/: The modern spoken evidence and genetic linguistics' Boulder, Colorado.

Kiparsky, Paul (1968a, 1973) 'How abstract is Phonology ?'. In O. Fujimura (ed.) Three dimensions of linguistics pp.5-56 Tokyo TEC Co.

——— (1968b) 'linguistic universal and language change'. In E. Bach and R. Harms (eds.) (1968) Universals in linguistic theory pp.171-202. New York. Holt.

——— (1971) 'Historical linguistics' In W.O. Dingwall (ed.) A survey of linguistic science. pp.577-649. Univ. of Maryland Press.

Labov, William (1971) 'Methodology'. In W.O. Dingwall (ed.) A survey of linguistic science. pp.412-497 Univ. of Maryland Press.

Langendoen, D.T. (1968) 'The London School of linguistics'. (M.I.T. Research monograph series 46. M.I.T. Press.

Levy, Mary Mansnerus (1971) 'The plural of the noun in modern standard Arabic'. Unpublished Ph.D. dissertation, Univ. of Michigan.

Neil Smith & Deirdre Wilson (1979) Modern linguistics Chapter 6. Penguin books.

Pike, Kenneth L. (1947a) Phonemics: a technique for reducing language to writing. Ann arbor. The univ. of Michigan Press.

——— (1947b) 'Grammatical Prerequisites to phonemic analysis' In Word 3. pp.155-172.

Postal, Paul M. (1968) Aspects of phonological theory. New York, Harper and Row.

Sapir, E. (1925, 1972) 'Sound pattern in languages'. In Martin Joos (ed.) (1966) Readings in linguistics I pp.19-25. The Univ. of Chicago Press.

——— (1933, 1972) 'The psychological reality of phonemes'. In Valeri Becher Makki (ed.) (1972) Phonological theory. pp.22-31. New York, Holt, Rinehart and Winston.

Schane, Sanford, A. (1973) Generative phonology New York, Prentice Hall.

Somerstein, Alan, H. (1977) Modern phonology London, Edward Arnold.

Stampe, David (1979) A dissertation on natural phonology. Garland publishing Inc.

Twaddell, W.F. (1935) 'On defining the phoneme'. In Martin Joos (ed.) (1966) Readings in linguistics I pp.55-80. Univ. of Michigan Press.

Venneman, T. (1972c) 'Phonological uniqueness in natural generative grammar'. Glossia 6 pp.105-116.

——— (1974a) 'Phonological concreteness in natural generative grammar'. In R. Shuy and C.J. Bailey (eds.) Towards Tommorrow's linguistics. Washington, D.C.

Wright, W. (1977) A grammar of the Arabic language. Cambridge Univ. Press.

Zwicky, Arnold M. (1972) 'The strategy of generative phonology'. In Ohio State University working papers in linguistics 14. pp.85-99.