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Dialectal Variation and Sound Change

A Phonological Study of the Arabic Dialect of Honaine

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To my family

ABSTRACT

The main purpose of this research paper is to give a comprehensive analysis of the most salient phonological phenomena in the Arabic dialect spoken in Honaine (hearafter HA), a village located in Tarara region North-West Tlemcen, Algeria. As suggested in the title, the study concentrates on the dialectal variations of HA at the level of phonology tackled from both synchronic and diachronic perspectives. The research also attempts to provide explanations for some sound changes and the reasons behind them, as well as the antiquity of some features. The first chapter is divided into three main parts. The first part serves as a brief introduction to some general concepts; the second describes the segmental phonology of Classical Arabic including the development of the phonemic system, while the third part gives an overview of the field of Arabic dialectology with a compendious discussion on four substantial theories about the origin of modern Arabic dialects. The second chapter deals with data collection and interpretation. The latter is discussed under three basic headings including the consonantal system, vocalism and conditioned sound changes. The research also combines insights from historical sound change, historical dialectology and comparative phonology with an attempt to provide perspicuous account on how HA developed.

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CHAPTER TWO: DATA INTERPRETATION AND ANALYSIS

ABBREVIATIONS, ACRONYMS AND SYMBOLS

A.H.	After Hidjra
adj.	adjective
Ar.	Arabic
Arm.	Aramaic
B.C.E.	Before the Common Era
CA	Classical Arabic
C.E.	Common Era
conj.	conjunction
fem.	feminine
Fr.	French
HA	Honaine Arabic
imp.	imperative
JC	Jespersen's Cycle
MSA	Modern Standard Arabic
mas.	masculine
ms	millisecond
PCD	Pidginization Creolization Decreolization
pl.	Plural
Pr.	Persian
prep.	preposition
sing.	singular
Spa.	Spanish
Tr.	Turkish
vs.	versus
>	developed into
<	developed from
-	significant pause
/	alternative form
/ /	enclose phonemic transcription
[ ]	phonetic transcription
( )	additional

LIST OF ARABIC SOUNDS

ء	*hamza*	ᵓ
ه	*hāᵓ*	h
ح	*ḥāᵓ*	ḥ
ع	*ʿayn*	ʿ
خ	*ḫāᵓ*	ḫ
غ	*ġayn*	ġ
ق	*qāf*	q
ك	*kāf*	k
ج	*ǧīm*	ǧ
ي	*yāᵓ*	y
ش	*šīn*	š
د	*dāl*	d
ت	*tāᵓ*	t
ط	*ṭāᵓ*	ṭ
ل	*lām*	l
ر	*rāᵓ*	r
ض	*ḍād*	ḍ
ن	*nūn*	n
ص	*ṣād*	ṣ
ز	*zāy*	z
س	*sīn*	s
ظ	*ḍ̣āᵓ*	ḍ̱
ذ	*ḏāl*	ḏ
ث	*ṯāᵓ*	ṯ
ف	*fāᵓ*	f
ب	*bāᵓ*	b
م	*mīm*	m
و	*wāw*	w
‗َ	*fatḥa*	a
‗ِ	*kasra*	i
‗ُ	*ḍamma*	u
ألف ا	*ᵓalif*	ā
واو ـو	*wāw*	ū
ياء ـي	*yāᵓ*	ī
گ (Pr.)	*gāf*	g

LIST OF PHONETIC SYMBOLS

Consonants

/ʔ/ = ʾ   voiceless glottal stop
/h/ = h   voiceless glottal fricative
/ʕ/ = ʿ   voiced pharyngeal fricative
/ħ/ = ḥ   voiceless pharyngeal fricative
/ɣ/ = ġ   voiced uvular fricative
/x/ = ḫ   voiceless uvular fricative
/G/   voiced uvular stop
/q/   voiceless uvular stop
/k'/   glottalic voiceless velar stop
/k/ = k   voiceless velar stop
/g/   voiced velar stop
/ɟ/   voiced palatal stop
/c/   voiceless palatal stop
/ç/   voiceless palatal fricative
/j/ = y   voiced palatal glide
/ʧ/ = č   voiceless alveo-palatal affricate
/ʤ/   voiced alveo-palatal affricate
/ʒ/   voiced palatal fricative
/ʃ/ = š   voiceless palatal fricative
/l/ = l   voiced lateral liquid
/ḷ/   emphatic voiced lateral liquid
/ɬ'/   glottalic lateral voiced fricative
/r/ = r   voiced trill liquid
/ṛ/   emphatic voiced trill liquid
/s/ = s   voiceless alveo-dental fricative
/ṣ/ = ṣ   emphatic voiceless alveo-dental fricative
/z/ = z   voiced alveo-dental fricative
/ẓ/   emphatic voiced alveo-dental fricative
/t/ = t   voiceless alveo-dental stop
/ṭ/   emphatic voiceless elveo-dental stop
/d/ = d   voiced alveo-dental stop
/ḍ/   emphatic voiced alveo-dental stop

/θ/ = *t̠*	voiceless interdental fricative
/ð/ = *d̠*	voiced interdental fricative
/b/ = *b*	voiced bilabial stop
/p/	voiceless bilabial stop
/m/ = *m*	voiced bilabial nasal
/n/ = *n*	voiced alveolar nasal
/φ/	spirantized voiceless bilabial stop
/f/ = *f*	voiceless labiodental fricative
/v/	voiced labiodental fricative
/w/ = *w*	voiced labio-velar glide
Cʷ	labialized consonant
Cʲ	palatalized consonant

Vowels

/u/ = u	close back short rounded vowel
/u:/ = ū	close back long rounded vowel
/o/	mid-close back short rounded vowel
/o:/	mid-close back long rounded vowel
/a/ = a	open central short vowel
/a:/ = ā	open central ling vowel
/ə/	neutral central short vowel
/i/ = i	close front short vowel
/i:/ = ī	close front long vowel
/e/	mid-close front short vowel
/e:/ = ē	mid-close front long vowel
/ø/	mid-close front short rounded vowel
/ø:/	mid-close front long rounded vowel

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GENERAL INTRODUCTION

In the last few decades, there is an eminent growing interest in studying Arabic dialects, this interest which was never given its full rights in the writings of the Arab grammarians and historians where dialects were mostly evicted to the shaded corner swinging between the extremes of acceptance and refusal. Significantly, the history of the Arabic language, in general, and the one of its dialects, in particular, can be still regarded as mysterious from the fact that there is not only one link that is missing which could relate the different stages of the development of Arabic, but the vast Arabian Peninsula basically buried several links in the Pre-Islamic era. This fact has created a history with gaps, and opened the door to various assumptions and suppositions. Studying Arabic dialects, being ancient or modern, would not only serve as an attempt to bridge the distances between modern dialects, but may also reveal the different stages of the development of Arabic, the main factors behind this development, and give insights on some phenomena (like the affrication and de-affrication of Arabic *ǧīm*) which are still lacking an adequate demonstration from time and space dimensions.

The present research paper deals with Honaine Arabic dialect and aims at giving a comprehensive description of the phonological system of the dialect. The various phonological features are tackled from both synchronic and diachronic perspectives. From an implicit account, the study attempts to put forward a classification for the dialectal features of what can be considered as a result of language contact, independent development, or an old legacy passed on from ancient Arabic varieties. Three main research questions are forms to serve as pillars for this work:

- What are the most characteristic phonological features in HA? And how old are they?
- Is there any Berber influence on HA?
- How far do conditioned sound changes play a role in synchronic variation?

In trying to answer the questions cited above, three hypotheses are formulated: first, from a quick analysis of HA, the dialect basically belongs to pre-Hilalian Arabic dialects, the fact which runs the assumption that HA holds some old phonological dialectal features which were known in some ancient Arabic varieties. Second, from the fact that Berber was spoken all over the area of the Maghreb before the introduction of Arabic in the 7th century A.H., the two languages came into contact. Thus we give the assumption that HA holds some Berber phonological features which could be revealed during our investigation. Third, since the introduction of Arabic to the Maghreb, we are speaking of a period which exceeds eight centuries; therefore, by natural development of linguistic systems, we assume that HA has undergone some independent internal developments. The assumption of internal evolution can be enhanced by studying the most remarkable conditioned sound changes which can be seen in the meantime as diachronic results of some synchronic phonological processes at a certain time in the evolution of HA. However, the notion of internal development can be expanded to other phonological features beside the conditioned ones.

This paper is divided into two chapters. The first one serves as an introduction to some general concepts, including the major points in the phonetics of Arabic where we consider the very basic definitions provided by Arab grammarians. Within the same chapter, some significant theories about the origin of modern Arabic dialects are discussed. The second chapter deals with data collection and interpretation. The chapter first gives an overview of the fieldwork and the methods adopted during the collection of data. The results are presented in a qualitative manner where the various phonological features are tackled and described with the aim of providing some basic explanations, and seeking for the origins of some phenomena.

CHAPTER ONE

LITERATURE REVIEW

1.1.   Introduction

No argument can go against the fact that everything swings between two extremes; development and decay. Human languages are quite disparate concerning these two perspectives, and it is obvious that whenever a language outspreads to new places, to be spoken by different speakers, it never bides to its genuine form and, then becomes subject to change. Studying variations of a linguistic system, or more specifically phonetic variations, is regarded as the most developed domain in linguistics and historical dialectology. Within the field of dialectology, carrying a research implies a distinction between synchronic and diachronic studies. Though there is no clear-cut division between the two perspectives, it depends highly on what the objectives of the study are, whether a descriptive demonstration of the present varieties, or a historical analysis on how a language has evolved. This chapter serves as an introduction to some basic concepts in its first part. Then the second part is an attempt to give a detailed description of the phonetics and phonology of Arabic with a close look at some Arabic terminologies provided by early grammarians, modern linguists, orientalists, as well as Western linguists trying to provide a clear image of Arabic speech sounds. We will also try to have a look at the development of the phonemic system in Arabic which might be helpful to explain some sound changes in the dialect under investigation later in the second chapter. The last part will discuss four substantial views concerning the origin of modern Arabic dialects.

1.2.   Dialectal Variation

Linguistic variation acts as the cornerstone in the study of any language. It is a fact that no one can deny that the study of any linguistic form in its natural sense must involve the acceptance of its variability. Dialectal variation refers to those differences that affect any level of the linguistic system; from sound variations, up to morphological and lexical ones. Studying a dialect depends first on what is meant by 'dialect'. In the broadest sense, a dialect can be defined as a linguistic variety especially if we are addressing 'dialects of a language'. No satisfactory linguistic definition of the term has been proposed, simply because the question itself 'What is a dialect?' sounds tricky and too broad to give any absolute criterion for defining what it is. When dialects are compared with standards, then the former will fall under the definition of 'deviation from the norm'. Apart from trying to give a precise or at least a neutral definition of the term 'dialect', it is also interesting to consider how dialects should be studied from synchronic and diachronic perspectives.

The study of modern dialects can be carried on the basis of synchronic features; however, if we are interested in dialects of a language, a synchronic study will be insufficient without looking back at history and trying for find clues on how these dialects developed. Jespersen (1924) explicitly says: "to understand a linguistic system, we must know how it came to be". The question that may be posited here is: 'Is there a relationship between what has been described earlier and what can be gathered synchronically?' Those in favor of a sharp dividing line between the past and the present demonstrate that studying dialects must not include a diachronic description but rather focus on synchronic dialectal variation (Hiskens et.al., 1997). However, it is undeniable that diachronic and synchronic descriptions are not basically distinct. Every synchronic image of a language or a dialect must reflect by nature a specific aspect on the evolution of that language or dialect; it is something that cannot be eschewed as linguistic systems are in constant evolution. Within the domain of historical dialectology, the diachronic method sometimes implies a study in "two directions just as a video may be played forwards or backwards"

(McMahon, 1994:6). It is possible to carry a study starting from a given point in the history of a language moving down to a synchronic description, or by a current demonstration of the present and sketch, if possible, the trails back to see how they developed or changed. Again, one must accept that synchronic and diachronic descriptions are complementary, Greenberg states that "diachronic facts are indispensible to the understanding of synchronic phenomena, and vice versa" (Greenberg, 1990:xx).

1.3.   Sound Change

Changes that affect sounds of languages gain a high level of interest in the field of historical linguistics in general, and historical phonetics in particular. Sound changes might be regarded as the most salient phenomena to differentiate between related languages, a language and its dialects and between dialects. The question 'what is a sound change?' will definitely lead to the broad definition that the term itself implies: a change in the pronunciation of one or a series of sounds in a given linguistic system. For historical phonetics in the nineteenth and early twentieth century, and within the frame of the regularity hypothesis, or what can be called "the neo-grammarian doctrine", which goes under the belief that all sound changes are conditioned by purely phonetic facts, the term sound law[1] was (and still) used to propose that any sound change must inevitably act this way. In defining regular sound changes, Campbell (1998:17) maintains that they "recur generally and take place uniformly whenever the phonemic circumstances in which the change happens are encountered". Irregular changes, on the other hand, are "arbitrary and unpredictable" (ibid), and seem to be uncommon to be termed as 'sporadic' affecting a single word or few words without any apparent regularity. The terms conditioned and unconditioned[2] sound changes are also used in the field of historical linguistics. Unconditioned changes appear spontaneously in all environments with no exceptions, while conditioned ones take place whenever the

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[1] For the reason that sound change operates in specific moments in the history of a language, or a dialect, gives limitation in time and space and the repugnance that a sound change is universal. Therefore, the term sound law is generally replaced by the term sound change.

[2] The dichotomy conditioned and unconditioned sound changes can be used interchangeably with the one of context-sensitive and context-free respectively.

specific conditions are met. The latter can be regarded as synchronic phenomena, though they might have diachronic results, to go under the term of phonological processes that affect the distribution of sounds in a language such as assimilation, dissimilation, metathesis, epenthesis and elision, to cite just a few.

The second question that might be posited is: 'When does a sound change happen?' Guy (2003:370) claims that "there is no change without variation", and as long as language varies, this plays a key instrument in the creation of a set of differences in the realization of sounds in a particular linguistic system. This variation is successively passed from one generation of speakers to another (Kiparsky, 2003), and sound change takes place when the new generation of speakers acquires the unconscious knowledge that has already been affected by a sound change (Bhat, 2001; McMahon, 1994). The most important question is: 'why does a sound change happen?' The answer seeks for explanation, and it is regarded the most interesting part in the study of sound changes. Several factors may overlap to create a change, and sometimes it is difficult to provide a clear cut claim that only one reason plays the catalyst in a sound change. Nevertheless, one might look, again in the broadest sense, at the causes of sound change from two perspectives: production and perception.

1.3.1. Ease of articulation

The speaker by nature tends to facilitate the sounds in the linguistic system toward an economy during the production of speech sounds. This may go under natural processes of interaction between the different sounds that lead to the influence of one or more sounds upon the other(s), with the final result of creating a connected stream of sounds, the speaker would find easy to articulate. At one end of the spectrum, early enough in the claim of Grammont (1933:176)[1], the role of the

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[1] "La loi du moindre effort. Il est certain que cette loi joue un grand rôle dans l'évolution des langues, et qu'en particulier tous les phénomènes d'assimilations, à quelque degré et sous quelle forme que ce soit, lui sont dus. Mais, si elle était seule à régir l'évolution phonétique des langues, tous les mots arriveraient assez vite à se réduire à une seule syllabe, voire à un seul phonème » (Grammont, 1933 :176)

law of least effort[1] in language evolution is undeniable, but if it is the only law governing the phonetic evolution, in this case every word would be reduced to a single syllable or even a phoneme. Likewise, Martinet (1960:167) agrees with Grammont that human linguistic behavior is also subject to this law; however, linguistic evolution cannot be treated solely from this angle, but rather as the result of a "conflict between man's needs and his tendency to reduce to a minimum his mental and physical activity" (ibid). Speakers use languages for communicative purposes, a communication process that is governed, in the first place, by a propensity toward easiness and, at the same time, by the accuracy of the delivered linguistic message.

1.3.2. Speech Perception

The listener's ability to perceive the acoustic signal[2] sent by the speaker enables him to extract a stream of distinctive linguistic units known as phonemes. Perception errors may result in a sound change due to the fact that several sounds, though sometimes seen as distinct by a close look at their articulation, are regarded very similar in auditory terms. The seminal work of Ohala (1981) in his article 'The listener as a Source of Sound Change' brought to light the accurate role of the listener in the process of diachronic sound change. Ohala describes speech as "noisy" and the listener has to decipher this noisy message under two principle processes: first by "making an exact identification of the words in the speech signal", then figuring out "how to make the same sounds himself" (Ohala, 1981:179). Ohala's drastic view by addressing the tendency of the speaker to produce the minimum possible effort when speaking as "premature and unnecessary" (Ohala, 1981:197) can only be explained by what he calls a failure in the application of "Reconstructive Rules" to match between the incoming acoustic speech signal with the shape of the vocal tract, on the one hand, and with the already "stored articulatory template" on the other. Under these circumstances, the

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[1] Also called "principle of least effort" or "Zipf's law" with the premise that it acts as "the primary principle that governs our entire individual and collective behavior of all sorts, including the behavior of our language and preconceptions" (Zipf, 1949:573). See also Case (2005) for various applications of the principle.
[2] For more discussion on how speech is produced and perceived, see Flower and Galantucci (2005).

acoustic message is then interpreted in the same way as it was perceived, and the sound change takes place when the listener becomes a speaker (Ohala, 1981:183-4). This theory is held for speakers and listeners of the same language; however it can be further expanded to speakers of distinct languages when the realization and the organization of the phonological segments are rather more different due to different phonemic inventories. Despite the extreme view that the listener is the only source of sound change, Ohala seems to agree with the unwilling participation of the listener in the process by "faithfully copying inherent phonetic variation" (Ohala, 1981:197). Along similar lines, and as far as phonetic variation is concerned, Silverman (2006) draws the attention to the fact that gradiance and variation are the core stone of phonology and sound change: "listeners perceive it, speakers produce it and listeners perceive it" (Silverman, 2006:214). These views of Ohala and Silverman can be sketched back to McMahon's (1994) and Bhat's (2001) views that sound changes occur at the level of the unconscious knowledge and are passed from one generation to the next.

1.4.   The Language Investigated: Arabic

The Arabic language whether as a sibling of Southeast Semitic (Blau, 1978) or as a Central Semitic sibling of North West Semitic (Faber, 1980; Hetzron, 1997) , belongs at the first place to the wider family of Afro-Asiatic languages. The general history of Semitic Languages may be divided into three distinct periods. The first is represented by the spread of Hebrew by the 5th century B.C.E before being highly influenced by Aramaic to characterize the middle age of Semitic languages from the 5th to the 7th century, while the third period is when Arabic absorbed the other Semitic languages by the 1st century AH (7th C.E) until today (Renan, 1855) to be the official language of more than 20 countries and spoken by almost 300 million people worldwide.

In the Pre-Islamic era, Arabic was used by several tribes mainly in the Arabian Peninsula, this Arabic that can be referred to now as Ancient Arabic Dialects. Despite the differences between those dialects, Pre-Islamic poetic tradition can show the use of a common dialect, or more precisely, a common language, probably

the result of the fusion of different dialects that grew in Mecca for religious, economic and commercial purposes, to serve as a link between the different tribes.

Three major forms can be classified: Classical Arabic (CA), Modern Standard Arabic (MSA), Colloquial Arabic.

1.4.1. Classical Arabic

Classical Arabic, or Quranic Arabic, a language of Pre-Islamic poetry and of the Holy Quran, the most common theory that was held traditionally rests on the view that CA is based on one particular language, the one which was used by the Western Hidjazi tribe Quraysh, being regarded as the most eloquent in the Arabian Peninsula in the early period before the revelation of the Quran. Recent views, however, show that CA should be regarded as a common language consisting of elements from many older Arabic varieties. The codification of Arabic took place between the 1st and 2nd centuries A.H. (7th and 8th C.E.)[1], and a standardized written version of *muṣḥaf* with notations for different pronunciations appeared in the mid of the 7th century C.E.

1.4.2. Modern Standard Arabic

Modern Standard Arabic (MSA) is a modernized version and a direct descendent of Classical Arabic formed as a linguistic medium to revitalize CA and reduce the influence of Western civilization. MSA has been accepted as a common and unifying link between the Arabs. MSA is also called Standard Arabic, Literary Arabic, or simply *Al-Fuṣḥā*, a variety that is taught at school and used by most educated Arabic speakers as a medium of communication. MSA is first of all a written language that differs from CA in terms of vocabulary and stylistic features, while phonology, morphology and basic syntactic structures remain the same. The term Intermediate Arabic or Middle Arabic are also used to refer to the sort of MSA with the interference of colloquial expressions (Fischer, 1997:189).

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[1] During the codification of Arabic in the 1st century up to the 3rd A.H., many conditions were made and the grammarians differentiated between tribes in terms of eloquence. See Al-Farābī (*Kitāb al-ḥurūf*) and Anīs (1952/ 1999). However, in the late 4th century, the differentiation diminished and other tribes were classified as fluent. This can be seen clearly in the chapter 'ʾIḫtlāf al-luġāt wa kulluha ḥuǧǧa' by Ibn Ǧinnī in his book "*Al-Ḫaṣāʾiṣ*".

1.4.3. Colloquial Arabic

Several regional dialects of Arabic exist in the present day showing, to varying degrees, the linguistic variation in terms of pronunciation, grammar and vocabulary. Since Standard Arabic is basically learnt at school, Colloquial Arabic, Dialectal Arabic or Al-ʿĀmmiya is acquired referring to those varieties spoken in the Arab world, creating a diglossic situation as Ferguson (1959a) terms. The differences between modern Arabic dialects may be regarded very wide in terms of mutual intelligibility, to the degree that many linguists prefer to speak of Modern Arabic Languages (Rubin, 2010).

1.5.   Arabic Phonology

1.5.1. Basic Background and Terminology

The phonetics and phonology of Arabic gained great interest by both traditional and modern linguists along with the growth of grammar and rhetoric as linguistic studies. Old grammarians made a distinction between the terms 'sound' and 'speech sound' with their distinction between *ṣawt* and *ḥarf*, to be using the latter to represent what can be termed now as speech sound or phoneme *Aṣ-ṣawt Al-luġawī*. Arabic speech sounds are mainly divided into twenty nine distinctive phonemes *ʾuṣūl* and their allophones or phonological variants *furūʿ*. This division goes back to Sībawayh's and Ibn Ǧinnī's definition, in the 2nd and 4th centuries A.H respectively, of twenty nine standard phonemes in Arabic[1]. This view was highly carried by other grammarians to represent the primary phonemes or what they call *'ḥurūf al-muʿǧam'*. Al-Ḫalīl in the first half of the second century A.H. and those who followed his view like Al-Mubarrad in the 3rd century and Al-Azhari distinguished twenty eight phonemes. The reason for this disagreement between the Arab grammarians lies mostly on two phonemes: *ʾalif* and *hamza*. Those who advocated twenty eight phonemes in Arabic considered *hamza* as part of *ʾalif*, supporting their view the fact that the former has no stable orthographic sign in the written form, and

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mainly borrows the shapes of three other phonemes; ʾalif, wāw, and yāʾ (ʾAbū Makkī Al-Qaysī, *Kitāb at-tabṣira*). Including both *hamza* and ʾalif in Sībawayh's descriptions had rather a phonological aim to treat these phonemes separately. Modern linguists, however, distinguish again twenty eight phonemes, more precisely, consonantal phonemes, to exclude ʾalif and not *hamza* to classify the former with long vowels (Ḥassān, 1994; ʾAnīs, 1947; Fleisch, 1966)

Beyond the twenty nine phonemes distinguished by the grammarians, Sībawayh also cited two sets of phonological variants[1], can be described as allophones of the core phonemes that were used by Arabic speakers at that time. The first set consists of six allophones which are approved for reciting the Holy Quran and poetry *'mustaḥsana'*, while the second *'ġayr mustaḥsana'* consist of eight further pronunciations prescribed as not frequent among fluent Arabs, and not accepted neither in the recitation of Quran, nor in reading poetry. The latter variants were, probably, used by two groups: (1) by non-Arabs who accepted the Islamic religion and learned Arabic for this reason and; (2) by some Arabs who were in contact and lived with those foreigners and mainly spoke their languages (Ibn Yaʿīš, *Šarḥ*).

1.5.1.1.   Place, Manner and Voicing

In the description of place of articulation, Arab grammarians gave each phoneme a group to belong two using the term *'ḥayyiz'* which is the space shared by some speech sounds calling, for example, /f, b, m/ as *'šafawiyya'* which means 'labial'. The term *'maḫraǧ'* or *'mawḍiʿ'* is used to determine the specific point of articulation[2] of a given sound.

According to the manner of articulation and voicing, Arabic speech sounds are given other characteristics. The first dichotomy is *'maǧhūr'* and *'mahmūs'*, which correlates much more with the process of voicing to address the former as voiced and the latter as voiceless. Other interpretations have been provided to render these

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[1] A detailed description of these variants and the possible interpretations that have been provided are beyond the scope of this study. However, some of the variants will appear separately in the body of this work, in this chapter, and later in the second.

[2] Sībawayh defines Arabic speech sounds in sixteen points of articulation. (Sībawayh, *Al-Kitāb IV*:433-4). See also Carter (2004) for an English terminology provided for Sībawayh's phonology.

two terms like 'fortis' and 'lenis', 'sonorous' and 'muffled' (Blanc, 1967). The second dichotomy is *'šadīd'* and *'riḫw'* gives no other interpretation but the one that correlates with 'plosive/stop' and 'fricative' sounds respectively.

1.5.1.2. Special Characteristics

Arabic speech sounds can be distinguished in other terms beyond place, manner and voicing.

- **Al-Qalqala**

Though this phenomenon is restricted to the recitation of Quran, it has to do with how some speech sounds are pronounced. Al-Qalqala consonants[1] basically share some common lineaments which enable the linguists to gather them into one group, including five phonemes: *qāf, ṭāʾ, bāʾ, ǧīm* and *dāl*. These sounds are classified among *maǧhūra* and *šadīda*, and when they are found in unvowelled positions whether medial or final (pause form) must be followed by a slight vowelization that does not go under the frame of Arabic short vowels, but rather as an epenthetic central weak vowel /ə/ 'schwa' uttered immediately after these consonants. The main reason for this process is, probably, the preservation of the voicing feature of these sounds, and the elimination of any confusion with their voiceless counterparts.

- **Iṭbāq and Infitāḥ**

Arabic consonants can also be distinguished in terms of *Iṭbāq* and *Infitāḥ* which corresponds traditionally to emphatic and plain consonants respectively. The term 'emphatic' is used rather as a cover term to denote a class of consonants found basically in all Semitic languages, with the exception of Maltese Arabic (Faber, 1980). Emphatic as an umbrella term includes both the velarized/ pharyngealized consonants in Arabic and the glottalized[2] consonants in Ethiopic Semitic languages.

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[1] The name is derived from the duplicated verb *'qalqal'* which means "to move or mobilize". The term *'laqlaqa'* is also used by some scholars. Sībawayh uses the term *'mušraba'* to denote that these consonants are followed by a slight vowellization or what Ibn Ǧinnī (1985) calls *'ṣuwayt'*.

[2] Glottalized or glottalic consonants are of the type of ejective sounds which hold a closure of the glottis as a secondary articulation. Ullendorff (1955:153) defines glottalization as rather a simultaneous movement "the buccal articulation of the consonant concerned, and at the same time, closure of the glottis". Unlike the

The more likely scenario for distinguishing non-emphatics from emphatics in Proto-Semitic or the early stages of Semitic languages is the glottalization process (Bergsträsser, 1928) and there is no true evidence on how or when Arabic developed the series of velarized/ pharyngealized consonants. *Iṭbāq* for the Arab grammarians is the characteristic given to four phonemes; *ṣād, ḍād, ṭāʾ* and *ḏāʾ*. In Sībawayh classification of *muṭbaqa* consonants, he was able to notice the co-articulation during their production "these four [muṭbaqa consonants] have two points of articulation"[1] (Sībawayh, *Al-Kitāb IV*:436). He further explains that the secondary articulation happens when raising the back of the tongue toward the velum[2] *ʿal- ḥanak al-ʾaʿlā'* (ibid). This explanation seems quite similar to what we call in modern terms as velarization[3]. *Infitāḥ*, on the other hand, concerns the rest of the Arabic consonants which do not involve a back secondary articulation.

Modern linguists distinguish between two terms; the first is *'al-ʾaṣwāt aṭ-ṭabaqiyya'* which involves raising the back of tongue toward the velum, whether in a complete closure to produce stops, or narrowing the air stream to produce fricatives to include even the uvular sounds *ḫāʾ, ġayn,* and *qāf*. While the second term is *' ʾAṣwāt al-Iṭbāq'*, the modern definition is quite similar to the one provided early by the grammarians, adding that there is no obstruction of the air stream or a direct contact between the back of the tongue and the velum, and the first stricture is happening at some other point outside the velum.

- **Istiʿlāʾ and Istifāl**

If we are to explain the term *Istiʿlāʾ* as the traditional scholars do, it would look identical to the one provided earlier for *muṭbaqa* consonants, which is raising the back of the tongue toward the soft palate. However, three other phonemes are

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emphatics in Arabic, these consonants have no influence on vowels, but rather make the vowel that follows appear in a "detached manner" (Ullendorff, 1955:46).

[1] فهذه الأربعة لها موضعان من اللسان

[2] إذا وضعت لسانك في مواضعهن انطلق لسانك من مواضعهن إلى ما حاذى الحنك الأعلى من اللسان ترفعه إلى الحنك الأعلى

[3] There is no general agreement on whether these consonants are velarized or pharyngealized. Jackobson (1962) working with a Palestinian subject, prefers the term 'pharyngealized' as the ex-ray experiment shows that the root of the tongue is retracted toward the pharynx during the production of these sounds. There is also the view that emphasis in Arabic is not only velarization or pharyngealization, but rather a complex secondary articulation of "dorso-pharyngealization" (Clement,1995:98-9). See also Herzallah (1990).

included among the group of *mustaʿliya* consonants: *q*, *ḫ*, and *ġ* to give the total number of seven phonemes in this group. The grammarians again divide this group into two; (1) *mustaʿliya* with *iṭbāq* for four consonants *ṣ, ḍ, ṭ*, and *ḍ̣*; (2) *mustaʿliya* without *iṭbāq* for the three consonants *q*, *ḫ*, and *ġ*. From this division we can conclude that: (a) all *muṭbaqa* consonants are *mustaʿliya* and (b) not all *mustaʿliya* consonants are *muṭbaqa*. Therefore the term *'mustaʿliya'* can be rather regarded as a cover term for the seven consonants which involve raising the back of the tongue toward the velum whether as a primary articulation for *q*, *ḫ*, and *ġ*[1], or as a secondary articulation for *ṣ, ḍ, ṭ*, and *ḍ̣*, and then the terms *mustaʿliya* and *muṭbaqa* are not used interchangeably in Arabic. *Istifāl*, is basically the opposite if *Istiʿlāʾ* to prescribe the rest of the Arabic consonants but the seven already cited.

- **Tafḫīm and Tarqīq**

If *Iṭbāq* and *Infitāḥ* are terms that describe the physiological property of the tongue raised toward the velum as an active articulator during the production of some sounds, *Tafḫīm* and *Tarqīq* are terms to describe an auditory property resulting from velarization. The Arabic consonants characterized by *Tafḫīm* and *Tarqīq* are divided into three classes:

a- *Tafḫīm* as a fundamental characteristic: in the production of the four *muṭbaqa* consonants, where *Iṭbāq* is a distinctive feature.

b- *Tafḫīm* as a secondary characteristic: in the production of five phonemes, which can be divided into two sets; (1) the uvulars *q*, *ḫ*, and *ġ* must take *Tafḫīm* when followed by the vowels /a/ or /u/ being short or long[2], (2) the liquids /l/ and /r/ which follow their own rules[3].

c- *Tarqīq* as a fundamental characteristic: in the production of the rest nineteen consonants in Arabic.

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[1] Troubetskoy (1939:125) classifies *q*, *ġ* and *ḫ* among the emphatics recognizing that the pair /q/ vs. /k/ carries the same opposition as the pair /ṭ/ and /t/ (cited in Jackobson, 1962:515). In correcting this view, Cantineau (1960/1969) notes that: unlike the emphatics in Arabic, *q* has no influence on other phonemes .e.g. *iqtaraba* as compared with *iṣṭabara*. Later Ferguson (1956) maintains that *q*, *ġ* and *ḫ* may play a partial role similar to the one of emphatics in terms of influencing the following vowel, the phenomenon being termed "semi-emphasis".

[2] Producing these sounds in these conditions without *Tafḫīm* will not affect the meaning of the word.

[3] These rules will be dealt later in the discussion of each phoneme.

1.5.2. The Phonemic System of Arabic

Arabic shares with the other Semitic languages the superiority of consonants over vowels. The phonemic system of Modern Standard Arabic corresponds at a large extent to the one of Classical Arabic. Nevertheless, some exceptional phonemes, probably, underwent some regular changes.

1.5.2.1. Consonants

We will follow in our description of points of articulation *'maḫāriǧ al-ḥurūf'* the method introduced by Al-Ḫalīl and adopted by most Arab scholars to group sounds from those articulated further back in the throat, *'ʾaqṣa al-ḥalq'*, moving to those produced by the lips, *'šafatān'*.

- **Gutturals**

Arabic has six guttural sounds produced in three points of articulation: two glottal sounds: the voiceless fricative /h/ and the glottal stop known as *hamza*. The glottal stop was classified earlier among voiced consonants, while modern studies show that this sound is voiceless. The latter view is supported by the fact that the process of voicing correlates with the vibration of the vocal cords, while in the production of the glottal stop, the vocal cords are in complete closure and then released suddenly. The former view of addressing *hamza* as voiced can be explain by the proposal given by Cantineau (1960/1969:35) that the frequent connection of *hamza* with *ʾalif* during the description of sounds, may have led the Arabs to describe the glottal stop as if they were describing *ʾalif* in terms of voicing.

The voiced fricative /ʕ/ and its voiceless counterpart /ħ/ make part of the phonemic system of Arabic. The description of these sounds in terms of voicing was carried by the early scholars. However, in terms of manner, /ʕ/ was classified between fricative and plosive to be gathered with /l/, /m/, /n/, and /r/ as *'ḥurūf mutawassiṭa'*[1]. Modern studies show a stricture of the air passage during the

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[1] It is worth noting that Arab grammarians were able to notice that /l/, /r/, /m/ and /n/ share a common characteristic to be called as *'bayniyya'* or *'mutawassiṭa'* which means between plosives and fricatives. These sounds may look very similar to plosive sounds if we regard that the speech organs are in complete

production of /ʕ/, which makes it a fricative rather than an intermediate consonant or a vowel-like consonant.

The fricatives /x/ and /ɣ/ are counterparts in terms of voicing, articulated by raising the back of the tongue toward the space between the velum and the pharynx in front of the uvula, to form a narrow air passage to produce these fricative sounds.

- **Velars**

Kāf and *qāf* are two velar plosives in Arabic. The sound *qāf* as was described by Sībawayh and Ibn Ǧinnī "articulated from the back of the tongue against the soft palate"[1] (Sībawayh, *Al-Kitāb IV*:433; Ibn Ǧinnī, *Sirr I*:47). It was also described as voiced *'maǧhūr'*[2] and its place in the ordering of phonemes comes after /x/ and /ɣ/, while qāf that it is heard in contemporary Arabic and by most reciters of the Holy Quran denotes that it is a voiceless uvular stop. Therefore, we assume that *qāf* in MSA has changed from the one of CA. Arabic dialects have, on the other hand, developed many reflexes of *qāf*. Anīs (1947:73) claims that the evolution of a sound may take two ways; either by moving forward in the point of articulation, and this, probably, explains the correlation with the velars /g/ and /k/, or by moving backward. It is possible to accept the proposal of Anīs (1947) concerning the glottal stop as a reflex of *qāf*, when he explains that if the point of articulation of *qāf* has moved backward in the throat, then it shares with no other phoneme the feature 'fortis' but with the glottal stop. Semitic studies, on the other hand, give us another explanation, and we can say a more acceptable scenario than the one which assumes the retraction of *qāf* back to the throat. *q* is found in the dorsal set with the pairs *k* and *g* and has, probably, developed from the voiceless glottalic velar stop *k'*. Brockelmann (1906/1977), Bergsträsser (1928) and later Moscati (1980) suggest

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contact, and similar to fricatives regarding the flow of the air. The classification /ʕ / as *'bayniyya'* by Sībawayh is not to be considered as wrong, and modern studies show that /ʕ/ has a low stricture of the air compared with other fricative sounds, and this is, probably, what has led him to classify it this way.(For an adequate analysis and the different views of *'Al-Aṣwāt Al-bayniyya'*, see Bišr (2000) pp.345-367

[1] من أقصى اللسان و ما فوقه من الحنك الأعلى مخرج القاف

[2] Lipinski states that "Sibawayh defines Arabic q as maǧhūr, which does not mean 'voiced'(g), as generally assumed, but rather 'fortis'" (Lipinski, 1997:137). There are two reasons to reject Lipinski's opinion: first, *qāf* was classified within the group of Qalqala consonants which are said to be sharing the feature of voiced obstruents, and second, the conclusion drawn by Ibn Sīnā (*'Asbāb*: 10) that the pair *k* and *ǧ* carries the same opposition of *ḥ* and *q* in terms of voicing.

that qāf having the reflex of the glottal stop can only be explained in terms of glottalization. In explaining this view, Ullendorff (1955:156) writes:

> The other Semitic languages gave up the glottalized nature of the emphatics and merely maintained their oral articulation […] While some of the Semitic and Cushitic languages (as well as a number of Arabic town dialects) have in certain cases given up the mouth articulation of these composite sounds and only retained the glottal closure accompanying it.

Qāf decribed as voiced was, probably, pronounced as a voiced uvular stop /G/; the sound which is considered as the voiced counterpart of /q/, and appears as reflex of Arabic *qāf* in some attested Yemeni and Sudani Arabic dialects. Ullendorff (1955:47) cites that "spirantized *k'* sounds almost exactly like غ ". Interestingly, /G/ can be misperceived as Arabic *ġ*, the fact which runs much more the assumption that Arabic *qāf* described by the grammarians is a developed sound from the glottalized *k'* reconstructed for Proto-Semitic.

- **Palatals**

Three palatal phonemes are grouped by early scholars from the same place of articulation "between the middle of the tongue and the middle of the hard palate" (Sībawayh, *Al-Kitāb IV*:433)[1] for the production of *ğīm*, *šīn* and *jāʾ*. The three were also given ḥayyiz of "šaġriyya" by Al-Ḫalīl which are articulated from *'šaġr al-fam'* "where the mouth cleaves" (Kinberg, 2001:217) or in modern terms 'the palate'. *Šīn* described as a voiceless fricative / ʃ/ and *jaʾ* as a voiced glide[2]. The phoneme *ğīm* may require further explanation. It was classified as voiced plosive *mağhūr* and *šadīd*, which may denote that it was, probably, articulated differently from the palato-alveolar affricate /ʤ/ that we hear by most reciters of Quran, and in some Arabic dialects. Many scholars, based on Semitic comparison, claim that the origin of *ğīm* in Arabic is the voiced velar stop /g/. If we hypothesize that the grammarians were describing *ğīm* as /g/, then we have first to widen the place of

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[1] ومن وسط اللسان بينه وبين وسط الحنك الأعلى مخْرَجُ الجيم والشين والياء

[2] One must notice that *yāʾ* was not classified neither among the group of plosives nor of fricatives by Sībawayh. He later classify it with wāw /w/ as "layyina" which means "glides". A similar classification for Al-Ḫalīl and later Ibn As-sarrāğ .See Al-Ḫalīl (*Al-ʿayn*) and Ibn As-sarrāğ (*Al-ʾuṣūl*).

articulation *'waṣaṭ al-ḥanak'* to include the velum. This view is rejected for two reasons; (1) ǧīm is classified further forward than /k/ which proves that it was not /g/ since /k/ and /g/ are differentiated only in terms of voicing; (2) Sībawayh mentioned the marginal sound that is between *kāf* and *ǧīm* which can be interpreted as /g/ (Owens, 2013). The earlier interpretation like the one of Brockelmann (1906/1977:24) and Cantineau (1960/1969) proposed that the non-sanctioned variant *'al-ǧīm l-latī kal-kāf'* is the Semitic voiced velar stop. Both interpretations denote that /g/ was recognized in the 8th century and it is basically not *ǧīm*. ʿUmar (1977:340), supporting the view that *ǧ* was a voiced palatal stop, explains that if one tries to produce a palatal plosive being voiced /ɟ/ or voiceless /c/, another sound precedes the articulation is heard, which probably, has changed the stop into an affricate. In general, palatal stops tend to affricate and beside all those attempts to interpret how the phoneme *ǧīm* was pronounced in Classical Arabic, there is also the possibility that Sībawayh, Ibn Ǧinnī and other scholars were just describing the affricate /dʒ/. In this vain, Owens (2013:185-9) writes:

> The basic jiym is a stop (šadiyd) and voiced (majhuwr) sound. As it is well known, in the case of jiym Sibawaih did not specify a contrast between an affricate and plain stop. It is simply 'šadiyd' […] but is not more specific than this, for instance giving no intimation as whether it should be interpreted as a simple stop ([ɟ]) or an affricate ([dʒ]).

- **Alveolars**

Arabic has three voiced alveolar consonants, the nasal /n/, the laleral /l/ *'munḥarif'* and the trill /r/ *'mukarrar'*. Though in the description of these sounds by Sībawayh are classified in three separate points of articulation, and we may say in precise points of articulation, they can be gathered under the heading of alveolars. The three sounds were also given the name of *'Al-ʾAṣwāt Aḏ-ḏalaqiyya'*[1]. In Classical Arabic, or in Standard Arabic in general, the original /l/ is a plain

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[1] *Al-ʾAṣwāt Aḏ-ḏalaqiyya* was be simply interpreted as articulated from *'ḏalaq al-lisān'* which corresponds to the tip of the tongue or the apex. However, the most acceptable interpretation is the one given by Al-Ḫalīl: *ḏalaqiyya* means being light and easy to articulate.

consonant *'muraqqaq'*, and the emphatic /l/ *'mufaḫḫam'* is a positional variant[1] in the name of God *'Allah'*, and its derivates if preceded by the vowels /u/ and /a/ like in: qāla ḷ-ḷāhu 'Allah has said', and pronounced as a plain /l/ if preceded by the vowel /i/ like in: bismi l-lāhi 'with the name of Allah'. The phoneme *lām* also gains emphasis *'Tafḫīm'* when one of the emphatic *'muṭbaqa'* consonants appears in the preceding or following syllable, like in: ṣaḷāt 'prayer'.

There is an agreement that the original *ṛāʾ* in Arabic is *mufaḫḫam* whenever it is: (1) followed by the vowels /a/ and /u/ being short of long, like in: ṛabbī 'my lord' and šuṛūq 'sunrise'; (2) unvowelled preceded by the vowels /a/ and /u/, like in šaṛq 'east' and tuṛba 'soil'; (3) unvowelled preceded by the front vowel /i/ but followed by one of *mustaʿliya* consonants, like in: qiṛṭās 'leaf' and fiṛqa 'band'; (4) in the pause form following an unvowelled consonant of *'Istiʿlāʾ'*, like in: miṣṛ 'Egypt' and faqṛ 'poverty'. Outside these rules, *ṛāʾ* is pronounced as a plain *'muraqqaq'* /r/ when (1) followed by the front vowel /i/ being short of long, like in: riǧāl 'men' and rīḥ 'wind', or (2) unvowelled preceeded by the short vowel /i/, like in firʿawn 'pharaoh'.

- **Alveo-dentals**

Seven phonemes in Arabic are grouped under the heading of alveo-dentals, and can be further grouped into two classes. Three sibilants: the voiceless fricative /s/, and its voiced counterpart /z/, and further the voiceless emphatic fricative /ṣ/. The three sounds were given the name of *''Asaliyya'* by early scholars, articulated from *''asalat al-lisān'*, and as the point of articulation described by Sībawayh (*Al-Kitāb IV*:433) they are produced "between the blade of the tongue and against the area slightly above the incisors"[23]. The claim of Lipinski (1997:124) and later Watson (2002:15) that the modern pronunciation of /s/ in Arabic must post-date Sībawayh's time, and was probably pronounced like modern *šīn*, cannot be seen clearly in the description of *sīn* by most Arab scholars, when it is always grouped with /z/ and /ṣ/

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[1] Ferguson (1956) has a different view when he treats the emphatic /ḷ/ as a distinctive phoneme in Arabic, and many linguists have adopted his view like Al-Anī (1970) and ʾUmar (1977).

ومما بين طرف اللسان و فُويق الثنايا مُخْرجُ الزاي والسين والصاد [2]

[3] Ibn As-Sarrāǧ (*Al-ʾUṣūl III*: 400) defines *'Aṯ-ṯanāyā'* in the production of sibilants by the lower incisors.

in a place of articulation further forward than the one for the palatals for Al-Ḫalīl, and further forward than the point of articulation of the plosives /t/, /d/, /ṭ/ for Sībawayh and Ibn Ǧinnī. Moreover, if we accept that early /s/ was pronounced like modern /ʃ/, it may be better for us to hypothesize that the pronunciation of /z/ and /ṣ/ was different as well[1], since they are described as counterparts of /s/ in terms of voicing and emphasis respectively.

The second group of the alveo-dentals includes four plosive sounds; the voiceless alveo-dental /t/, and its emphatic counterpart /ṭ/, the voiced alveo-dental /d/ and its emphatic counterpart /ḍ/. The pronunciation of the phomene *ṭāʾ*, probably has changed, as it was described as the emphatic counterpart of /d/ (Sībawayh, *Al-Kitāb IV*:436, Ibn Ǧinnī, *Sirr I*:61)[2], hence, its classification among *Al-Qalqala* consonants may denote that it was pronounced as voiced. We can safely assume the *ṭāʾ* in Classical Arabic was pronounced very much like modern *ḍād* /ḍ/, since the latter in contemporary Arabic is the emphatic counterpart of /d/. The voiced *ṭāʾ* is attested in some Yemeni dialects spoken in the central plateau like Ṣanʿani (Watson, 1993). e.g., ṭawīl > ḍawīl 'tall' (Watson, 2002:14)[3]. The phoneme *ḍād* in early Arabic basically needs a deeper investigation to explain its development.

Many Eastern and Maghrebian Arabic dialects have experienced the merger of *ḍād* with the emphatic fricative *ḏ̣āʾ*. This pronunciation finds its roots earlier in the history of the Arabic language, and can be examined by a close look on how *ḍād* has developed. It seems that the pronunciation of this phoneme was hard for non-Arabs, or even among some Arabs in the Arabian Peninsula, to the degree that Arabic was regarded as the only one holding this phoneme to be labeled as *'Luġat aḍ-ḍād'*. According to Sībawayh (*Al-Kitāb IV*:433) and as translated by (Kinberg, 2001:205) *ḍād* is "articulated from the beginning of the tongue's side and the molar

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[1] See Al-Jallad (2014) for a different opinion for Sībawayh's *ṣād*.

[2] ولولا الإطباق لصارت الطاء دالا

[3] The modern pronunciation of *ṭāʾ* as an emphatic voiceless alveo-dental stop was, probably, known and recognized in the 8th century in some Arabic dialects. Reconstructing Sībawayh's model for describing sanctioned and non-sanctioned variants, similar to the one provided by Owens (2013), enables us to interpret the variant *'aṭ-ṭāʾ l-latī kat-tāʾ'* as /ṭ/ which means contemporary *ṭāʾ*. I would like to thank Professor Owens for the valuable remark that similar variants can be also interpreted as emphatic-less sounds.

teeth that lie next to it"[1]. Ibn Ǧinnī (*Sirr I*:47) and Ibn As-Sarrāǧ (*Al-ʾuṣūl III*:400) further add to this description a lateral articulation similar to the one of /l/, and it is possible to let the air flows from the right or the left side of the tongue. *Ḍād* was also described as a *sui generis* voiced *'maǧhūr'*, emphatic *'muṭbaq'* fricative *'riḫw'* which has no plain counterpart[2]. *Ḍād* for Proto-Semitic was also reconstructed within the lateral set as a descendant of the glottalic lateral /ɬ'/ (Rubin, 2010). Similarly to Arabic *ǧīm*, some interpretations were created to explain how *ḍād* was pronounced. Cantineau (1960/1969:85-6) proposed that *ḍ* was very similar to the *emphatic interdental ḏāʾ with a lateralized articulation. The latter sound was attested in some Iraqi Bedouin dialects (Anīs, 1947) and in the Arabic dialects spoken in the Northern coastal area of Egypt in Maryut (Maṭar, 1981:46). Residues of a very close articulation of Sībawayh's ḍād were said to be restricted to the dialect of Haḍramawt, Yemen (Bergsträsser, 1929; Al-*Ǧindī, 1978). Bergsträsser (1929:19) states that ḍād in Haḍramawt looks very similar to the emphatic /ḷ/ (lateral ḍād), and basically the Arabs have carried this pronunciation to Andalusia, and Arabic ḍ is replaced by /ld/ in Arabic loanwords in Spanish. Recent studies by Al-Azraqi (2010) and Watson & Al-Azraqi (2011) show that lateral ḍād, with an identical articulation to the grammarians' ḍ, is discovered in some Southern Saudi Arabia dialects in ʿAsīr and the Saudi Tihāma. Bergsträsser* (1929) further proposed that the modern pronunciations of *ḍād* are mainly reflexes of the evolution of the original lateral one, while in Bedouin dialects its articulation changed from the first part of the tongue to the tip, and in Sedentary dialects, its articulation emerged from the Bedouin pronunciation by putting the tip of the tongue against the gum ridge instead of just making it closer to it (ibid). This, probably, explains how the phoneme *ḍād* has changed to become a plosive sound as we hear it in contemporary Arabic[3].

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[1] ومن بين أول حافة اللسان وما يليها من الأضراس مُخرَجُ الضاد

[2] ولولا الإطباق لصارت الطاء دالا [...] ولخرجت الضاد من الكلام، لأنه ليس شيء من موضعها غيْرُها

[3] Anīs (1947:52) claims that the sound change of *ḍād* took place at Ibn Al-Ǧazrī's time which means the 8th century A.H. (See chapter two for further examination of the opinion).

- **Interdentals**

Arabic has three inter-dental fricatives; the voiceless fricative *t̠*, and its voiced counterpart *d̠* and further the voiced emphatic *'muṭbaq' ḏ̣*. They are articulated according to Sībawayh (*Al-Kitāb IV*:433) "between the front of the tongue and the edges of the teeth for the production of *ḏ̣āʾ*, *d̠āl* and *t̠ā*"[1].

- **Labials**

The voiced bilabial plosive /b/ and the voiced nasal /m/, and the glide /w/ are classified within the same group of *'mimmā bayna aš-šafatayn'* (between the lips) by Sībawayh. Arabic has also the voiceless labio-dental fricative /f/, probably developed from the spirantization of /p/ in Proto-Semitic into [φ] (Lipinski, 1997:109). The voiceless bilabial plosive /p/ and the voiced labio-dental /v/ make no part of the Arabic sound system. However, these two sounds were known for the Arabs in the 8th century C.E. when Sībawayh mentions the non-approved variant *'al-bāʾ l-latī kal-fāʾ'* (/b/ which resembles /f/) which can be interpreted simply as /p/. However, Ibn Sīnā (*ʾAsbāb*:17) explains that this variant is not found in Arabic and can be interpreted into two ways; the voiceless plosive /p/ and the voiced fricative /v/, and both found in Persian.

1.5.2.2. Vowels

Though vowels play a core role in all languages around the world, short vowels in the writings of the Arab scholars and within the field of phonetics were always treated in terms of the long ones. The vocalic system of Classical Arabic and Modern Standard Arabic reflects an exact matching of the one reconstructed for Proto-Semitic. Arabic has six vowels, three short /a,u,i/ and three long /ā,ū,ī/. Early in the comment of Ibn Ǧinnī (*Sirr I*:17)[2] that "short vowels [*ḥarakāt*] are parts of the long vowels and glides [*ḥurūf al-madd wal-līn*]"[3] denotes that he was able to extract the difference between short and long vowels in Arabic, and much further,

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1 ومما بين طرف اللسان وأطراف الثنايا مُخرجُ الظاء والذال، والثاء
2 اعلم أن الحركات أبعاض لحروف المد و اللين، وهي الألف والياء والواو، فكما أن هذه الحروف ثلاثة، فكذلك الحركات ثلاث، وهي الفتحة والكسرة والضُمة
3 *'ḥurūf al-madd wal-līn'* are translated as long vowels and glides, and also as 'letters of prolongation'.

calling the short vowels as parts of the long ones supports the idea that the differences between Arabic short vowels and their long counterparts are only in terms of quantity and duration. In measuring the duration of Arabic short vowels in isolation compared with the long ones, Al-Ani (1970) came to the conclusion that short vowel duration was 300 ms compared with 600 ms for the long ones. This conclusion gives the ability to consider long vowels as a unit of two akin to a short ones .i.e., ā = aa, ū = uu and ī = ii. Al-Ani (1970), however, working with Iraqi and Jordanian subjects, using x-rays in spectrographic displays, claims that Arabic short and long vowels are to be differentiated not only in terms of quantity but also in quality, giving the following chart (Al-Ani, 1970:25):
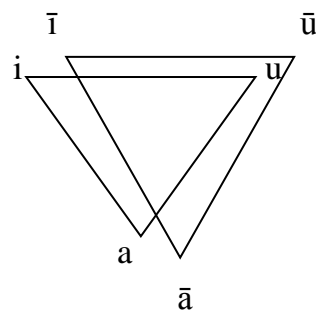
Chart 1.1. Arabic Vowels

Al-Nassir (1985:59) also came to a similar conclusion using minimal pairs like "kataba" and "kātaba" to claim that the short vowel is slightly more fronted and less open than the long one.

1.5.2.3.   Semi-vowels

The palatal /j/ and the labio-velar /w/ play the role of semi-vowels in Arabic. During the production of /j/ and /w/, the tongue is found almost in the same position for the production of /i/ and /u/, but the short space between the blade of the tongue and the palate for /j/, and the back of the tongue and the velum for /w/ is smaller than the space formed during the production of the vowels /i/ and /u/ which results a constriction of the air similar to the one produced by fricative consonants, which gives the ability to term these as semi-consonants (Anīs, 1947, ʿUmar, 1977)

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1.5.2.4. Diphthongs

The combinations /aj/ and /aw/ make part of the Arabic languages. ʿUmar (1977) claims that these combinations can be regarded either as single phonemes which means diphthongs, or a cluster of a vowel and semi-vowels playing the role of consonants. Bišr (2000:372-3) rejects the former ideas, by maintaining that /aw/ and /aj/ in words like ḥawḍ 'basin' and bayt 'house' cannot be treated as single units compared with diphthongs in other languages, but rather as the short vowel /a/ followed by the semi-vowel /w/ in the first example, and followed by the semi-vowel /j/ in the second.

1.6. Arabic Dialectology

From a glimpse on the Arabic literature that started to flourish in the beginning of the second century A.H., both grammarians and historians showed a remarkable interest in describing and codifying the Arabic language in its classical form. However, only a close examination of the literature will show that an interest of ancient Arabic dialects existed earlier as well. Several works about the different readings of the Holy Quran, and other grammar works mentioning elements from several dialects reveal an implicit interest in dialects. This interest, unfortunately, has never developed to an independent discipline at that time, and the description of Arabic dialects swung between the two extremes of acceptance and refusal.

Studying Arabic dialects in the modern times started in the 19th century, characterized by several works carried by the Orientists, which were based only on collecting linguistic materials and analyzed by some traditional methods. Soon enough, the field gained much interest in the Arabic universities which, in turn, gained benefits from the developed field of linguistic research in Western universities. Such interest has led to the creation of academies in Cairo, Damascus and other universities to encourage research and studies of Arabic dialects, both ancient and modern.

1.6.1. Modern Arabic Dialects

'What is the origin of modern Arabic dialects?' A question that has been asked and discussed heavily, while the answer still lies in a shaded grey zone, when no general consensus has been held among the researchers in this field. In trying to answer this question, a variety of possibilities raise, and much more, different possibilities from different dimensions can be given.

1.6.1.1. CA as Input

The early debate that seeks to differentiate between the labels 'language' and 'dialect' has mostly treated the latter as a linguistic degeneration. This view has created an illusion among some Western linguists and Orientits studying the Arabic language. This illusion rested on the belief that the early Arabs were simply speaking Classical Arabic, a fully standardized and codified language, with very definitive methods of eloquence and rhetoric, similar to the one that we see in the Quran, Pre-Islamic poetry and the few dispersed prosaic works. This theory is not assigned restrictively to modern researchers in the field of Arabic dialectology, but manifested to take its place early in the writings of many Arab historians starting from the 9th century A.H. (15th C.E.). Ibn Ḫaldūn (*Tāḥīḫ*), taken as an example, always addressed Arabic dialects[1] as corrupted languages *'Raṭāna'* and sort of gibberish linguistic systems, showing high levels of weakness compared with Classical Arabic. The assumption related to the confrontation of Arabic dialects with the Classical language show, to some extent, a sense of arbitrariness, and makes us fall again in the gap that treats the term 'dialect', with no exception, as amiss deviation from the accepted norm.

This theory, more than it lacks precision and adequate argumentation, is based much more on a prevalent fallacy among linguists and researchers who are chiefly bounding their works within the circlet of comparison between Classical Arabic and Arabic dialects, rather than examining the latter as fully-developed linguistic

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[1] The term *'Lahǧa'* as the Arabic equivalence of the term 'dialect' appears only in the modern times, and cannot be found in the writings of the Arab grammarians and historians. The differences between the ancient Arabic dialects were regarded as differences between Arabic languages *'Luġāt al-ʿArab'*.

systems. Furthermore, if the assumption that Classical Arabic is the only source of modern dialects is true, and the latter are mainly deviations resulting from the spread of Arabic into new places, one must try, again, to answer the question: how can we explain that we are able to find Arabic dialects different from Classical Arabic located as the heart center of the Arabian Peninsula? This place, at a certain time in history, was regarded as the place where the Classical language was formed and used.

1.6.1.2.   Arabic Koine

One of the well known theories which sought for the origin of modern Arabic dialects is Ferguson's 'Arabic koine'. In defining the koine, Ferguson (1959b:616) states the following:

> The koine, which was not identical with any of the earlier dialects and which differed in many significant respects from Classical Arabic but was used side by side with the Classical language during the centuries of the Muslim era.

In bringing forward the arguments on which this theory rests, Ferguson cites fourteen features, most of them being morphological, and seems to him that they are common and shared by all modern Arabic dialects. The koine mainly comes from a "non-classical source", and was formed by a "complex process of mutual borrowing and leveling among various dialects" (Ferguson, 1959b:619). It is worth noting that the overstatement that appears inside the article that "all Arabic dialects outside the Arabian Peninsula share these fourteen features", does not seem to fit for some Maghrebian dialects. We take, for instance, the phonological feature *'Taltala'*. This feature precisely can work as an argument against, and not with the theory of the koine. *Taltala,* whether called a defect or not by the grammarians, its definition is restricted to the vowel change from /a/ > /i/ in the imperfect form of verbs, especially the prefix 'ta-'. e.g., taktub > tiktib 'you write' (mas.sing), taʿlamūm > tiʿlamūn 'you know' (mas.pl.). According to the grammarians, this phenomenon was highly assigned to *Bahrāʾ*, one of the Western tribes in the Arabian Peninsula, and to other tribal dialects as Ibn Manḏūr *stated.* Thus, finding this feature in some,

and not all[1], Arabic dialects can be simply regarded as an inherited characteristic from an ancient Arabic dialect.

Ferguson's theory, again, lacks precision, at least from the time and space dimensions. He also seems to focus only on the similarities between Arabic dialects, neglecting the differences that will definitely work as an argument against the notion of a "common source". What is more, a question needs to be answered: how come that we are not able to find a single reference that proves that a koine was formed, whether a "military koine", as Versteegh (1984:20) calls it, or a koine that was used in parallel with Classical Arabic. The description of the Arabic language during the Islamic era, as it appears from the writings of the grammarians and the historians, demonstrates only two varieties: Classical Arabic, on the one hand, and ancient dialects, on the other.

1.6.1.3.   Versteegh's PCD

Versteegh (1984) discusses another theory about the origin of modern Arabic dialects. What is innovative in this theory is treating Arabic language in relation to the notions of 'pidgin' and 'creole'. Versteegh sees that the learning process of Arabic as a second language by the non-Arabs, after what he calls a "sudden break" of Arabic caused by Islam, plays a catalyst in the radical changes and differences that appear in the modern dialects (Versteegh, 1984:130). Versteegh regards modern Arabic dialects as the final product of three processes which serve as a model in his theory: Pidginization, Creolization and Decrolization (PCD). Mixed marriages between the Arabs and non-Arabs in the conquered territories led to a pidginized form of Arabic as a communicating medium and later it was creolized in the next generations (Versteegh, 1984:74). The main stream dialects in Syria, Iraq, Egypt and North Africa are treated the same as modern Arabic pidgins and creoles. Therefore, the PCD model rests on the assumption that the first contact between the Arabs and the inhabitants in the new territories was mainly a contact between a native language and a "make-shift variety of Arabic" (pidgin). The latter was

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[1] *Taltala* is highly noticed in Eastern Arabic dialects, whereas it is very rare in Maghrebi dialects, especially Algerian and Moroccan Arabic.

nativized (creole) and then, at the final stage, this creole was decreolized by influence and leveling toward the most standardized form of Arabic[1] (Versteegh, 2004: 344).

Many counter opinions have rejected this theory since its formation[2]. Holes (1986), for example in his review of Versteegh's book, argues that leveling toward the standard form cannot serve as decreolization since the process basically affected the literate strata, while the majority were illiterate (Holes, 1986:220). Versteegh is against the existence of various and remarkable differences between the ancient Arabic dialects (colloquials of the tribes), and regards the latter in the Pre-Islamic period as one language, which he termed as "Old Arabic", identical with the "Poetic Koine" and with Quranic Arabic, later after Islam. Here, again, he agrees with the first theory when calling modern dialects as 'corrupted language', whether just as an adjective to differentiate them from the Classical language, or 'corrupted' in the sense of what the word literally means.

1.6.1.4. A Unified Theory

None of the previous theories can be regarded as satisfactory and serves as safe basic ground for the origin of Modern Arabic dialects. Each theory seems to focus on a set of aspects and disregards some others. Creating a unified theory is by no means nascent and appears in the writings of many scholars; a theory that treats modern dialects as linguistic systems where several factors overlapped to create the similarities and the differences among them, on the one hand, and with Classical Arabic on the other. Starting from the view that Arabic diglossia existed earlier in the Pre-Islamic era, and continued after Islam, and moving forward to the view provided by Anīs (1947) in his study of ancient Arabic dialects, the theory rests on the assumption that the Arab conquerors have basically carried to the new territories two linguistic systems: (1) Classical Arabic as the language of the new religion being presented in Quranic Arabic and Pre-Islamic poetry and; (2) ancient Arabic dialects as the mother tongues of the Arabs. These two levels, however, are not the

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[1] Versteegh takes the example of Juba Arabic in Sudan.
[2] See Versteegh (2004).

only materials that have created the modern dialects. The latter should be regarded as very complex linguistic systems resulting from at least four factors, of which none can stand alone.

- **Classical Arabic**

First, we must answer the following question: Are we able to find linguistic elements in modern dialects that reflect an exact matching with elements in Classical Arabic? The answer is definitely 'yes'. We are not including in our agreement answer the elements that might be regarded, by some linguists, as a result from a process of leveling toward the classical language, or Classicism, in others' terms. We are speaking about elements that were introduced to non-Arabs, or carried, kept and used by the Arabs themselves in their classical form, or in other words, identical to the classical ones (this includes phonemic inventories, and more apparent at the lexical level).

- **Ancient Arabic Dialects**

It is true that the amount of literature about ancient Arabic dialects seems very limited compared with the one in Classical Arabic, and it would be superfluous to discuss the reasons behind this limited literature, nor would it be germane to the point at issue. What is important is that residues of ancient dialects are clearly seen in modern ones, and can be, very often, easily sketched back[1].The inherited features are not restricted only to the well-known phonological ones, as one might think, like '*Taltala*', '*kaškaša*', ' *ʿaǧ ʿaǧa*' and '*Šanšana*'[2], to mention just a few, but also seen at the levels of morphology and syntax. At the morphological level, one can take for example the different plural forms that the word *naǧm* 'star' can take: *ʾanǧum*, *nuǧūm, nuǧum, ʾanǧām*, all basically with the same meaning (Wolfenshon, 1929:166). Many examples fall into the same category which reflects that each tribe

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[1] See Anīs (1952/1999), Taymūr Bāša (1973), Rabin (1951/2002), and Al Ǧindī (1978) for various descriptions of the ancient dialects, and Owens (2006) for a reconstruction of the dialects.

[2] These phological features were explained by the early grammarians under the following definitions: (1) *Taltala*: the change *a > i* in the imperfect, assigned to the tribe of *Bahrāʾ*. e.g., tiʿmal < taʿmal 'you work' (mas.sing). (2) *kaškaša*: the change *k > č* in the 2ⁿᵈ singular bound pronoun. e.g., dārak > da:rač. (3) *ʿAǧ ʿaǧa*: the change of geminated *yy> ǧ*, assigned to the language spoken in *Quḍāʿa*. e.g., Tamīmiyy > Tamīmiǧ. (4) *Šanšana*: the change *k > š*, attested in Yemen. e.g., labbayk > labbayš.

was using a particular form, these forms, whether of plural, agent nouns or even adjectives appear as compilations in dictionaries and grammar books, sometimes with slight differences in meaning. The efforts made by the grammarians to give each form a specific meaning is undeniable, however, many template forms still appear with identical meanings. In this vein, one can mention Al-Farrāʾ in the 2nd century A.H. when he stated that some Arabic tribes use the template *fuʿāl / fuʿʿāl* compared with *faʿīl* in other dialects for adjectives formation as in: *kuṛām / kuṛṛām* vs. *karīm* 'generous' (mas.sing), *kubāṛ / kubbāṛ* vs. *kabīr* 'big' (sing.mas.) and *ṭuwāl / ṭuwwāl* vs. *ṭawīl* 'tall / long' (sing.mas.) (Al Farrāʾ, *Maʿānī II*:398).

- **The Indigenous languages**

Language contact of Arabic with the indigenous languages in the conquered territories has, definitely, played a role in creating some differences between the modern dialects. Traditionally, the influence was regarded as the catalyst in creating the differences, however, some linguist argue that the results of Arabic contact with other languages are limited and one should not overstate the role of the native languages[1].. Nevertheless, many studies show the effect of Coptic, Aramaic and Berber languages on Egyptian Arabic, Levantine Arabic and Maghrebian Arabic respectively. The influence is more apparent at the lexical level, but could be seen at level of phonology, morphology and syntax. The most notorious and heavily debated influence of Aramaic on Eastern Arabic phonology is the phonological merger of the Arabic plain interdentals with alveo-dental / dental plosives. The same merger was attested earlier in middle Aramaic, however, contradictiously it also attested in other Arabic dialects outside the circle of Aramaic-Arabic contact, which runs much more the assumption of "an independent parallel development" rather than a language contact (Weninger, 2011:748). The second common Aramaic influence on the morphological structure is what Brockelmann (1908:310) proposed and held by many scholars about the third person masculine plural pronouns *hinnen* and *hanne* 'they'[2]. In Arabic-Aramaic syntactic contact, we cite the prolixity of the

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[1] See for example Diem (1979).
[2] See also Weininger (2011:749) and del Río Sánchez (2013:134).

preposition 'la / le / li' which serves as dative with the direct object (Weninger, 2011) as in:

ʃəftu   la   ʔaχu:k

lit.   I saw him   to   your brother

I saw your brother

In Coptic-Arabic contact, Abdel-Hamid Youssef (2003:10) proposes that the peripheral prefix *ma-* in the imperative construction, as in *ma-tištaġal* 'get to work', probably comes from the Coptic construction ⲘⲀⲢⲈ meaning "let (us go)". In the development of Egyptian Arabic negation, Lucas & Lash (2010) argue that both Coptic and Arabic have undergone the process known as Jespersen's Cycle (JC), and bipartite negative construction in Egyptian Arabic was triggered by the process of learning Arabic as a second language by native Coptic speakers (Lucas & Lash, 2010:379).

Concerning the influence of Berber on Maghrebi Arabic, the discussion lies mostly on vocalism especially the reduction and loss of short vowels in open unstressed syllables. The phenomenon is highly treated by many linguists as influence from Berber phonological system. Chtatou (1997:112), for example, treats the loss of short vowel in Moroccan Arabic, compared with eastern Arabic dialects as adoption of Berber syllable structure which favors consonant clustering. In fact, the influence in this particular point is questionable since the elision of short vowels in open unstressed syllables is not a feature confined to Maghrebian Arabic dialects, though highly noticed in the latter. Rather similar cases are also attested in Anatolian Arabic an in byūt < buyūt 'houses' (Jastrow, 2005). Moreover, in Aramaic verbs and nouns sometimes appear with consonant clusters in initials, if we compare it with Classical Arabic:

ḥafara (Ar.)   vs.   ḥfar (Arm.)   to dig

rakiba (Ar.)   vs.   rkab (Arm.)   to   (Wohlfonshon, 1929:283-7)

ʾism (Ar.)   vs.   šmā (Arm.)   name

The latter fact suggests that the reduction and loss of short vowels in Maghrebi Arabic can be also treated as independent development similar to the shift of plain interdentals to stops. However, the situation is still open to debate by the suggestion that loss of short vowels was more triggered by Berber contact. Morphological influence of Berber on Arabic was tackled also by Chtatou (1997) in the construction of resultative nouns as in ṭbbāl > t + ṭbbāl +t > taṭbbalt 'drummer' (Chtatou, 1997:113). This construction appears very frequently in Arabic dialects with heavy Berber influence. Tilmatine (2011:1007) argues that the use of the numeral *'waḥed'* as indefinite article is a morphological structure adopted from Berber. The use of *'waḥed'* as indefinite article is also known in Maltese, which could be triggered by Italian Morphology (Fenech, 1978:70), and known in Mardin Arabic in Anatolia with gender distinction. e.g., *wēḥəd* (mas.) and *wəḥde* (fem.) (Jastrow, 2005). Despite the fact that the numeral '*waḥed*' in used in non-Maghrebi dialects as indefiniteness marker, the process can still be regarded as result from Berber contact since *'waḥed'* is usally attached to definite nouns. e.g., *wəḥd l-mra* 'a woman', the latter construction is very similar to the one found in Berber and probably has been favored in Arabic dialects (Marcais, 1977:163).

- **Independent Development**

By rule thumb, linguistic systems are in constant evolution and change. Degrees of change differ from one system to another hinge on linguistic factors and extra-linguistic ones as well. Therefore, Modern Arabic dialects can be analyzed in relation to this logical rule. What we can call a combination and a mixture of various elements from ancient dialects, some from Classical Arabic, on the one hand, and to a lesser extent, elements resulted from Arabic contact with the native languages in the conquered areas on the other, have created some differences seen now in the modern shape of these dialects. The latter have undergone and still undergoing several independent internal developments and changes including reduction or expansion of phonemic inventories, morphological structures, case distinctions and innovations resulted from grammaticization.

1.7.   Conclusion

The history of the Arabic language and its development may still be regarded as mysterious from a wider angle. There is no doubt that the phonetics and phonology of Arabic provided by the traditional grammarians, definitely, serves as basic ground to carry any research on Arabic speech sounds. Moreover, the Arabic terminologies should not be neglected during the description of the phonemic system which gives the ability to the reader to understand the slight differences between some Arabic terms that can be translated under one general heading in other languages. More interestingly, the development of the sound system of Arabic is full of probabilities, which enables us, and any researcher interested in Arabic and its history to dig even deeper trying to provide some new evidence.

This chapter gave an overview to some general concepts in the first part. The second dealt with Classical Arabic phonetics with the conclusion that the phonemic system of Modern Standard Arabic corresponds highly to the one of CA, with some exceptional phonemes like *ḍād, qāf, ṭāʾ* and probably *ǧīm* as well. From the fact that Classical Arabic cannot be regarded as the direct origin of modern Arabic dialects, the development of the sound systems of the latter needs a closer look by a different speculum, and from a different angle.

CHAPTER TWO

DATA INTERPRETATION AND ANALYSIS

2.1. Introduction

This chapter gives an overview of the fieldwork and the data collection methods. It also attempts to give possible explanations and interpretations for some phonological phenomena attested in the dialect. Comparison with other modern Arabic dialects and glimpses on some ancient ones are used for the sake of a better understanding of the development of HA. Discussion of the data is presented in three major headings: the first part deals with the consonantal system, and the description and interpretation of the various phonological features attested. This includes the different environments of the laxness of the glottal stop, the devoicing of ḍ, the fate of /q/ in *qaʕ, x*-forms in time expressions, labialization, Arabic *ǧīm*, and it further gives a brief discussion of the most salient unconditioned sound changes. The second part gives a demonstration of the vocalic system with its short and long phones. Much emphasis is given to the fronting process of the back vowels /u/ and /u:/ through an analysis of the results concluded from the wordlist devoted to this purpose. The third part discusses the most remarkable conditioned sound changes which are, in turn, divided in five subheadings: assimilation, dissimilation, elision, metathesis and epenthesis.

The data are presented, illustrated and explained whenever needed. The results are tackled from both synchronic and diachronic perspectives in order to give a better demonstration for the origins and the different stages in the evolution of HA. The three hypotheses underlying this work are implicitly tested by the analysis of the limited amount of the data collected.

2.2. Review of the Fieldwork

2.2.1. Geographical Place

The first citation of the name *Honaine* was in the year 831 as a small city[1] (Basset, 1901; Al-Wazzan, 1530/1983) giving the meaning of *Šurfa* (balcony) in Berber. It is situated in the Western coast of Oran, between Beni Saf and Ghazawet, around 40 kilometers from the Moroccan borders, and 75 kilometers North-west Tlemcen. Base on the redistricting of June 1991, Honaine became a sub-departement at the central coast of the mountain chain of *Trara*[2]. The original old city is located between two valleys: Ouad Honaine by the North and Ouad Regou by the West, surrounded by clinker walls that of which are still standing today. At present, the city has expanded on the right side of Ouad Regou and the left side of Ouad Honaine. The city mainly consists of two large tribes: Beni Abed and Beni Khallad, on the superficies of 137 km², inhabited by 12453 people[3].

2.2.2. Historical Glance

It is well-known that Africa, in general, was under the rule of the Roman Empire when the first Arabs came during the Islamic conquests to the Maghreb. Honaine, belonging to Tlemcen, and by right of its geographical place, belongs, at first, to North Africa and shares its history with the area. Speaking about the Arabs of *Banū Hilāl* that have settled in the area, they were two Arabic tribes living in the Egyptian plateaus: *Banū Hilāl* and *Banū Sulaym*. Three major Hilalian tribes are descendent from ʿ*Amr ben Ṣaʿṣaʿa*: *Al ʾAθbaǧ*, *Riyāḥ*, and *Zaġba*, added to three others: ʿ*Adiyy*, *Ǧašam* and *Rabīʿa* (Rūǧī Idrīs, 1962/1992:277). The settlement of these tribes resulted from two major vagues: *Banū Hilāl* as the first, followed by *Banū Sulaym* as the second in the beginning of the 12th century C.E. (Rūǧī Idrīs, 1962/1992:249).

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[1] The city, during the Roman time, was given the name of '*Gypsaria*' assigned to the name of the seaport '*Gypsaria Potrus*' between Ouad (valey) of *Malwia* and Ouad *Tafna*. The name was formed due to the presence of gypsum in the surrounding mountains of Honaine. The city was also called '*Artisiga*' between '*Ad Fratres*' and '*Siga*' which denote now '*Ghazaout*' and '*Beni Saf*' respertively. See Mac Carthy (1856)

[2] The mountain chain of Trara is stretched from the Western Algerian coast between Ouad Kiss on the Moroccan borders, and Ouad Tafna in the East and South (Bureau D'études Techniques, 1996:2).

[3] According to Répartition de la de Wilaya de Tlemcen par Commune et par Daira, Wilaya de Tlemcen, Service DPAT (2010).

Ibn Ḫaldūn (*Tārīḫ*:18) spoke about the origins and the characteristics of these tribes in the Arabian Peninsula. *Banū Hilāl* and *Banū Sulaym* are from *Muḍar*, and *Naǧd* near *Al Ḥiǧāz*, and from the mountain of *Gazwān* in *Aṭ Ṭāʾif*. What is worth nothing is that Banū Hilāl and Banū Sulaym were not the only Arabs who settled in North Africa, and, precisely, not the first. These nations had been preceded by many other Arabs characterized in the various Islamic armies in the early Islamic conquests, followed by groups of Arab immigrants creating small Arab communities, from where they outspread to new places all over the area. Speaking about the history of Africa and the Maghreb, Al-Qayrawānī (1994:20) states that the Arabs had settled in the area and considered it as their new home without any sign of losing their Arabism, holding to the origins of their Arabic tribes, and associating with the armies that were sent from the central government. The latter armies were known as *Aš Šāmiyūn*, not because they are all originally from *Aš Šām* (Sham/ Levant) but simply due to the ruling base that was situated in Sham during the Umayyad era. Ibn Ḫaldūn (*Tārīḫ*: 23) further added that many tribes mixed with the tribes of *Banū Hilāl*, too many to be mentioned. We cite, for example: *Fazāra* and *ʾAǧašaʿ* from *Ġaṭafān*, *Al Maʿqal* from Yemen, *ʿAmr ben Asad ben Rabīʿa ben Nizār*, and *Ṭarūd* from *Fahm ben Qays*.

Two names are common among the speakers of Tlemcen in general: *Al Qbāyel* and *Al ʿrūbiya*. The former simply refers to *Al Qabāʾil*, the Berber tribes, while the latter refers to the origin of the Arabs. The name was used earlier to call the Hilalian pastoral tribes inhabiting the area in the South-east of Ouad Tafna (Yazlī, 2009: 09). Honaine witnessed a remarkable importance during Al Muwahidi era, where *Kumiya*, the tribe that inhabited the city, played a role in the history of the Maghreb under the leadership of *Abd Al Muʾmin ben Alī*, when the internal economy grew and the Arabs related their commercial convoys to many different places (Aṭ-Ṭammār, 1984:76). The Spanish colonialism in the coast of the Islamic Maghreb started after the fall of Granada (*Ġarnāṭa*) in 1492. The city of Honaine was invaded, and the harbor was taken in summer 1531. After four years, and in summer 1534, the Spanish were obliged by the Turkish force to leave, and later Tlemcen and all its section were joined to the capital Algiers in 1554 (Būʿzīz, 1985 :20).

Concerning the Jewish element that settled in the area, it dates back to the time when millions of Muslims and Jews were evicted from Spain in 1609 (Quṭb, 1985 :67). The harbor of Honaine played the role of a seaport for the Ottoman sailboats, protecting the area and collecting taxes from the European cities in the opposite side of the Mediterranean (Al-Wazzan, 1530/1983:16). This situation lasted until the beginning of the French colonialism of Algeria in 1830. Then with the outbreak of the Algerian Revolution in 1954, the French forces had to send the neighboring tribes to the centre of the city. After independence in 1962, the city has expanded and continues to spread in the present day.

2.3. Data Collection

2.3.1. Selection of Informants

In order to guarantee that the speech samples we are collecting characterize the dialect of Honaine, preferences were given to those under the following conditions: (1) locally born and raised, (2) Parents are originally from the region and (3) Not much traveling.

2.3.2. Research Instruments

Although Maddieson (2001:215) points out that "phonetic fieldwork is easy to explain since speakers grasp quickly what it means to study the sounds of a language", we were not able to ask direct questions about the phonemic inventory, nor would it prove fruitfully how the speech sounds operate in the dialect.

The data of the dialect under investigation that appear in the body of this work are gathered through the following instruments.

- **Recordings**

The recordings were made from several visits to the fieldwork, starting from summer 2014 and ending in spring 2015. They took place in homes, with complete permission of the owners, and were mainly devoted to narratives and naturally-occurring conversations. Older informants showed a tendency of narration, and

simply to let the conversations flow and overcome the problem of discomfort, the choice of topics and questions were passed over most of the time. The starting questions were outside the field of phonetics, and varied from questions asking about the daily-life activities, ceremonies/celebrations. Older participants who witnessed the Algerian revolution have provided us with an acceptable amount of recorded data (the sum is about 6 hours, and the sessions are varying in duration). External data were gathered and written down as soon as possible from several spontaneous interactions with the natives.

- **Word-lists**

Bauer (2007:85) maintains that wordlists allow "(1) the linguists to focus on points of interest; (2) respectively rapid collection of data; (3) collection of data which occurs naturally only rarely".

Three wordlists were created and recorded by four informants and the following considerations were taken into consideration during the creation and the recording of the wordlists:

- Wordlists contained words of different categories; nouns, adjectives, verbs and proper-nouns.
- The words were carefully chosen, with the help of three informants, to insure that these words are frequently used in daily life.
- The words were written in Standard Arabic, and the diacritics of short vowels were also included.
- Wordlist were typed and printed in an acceptable font size before delivery to the informants.
- Informants were asked to read the wordlist silently at first, and ask the researcher to clarify any confusion. The informants understood that they were asked to pronounce the words as they are used in the dialect.
- The words in the lists were pronounced and recorded only one time by the informants, and later transcribed, without requests to repeat specific words. In this point, particularly, Chelliah & Rense (2011:255) affirm that "A request

for repetition may be interpreted by the speaker as a sign that s/he is doing something wrong and is being asked to correct that error in the second telling".

(a) Wordlist I: The Phonemes ḍād and ḏāʾ. We have combined the investigation of two phonemes in one wordlist. Fourteen (14) words for ḏāʾ, and 49 words for ḍād.

(b) Wordlist II: Imāla. The second wordlist was devoted to study the phenomenon of *Imāla* (fronting the back vowel) in the dialect. This investigation was based only on the transcription of the lists using human ear, therefore, preferences were given to study fronting the long back vowel /u:/ and later apply the results to the short one /u/. The phenomenon is easily heard due to the long duration of the vowel and highly noticed in medial positions.

The wordlist contained a sum of 188 words:

- 155 words contain the long back vowel both in Standard Arabic and in the dialect of Honaine. e.g., ħu:t > ħø:t 'fish', lu:bija:ʔ > lø:bja 'kidney bean'.
- 24 words with the diphthong /aw/ in Standard Arabic and the monophthong /u:/ in HA. e.g., θawm > tø:m 'garlic', mawt > mu:t 'death'.
- We also added 9 forms appearing with long vowels in HA and with short ones in the standard form. e.g., kħø:l < kuħl 'kohl', qənfu:d < qunfud 'hedgehog'.

Our aim from this list is to investigate if *Imāla* is phonetically conditioned. For the latter purpose, and to eliminate any influence from the preceding pronunciation, the words were given in a random order, and later after transcription, they were put in order according to the phonemic environment

2.4. Consonantal System

HA has twenty six consonantal phonemes in nine places of articulation. The most characteristic features are presented and discussed below.

	Bilabial	Labio-dental	Alveo-dental	Alveolar	Palatal	velar	uvular	pharyngeal	glottal
Plosive	b		t / d			k / g	q		ʔ
			ṭ / ḍ						
Fricative		f	s / z		ʃ / ʒ		x / ɣ	ħ / ʕ	h
			ṣ						
Lateral				l					
Nasal	m			n					
Trill				r					
Glide	w				j				

Chart 2.1. HA Consonantal System

Note. As in Classical Arabic, the emphatic /ḷ/ appears in the word *Aḷḷāh* and its derivates like *Aḷḷāhumma*. Its appearance in other instances is dependent on the presence of an emphatic sound in the preceding of following syllable e.g., ṭḷa:q 'divorce'. Similarly, the emphatic /ṛ/ is found in more or less predictable phonetic environments e.g., before the vowels /a/ and /u/ and their long counterparts. Few minimal pairs are attested with plain-emphatic contrast as in ʒa:ri 'liquid. adj.' vs. ʒa:ṛi 'my neighbor', and in da:ri 'aware/rusted' vs. da:ṛi 'my house'.

2.4.1. The Glottal Stop

The glottal stop or *hamza* took a remarkable place in the studies of the Arab grammarians and modern linguists likewise, with the general agreement that *hamza* is considered as uneasy to produce due to closure of the glottis that is required during the articulation. In HA, the glottal stop is rarely heard in few instances[1],and its disappearance varies from four basic forms: (1) completely dropped; (2) elision and vowel shortening; (3) elision and compulsory lengthening; (3) weakening to

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[1] Most instances of glottal stop are results of the leveling toward the classical form as in məsʔø:l < mas'ūl.

glides and; (4) alternation with the glottal /h/ and the pharyngeal /ʕ/. The forms are illustrated and discussed later[1].

(1) Complete deletion of the glottal stop. Initial glottal stop as an onset for close syllables is frequently deleted along with the following short vowel. This includes nouns, color names, adjectives (superlative form) and proper nouns. Vocalic metathesis or insertion of an epenthetic central vowel /ə/ is applied sometimes to break consonant clustering. Initial glottal stop in open syllables of tri-consonatal *hamzated* verbs (glottalized) is also elided.

e.g.,	ṣbaʕ	ʾuṣbuʿ	finger
	kla	ʾakala	he ate
	xṭaṛ	ʾaḫḍar	green
	ḥmaṛ	ʾaḥmar	red
	ṛabʕa	ʾaṛbaʿa	four
	fḍal	ʾafḍal	better
	ḥməd	ʾAḥmad	proper name
	ʕma	ʾaʕmā	blind

(2) Elision and vowel shortening. The glottal stop is always deleted in final positions after long vowels. The process is followed by a notable shortening in the duration of the final vowel.

e.g.,	sma	samāʾ	sky
	ma	māʾ	water
	ʒa	ǧāʾa	he came
	wḍo	wuḍūʾ	ablution

(3) Elision and compulsory lengthening. Compulsory lengthening of a vowel occurs when the following consonant is lost. The glottal stop as coda in close syllables is always deleted and the preceding short vowel is lengthened to replace the loss of the consonant.

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[1] The examples are always under the sequence of HA pronunciation, classical form and English gloss.

e.g., bi:r   biˀr   well

       mu:mən   muˀmin   believer

       ka:s   kaˀs   glass

(4) Weakening *hamza* to glides. When the glottal stop is not elided, it is then weakened to glides /w/ and /y/. One can form, again, some general rules of the appearance of the glides. Initial glottal stop in hamzated verbs is always substituted with /w/, and the latter appears also in the derived nouns.

e.g.,   wa:ləf   ˀalifa   accustom

          wəlf   ˀulf   custom

          wənnəs   ˀānasa   to cheer

          wəns   ˀuns   amiability

          wəddən   ˀaḏḏana   he called for prayer

          wədda:n   ˀāḏān   call for prayer

          wexxaṛ   ˀaxxaṛa   delay

          wəkkəd   ˀakkada   confirm

Hamza is substituted with /y/ in initials of some nouns, proper nouns, and the first person singular pronoun.

e.g.,   ja:ʒo:ṛ   ˀāǧūṛ   clinker

          ja:mi:na   ˀAmīna   proper name

          ja:mna   ˀĀmina   proper name

          ja:na   ˀanā   I/me

Medial glottal stop is often relized as /y/ in concrete nouns followed by the front short vowel /i/ as in (a), and in agent nouns derived from tri-consonantal hollow verbs as in (b).

(a)   ma:yda[1]   māˀida   bench

        riyya   riˀa   lung

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[1] The from mi:da is also used.

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mda:yən	madāʾin	cities
ʕba:ya	ʿabāʾa	cloak
(b) qa:yəd	qāʾid	leader
ma:yəl	māʾil	inclined

(5) Alternation with the gutturals /h/ and /ʕ/. The glottal stop alternates rarely and sporadically with the glottal fricative /h/ as in:

yəzhər	yazʾar	to roar
ha:li:k	ʾilayk	to you/watch out
həzma	ʾazma	crisis

There is a dialectal feature to pronounce the glottal stop as a voiced pharyngeal fricative /ʕ/. Instances of this feature are restricted in the meantime to the speech of the elders.

e.g.,	qurʕa:n	Qurʾān	the Quran
	məsʕøːl	masʾūl	responsible
	mufa:ʒaʕa	mufāǧaʾa	surprise
	ʕa:ta:ṛ	ʾāṯāṛ	monuments/ traces
	ʕataṛ	ʾaṯaṛ	trace
	ʕa :ləf	ʾalf	thousand

The loss of glottal stops in HA, in particular, and in many Maghrebi Arabic dialects, in general, can be either regarded as a very old feature or an internal development of the system. Chtatou (1997) fails to address the laxness of the glottal stop in Maghriebi dialects as a feature carried from Berber. The view which lies upon the proposition that most Berber varieties[1] lack this sound, and due to language contact the glottal stop in Arabic dialects of the Maghreb was lost. Chtatou's view can be refused for many reasons. First, the glottal stop is often

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[1] With exception of Zenaga Berber variety. See Kossmann (2001) and Kossmann (2012).

weakened and dropped completely in many Arabic dialects outside the Maghreb; therefore, the phenomena cannot be assigned restrictively to Arabic dialects which came into contact with Berber. Second, the compulsory lengthening of the vowel which replaces the loss of *hamza* is by no means nascent. Older varieties of Arabic experienced the same process, and this can be seen clearly in what the earlier grammarians labeled as *'al-ʾIbdāl al-ǧāʾiz'* (the permissible substitution). The grammarians' view in treating this point was different, but what can be understood from Sībawayh's explanation of the reduction or facility of the glottal stop in forms like *ṛās* 'head', *mūmin* 'believer' and *ḏīb* 'wolf' is that *hamza* was not deleted and replaced by lengthening of the preceding vowel, but rather simply replaced by the vowel /a:/ *'ʾalif'* or the glides /w/ and /j/ in their semi-vocalism nature. Therefore, the unvowelled glottal stop is substituted with the same sound *'ḥarf'* which shares the features of the previous vowel[1].

The grammarians' treatment of this process was considered, by some linguists, as a weakness in the field of phonology; however, addressing what we now consider a 'loss and compulsory lengthening' as 'substitution' lies upon the fact that the glottal stop in Arabic is peculiar for having the long vowels /ā, ī, ū/ as reflexes, if we compare it with other consonants. Elision and weakening the glottal stop was one of the basic features that characterized most Hidjazi dialects in the Arabian Peninsula in the first centuries of Islam, and probably in the pre-Islamic varieties as well.

Third, weakening the glottal stop to the glides /w/ and /y/ is, likewise, an old feature attested in many older varieties of Arabic. Changing ʔ > w/y in initial and medial positions was classified by the grammarians as 'lexical substitution' *(al-ʾIbdāl al-luġawi)* as apposed 'morphological substitution' *(al-ʾibdāl aṣ-Ṣarfī)*. The process was again treated as a dialectal feature of Hidjazi dialects and other Arabic varieties. Quite similar examples are found in the writings of Ibn Ǧinnī as: *warraḫa < ʾarraḫa* 'to date' and *wakkada < ʾakkada* 'to confirm'.

Fourth, alternations of *hamza* with the glottal fricative /h/ and the pharyngeal /ʕ/ were also attested earlier. Instances of the former were assigned to the tribe of *Ṭayʾ*

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1 فإنما تُبدل مكان كل همزة ساكنة الحرف الذي منه الحركة التي قبلها لأنه ليس شيٌّ أقربَ منه ولا أولى به منها

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according to Ibn Ǧinnī, and also other tribal dialects. Forms like: *hiyyāka < ʾiyyaka* 'Thine', *hin faʿala faʿaltu < ʾin faʿala faʿaltu* 'if he does I do' and *lihannaka qāʾim < liʾannaka qāʾim* 'because you are standing' (Ibn Ǧinnī, *Al-ḫaṣāʾiṣ*: 551-2).

Such instances, however, cannot fully prove that ʔ > h in HA is basically passed from an older variety, but rather denotes that alternations between the glottal sounds in Arabic were known earlier, and can be regarded in both ancient and modern dialects as an internal development to weaken the glottal stop.

The sound change ʔ > ʕ, on the other hand, was highly attested in the history of Arabic dialects. The process ʔ > ʕ was termed by the grammarians as *'ʿAnʿana'* and confined to the dialects of Arabic tribes like *Tamīm*, *ʾAsad* and *Qays*. There is no general agreement on the meaning of the term *'ʾanʾana'*; the phenomenon was restricted in some writings to the glottal stop followed by the open short vowel /a/ in one word 'أَن' *ʾan > ʕan* 'that(conj.)' or in its affirmation form 'أَنَّ' *ʾanna > ʕanna* (Abd at-Tawwāb, 1987: 135). Another view was given by As-Suyūṭī (*Al-Muzhir*, 10th century A.H.) who constrained the change ʔ > ʕ to word initials like *ʾuḏun > ʕuḏun* 'ear'. However, neither the former condition nor the latter were the final verdict. Al-ʾAṣmaʿī (2nd century A.H.) freed this alternation from any condition and confirmed that it can be found in initial, medial and final positions. The dialects which were known for this sound change were also known for preserving the glottal stop *'Taḥqīq al-hamza'*, a characteristic of Tamīmi dialects in general, as opposed to Hidjazi ones. Anīs (1947/1999:110-1) proposes that the change ʔ > ʕ can be considered as a result of a try to produce the glottal stop with voicing, and a tendency to make this sounds clearly audible gave the possibility to alternate with another voiced guttural sound /ʕ/. Šāhīn (1966:31-3) explains this alternation in terms of word stress where Tamīmi dialects were known by stressing the first syllable, and overstressing a monosyllabic word like *ʾan* probably led to the change > ʕ. Both explanations are far from being applicable to the instances attested in HA. ʕ-forms are more or less restricted to the environment of long vowels (məsʕøːl; ʕaːtaːṛ). This, however, cannot form a rule that the appearance of /ʕ/ is bound to long vowels, and the few forms that are attested now cannot eliminate the

possibility that other forms existed earlier which are no more used in the present day. Some Algerian dialects still hold forms like l-ʕaʒəl < al-ʾaǧal 'term', l-ʕumma < al-ʾumma 'the nation', l-ʕima:m < al-ʾimām 'imam' (Djelfa) and ʕasləm < ʾaslama (Djebel Ammour, Laghouat).

The assumption that ʕ-forms represent an older feature from Tamīmi dialects is accepted for two reasons: first, /ʕ/ is found mainly in the speech of the elders which raises the possibility of an inherited feature from the previous generations, and not a nascent one and; second, as we know, there are no clear-cut limits in modern Arabic dialects which could give us a final answer on whether a dialect is a direct descendent of a Tamīmi or Hidjazi. Therefore, the presence of ʕ-forms, which are said to be a Tamīmi feature in dialects characterized by absence of the glottal stop can be explained by the mixture of Arabic tribes which settled in North Africa.

2.4.2. Devoicing /ḍ/

One of the phenomena that attract the attention in the dialect of Honaine is the further step that *ḍ and ḏ̣ have taken to be pronounced as the voiceless emphatic plosive /ṭ/. The sound change ḏ̣ > ṭ probably was taken after the phonological merger of the emphatic interdental /ḏ̣/ with the plosive /ḍ/.*

e.g., (a) ḍ > ṭ	ṭṛəb	ḍaṛaba	*hit*
	məṛṭ	maṛaḍ	*disease*
	mu:ṭaʕ	mawḍiʿ	*place*
e.g. (b) ḏ̣ >ṭ	ʕṭəm	ʿaḏ̣m	*bone*
	ṭla:m	ḏ̣alām	*darkness*
	ṭfaṛ	ḏ̣ufṛ	*nail*

Looking deeper in Arabic literature for the origin of this change, a citation goes back in the 8th century A.H. (14th C.E.) written by Ibn al-Ǧazrī (At-tamhīd: 187)[1] in which he claimed that a famous pronunciation was spreading where ḍād was

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فما اشتُهر في زمانا هذا من قراءة الضاد المعجمة مثل الطاء المهملة فهو عجب لا يُعرف له سبب 1

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pronounced like *ṭāʾ* and it was something awkward for which no reason was clear. From the first discernment, this seems like we are in front of the same phenomena attested in HA. However, Ibn al-Ǧazrī further added interesting information which cannot be dismissed: "that *ḍād* was considered as the most difficult sound to articulate, when some speakers merged the sound with *ḏāʾ, and others produced it like ṭāʾ.* These pronunciations were very common among Egyptians and Maghrebians" (ibid)[1]. The description of Arabic speech sounds, in general, and *ḍād*, in particular, by Ibn al-Ǧazrī (*An-našr*:198-205) in the 14th century may raise a problem, especially when he described the sounds on the basis of what was provided earlier by grammarians like Al-Ḫalīl and Sībawayh. This, however, does not mean that Ibn al-Ǧazrī was not able to give an adequate description of Arabic sounds in his time, or simply copying what others said, but rather denotes that the sounds were still pronounced the same, and *ḍād*, in particular, was still articulated as a voiced lateral fricative in the 14th century C.E. Therefore, the sound was probably introduced and carried by the Arabs to North Africa in its older shape (at least in some older varieties where *ḍād* and *ḏāʾ were contrastive).*

*Turning back to the citation of Ibn al-*Ǧazrī, an analysis from what is described as a difficult sound (*ḍād*) does not really fit with the modern pronunciation of this sound, where modern *ḍād* is simply the velarized/paharyngealized counterpart of /d/. Moreover, *ḍād* in its modern pronunciation would have never been regarded as a difficult sound, at least by the Berbers, where /ḍ/ already made part of their phonemic inventory[2]. The assumption is then that *ḍād* was first introduced in the 7th century A.H. in its older pronunciation; however, what may create confusion is that *ḍād* (voiced lateral fricative), and due to its difficult articulation, was simply pronounced by some Arabs as *ṭāʾ* (voiceless alveo-dental stop). The later confusion soon gets clearer by assuming that the sound *ṭāʾ* had also a different pronunciation, similar to modern *ḍād*. Anīs' (1947/1999) opinion that the sound change of older *ḍād* happened in the 14th century C.E. can be accepted. However, one must take into

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1 واعلم أنَّ هذا الحرف ليس من الحروف حرفٌ يَعسُر على اللسان غيره والناس يتفاضلون في النطق به فمنهم من يجعله ظاءً مطلقة [...]
ومنهم من لا يوصلها إلى مخرجها دونَهُ ممزوجة بالطاء المهملة لا يقدرون على غير ذلك وهم أكثر المصريين وأهل المغرب
2 See Kossmann (1999) for the reconstruction of Proto-Berber.

consideration two points: first, this change from a lateral fricative to a plosive started to spread in the 14th century and probably was only completed after some centuries later; second, we are speaking here about a change that affected what was considered as received pronunciation, and this cannot eliminate the possibility that *ḍād* and *ḏāʾ* merged at an earlier time in some spoken Arabic varieties before the 14th century.

The possibility that the change ḍ > ṭ in HA is an old feature is then refused. In fact, we would like to support the recent view that we are in front of a perfect instance of influence of Berber on Arabic, since this change, as far as we know, is attested only in some North-African Arabic dialects. In many Berber varieties like Tarifit and Kabyle, ḍ and ṭ are in allophonic variation (Nait-Zerrad, 2011:14; Kossmann, 2013:187-9; Tilmatine, 2011:1003) whether in native words in Berber or loan words from Arabic. Kossmann (2013:189) cites that both the emphatic plosive /ḍ/ and the emphatic fricative /ḏ/ are often taken as the voiceless emphatic /ṭ/, as in:

Tarifit:	*ṭṭram*	*aḏ- ḏlām*	*darkness*
Kabyle:	*ṭṭmana*	*aḍ-ḍamān*	*guarantee*

The phenomena ḍ > ṭ is attested in North-African dialects where, by geographical place, are more adjacent to the Berber varieties which have /ṭ/ instead of /ḍ/; therefore, this confirms much more the assumption of Berber influence. These Arabic dialects basically include two groups from where we can cite first those that were and still are in neighboring contact with Berber varieties (dialects spoken in all regions of Jijel and the Arabic used in Ouled Attia in Collo, Skikda, both in contact with Kabyle), and Northwest Morrocan Arabic near Ghomara (Kossman, 2013:187). Second, Arabic dialects which had a contact with, and influence from, Berber at an earlier time, and in the meantime the Berber forms are more or less restricted to morphological constructions and lexical items (dialects spoken in Trara region in West Algeria where Riffian Berber or Tarifit was spoken at an earlier time).

In Honaine, the change ḏ > ṭ is remarkably noticed, and from the analysis of word-list I[1], /ṭ/ has been taken in more than 67% of the words that are frequently used by HA speakers, and originally with /ḍ/ in Arabic. The change ḏ > ṭ, in comparison with ḍ > ṭ, is less attested as the data shows only six words that have taken the change to /ṭ/:

ṭfaṛ	ḏufṛ	naile
ṭla:m	ḏaḻām	darkness
ṭhaṛ	ḏahṛ	back
ṭḻi:la	ḏill	shadow
ʕṭəm	ʿaḏm	bone
ħənṭal	ħanḏ*al*	colocynth

Other forms originally with the interdental ḏ, either commonly used or newly introduced to illiterate speakers, undergo the process of merger with the emphatic plosive /ḍ/. e.g.,   ḍṛijjəf   ḏarīf   cute

  jəħfaḍ   *yaħfaḏ*   *keep*

  ḍho:ṛ[2]   ḏuhṛ   noon

Sometimes the change ḍ > ṭ is taken only in nouns without affecting verbs or adjectives.

e.g.,	*ṭṭo*	*aḍ-ḍawʾ*	*light*
	ḍawwa	*ʾaḍāʾa*	*he enlightened*
	ṭṭe:q	*aḍ-ḍīq*	*narrowness*
	məḍḍa:jaq	*mutaḍāyiq*	*annoyed*

Devoicing /ḍ/ is rarely used to make semantic distinction where the two pronunciations are kept. This appears only in one word:

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[1] See Appendix One, Word-list I, pp. 90-91.

[2] One can assume that the word ḏuhṛ did not undergo the change to /ṭ/ > ṭho:ṛ, if we compare it with ṭhaṛ < ḏahṛ 'back', is probably for two reasons: first, the word was possibly taken as sacred denoting the time and name of the second prayer in Islam and; second, to leave a contrast with the word ṭho:ṛ 'circumcision' < ṭahāṛa 'purgation'.

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	larṭ	ground
ʾarḍ		
	ʕarḍ	land for agriculture or building
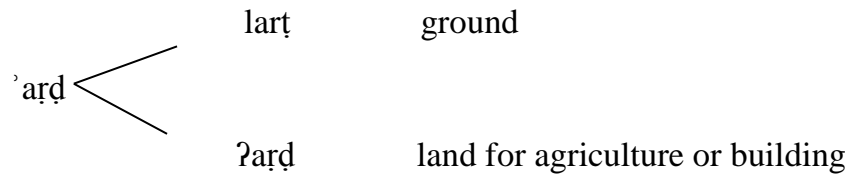
2.4.3. gaʕ > ʔaʕ or simply qaʕ

At variance with the neighboring dialects spoken in the surrounding areas of Honaine, speakers of HA are known for the pronunciation of the colloquial word *gaʕ* as qaʕ/qaʕtijja 'all, totally'. The pronunciation *qaʕ* is not attested in any other Arabic dialect so far, but can be found with the same meaning in many Berber varieties like Tarifit, Iznasen and Figuig (Kossmann, 2013:193). Kossmann further claims that the word *gaʕ* comes from second-stratum dialects in North Africa[1], and the presence of /q/ in *gaʕ* instead of /g/ in some Berber varieties can be explained by an "association of q-pronunciation with Quranic Arabic" (ibid). This association led to expansion and generalization replacing /g/ with /q/ in new Arabic loanwords in Berber, and the word *gaʕ* was probably among the list. Returning to *qaʕ* in Honaine, and in trying to explain this pronunciation, two possibilities are raised:

1. The dialect of Honaine, as an Arabic dialect, came into contact with, and got influenced by the Berber varieties which, in turn, experienced the expansion of the standard pronunciation with /q/ (similar to the contact and adoption of /ṭ/ instead of /ḍ/).

2. The dialect spoken in Honaine, separate from any Berber influence, somehow, experienced the same process of leveling toward the standard q-pronunciation and then *gaʕ > qaʕ*.

Both possibilities lie, in the first place, on the proposal that the word *gaʕ* was first introduced with the voiced velar stop /g/. The discussion begs answering two further queries:

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[1] Kossmann's conclusion that *gaʕ* is a second-stratum feature was drawn from two observations: first, that almost all clear second-stratum dialects have the word with /g/, and second, that at least some of the first-stratum dialects that have the word pronounce it as *gaʕ*. (M.G. Kossmann, personal communication, July 11, 2015).

a.   How sure are we to claim that we are in front of a common process of leveling toward standard /q/, underwent by different dialects of Berber in a large area; Tarifit in northern Morocco, Figuig (ifiyeg)[1] in eastern Morocco and south-west Algeria, Beni Snassen (Iznasen) among the Riffian dialects[2] in north Morroco and Central-Moroccan, in addition to the Arabic dialect spoken in Honaine north-west Algeria.

It is true that the dominant pronunciation of Arabic *qāf* in HA is the voiceless uvular stop /q/, and then, the hypothesis that *gaʕ* underwent leveling toward standard /q/, or more precisely toward the more frequent pronunciation, is possible. However, it is worth noting that many forms in HA take the reflex /g/ instead of /q/, therefore, the existence of such instances which belong to second-stratum dialects, denotes that they, somehow, did not undergo the leveling toward the frequent [q] pronunciation, if the process has ever been carried in the dialect.

e.g.,	gaṣʕa	qaṣ ʿa	trencher
	gla:da	qilāda	choker
	guṛṣa	quṛs	disc
	ngʃaʕ	ʾinqašaʿ	uncloud
	gwa:jəm	qawāʾim	limbs

Thus, one can form another question: why did the word *gaʕ*, as second-stratum feature, undergo q-association process, while other words did not? This question can be formed in the reverse way: under what conditions were g-words not treated the same like *gaʕ* and associated with the standard?

b.   The second query in our discussion is that: how can we make sure that the first introduction of the colloquial word *gaʕ* was only with /g/ and not with parallel variant like /q/ or even /k/? In dialects where Arabic *qāf* has taken the reflex of [k] like in Jijel, Ghazaouet and Tient, the word *gaʕ* is treated as if it was originally with

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[1] See Kossmann (1997).
[2] See Kossmann (2000).

/q/ and pronounced *kaʕ*, while loanwords from French and Spanish originally with the sound /g/ have taken the reflex /ʤ/, as in:[1]

ʤaṭo	gâteau (Fr.)	cake
ʤa:z	gaz (Fr.)	gas
ʤaṛṛo	(ci)garro (Sp.)	cigarette
ʤamila	gamella (Sp.)	eating utensil used in kitchen

The latter may not be regarded as solid evidence due to the different historical periods which differentiate second-stratum words from French and Spanish loanwords. Thus, one may assume that the q-association both in some Berber varieties and q/k Arabic dialects happened before the introduction of Spanish and French words which probably were treated in a different manner[2].

However, the possibility that *qaʕ*[3] is an old first-stratum feature which was preserved in some pre-Hilalian Arabic dialect (like HA), and introduced to some Berber languages with /q/, cannot be fully relegated.

2.4.4. q > *x* in Time Expressions

Beside the voiceless uvular stop [q] and the voiced velar stop [g] as reflexes of Arabic *qāf* in HA, we find also the irregular reflex [*x*] in expressions denoting time derived from the Arabic word *waqt* 'time.

dərwa*x*	(ha) ḏā l-waqt	now
fa:wa*x*	fī ʾayyi waqt	when
dø:*x*	ḏāka l-waqt	later
dø:*x*ətta	ḏāka l-waqt ḥattā	until / later
fa:wa*x*-mma	fī ʾayyi waqt mā	anytime / whenever

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[1] These pronunciations are heard in Ghazaouet and Tient.

[2] I would like to thank Dr. Kossmann for this remark.

[3] The most acceptable etymological origine of the word *gaʕ* is the classical form 'qā ʿ' (bottom). If we assume that the word has undergone a semantic shift (bottom > all/entirely), thought we still find *qaʕ/ʔaʕ* with first meaning in HA and other dialects, we have also to assume that the shift happened before the contact with the Berber varieties which have taken the word with /q/ instead of /g/.

HA is not unique with this irregular change, a similar case has been attested in North-African Arabic dialects like Tangier.

f-wā*x*t-əl*ɣ*da	at lunch time	(Marçais, 1911:419)
fūya*x*	when	
fūya*x*-ma	whenever	(Colin, 1921:43)

The change is also found in many Berber varieties in the Arabic loanword *waqt* and its derivations as Kossmann (2013:192) cites:

Tarifit:	ru*x* / re*xx*	moment
Figuig:	al-a*x*t	until
Mzab:	lle*x*t / lwe*x*t	time / moment
Nefusa:	lwe*x*t	time / moment

Outside North-African dialects, the change q > *x* is found in the dialect of Mardin in Anatolia (Jastrow, 1978; Grigore, 2007:54; Kaye & Rosenhouse, 1997:268). In Mardin the reflex /*x*/ is attested in other forms beside those denoting time.

wa*x*t	waqt	time	
wrā*x*	waraq	paper	(Grigore, 2007:55)
ba*x*dūnəs	baqdūnis	persil	

In the view of all what has been attested so far, this demonstrate a common sound change q > *x* in several Arabic dialects and Berber varieties. The discussion can be tackled from two different angles creating two different scenarios:

(1) Independent Language Evolution[1]

If we take the Arabic dialects in which the sound change is attested as a basis: Tangier in Northeast Morocco, Honaine in Northwest Algeria and Mardin in Anatolia. From the geographical distribution of these dialects, and the by absence of any textual evidence that could relate them historically or prove direct contact, one may suggest that we are in front of a change that has taken place independently in

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[1] I would like to thank Pr. Jastrow for proposing and explaining that the change q > *x* can be regarded as internal language development.

the dialects in question, but interestingly enough, in one word *waqt*. A possible explanation is that the word *waqt*, in general, and its derivations, in particular, are high frequency words which are more prone to truncations, contractions and sound changes. Therefore, the change q > *x* which can be regarded phonetically a bit easier or more relaxed pronunciation, resulting from the spirantization of the uvular stop /q/, has gradually established itself under the condition of high frequency usage. In fact, forms with /*x*/ in both HA and Mardin can be also explained in a different way. If we hypothesize that the appearance of /*x*/ in derivations of *waqt* in HA is a result of spirantation of final stops, final /k/ in HA can be also spirantized e.g., wa:ʃ biç < (wa) ʾayyu šayʾin bik 'what is wrong with you?'. The latter instance, however, cannot prove the regularity of spirantization of final obstruents in HA, and could be also treated as Berber influence. In Mardin, Grigore (2007:55) has another view concerning this sound change when he regards it as a result from contact with some Turkish varieties where the voiceless uvular stop /q/ alternates with the fricative /*x*/ in final codas.

e.g., yoq / yo*x*   < yok   no   ⎫ (Grigore, 2007:55)
       pamuq / pamu*x* < pamuk   coton ⎭

Though an adequate interpretation for x-forms in Tangier Arabic is still missing, the latter explanations for HA and Mardin can be accepted if we assume that different independent factors have resulted in a very similar change, and interestingly the three dialects share this in a particular word *waqt*[1].

(2) *x*-Forms as an Old Arabic Feature

The geographical distribution of Berber languages with *x*-forms in the word *waqt* or its derivations includes Tarifit in northwest Morocco, Figuig in the Algerian-Moroccan border, Gourara and Mzab in southeast Algeria and Nefusa if Libya. In order to use the Berber evidence, one has to be aware that the uvular sounds /q/ and /*x*/ as distinctive phonemes in Berber are borrowed from Arabic (Kossmann, 1999; 2013). If we add Arabic dialects with /*x*/ to the previous geographical distribution

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[1] The word *waqt* in HA is pronounced with /q/, but its derivations appear with /*x*/.

(Tangier in northwest Morocco and Honaine in northwest Algeria). The whole distribution strongly precludes an earlier contact or influence between these varieties, but rather suggests an older feature which was preserved in some first-stratum Arabic dialects, and in Berber languages which have borrowed the word *waqt* with /x/. As Kossmann (2013:193) points out, the presence of *x*-forms in the Berber varieties in question can go along with the presence of the voiceless uvular stop [q] as reflex of Arabic *qāf*, and this further confirms the contact with pre-Hilalian Arabic.

We would like rather to follow the second scenario and infer that the irregular reflex /x/ in derivations of *waqt* in HA is an old preserved Arabic feature. Other instances of q > x in HA appear also in the expression *xawwaṛ ʕi:na:h < qawwara ʾaynayh* 'his eyes turned as he faints'. The rareness of this change in Arabic literature cannot be used as counter-argument, but rather as a result of the disinterest in the ancient dialects. A few examples that came to our knowledge illustrated an alternation between /q/ and /x/ in some Arabic dialects attested in the 4th century A.H by Abū aṭ-Ṭayyib al-Luġawī as in the root √qmm[1]. e.g., *ḫamma l-bayta / qamma l-bayta* 'he swept the house', *ḫumāma / qumāma* 'sweeping', and *miḫamma / miqamma* 'broom / sweeper' (Abū aṭ- Ṭayyib al-Luġawī, *Kitāb*: 341).

2.4.5. Labialization

Labialization can be defined as the secondary articulation characterized by lip rounding. In Standard Arabic, labialization has no phonemic status and appears only as a feature gained from contact with the following rounded vowel /u/. In the dialect of Honaine, the process is attested in word initial positions, more apparent with the velars and uvulars, and appears also in the environment of geminate labials. Labialization can form much a rule in the formation of diminutive form with velars, uvulars and labials as initials.

e.g., (a) *Velars*   kʷta:b   kitāb   book

                      kʷra:sa kʷba:ṛ   karāsī kibār   big chairs

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[1] See also Ibn Manẓūr *(Lisān)* √qmm and √ḫmm.

(b) Uvulars	ɣʷṛaṣ	ġarasa	plant! (imp.sing.) / he planted
	ɣʷba :ṛ	ġubāṛ	dust
	xʷrəʒ	ḫarağa	go out! (imp.sing.) / he went out
	xʷsəl	ġasala	wash! (imp. sing) / he washed

(c) Geminate labials	b̩b̩ʷa	ʾabī	my father
	mmʷaʕən	muʾan	utensils
	bbʷaqəl (pl.)	būqāl	containers
	bbʷada (pl.)	bidon (Fr.)	cans
	bbʷaṭa (pl.)	bateau (Fr.)	boats

(d)Diminutive form

bbʷiqəl	< bu :qa :l	small container
mmʷiha	< ma < māʾ	some water
ffʷila	< fu:la	one small broad bean
xʷzi:na	< xazna	small closet
ɣʷbi :ṛa	< ɣobṛa	small amount of dust
kʷri:si	< kursi	small chair
gʷribi	< gurbi < gourbi (Fr.)	small cottage

Labialization on Moroccan Arabic has been tackled earlier by Harrell (1962:9) who cited similar examples that are also found in HA. e.g., mmʷalīn 'owners'. The phenomenon was also studied by Chtatou (1997) to conclude that labialization results from Berber influence where some Berber varieties, like Tarifit for example, experience labialization in the environment of geminate velar plosives /kk/ and /gg/ (Chtatou, 1997:109). Labialization of velars and uvulars in Berber can be explained by "the historical consequence of the transfer of vocalic rounding to an adjacent consonantal element" (Kossmann, 2013:171). A similar explanation can be provided for some labialized forms in HA. The loss of the rounded vowel /u/ has been replaced by lip-rounding, or reduced to lip-rounding, a process which has

resulted in the change to [w] in one of HA forms: ġuṣn > ɣʷṣən > wṣən 'tree-branch'.

Labialization is also found in HA after the sibilants /ṣ/ and /s/ before the uvular /ɣ/ and the velar /k/ respectively, and after the pharyngeal /ʕ/ before palatal /ʒ/.

e.g.,	*ṣʷɣa:ṛ*	ṣiġāṛ	small (pl.)
	sʷka:t[1]	sukūt	silence
	ʕʷʒən	ʿaǧana	keand
	ʕʷʒəbni	ʾaʿǧabanī	I liked it

2.4.6. Arabic Ǧīm

Today's modern pronunciation of standard Arabic *ǧīm* is said to be the voiced alveo-palatal affricate [ʤ]. We are far from being able to provide accurate evidence on what was considered the standard pronunciation of *ǧīm* by the Arab grammarians, and we are always left in front of two possibilities of whether *ǧ* was the voiced alveo-palatal affricate [ʤ], or simply the voiced palatal stop [ɟ]. *Ǧīm* in HA takes the reflex of the voiced palato-alveolar fricative /ʒ/. *It is simply explained as the de-affrication of [ʤ].* The discussion lies not on how [ʤ] came to be taken as [ʒ] in HA, and other Arabic dialects, but rather on when [ʒ] has taken its place as reflex of *ǧīm* in the Arabic language history.

The classification of *ǧ* as a *qamariyya* (moon letter) was used as hint by some linguists[2] to claim that the affrication of the sound probably happened after the codification of Arabic basic rules. If we go further with this assumption, we can create the scenario which suggests that the de-affrication of /ʤ/ into /ʒ/ happened basically after the affrication, and the latter, in turn, happened after the 8th century C.E. This scenario can be accepted from the view of natural development of sounds, but rejected from the fact that we are dealing with Arabic dialects with /ʒ/ as if they are direct descendents of Classical Arabic, while this has been already refused. In

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[1] The form 'sʷka:t' was attested earlier in Morocco and Tripoli by Brockelmann (1908: 208), but interestingly, it was treated differently as labialization appears after /k/ and not before 'skʷāt'.
[2] See Woidich & Zack (2009:44)

the following discussion, we would like to go along similar lines with Owens (2013) and prove that [ʒ] as a reflex of Arabic *ǧīm* was known and recognized in the 8th century C.E. in some Arabic varieties at that time.

Aš-Šīn l-latī kal ǧīm. As it is well known, Sībawayh cited six phonological variants *'Mustaḥsana'* of the core phonemes which are accepted in recitation of the Quran and poetry, and very common among the Arabs. Sībawayh's model in creating the sanctioned and non-sanctioned was reconstructed by Owens (2013) and this model will be used here to interpret the approved variant *aš-šīn l-latī kal ǧīm* (*šīn* resembling *ǧīm*). Owens (2013:183) concludes that Sībawayh used a precise model in which he took the voicing parameter of the second sound Y (in our case *ǧīm*) and the place and manner parameter from the first sound X (in our case *šīn*). The demonstration of the variant, the two sounds and their features would be as follows:

<p align="center">*aš-šīn l-latī kal ǧīm*</p>

X	Y
šīn ش	*ǧīm* ج
voiceless	voiced
palatal	palatal
fricative	stop / affricate
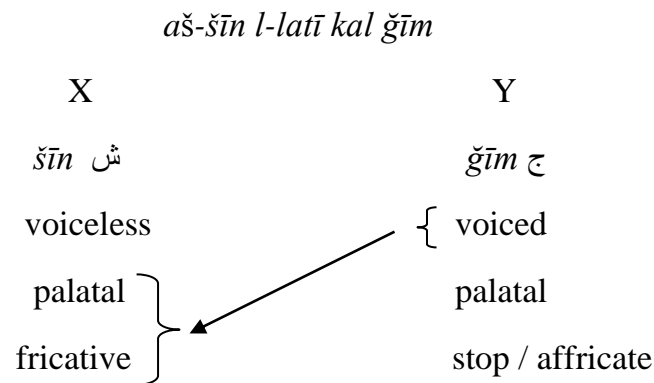
The interpretation of the variant would be a sound with the following features: voiced, palatal and fricative which create the sound *[ʒ]*.

Owens (2013:189) affirms that whatever the basic phonetic value of ǧīm was, whether a stop or an affricate, the interpretation of the sanctioned variant 'aš-šīn l-latī kal ǧīm' would always give us the sound /ʒ/ which was considered as accepted for reciting the Quran and very frequent in the 8th century C.E. This interpretation can be confirmed by the description of the same variant in the 10th century A.H. by Aṣ-Ṣuyūṭī (*Hamʿ VI*: 294) who classified *šīn l-latī kal ǧīm* as a variant of *ǧīm* and not a variant of *šīn* as one may assume. Therefore, we can conclude that */ʒ/ in HA for Arabic ǧ* is probably old as it goes back to Sībawayh's time, and its appearance

in other Arabic dialects demonstrates perfectly that the de-affrication of *ǧ* can be regarded as old in which some varieties underwent the process earlier.

Ǧīm in HA takes also the voiced velar stop [g] as a reflex in forms which are more or less restricted to the presence of sibilants as in (a). Few forms are found with /g/ without sibilant consonants as in (b):

(a)	gəns	ǧins	race
	ga:ʃø:ʃ	ǧāšūš	piece of meat
	gəzza:ṛ	ǧazzār	butcher
	lənga:ṣ[1]	ʾiǧǧāṣ	pear
(b)	gʷrən[2]		make a hole
	ʕəggəb	ʾaǧab	make fun

The pronunciation /g/ for Arabic ǧīm is also attested in Moroccan Arabic (more apparent in the presence of sibilants), in Yemen and very well known in Egyptian Arabic. The earlier view stated by Bergchträsser (1928), and developed later by Blanc (1981) and Harry (1996), which lies on the assumption that /g/ for *ǧīm* in Egypt is the result of a recent development from the affricate /dʒ/, has been rejected recently by Woidich & Zack (2009) who brought forward some very accurate evidence which prove that /g/ in Egyptian Arabic existed earlier before the 17th century C.E. They further conclude that this pronunciation dates back to the Arab conquests in the 7th century A.H. /g/ for *ǧ* in some North-African Arabic dialects, in general, and in HA can be treated similarly to conclude that /g/ in these dialects reflects an ancient pronunciation brought up by some earlier Arabic dialects which have preserved the old Semitic /g/ until today. For the sake of argumentation, we cite forward three pieces of evidence to prove that /g/ for *ǧ* was present in ancient dialects.

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[1] The word lənga:ṣ underwent historical dissimilation from the classical form *ʾiǧǧāṣ*, where it is very common in Semitic languages, in general, to break gemination by changing one of the identical sounds to nasals or liquids. Similarly the from mfəlṭaħ < mufaṭṭaħ 'flat'.

[2] Probably coming from the form *ǧuṛn* which is a utensil made of stone with a hole in the middle.

1. *Sībawayh's marginal sound that is between kāf and ǧīm*. Apart from the traditional interpretation of Brockelmann (1906/1977) and Cantineau (1960/1969) that the non-approved variant '*al-ǧīm l-latī kal kāf*' (*ǧīm* resembling *kāf*) is the voiced velar stop /g/ which is not based on a precise model, we would like to follow, again, Owens' (2013) model. The model, as mentioned before, is based on the voiced-voiceless transition, which enables us to conclude that the sound that is between *kāf* and *ǧīm* is /g/. Thus, /g/ was recognized in the 2nd century A.H. in some Arabic dialects, however, the recognition of /g/ in Sībawayh's time cannot prove whether this marginal sound was a reflex of *ǧīm* or *qāf*, or even both.

2. *Evidence from the first-half of the 4th century A.H.* The analysis of two Arabic sources date back to the 4th century proves perfectly that /g/ was known in some Arabic varieties. Ibn Fāris in his book '*Aṣ-Ṣāḥibī*' and Ibn Durayd in his book '*Ǧamharat al-Luġa*' both mentioned that Banū Tamīm pronounce *qāf* like *kāf* but with thickness[1]. This pronunciation was further exemplified by the following Tamīmi poetic verse:

وَ لا أَگُولُ لِگِذْرِ الگَوِم گَذْ نَضِجت   و لا أَگُولُ لِبَابِ الدَّار مَگْفُولُ

wa lā ʾagūlu ligidri l-gawmi gad naḍaġat

wa lā ʾagūlu libābi d-dāri magfūlu

What is interesting is the script used to represent the sound گ. It represents the sound *gāf* or the Persian *kāf*, or as it was known as *al-kāf al-fārisiyya.* گ in Persian is pronounced /g/ which demonstrates that both scholars borrowed the Persian script to represent the sound /g/ that was heard by the Tamīmi poet. Moreover, the same script گ was also used to demonstrate the sound '*ḥarf*' that is between *qāf* and *kāf*[2], and the sound that is between *ǧīm* and *kāf* in Ibn Durayd's writings for the word جمل 'camel' and was written گمل. The pronunciation, as he confirmed, was very frequent in Yemen[3]. The same citation with the same script is found in Ibn Fāris' book. This

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فأما بنو تميم فإنهم يلحقون القاف بالكاف فتغلظُ جدا ¹

[2] In fact, we are able to conclude two further results: first, if we apply the voicing transition to the sound that is between *qāf* and *kāf*, this gives us a clue that *qāf* was voiced, and second, voiced *qāf* was differentiated from the voiced velar stop /g/ (گ) which demotes that they were two separate sounds.

وهي لغة سائرة في اليمن مثل جمل إذا اضطروا قالوا گمل ³

fact can safely confirms that /g/ for *ǧīm* was known in the beginning of the 4th century, and addressing this pronunciation as 'frequent' in Yemeni Arabic affirms that it dates back earlier then the 4th century, and goes along with the view that the Semitic /g/ was preserved in some earlier Arabic dialects, at least in Yemen as the two Arabic sources cited, and brought up to Maghreb. The presence of Yemeni dialects residues in North-Africa was also confirmed by shared lexical items (Behnstedt, 2013)[1]. Therefore, /g/ for *ǧ* is not a developed reflex from the retraction of Standard Arabic /ʤ/[2].

3. *Berber Evidence*. It is well known that the earlier Arabic loanwords in Berber belong to the religious lexicon. Kossmann (2013:177) cites that the word *taməsgida* from the classical form *masǧid* is pronounced with /g/. The form *taməsgida* can be safely confirmed that it represents the outcome of Berber-Arabic contact in the first centuries of the conquests, as it appears in an old Ibaḍite religious text recently studied by Brugnatelli (2013), *tamezǧiḏa* as the plural form of *timezǧiḏawin* 'mosque' (Brugnatelli, 2013: 278). /g/ in earlier Arabic loanwords in Berber also confirms that /g/ in North-African dialects is very old, which was brought up by some ancient dialects which, in turn, preserved the old Semitic /g/. In fact, one may also assume that some older Arabic varieties have preserved /g/ more or less in the presence of sibilants, where interestingly, the word *taməsgida* contains the sibilants /s/. This assumption, however, is far from being approved and the situation gets complicated when we find that g-forms are pronounced with /d/ in other dialects, especially Moroccan[3].

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[1] See also Behnstedt & Woidich (2011) and (2012).

[2] Unfortunately, the fact that the Persian script گ was used in the sources mentioned earlier appears only in the original scripts and few earlier editions, but was completely neglected in the later edition of the books and in the writings of other linguists who quoted the poetic verse. The diacritic above the Persian *gāf* was dismissed then the poetic verse and the word گمل were simply written as ک which may create a confusion with Arabic *kāf*.

[3] See Woidich & Zack (2009) for an explanation of g > d in Moroccan Arabic dialects.

2.4.7. Unconditioned Consonantal Alternations

The most noticeable unconditioned consonantal alternation in HA can be summarized under three subheadings: (1) interchanges between the liquids and nasals; (2) alternation between the labials and; (3) emphasis and de-emphasis. Alternations under this type usually appear sporadically.

(1) Interchanges between liquids and nasals.

	HA	*CA*	*Gloss*
l > n	ɤləm	ġanam	sheep
	zənza:l	zilzāl	earthquake
	sənsla	silsila	chain / neckless
	sma:ʕi:n	ʾIsmāʿīl	proper name
	dəkkən	dakkala	overdo
n > l	fənʒa:l	*fun*ğān	cup
n > r	qa:za:r	kazan (Tr.)	cauldron
l > r	*ʒəbri:r*	Ğibrīl	Gabriel
	jəbri:r	ʾAbrīl	April
m > n	nta:ʕ	matāʿ	possession marker

Table 2.1. Interchages between Liquids and Nasals

Some of the instances cited above can be explained as non-contiguous assimilation and dissimilation. e.g., *ʒəbri:r and* zənza:l. Ancient Arabic varieties like those used by the tribes *ʾAsad* and *Qays* experienced the same change l > n in forms like ʾIsmāʿīn. In fact, interchanges between liquids and nasals should not be confined to some older dialects; such alternations are very common in all Semitic languages in general[1].

(2) The change b > m is found in final position in the form: rʒəm < *Ra*ğab 'the seventh month of the lunar calendar'. Interchanges between the three labials /f, b,m/ appear in one word where the three pronunciations are used:

ʕfəst / ʕbəst / ʕmaṣt   'I / you trampled'

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[1] See for example Moscati (1980: 31-3) and Lipinski (1997: 132-7)

(3) De-emphasis of emphatic sounds is frequently heard, especially for the emphatic /ṛ/ and the sibilant /ṣ/.

e.g.,	ra:jəb	ṛāʾib	curdled / destroyed
	fra:ʃ	fiṛāš	matress
	səndø:q	ṣundūq	box
	sdər	ṣadṛ	chest
	sadaqa	ṣadaqa	alms

The pronunciations søḥa:ba < ṣaḥāba 'companions' and tø:ma:ṭi:ʃ < ṭamāṭim 'tomato' are also used.

On the other hand, emphasis of plain consonants without the presence of emphatic sounds is rarely found as in:

ḥfi:ṭ	ḥafīd	grandson
qəṣṣam	qassama	separate

- Further Notes: (1) The plain interdentals in HA have taken the elveodental stops as reflexes, and the assibilation of the voiced plain interdental ḏ is found in the form zla:jəl < ḏalāʾil 'loose and long cloths'. (2) Alternations between /ṭ/ and /ṣ/ are found in two words where both pronunciations are used interchangeably:

ṭa:ḥ / ṣa:ḥ			he fell over
ṭḥa / ṣḥa	< ʾaḍḥā		he became

2.5. Vocalism

HA possesses a vocalic system of the three classical short vowels in Arabic /a, u, i/ and further their merged central short vowel /ə/. Similar to most Maghrebian Arabic dialects, short vowels tend to be elided in open unstressed syllable. e.g., wraq < waraq 'paper'. Elision of short vowels appears also in open syllables in the imperfect of verbs under forms II and III. e.g., jfəkkar 'he thinks'; jʕa:wən 'he

helps'. /ə/ in the imperfect form of tri-consonantal verbs is always maintained[1]. e.g., jəktəb 'he writes'; təsmaʕ 'you/she listen(s)'. HA has also the front mid-close short vowel /ø/. e.g., løʕba 'game'; ʕølm 'science' and *ʒøhd 'effort'. Its phonemic status is debatable as it appears mostly as an allophone of the short back vowel /u/ in specific environments (See below. Imāla). A contrast between /ø/ and /ə/ if found in few instances:* ħənna 'my grandmother' vs. ħønna 'henna'. /o/ and /e/ are confined to the environment of emphatics and uvular /q/. e.g., qoṭra 'a drop', təṣweṛa 'picture' and qobba 'dome'. The vocalic system also represents three long vowels /a:, u:, i:/. In the presence of emphatics /u:/ and /i:/ have /o:/ and /e:/ as allophones respectively. e.g., ṭe:ṛ 'bird'; ṣo:ṛ 'wall / stone wall'. The long mid-close front vowel /ø:/ appears very often as allophone of the close back long vowel /u:/. e.g., tø:m 'garlic'; ħø:t 'fish'.

	front	*central*	*back*
close	(i / i:)		(u / u:)
mid-close	(ø / ø:) (e / e:)		(o / o:)
		ə	
mid-open			
open		(a / a:)	

Chart 2.2. HA Vowels and their Allophonic Variants

The Classical Arabic diphthongs /aw/ and /ay/ are always taken as the monophthongs /u:/ and /i:/[2] respectively. Two exceptional instances are found: ħawṭ < ħawḍ 'basin' and ħawʃ 'courtyard'.

2.5.1. Imāla

Imāla in general is the phenomenon described by the Arab scholars as the vowel shift or approximation of the open vowel /a:/ *'alif'* to the close front vowel /i:/ *'yaʾʾ'*. This is also applicable to short vowels a > i (*fatḥa > kasra*). *Imāla*, here, can be

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[1] This phenomenon is known also in other Arabic dialects. See for example Jastrow (2005) for Mardin Arabic and Jastrow (2015) for Anatolian Arabic.

[2] /u:/ and /i:/ for Arabic diphthongs /aw/ and /ay/ are probably very old and represent an earlier stage before the diphthongs. The monophthongs /u:/ and /i:/ were recognized in some ancient Arabic dialects as Inb as-Sikkīt (1st century A.H.) differentiated between *kawsaǧ* vs. *kūsaǧ* 'type of fish', and *ǧawrab* vs. *ǧūrab* 'sock'(Ibn as-Sikkīt, ʾIṣlāḥ: 162).

explained as a vocalic harmony which makes /a/ approximates to /i/ that is found in the following syllable. e.g. ʕa:lim > ʕe:lim 'scientist'. /a:/ can be also imalized in final positions. e.g., fata: > fate: 'youngster'.

It is commonly agreed when speaking about *Imāla* that we denote the change a > i, since it is the most common type attested in Arabic dialects, and heard in recitations of the Quran. Ibn Ǧinnī (4ᵗʰ century A.H.) added three other types which can be gathered under the heading of *Imāla*: (1) *al-fatḥa al-mumāla naḥwa aḍ-ḍamma* (a > u). It is also termed ' *ʾalif at-tafḫīm'*. e.g. ṣala:t > ṣalo:t 'prayer; (2) *al-kasra al-mašūba biḍ-ḍamma* (i > u) mostly known in the passive form of hollow verbs like bi:ʕa 'sold', pronounced with retraction of the tongue toward /u/ and lip rounding. The latter phenomenon was also termed ' *ʾIšmām'* by some scholars; (3) *aḍ-ḍmma al-mašūba bil-kasra* (u > i) the back vowel here is fronted and approximates /i/. In the examples cited by Ibn Ǧinnī for the latter type, one can also explain the phenomenon as vocalic assimilation or harmony if we include the inflectional endings. e.g., bi maḏ̣ʿūr (in), and bni būr (in). The back vowel in these examples was said to be pronounced as fronted.

One of the characteristic features in the vocalic system of HA is fronting the back vowels /u/ and /u:/ to be pronounced very similar to the mid-close front vowels /ø/ and /ø:/ respectively. Though it is difficult to ensure that the fronting phenomena is very old and not a result from internal development, nevertheless, the process looks very similar to the one earlier mentioned by Ibn Ǧinnī concerning the change u > i (*aḍ-ḍamma al-mašūba bil-kasra*). Thus, we would like to term the process as *Imāla* as well.
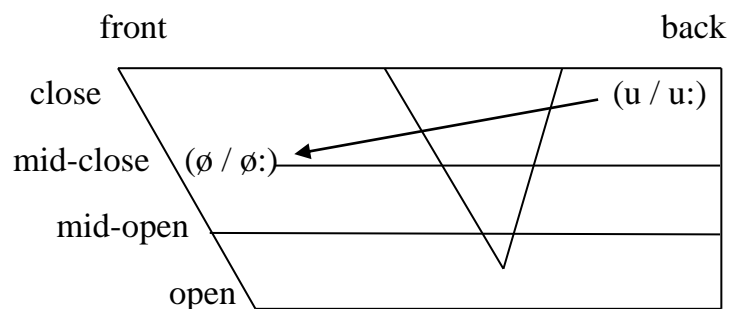
Chart 2.3. Fonting Back Vowels

From our investigation of the fronting process of the long back vowel /u:/, analysis of Wordlist II has shown the following results:

- /u:/ as the Classical Arabic vowel or as reflex of diphthong /aw/ is always fronted after glottal sounds, pharyngeals, palatals, alveolars and alveo-dentals. This is specific to plain consonants.

glottal	məsʔø:l	masʾūl	responsible
	məlhø:f	malhūf	greedy
pharungeal	ʕø:d	ʿūd	stick
	ħø :t	ḥūt	fish
palatal	ʒø:ʕ	ǧūʕ	hanger
	ʃø:ka	šawka	thorn
	jø :m	yawm	day
alveolar	nø:ʕ	nawʿ	type
	lø:ħ	lawḥ	wood
	məʒrø:ħ	mağrūḥ	wounded
Alveo-dental	dø:d	dūd	worm
	tø:t	tūt	blueberry
	ga:sø:s	ğāsūs	spy
	zø:ʒ	zawǧ	two

- Classical /u:/ appears as a close back vowel after velars and labials.

e.g.,	ʕgu:z	ʿağūz	mother in law
	məʕku:s	maʿkūs	inverse
	fu:l	fūl	broad bean
	mu:t	mawt	death
	bu:ma	būma	owl

- /u:/ appears as a mid-close back vowel in the environment of the emphatics /ḍ/, /ṭ/, /ṣ/ and /ṛ/ as in (a), and after the uvulars /q/, /ɣ/ and /x/[1] as in (b).

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[1] Slight differences for the pronunciation of /u:/ after the uvulars are found. Sometimes it is pronounced as close (xu:f < xawf 'fear'), however, in the most general cases, it appears slightly open as mid-close similar to the one after the emphatics /o:/. Exceptional cases where /u:/ is fronted after /q/ and /k/ have been found mainly by speakers originally from the tribes of Oulad Salah and Khlafna. e.g., kø:l < kul 'eat! (imp.) and bərqø:q < burqu:q 'plum'.

(a)	ṭo:l	ṭūl	length
	məfḍo:ħ	mafḍūḥ	exposed
	məqṣo:ṣ	maqṣūṣ	cut / clipped
	ṛo:ħ	ṛūḥ	soul
(b)	qo:m	qawm	people / folk
	ɣo:l	ġūl	bogey
	xo:x	ḫawḫ	peach

- Fronting is constrained by the presence of emphatic sounds. This includes the environment where the emphatic precedes or follows the back vowel, or its presence in the preceding or next adjacent syllable.

e.g.,	no:ṛ	nūṛ	illumination
	bello:ṭ	ballūṭ	oak
	ṣno:baṛ	ṣanawbaṛ	pine

- When the emphatic sound appears as coda, it has no effect on the back vowel /u:/ in the next syllable, then the vowel is fronted in the environment earlier mentioned. e.g., məṭħø:n < maṭḥūn 'grinded'.

- The uvular /q, ɣ, x/ have a similar effect in constraining the fronting of /u:/ when they act as onsets, however, unlike the emphatics, they have no effect when they follow the vowel. Consider the pair ṣo:ṭ 'whip' vs. sø:q 'market'.

We conclude that /u:/ in HA ranges between three basic realizations as represented in the following diagram:
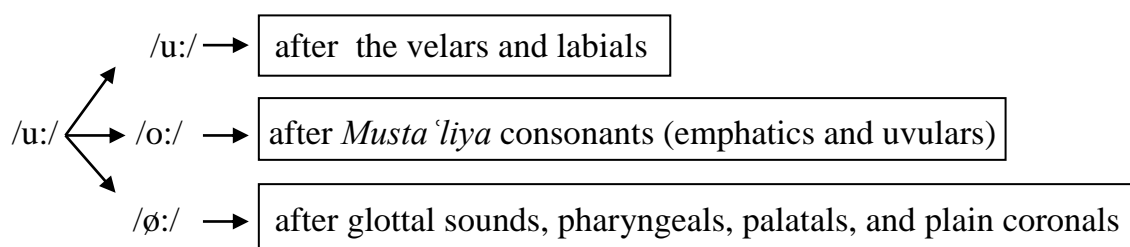

Chart 2.4. Realizations of /u:/ in HA

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The latter result of fronting can be sktreched to /u:/ in final positions with slight recuction of the vowel length, and also to the short vowel /u/[1]. This type of *Imāla* is highly noticed in group recitation of the Quran where /u:/and /u/ are usually fronted whithin the same environments mentioned above[2]

e.g., mu:minø:n   'believers'

wa ʔantøm taʃhadø:n   'and you witness (mas.pl.)   (Quran, 3:70)

wa bima: kuntøm tadrusø:n   'and for what you have studied'   (Quran, 3:79)

/u:/ is sometimes fronted after uvular /q/ during recitation as in:

fa ʔø:la:ʔika hømu lfa:siqø:n 'then they are the transgressors' (Quran, 3:82)

Fronting rules are also applied to back vowels in French loanwords like:

tø:ʃi	toucher	touch
dø:ʃ	douche	shower
dø:za:n	douzaine	utensils
bu:ʃø:n	bouchon	cork

2.6.   Conditioned Sound Changes

The motley processes by which sound changes are conditioned by purely phonetic factors are presented in five main subheadings: assimilation, dissimilation, elision, metathesis, and paragoge. The phenomena are presented from the perspective of comparison with classical forms and not with other Arabic dialects. The processes are exemplified and explained when needed.

2.6.1. Assimilation

The loss of short vowels in initial unstressed syllables allows consonant clustering which, in turn, gives more chances for sounds to assimilate. Assimilation is often of the contiguous partial regressive type of voicing as in (a) and place when

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[1] /u/ is fronted after the bilabial /b/ in the environment of pharyngeals. e.g. bøʕd < buʕd 'farness'.
[2] Recorded group recitation of the Holy Quran (known traditionally as recitation of *Ṭalba*) was used as supplementary source of data for the study of *Imāla*.

the nasal /n/ always assimilates with the following bilabial plosive /b/as in (b), and the sibilants /s, z, ṣ/ which tend to assimilate with the final negation marker /ʃ/ as in (c).

(a) dʒi:b   *ta*ğī'u bi   you / she bring(s)

     *x*səl[1]   ġasala   wash (imp.sing) / he washed

     z̧dam   ṣadama   hit

(b) *ʒəmb*   ğanb   side

     ʕəmbaṛ   'anbaṛ   *ambergris*

(c) *manəlbeʃʃ*   *I do not wear*

     manqəʃʃ   I do not cut

     madda:bəzʃʃ   he did not fight

Total assimilation of place appears in the common word bəzza:f < bil ğizāf 'many / lot). Emphatic consonants in Arabic are known for rendering not only adjacent sounds as emphatics but also spreading emphasis at a distance. e.g., ʕoṛṣ < 'uṛs 'wedding'; ṣaqṣe:h < 'istaqṣīh 'ask him'. Progressive partial assimilation of voicing appears in ha:kta < hākaḏā 'thus, such'.

2.6.2. Dissimilation

Dissimilatory processes are less attested than assimilatory ones, and can be classified as dissimilation of place as in: saʒi:ʕ < šuğāʕ 'courageous', and dissimilation of voicing as in: məmtø:d < mamdūd 'recumbent'[2]. Vocalic dissimilation appears across word boundaries in the two expressions:

     mʕi mən   ma'a man   with whom?

     ʕli mən   'alā man   about whom?

---

[1] A similar case where ġ is taken as /x/ in the form ġasal is attested in the dialect of Rabī'a in Mosul, Iraq which basically cannot be explained as assimilation of voicing where the vowel /a/ always separates the two consonants. See Abu Haidar (2004:6).

[2] The pronunciation məmdø:d is used interchangeably with məmtø:d.

2.6.3. Elision

Beside the loss of short vowels in open syllables, some consonantal phonemes are also elided in specific phonetic environments. /h/ is usually deleted from the 3rd person singular and plural bound-pronouns in the feminine or masculine forms.

e.g.,   qolla   qul lahā   tell her

             qollo   qul lahu   tell him

             qolləm   qul lahum   tell them

/h/ is deleted from the adverb *hunā* 'here' when it follows the nasal /n/. e.g., mənna < min hunā 'this way'. /k/ is sometimes deleted from the interrogative pronoun 'ʃku:n', as in: ʃø:n < ʃku:n 'who'; ʃø:nijja 'who is she?'; ʃø:nəmma 'who are they?'. /d/ is deleted in the form ʒa:ʒ < *da*ğāğ 'chicken'. /ṭ/ is dropped in final position from the preposition *taḥta* 'under / below' following the definiteness marker 'l-' ltaḥt > ltaḥ. /f/ tends to be elided in the perfect form of the verb *šāf* 'see' conjugated with the first and second person singular pronouns, while /f/ is totally assimilated with second person plural pronoun. e.g., ja:na ʃət 'I saw', ntīna ʃət 'you saw (sing.)', ntø:m ʃəttø 'you saw (pl.).

2.6.4. Metathesis

Metathetical consonants are found in forms like al-ğawāb > ləwʒa:b *'answer'*, *laʿana > nʕəl 'to curse'. Often both pronunciations are used as* ħsa:bni *and s*ha:bni 'I thought', fʕaẓ and ʕfaẓ 'to smash'. Vocalic metathesis usually appears in some proper nouns and loanwords between the long vowels /i:/ and /u:/ in the speech of some elders. e.g., zi:lø:*x*a < zø:li:*x*a   'Zulayḫa', ħi:sø:n < ħø:si:n 'Houcine' and ki:zø:na < ku:zi:na 'cuisine (Fr.)'. In the standard interrogative construction 'māhuwa' 'which one', most sounds have transported and gone some changes ma:huwa > wa:mi:h.

2.6.5. Paragoge

Though the glottal stop almost disappears in HA, it is heard in the end of the negation adverb *lā* 'no' > llaʔ. The paragogic syllable /ni/ is usually added to the third-person fim./masc. sing. pronouns and the 3rd person plural pronoun. e.g., huwwa > huwwa:ni 'he', hijja > hijja:ni 'she', humma > humma:ni 'they'. This additional syllable serves very often as an emphasis marker: huwwa 'he' vs. huwwa:ni 'he himself'.

Paragogic /n/ always appears in the construction of the annexed nouns (mostly appears with nouns of family members) as in:

*x*a:ltən jəmma	'my mother's maternal aunt'
ʕəmtən ḅḅʷa	'my father's paternal aunt'
*x*a:jən ʕli	'Ali's brother'
jəmma:jən sami:ra	'Samira's mother'
ṣa:ħbən *x*a:j	'my brother's friend'

/n/ is also used with plural forms. e.g., ʕəmta:tən jəmma 'my mother's maternal aunts'. This paragogic /n/ serves as dative preposition with direct objects, and this construction is perfectly favored from Berber where /n/ appears as an elementary preposition with the meaning 'of'/ 'de' (Fr.), used with the annexed state of nouns as opposed to the free state (état d'annexion et état libre).

e.g.,	awal	n	umaziɣ	(Chaker, 1995:42)
	speech	prep. n	Berber	

'the speech of Berber'

	afus	n	weqcic	(Nait-Zerrad, 2011:27)
	the hand	prep. n	boy (in the annexed state)	

'the hand of the boy'

	afer	n	iblilli	(Quitout, 1997:52)
	the wing	prep. n	butterfly	

'the wing of the butterfly'

HA forms can be analyzed the same

ʕəmm (ə)   n   jəmma

uncle   prep. n   my mother

'the uncle of my mother'

The pronunciation qəddən < qədd 'with the same size' is also used basically with the meaning 'with the size of'.

2.7. Conclusion

This chapter discussed the most salient phonological phenomena attested in HA and their possible interpretations under three major headings. We tackled the various features in HA consonantal system and drew the following conclusions: first, the different environments of the laxness of the glottal stop which, in turn, ranged between five basic forms are old features mostly form Hidjazi Arabic dialects. Second, the phenomenon of devoicing /ḍ/ into /ṭ/ is a feature resulting from substrate influence. Third, /q/ in the colloquial word *gaʕ* is probably a first-stratum characteristic which, by chance the HA still preserves in addition to some Berber languages. Fourth, we have discussed and assumed that *x*-forms in time expressions are also very old from the fact that some Berber varieties and two of the first-stratum Arabic dialects share this realization (Tangier and Mardin). Fifth, labialization of velars, uvulars, pharyngeals and geminate labials probably resulted from the loss of a rounded vowel at an earlier stage of the dialect. Sixth, we have argued that the voiced palatal fricative/ʒ/ *and the voiced velar stop /g/ as reflexes of Arabic ǧīm* in HA are ancient features passed from some older varieties of Arabic which experienced the process of de-affrication of *ǧīm* at an earlier time, and by some varieties which have preserved the Semitic /g/. Seventh, the most noticeable unconditioned sound changes are the ones between the liquids and nasals, a feature that was known in some ancient Arabic dialects and still recognized in most Semitic languages in general. We have also tackled HA vocalic system which represents four short vowels /i, u, a, ə/ and three long /i:, u:, i:/. Different allophonic realizations are attested in specific environments. The last part of the chapter gave a demonstration of five basic types of conditioned sound changes: assimilation, dissimilation, elision, metathesis and paragoge.

GENERAL CONCLUSION

This study aimed at documenting the most salient phonological features in the Arabic dialect spoken in Honaine. The paper was divided into two basic chapters. The first served as an introduction to some general concepts including the segmental phonology of Classical Arabic and the possible development of the phonemic system. It further gave a brief discussion of four significant theories about the origin of modern Arabic dialects and the reasons behind the similarities and differences between them. The second chapter was devoted to the practical part of our investigation. The first part gave a brief overview of the fieldwork and the methods adopted during data collection. The second part was central to the description and interpretation of the results which were presented in three main headings. The first heading tackled the consonantal system and the various dialectal features, including the different environment of the laxness of the glottal stop, devoicing /ḍ/, the presence of the voiceless uvular stop /q/ in the word *gaʕ*, *x*-forms in derivations of the word *'waqt',* and labialization of velars, uvulars and geminate labials as initials. Taken together, the first part also discussed the antiquity of the voiced palatal fricative /ʒ/ and the voiced velar stop /g/ as reflexes of Arabic *ǧ*. Within the same part, we also cited the most remarkable consonantal alternations in HA which are more noticeable in the liquids and nasals.

The second heading was devoted to HA vocalic system from where we can come to the conclusion that the phonemic inventory in question consists of four short vowels and three long ones. Taking into consideration their respective allophonic variants, there is the sum of thirteen vowels. Fronting the back rounded vowels /u/ and /u:/ was central to the study of HA vocalism. The analysis showed that the long back vowel is always fronted after glottal sounds, pharyngeals, palatals and plain coronals, while the process of fronting is constrained in the environment of emphatic, velar and labial consonants.

The third heading discussed and exemplified five basic types of phonological processes: assimilation, dissimilation, elision, metathesis and paragoge. The three hypotheses were implicitly examined through the interpretation of the results. The dialectal features which can be regarded as ancient and probably passed form older varieties of Arabic can be seen in the loss of the glottal stop as a Hidjazi feature, *x*-forms in time expression, the reflexes of *ǧ* and probably the phenomenon of fronting the back vowels which is termed *'Imāla'* . Berber influence was revealed through the investigation phenomenon of devoicing /ḍ/, as well in the adoption of the preposition *'n'*. Internal development can be seen clearly in the various conditioned sound changes attested.

Although our aim was to give a detailed and accurate description and analysis of HA phonological features, the study is far from being complete. This paper is subject to at least two limitations: first, the study basically tacked the phonetic and some aspects of the phonology of HA while syllable structures and suprasegmental features made no part of this work. Second, some phonological features were neglected during the discussion like the change *q > k* as in jəkħaṭ > jaqħaṭ. The rareness of this change did not enable us to provide any further analysis.

Further research is needed for tackling other aspects in HA phonology, morphology and lexis. A morphological study may reveal more old dialectal features, on the one hand, like the construction of the participles from hollow verbs with the form *mafʿūl* as in məbjøːʕ 'sold' which is said to be a Tamīmi feature as opposed to mabiːʕ in Hidjazi dialects. On the other hand, it would be helpful to shed more light on some Berber morphological features like the construction of resultative nouns like taǰhøːdiːt 'malice' and taməskuːnt 'pretending to be poor'. The assumptions and the results provided for the phonology and sound changes of HA are always open to doubt and future works may approve or disapprove their veracity.

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APPENDICES

Appendix One: HA Word-lists

Wordlist I: /ḏ/ in MSA > /ḍ/ or /ṭ/ in HA and /ḍ/ in MSA > /ḍ/ or /ṭ/ in HA

Arabic	MSA	HA	Gloss
ظلم	ḏaḷama	ḍḷam	to do injustice
أظن	ʔaḏun	nḍan	I think
نظافة	naḏa:fa	naḍa:fa	cleanliness
منظم	munaḏḏam	mnəḍḍam	organized
يحفظ	jaħfaḏ	jəħfaḍ	to memorize
ظريف	ḏari:f	ḍri:f	amicable
ظفر	ḏufr	ṭfəɾ	nail
ظل	ḏiḷḷ	ṭḷi:la	shadow
ظلام	ḏala:m	ṭla:m	darkness
ظَهْر	ḏahr	ṭhaɾ	back
ظَهر (منتصف اليوم)	ḏuhr	ḍho:ɾ	midday
حنظل	ħanḏal	ħənṭəl / ħənḍəl	colocynth
ظربان	ḏariba:n	ḍərba:n	skunk
عظم	ʕaḏm	ʕṭəm	bone
ضائع	ḍa:ʔiʕ	ḍa:jəʕ	lost
ضابط	ḍa:biṭ	ḍa:bəṭ	officer
بيض	bajḍ	be:ṭ	eggs
ابيض	ʔabjaḍ	bjəṭ	white
ضدي	ḍiddi:	məṭṭa:d lijja	against me
متضايق	mutaḍa:jiq	məḍḍa:jaq	annoyed
ضيق	ḍajjiq	ṭəjjaq	narrow
ضبع	ḍabʕ	ḍbaʕ	hyaena
أرض	ʔarḍ	ʔarḍ(1) laṛṭ (2)	land or earth (MSA) / (1) land for agriculture; (2) Floor
ضرة	ḍuṛṛa	ḍəṛṛa	fellow wife
ضر	ḍuṛṛ	ḍəɾɾ	harm
أغمض	ʔaɣmaḍa	ɣəmməṭ	he closed his eyes
مخض	maxaḍa	mxoṭ	to churn
توضأ	tawaḍḍaʔa	twəḍḍa:	to take ablution
بغض	buɣḍ	buɣḍ	aversion
حامض	ħa:miḍ	ħa:məṭ	sour
يحضن	jaḍħun	jəħṭən	to incubate
أخضر	ʔaxḍaṛ	xṭaɾ	green
أرضع	ʔarḍaʕa	rəṭṭaʕ	to nurse
ضرب	ḍaraba	ṭɾəb	to hit
ضحك	ḍaħika	ṭħək	to laugh
ضرس	ḍiɾs	ṭaɾṣa	molar / tooth
ضعيف	ḍaʕi:f	dʕi:f	weak
ضمان	ḍama:n	ḍḍama:n	guarantee

ضوء	ḍawʔ	ḍaw /ḍḍo / ṭṭo	light
أضاء	ʔaḍa:ʔa	ḍawwa:	to light up
ضيف	ḍajf	ṭe:f	guest
فضح	faḍaħa	fḍaħ	disgrace
فاض	fa:ḍa	fa:ṭ	to flow over
فضة	fiḍḍa	fəḍḍa	silver
فضيلة	faḍi:la	faḍe:la	grace / proper mane
قبض	qabaḍa	qbəṭ	to catch
موضع	mawḍiʕ	mo:ṭaʕ	location
مرض	maraḍ	mərṭ	disease
مرضي	marḍijj	mərḍi:	blessed
ضيع	ḍajjaʕa	ḍəjjaʕ	to lose
معروض	maʕru:ḍ	məʕro:ṭ	shown / invited
نفض	nafaḍa	nfəṭ	to dust
أضحى	ʔaḍħa:	ṭħa / ṣħa	to become
انهض	ʔanhaḍa	nəwwəṭ	to wake up
رضي	raḍija	rḍa	to become satisfied
حوض	ħawḍ	ħawṭ	basin
فائض	fa:ʔiḍ	fa:jəṭ	superfluous
رمضان	ramaḍa:n	rəmḍa:n / rəmṭa:n (pro.n.)	Ramadhan (the holy ninth month of Islamic lunar calendar)
ضباب	ḍaba:b	ṭba:b	mist
ضفيرة	ḍafi:ra	ṭfe:ra	strand
عريض	ʕari:ḍ	ʕreiṭ	wide
عرض عليه	ʕaraḍa ʕalajh	ʕrəṭ ʕli:h	he invited him
فاض	fa:ḍa	fa:ṭ	to flow over

Wordlist II: Imāla (fronting the long back vowel)

Arabic	MSA	HA	Gloss
بخور	buxu:ṛ	bxo:ṛ	insence
بكورة	baku:ṛa	bako:ṛa	First-fruit
بلوط	baḷḷu:ṭ	bəḷḷo:ṭ	oak
بهلول	buhlu:l	bəhlø:l	fool
بوري	bu:rri:	bu:rri	mullet
بوصة	bu:ṣa	bu:ṣa	Inch (MSA) / a long needle (HA)
بوقال	bu:qa:l	bu:qa:l	bottle
بومة	bu:ma	bu:ma	owl
تابوت	ta:bu:t	tabu:t	coffin
توت	tu:t	tø:t	mulberry
ثوم	θawm	tø:m	garlic

ثلوج	θulu:dʒ	tlø:ʒ	snow
ثور	θawṛ	to:ṛ	bull
ثورة	θawṛa	to:ṛa	revolution
جلود	dʒulu:d	ʒlø:d	leathers
مجنون	madʒnu:n	məʒnø:n	crazy
جوع	dʒu:ʕ	ʒø:ʕ	hunger
حوت	ħu:t	ħø:t	Whale (MSA) / fish (HA)
حورية	ħu:rijja	ħø:rijja	Proper name
خروب	xaṛṛu:b	xəṛṛo:b	carob/ locust bean
خوخ	xawx	xu:x	peach
خوف	xawf	xu:f	fear
داحوس	da:ħu:s	da:ħø:s	felon
دموع	dumu:ʕ	dmu:ʕ	tears
دود	du:d	dø:d	worm
مخبوز	maxbu:z	məxbu:z	baked
دوخة	dawxa	dø:xa	dizziness
رسول	ṛasu:l	ṛaṣo:l/ ṛasøl	messenger
روح	ṛu:ħ	ṛo:ħ	soul
روم	ṛu:m	ṛo:m	the Roman nation
رومي	ṛu:mijj	ṛo:mi	Roman
زرزور	zaṛzu:ṛ	zəṛzo:ṛ	mynah
زوج	zawdʒ	zø:ʒ	couple / two
زيتون	zajtu:n	zi:tø:n	olive
ساطور	sa:ṭu:ṛ	ʃa:qo:ṛ	chopper
مسلوخ	maslu:x	məslø:x	skinned
سحور	suħu :r	sħo:ṛ	daybreak meal (during a fast)
سفود	saffu:d	səffu:d	brochette
سور	su:ṛ	ṣo:ṛ	wall
سوس	su:s	sø:s	weevil
سورة	su:ṛa	ṣo:ra	chapter of the Holy Quran
سوق	su:q	sø:q	market
سوط	sawṭ	ṣo:ṭ	whip
برقوق	burqu:q	bərqo:q	plum/ gage
شباب	ʃaba:b	ʃbu:b	youth
شوكة	ʃawka	ʃø:ka	thorn
صابون	ṣa:bu:n	ṣa:bu:n	soap
صاروخ	ṣa:ṛu:x	sa:ṛø:x	rocket
صوف	ṣuwf	ṣo:f	wool
صومعة	ṣawmaʕa	ṣo:mʕa	hermitage
طوب	ṭu:b	ṭo:b	brick
طول	ṭu:l	ṭo:l	lenght

عربون	ʕarbu:n	ʕərbu:n	deposit
عروس	ʕaru:s	ʕro:ṣ	bride (SA) groom (HA)
محمود	maħmu :d	məħmu:d	proper name
أعمامي	ʔaʕma:mi:	ʔəmu:mi:	my uncles
عنقود	ʕanqu:d	ʕənqo:d	tuft
عود	ʕu:d	ʕø:d	rod
غفور	ɣafu:r	ɣafu:r	forgiving
غول	ɣu:l	ɣo:l	ogre
فاروق	fa:ru:q	fa:rø:q	proper name
موسى	mu:sa:	mu:sa	Moses- proper name
فول	fu:l	fu:l	broad bean
فوطة	fu:ṭa	fo:ṭa	towel
قادوس	qa:du:s	qa:dø:s	hopper
قارورة	qa:ru:ra	qa:ṛo:ṛa	flask
قانون	qa:nu:n	qa:nø:n	law
قلوب	qulu:b	qlø:b	hearts
زابوق	za:bu:q	za:bu:q	thorn
قنفذ	qunfud	qənfu:d	hedgehog
قوت	qu:t	qo:t	food
كابوس	ka:bu:s	kabu:s	Nightmare (SA) / gun (HA)
كافور	ka:fu:r	ka:fu:r	camphor
كحل	kuħl	kħø :l	Kohl- eye powder
يوم	jawm	jø:m	day
كمون	kammu:n	kəmmu:n	cumin
كلثوم	kulθu:m	kəltø:m	proper name
كرة	kura	ko:ṛa	ball (MSA) / anything with the shape of a ball (HA)
يهود	jahu:d	jhu:d / jhø:d	Jews
كومة	kawma	ku:ma	stack
منحوس	manħu :s	mənħø :s	nlucky
يعوم	jaʕu:m	jʕø:m	he swims
يفوح	jafu:ħ	jfu:ħ	to diffuse its odor
لوبيا	lu:bja:	lø:bja	bean
لوح	lawħ	lø:ħ	plank
لوز	lawz	lø:z	almond
يلوم	jalu:m	jlø:m	he blames
روس	ṛu:s	rø:s	Russian
لون	lawn	lø:n	color
مقلوب	maqlu:b	məqlø:b	inverse
أرز	ʔaruzz	ṛo:z	rice
حلقوم	ħulqu :m	ħəlqo:m	gorge

زقوم	zaqqu:m	zəqqo:m	Hard food
سبورة	sabbu:ra	səbbo:ṛa	blackboard
صندوق	ṣundu:q	səndø:q	box
صنوبر	ṣanawbar	ṣno:baṛ	pine
عجوز	ʕadʒu:z	ʕʒu:z	Old woman (SA) / mother-in-law (HA)
عرجون	ʕurdʒu:n	ʕərʒø:n	bunch
فرعون	firʕawn	fərʕø:n	pharaoh
قوم	qawm	qo:m	nation
كانون	ka:nu:n	ka:nø:n	hearth
كنوز	kunu:z	knø:z	treasures
محبوس	maħbu:s	məħbu:s	trapped
مسكون	masku:n	məsku:n	haunted
مسموم	masmu:m	məsmu:m	poisoned
بقدونس	baqdu:nis	maʕədnø:s	persil
ممنوع	mamnu:ʕ	məmnø:ʕ	forbidden
ميمون	majmu:n	mi:mu:n	lucky
هبوب	hubu:b	hbu:b	breeze
نوح	nu:ħ	nø:ħ	Noah
نور	nu:r	no:ṛ	light
نافورة	na:fu:ra	na:fo:ṛa	fountain
ممدود	mamdu:d	məmdø:d/məmtø:d	recumbent
ناموس	na:mu:s	na:mu:s	mosquito
نبوت	nabbu:t	nəbbu:t	spear
نجوم	nudʒu:m	nʒø:m	stars
نزور	nazu:r	nzo:ṛ	we visit / I visit
موت	mawt	mu:t	death
موسم	mawsim	mu:səm	season
نوع	nawʕ	nø:ʕ	type
وجوه	wudʒu:h	wʒø:h	faces
ياقوت	ja:qu:t	ja:qo:t	ruby
يوم	jawm	jø:m	day
باكور	ba:ku:r	ḅa:ko:ṛ	fig
برغوت	burɣu:t	bərɣu:t	flea
برودة	buru :da	brø:da	cold
حانوت	ħa:nu:t	ħa:nø:t	market
خروف	xaṛu:f	xṛo:f	sheep
يتذوق	jataðawwaq	jdø:q	He tastes
يذوب	jaðu:b	jdø:b	He melts
يعقوب	jaʕqu:b	jəʕqo:b	Jacob
محروس	maħru:s	məħṛo:ṣ	guarded
مبروم	mabru:m	məbṛo:m	sharpened
مجروح	madʒru:ħ	məʒɣø:ħ	wounded
محروم	maħru:m	məħro:m	destitute

محروق	maħru:q	məħrø:q	burnt
محسوب	maħsu:b	məħsø:b	counted
مخروط	maxru:ṭ	məxro:ṭ	cone
مشروط	maʃru:ṭ	məʃro:ṭ	conditioned
مخصوص	maxṣu:ṣ	məxṣo:ṣ	in need
مخطوبة	maxṭu:ba	məxṭo:ba	engaged
محفور	maħfu:r	məħfo:r	dug
مخطوف	maxṭu:f	məxṭo:f	kidnapped
مذبوح	maðbu:ħ	mədbu:ħ	slaughtered
مدبوغ	madbu:ɣ	mədbu:ɣ	tawed
مدفون	madfu:n	mədfu:n	buried
مدروس	madru:s	mədrø:s	cropped
مرشوم	marʃu:m	mərʃø:m	marked
مسؤول	mas?u:l	məs?ø:l / məsʕø:l	responsible
مسحور	masħu:r	məsħø:r	witched
مسلوخ	maslu:x	məslø:x	skinned
مصروع	maṣru:ʕ	məṣro:ʕ	Knocked down
مصروف	maṣru:f	məṣro:f	Pocket money
مضمون	maḍmu:n	mədmu:n	guaranteed
مطحون	maṭħu:n	məṭħø:n	grinded
معجون	maʕdʒu:n	məʕʒø:n	kneaded
معروض	maʕru:ḍ	məʕro:ṭ	invited
معروف	maʕru:f	məʕro:f	known
مغروس	maɣru:s	məɣro:ṣ	planted
معقوف	maʕqu:f	məʕku:f	inclined
معكوس	maʕku:s	məʕku:s	inverted
مغبون	maɣbu:n	məɣbu:n	sorrowful
عيوب	ʕuju:b	ʕjø:b	faults
مفتول	maftu:l	məftø:l	twisted
مفتون	maftu:n	məftø:n	fascinated
مقتول	maqtu:l	məqtø:l	killed
مفضوح	mafḍu:ħ	məfḍo:ħ	exposed
مقطوع	maqtu:ʕ	məqto:ʕ	cut
مقصوص	maqṣu:ṣ	məqṣo:ṣ	clipped
مكتوب	maktu:b	məktø:b	written
مكنوز	maknu:z	məknø:z	hidden
ملفوف	malfu:f	məlfu:f	cabbage
ملدوغ	maldu:ɣ	məldø:ɣ	stung
ملعون	malʕu:n	məlʕø:n	cursed
مؤمن	mu?min	mu:mən	believer
ملموم	malmoum	məlmu:m	collected
مليون	milju:n	məlø:n	million
منشور	manʃu:r	mənʃo:r	disposed
منفوض	manfu:ḍ	mənfo:ṭ	flicked

منقوش	manqu:ʃ	məngu:ʃ	engraved
منفوخ	manfu:*x*	mənfu:*x*	blown
مهدوم	mahdu:m	məhdø:m	ruined
موجة	mawdʒa	mu:ʒa	wave
سحر	siħr	sħø :r	sorcery

Appendix Two: g-forms for Arabic *ğ*

Arabic	MSA	HA	Gloss
جاسوس	dʒa:su:s	ga:sø:s	spy
جنس	dʒins	gəns	race
جاشوش	dʒa:ʃu:ʃ	ga:ʃø:ʃ	piece of meat
جبس	dʒibs	gəbs	gypsum
جنازة	dʒana:za	gna:za	funereal
جرن	dʒurn (n)	gʷrən (v)	a stone with a hole used to mash meat (n) (MSA) / to make a hole (v) (HA)
يجز	jadʒuz	jgəz	to clip/ to shear off
جزار	dʒazza:r	gəzza:ṛ	butcher
جزة	dʒazza	gəzza/ dəzza	fleece
جزيرة	dʒazi:ra	gazi:ra	island
جسر	dʒisr	dsər	bridge (MSA) / groundsill (HA)
اجاص	idʒdʒa:ṣ	lənga:ṣ	pear
جنسية	dʒinsija	gənsijja	nationality
عجوز	ʕadʒu:z	ʕgu:z	old woman (MSA) / mother-in-law (HA)
جاز	dʒa:z	ga:z	he passed
جزمة	dʒazma	gəzma	gunboots

ملخص

تهدف هذه الدراسة لتقديم تحليل شامل لأهم الظواهر الصوتية التي تميز اللهجة العربية المستعملة في منطقة هنين. تمت دراسة الظواهر بوصفها مع تتبع تاريخها محاولة للوصول إلى أصولها و أسبابها.

كلمات مفتاحية: عربية هنين – التغيرات الصوتية – التنوعات اللهجية – اللهجات العربية الحديثة – اللهجات العربية القديمة.

Résumé

Cette recherche est une tentative de donner une analyse des phénomènes phonologiques les plus saillants qui caractérisent le dialecte arabe parlé à Honaine. Les phénomènes sont abordés du point de vue à la fois synchronique et diachronique pour jeter plus de lumière sur leur origines et les éléments qui les ont affecté.

Mots clés: L'Arabe parlé à Honaine – Variation Phonétique – Variations Dialectales – Les Dialectes Arabes Modernes – Les Dialectes Arabes Anciens.

Abstract

This research paper is an attempt to give a comprehensive analysis of the most salient phonological phenomena characterizing the Arabic dialect spoken in Honaine. The phenomena are tackled from both synchronic and diachronic perspectives to shed more light on their origins and the reasons behind them.

Keywords: Honaine Arabic – Sound Change – Dialectal Variations – Modern Arabic Dialects – Ancient Arabic Dialects.