

The Phonology and Morphology of Wadi Ramm Arabic

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Declaration

I declare that this thesis was the result of my own work. No portion of the work covered in this thesis has been submitted in support of any application for another degree or qualification at this or any other university or institution of higher learning.

Abbreviations

BĤA	Bani Ĥassan Arabic	WR	Wadi Ramm
BŞ	Bani Şaxar	1	first person
B	bilabial	2	second person
C	consonant	3	third person
CA	Classical Arabic	>	‘becomes’
CN	countable noun	$a \sim b$	a alternates with b
E	emphatic	//	mirror-image rule
f.	feminine	/abc/	underlying representation
G	guttural	[abc]	phonetic representation
IV	intransitive verb	*	ungrammatical, historical
JA	Jordanian Arabic	'	preceding a stressed syllable
m.	masculine	μ	mora
MA	Maĥāni Arabic	σ	syllable
Ms.	millisecond	$\langle a \rangle$	extrasyllabic, extrametrical
N	noun	/–/	heavy syllable
OT	Optimality Theory	/~/	weak syllable
p.	plural		
s.	singular		
TV	transitive verb		
UN	uncountable noun		
V	vowel		
VOT	voice onset time		

List of phonetic symbols

The description is provided in terms of voicing, place of articulation, and manner of articulation.

Symbol	Description	Example	Gloss
b	Voiceless labial plosive	barak	to kneel down
m	Voiced labial nasal	mağar	to mix
f	Voiceless labio-dental fricative	fattiḥ	bread mixed with milk
ṭ	Voiceless interdental fricative	Ṭaṭar	trace
ḍ	Voiced interdental fricative	ḍōd	ten camels f.
ḏ	Voiceless interdental emphatic fricative	ḏīx	watchdog
t	Voiceless dento-alveolar plosive	mitli	camel that gave birth
d	Voiced dento-alveolar plosive	ḏaḥal	quick sand
ṭ	Voiceless dento-alveolar emphatic plosive	ṭarraš	to send somebody
s	Voiceless dento-alveolar fricative	sēl	torrent
z	Voiced dento-alveolar fricative	zamil	ten camels m.
š	Voiceless dento-alveolar emphatic fricative	gušalah	bride price
n	Voiced dento-alveolar nasal	naṣajah	lamb
l	Voiced dento-alveolar lateral	laggaḥ	to impregnate
ḷ	Voiced dento-alveolar emphatic lateral	xāl	uncle
r	Voiced dento-alveolar flap	rjūd	graveyard
ṛ	Voiced dento-alveolar emphatic flap	nārī	my fire
š	Voiceless palato-alveolar fricative	šdād	part of the saddle
j	Voiced palato-alveolar affricate	jimal	camel m.
k	Voiceless velar plosive	kitīb	quick sand
g	Voiced velar plosive	gišīr	guest
x	Voiceless uvular fricative	xašim	nose
ġ	Voiced uvular fricative	ġaḏa	xerophytes/wild plant
ḥ	Voiceless pharyngeal fricative	ḥafāyiḏ	three stones of fire
ʕ	Voiced pharyngeal fricative	baʕar	droppings
ʔ	Voiceless glottal plosive	ʔabad	never
h	Voiceless glottal fricative	hawdaj	saddle
w	Voiced labial-velar glide	wasim	brand
y	Voiced palatal glide	yāgaf	to stand up

Table 1: List of phonetic symbols for consonants

The description of the short and long vowels is provided in terms of length, tongue position, and lips rounding; the description of the diphthongs refers to their glide movement.

Symbol	Description	Example Word	Gloss
i	Short dorsal front unrounded	šigg	men's part of the tent
a	Short low central unrounded	barr	wildlife
u	Short dorsal back rounded	murr	bitter
ī	Long dorsal front unrounded	rīš	feather
ā	Long low central unrounded	sām	to evaluate
ū	Long dorsal back rounded	nūg	camels f.
ē	Long mid front unrounded	sēf	sword
ō	Long mid back rounded	mōt	death
aw	Rising and backing diphthong	gaw	hello
ay	Rising and fronting diphthong	laymūn	lemon

Table 2: List of phonetic symbols for vowels

Abstract

This thesis provides a descriptive analysis of the major linguistic aspects of Wadi Ramm Arabic, as represented chiefly by the speech of the nomadic dwellers (the Zalabiah and the Zawaidih). The study is subdivided into key sections that consider the following aspects: major melodic and prosodic phonological features, acoustic analysis of consonants and vowels, major morphological features and grammatical categories, relationship with North West Arabian Bedouin group, and basic thematic lexicon.

The dialect has been noted for its retention of conservative linguistic features that have disappeared from other urban, rural, and Bedouin Jordanian dialects (such as: ʕAmmāni, ʕalṭi, Maʕāni, ʕAjlōn, Bani Ḥassan, Bani ʕaxar, ʕAjārmah, ʕAbbādi, Ġawārnih) as well as the Bedouin dialects of the north Arabian type (including ʕAnizi, ʕammari, and Syro-Mesopotamian [Cantineau's Groups A, B, and C]), such as: the regular occurrence of the glottal stop [ʔ] after final stressed [a] in pause, variable levels of vowel raising (especially *buṣalah* pattern), the *gahawah* syndrome, [guttural] opacity to monophthongization, iambic stress CaCáC, the use of the preposition *fi* to the exclusion of *bi-*, third person masculine singular pronominal suffix *-ah*, third person feminine singular suffix allomorphs (*-ih/ah*), the form of plural demonstratives (*ḥaḍall* 'these', *ḥaḍallāk* 'those'), absence of the final *-n* in the imperfect, second person feminine singular, second/third person masculine plural.

WR Arabic shows parallels with the Negev Bedouin and the Ḥwētāt dialects, maintaining a conservative consonant system, lack of affrication of /g/ and /k/, retention of gender distinction in the second/third person plural inflections, productivity of the Form IV verb, absence of voice distinction through internal vowel change, and sharing a number of typical lexical entries. This suggests that WR Arabic falls under the greater non-homogenous North West Arabian type of Bedouin dialects. Though WR Arabic distinguishes itself from the Negev in the absence of the *b*-imperfect and the absence of vowel harmony in the verb Form I in the imperfect, the typological mapping of the Eastern-Western classification establishes that WR Arabic is closer to the Negev type (Western branch) than the Ḥwētāt type.

Chapter one

Introduction

Arabic is the official language of eighteen countries. In addition to the wide variety of spoken dialects, Arabic has two main standard varieties, Classical Arabic (henceforth CA) and Modern Standard Arabic (henceforth MSA). The former is referred to as ancient *fuṣḥā*, while the latter is contemporary *fuṣḥā* (Al-Sughayer, 1990). However, the language an Arab child is brought up to speak is related to his/her home region and society. MSA is learnt at school for educational and formal written and spoken purposes. Consequently, CA and MSA differ from the spoken dialects of Arabic in terms of phonology, morphology, syntax, and lexicon.

Spoken dialects are often categorised according to the Bedouin-Sedentary split. Bedouin dialects are generally more conservative and homogeneous than sedentary dialects (Watson, 2002: 9). In Jordan, there are many spoken dialects such as ʕAjārmah (Palva, 1976), Bani Ṣaxar (henceforth BṢ) (Palva, 1980), Bani Ḥassan Arabic (henceforth BḤA) (Irshied, 1984), the Ḥwēṭāt (Palva, 1986), ʕAbbādi Arabic (Sakarna, 1999), Bani Kenānah (Aldamen, 2007), and Maṣāni Arabic (Rakhia, 2009). Like these dialects, Wadi Ramm Arabic (henceforth WR Arabic), a conservative and homogenous Jordanian dialect, exhibits a large number of linguistic features which distinguish it from other dialects. These differences may be attributed to the fact that WR Arabic has maintained some features of Nabataean-Aramaic (§ 7.2). However, the dialect is in a state of rapid change due to the strong tourist industry in Wadi Ramm and increasing influence of the media.

1.1 The linguistic situation in Jordan

According to the census statistics in Jordan 2011, the population of Jordan is 6,508,271. The majority of the population are of Arab origin (98%), affiliated to the Ghassanids, the indigenous Arab tribes; some are descendents of the Arab tribes who migrated to the Greater Syria territories after the Islamic conquests in 637 C.E.; and some are the descendents of Arabic speaking tribes, or speakers of the Aramaic language who populated the southern part of Greater Syria (today part of Jordan) during the Byzantine regime that preceded the Islamic spread (Sawaie, 2007).

In the early 20th century, non-Arabic speaking Chechen and Circassian refugees from Caucasus lived in several towns of Jordan, such as: Amman, Jerash, Ṣwēliḥ, Wādi al-Sīr,

Zarqa, and Azraq (Jaimoukha, 2001: 106). The number of Circassians is estimated between 40,000 and 50,000 (Rannut, 2009). The estimated number of Chechens in Jordan is 9,000; Armenians are estimated to be around 4,000. However, they have not made a linguistic impact on Jordanian Arabic due to the limited number of immigrants. Nowadays, they have adapted to the speech of the original people especially the younger generations who speak Arabic in everyday life and occupy governmental positions (Jaimoukha, 2001).

98% of the population of Jordan can be divided into three major groups: town dwellers (*madaniyyīn/ḥaḍar*), nomadic and semi-nomadic tribes (Bedouin), and villagers (*fallāḥīn*) (Dann, 1984: 4). The remaining 2% come from other ethnic minorities, such as Circassians, Chechens and Armenians.

Amman was declared the capital city of the newly formed Emirate of Trans-Jordan in 1921; however, during the first half of the 20th century, Jordan generally lacked urban centres that could act as cultural or educational destinations (Al-Wer, 2007: 505). This lack of urban centres resulted in migration to Haifa, Jerusalem, Damascus and Beirut in search of cultural and educational improvement. Because of high illiteracy rates among Trans-Jordanians in the early 20th century, their relative isolation and the lack of an effective means of communication, divergent Trans-Jordanian dialects resulted in different localities. Thus, the three groups developed their own social characteristic dialect. Regional dialects also emerged mainly in three parts of Jordan: in the north (Irbid region), in the centre (aṣ-Ṣalt and Amman), and in the south (Aqaba, Maṣān, Ṭafilah and Karak). The arrival of Emir Abdullah with his disciples from Ḥijāz in 1921, the movement of Palestinian civil servants to Amman before 1948 (Plascov, 1981: 33), and the settlement of Syrian merchant families and professionals in Amman, Jerash, Irbid and Maṣān (Aruri, 1972: 34) contributed to Jordanian linguistic diversity. The incorporation of the West Bank into Trans-Jordan in 1949 resulted in changes in the socio-economic lifestyle and a demographic reshaping of towns and cities of Jordan, particularly in Amman, Jerash, Irbid, Madaba, Karak, and aṣ-Ṣalt and furthermore produced a change in the linguistic situation. According to Suleiman (1993), the large influx of Palestinian refugees after the wars of 1948 and 1967 resulted in dramatic linguistic changes in Jordan. Aruri (1972: 49) claims that the annexation of the two Banks significantly increased the urban rate.

Socio-economic and demographic changes were accompanied by deliberate migration from the desert, villages and countryside to the developing centres in search of education, new job

opportunities and better lifestyle. By the 1950s, the interaction between social dialects and regional dialects produced a combination of linguistic varieties. ʕAmmāni Arabic together with the Syrian and the Palestinian dialects enjoy a prestige with respect to other dialects in Jordan. On the other hand, the Bedouin who constitute the majority of the army and serve in other governmental positions are the favoured group to monarchs who originally speak Ḥijāz Arabic, which is the Bedouin dialect of the royal Hashemite family and their cortege.

One important consideration is women and their choice of the spoken dialect especially when one knows the social restrictions imposed on women in Jordan during the last few decades. This means they might adopt one of the prestigious ʕAmmāni, Syrian, and Palestinian dialects due to their high economic, educational and social status. However, it is not an easy task to determine which dialect dominates or even how they evolved. Depending on the status in Jordan before the 1950s, Sawaie (2007: 499) suggested four expected scenarios in Jordan; firstly, Jordanians may exhibit a linguistic shift toward the newcomer Syrian and Palestinian dialects. Secondly, the newly introduced Syrians and Palestinians may shift toward the dialects spoken by Jordanians. Thirdly, Syrians and Palestinians could use Ḥijāz Arabic. Fourthly, a poly-dialectal linguistic output could emerge. Investigating university students' attitudes toward different varieties of Arabic, Hussein and El-Ali (1989: 37) find that the Bedouin Arabic spoken in Jordan is the 'most preferred' spoken variety and the urban is the least preferred among the colloquial Jordanian varieties.

1.2 Scope and purpose of the study

The present study is a systematic descriptive account of the phonology and morphology of WR Arabic as spoken by the native local people. The first part will be devoted to investigating the phonology of WR Arabic. The phonemic inventory and syllable structure are examined. I also examine melodic and prosodic phonological processes in the dialect. Acoustic analysis is presented to assist in the analysis of geminates, emphatics, emphasis spread, periodicity, formant frequency, and voice onset time. Since some phonological rules apply within specific morphological environments, the study highlights links between morphology and phonology.

The second part examines WR Arabic morphology and grammatical categories: the section on verbal morphology considers verbal derivation, the morphosemantics of the derived patterns, verbal inflection, and morphophonological processes of affixation and infixation. The section on non-verbal morphology provides an analysis of nominal morphology of WR Arabic –

substantives, derivatives, adjectives, pronouns, and quantifiers, and other non-verbal grammatical categories – adverbs, prepositions, and particles. After determining the phonological, morphological and grammatical aspects of WR Arabic, I will determine how WR Arabic relates to neighbouring Bedouin varieties of Arabic within the North Arabian and Negev Bedouin types.

In terms of lexical variation, it is known that differences in vocabulary lead to dialect diversity. In many situations, they indicate differences between social groups or geographical regions. It seems that future generations are about to forget the lexemes that their ancestors use because of rapid urbanisation and spread of communication as well as increasing contact with surrounding dialects. This study devotes a section to the lexicon of WR Arabic, which is the first documented lexicon for a JA variety, and thus represents a contribution to Arabic dialectology. Drawing on the recorded material and personal interactions with the native speakers of the dialect, the lexicon covers the basic lexical items of the dialect in question. The lexicon is organised in terms of consonantal root, lexeme, English gloss, inflection, grammatical category, and the semantic category to which the lexeme belongs, and serves as an additional source for the phonological and morphological description of WR Arabic.

The targets of the study are the Zalabiah and the Zawaidih subtribes that form the majority of the population of this area centred in Ramm Village, Ad-Dīsih, Al-Ṭwaseh, Al-Ṭwayyīl, Mnēšīr and Al-Ġāl. The overall estimated population of the Zalabiah and Zawaidih subtribes is around 6250. Other Bedouins such as the Maraḡyah and Bluwi who belong to the Ḥwēṭāt tribe and live in this region are excluded. By doing so, we can get a representative sample for this study for two reasons. Firstly, the Zawaidih and Zalabiah claim that they are descendents of the Bani Ṣanzah tribe and not the Ḥwēṭāt. This claim opposes claims by both Palva (1986), who classifies them as subtribe of the Ḥwēṭāt, and Sakarna (2002), who considers the Zawaidih to be a subtribe of West Ḥwēṭāt. Secondly, the language of these tribes differs from that of the Ḥwēṭāt. This, later on, will help us to provide evidence against Palva's (1986) classifications of the dialects in the region.

1.3 Significance of the study

The dialect under investigation is in a state of rapid change due to the tourist industry in WR as well as the continuous and increasing influence of the media. Moreover, the education system has improved significantly in the region; the number of schools is increasing rapidly

and new universities are established near the region. With this in mind, mutual language exchange between WR people and the visitors occurs every day. Although WR is considered a tourist location, local people still lead a nomadic pastoralism. For this reason, the government in Jordan announced WR as a special protected zone. The code of ethics that guides my approach is that adopted by the Endangered Language Documentation Programme, SOAS, London: <http://elar.soas.ac.uk/>.

Over the course of the last three decades, a wealth of data has been published on the Bedouin Arabic varieties in the region (Peninsula, Jordan, Sinai, and southern Palestine). The spoken Jordanian Arabic (henceforth JA) varieties are amongst the lesser documented dialects of the Levant. Before Hérin (2010), who studied the dialect of aṣ-Ṣalt, no JA variety has been fully investigated (cf. Hérin and Al-Wer, 2013: 55). The literature on Bedouin JA shows that seven Bedouin dialects have been phonologically investigated, namely: ṣAjārmah Arabic (Palva, 1976), BṢ (Palva, 1980), BḤA (Irshied, 1984; Irshied and Kenstowicz, 1984), Bdūl (Yasin and Owens, 1984), the Ḥwēṭāt (Palva, 1986), ṣAbbādi (Sakarna, 1999), and Zawaidih (Sakarna, 2002) which are fragmentary and not comprehensive. Except for Palva (1980, 1986) and Yasin and Owens (1984), however, none of these studies has investigated the morphology, grammatical categories, or the basic lexicon of the dialects under investigation.

The studies mentioned above have little to say about certain aspects of the dialects under investigation, especially the acoustic correlates of vowels, geminates, emphatics, gutturals, periodicity, and voice onset time. In addition, a critical glance of the literature of JA shows the lack of a clear classification of the southern Jordan dialects: thus, Aqaba, Karak, Tafilah and Maṣāni are variously classified as rural or Bedouin (Sakarna, 2005; Rakhia, 2009). As WR Arabic is distinguished from other JA dialects in a number of aspects, this work seeks to provide a more comprehensive account of the phonology, morphology and grammatical categories of WR Arabic. Part of the work will be devoted to the acoustic analysis of vowels and consonants.

Because, as far as I know, no single study on JA has produced a lexicon of the dialect investigated, this work is pioneering in the basic lexicon of WR Arabic. The need for presenting the lexicon comes out from the coexistence of a number of varieties in the region which results in varying degrees of mutually unintelligibility. In addition, WR Arabic is subject to many changes within lexis. Words are listed according to the semantic categories used by Behnstedt and Woidich in their *Word Atlas of Arabic Dialects* (2011). The ordering

according to the thematic categories makes the lexicon practical and suitable for academic use. The lexicon will be helpful for the raw material of the description of the dialect in terms of phonology and morphology. It documents lexical items that are considered to be language specific. This section contributes to the literature on Bedouin Jordanian dialects; it is helpful for the classification of the dialects and for other studies to show where words have Aramaic origin or have been influenced by neighbouring languages.

No clear classification of JA dialects has yet been provided. The same geographical area includes more than one variety due to the fact that dialects are related to specific groups of people not to the geographical area; this factor suggests that the dialects may change the characteristics of each other throughout time. In addition, some researchers fail to give an accurate description of the dialects they investigate because the sample they consider is not representative. This can be seen from Alghazo (1987) and Al-Sughayyer (1990) who generalize the results of the ʕAjlōn dialect to all rural dialects in the region. Irshied (1984) depends only on his own native knowledge to argue for the phonology of the BḤA as he is a member of this tribe. However, he neglects the differences among sub-clans within the tribe who live in different places in Jordan. In addition, by neglecting differences between the subtribes in the south of Jordan, Palva (1986, 1991) wrongly generalises the results of a study of the Abu Tayeh subtribe to all Ḥwēṭāt subtribes. When subtribes are investigated separately in terms of their phonology, morphology, and lexical entries, important linguistic differences can be found between Bedouin dialects groups in general, and between Eastern and Western Bedouin tribes (Bani ʕAnzah and the Ḥwēṭāt) in particular. Following a piece of advice concluded by Sakarna (2002: 85) in his argument against Palva's (1986, 1991) classification, Bedouin dialects 'still need further research including correcting the inaccuracies of previous investigations'. Such kinds of discrepancy will be examined in this work. With the above justifications for the need to investigate WR Arabic, the study will address the following questions:

- 1- What are the major phonological and morphological features of WR Arabic?
- 2- What is the relationship between WR Arabic and other dialects of the area?
- 3- How has the dialect been influenced by the social history of the region?

1.4 Location of the study

Wadi Ramm, also known as The Valley of the Moon, *Wādi Al-Qamar*, is the largest valley in Jordan and is famous for huge solid mountain landscapes in the desert. It is located in the south of Jordan near the Saudi Arabia border 60 km to the east of Aqaba, the province it belongs to; and 328 km south of Amman, the capital of the Hashemite Kingdom of Jordan. It forms part of the northern end of the Ḥismā desert, and covers an area of roughly 560 km² (see Fig. 1).



Figure 1: Site of Wadi Ramm, Jordan¹

Ramm village is located in the centre of the area, and the name of the village is derived from Mount Ramm which rises directly above Ramm valley as opposite to Mount Umm Ḥiṣrīn.

¹ <http://www.wordtravels.com/Travelguide/Countries/Jordan/Map>

Wadi Ramm is famous for high mountains, of which Umm Dāmi has the highest elevation in the south of Levant and Jordan at 1840 m above the sea level. On a clear day, the Red Sea and part of Saudi Arabia can be seen from the summit of this mountain. Ramm is the second highest mountain in Jordan at 1734 m above the sea level.

1.5 Socio-historical background of Wadi Ramm

WR is a site of considerable historical importance (Lawrence, 2000). The name ‘Ramm’ most likely comes from Aramaic *Iram* meaning ‘hard to reach’ or ‘high’ (<http://cal1.cn.huc.edu/>),² and archaeologists transcribe it as *wādī ramm*. Since prehistoric times, it has been inhabited by many peoples, among them the Nabataeans who left their mark in the form of scripts and temples carved into the rocks (Zaidoun, 2004); for example, Al-Xazfali canyon which is located in the south of Ramm village is one of the most well-known places in WR. It is an easy 20-minute walk that allows you to see many Nabataean and Thamudic inscriptions and drawings (see appendix part four).

Today, WR is home to a nomadic population known as *badu* ‘Bedouin’. A military school was opened in 1960 in the region, followed by a health centre in 1965. The first long-term development for WR started with the establishment of the Aqaba Regional Authority in 1984. This authority was given the responsibility to develop Aqaba governorate, Aqaba Port, and Ramm reserve (Brand, 2001). Before 1994, Ramm village suffered from infrastructure shortage. The village has problems with roads, schools, health centre staff and equipment, electricity, water, network, etc. Due to the natural beauty, tourist attraction, outstanding location, economic benefit and ‘intangible heritage’, the second tourism development project produced in 1996 by the World Bank included plans for tourist areas in Jerash, Karak, Petra, as well as WR (Bille, 2012). This project was followed by moving some people from the old village to a new place. Because of rich oral traditions, pastoral nomadic skills and religious practices grounded in the landscape, the Royal Society for the Protection of Nature in Jordan (RSCN) announced the region as a protected area called: Wadi Ramm Protected Area (WRPA). Figure 2 shows the Protected Area, presented within an oval black line.³

² This website is recommended by Geoffrey Khan (p.c).

³ With kind permission from the author, figures 2 and 3 have been reproduced from Strachan (2012).

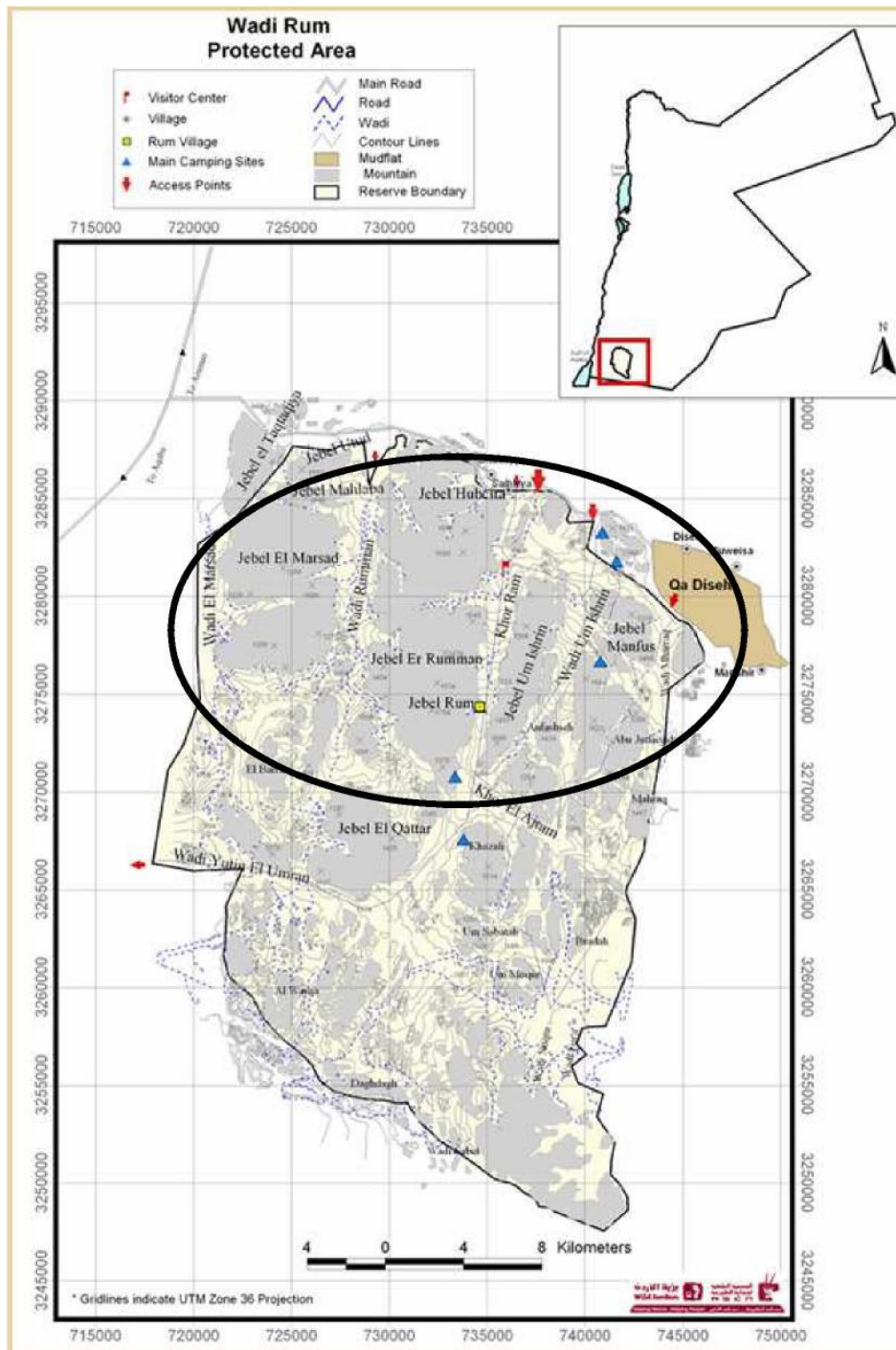


Figure 2: Wadi Ramm Protected Area

One of the characteristics that distinguish WR from surrounding areas, especially Petra and Aqaba, comes from the fact that the residents maintain a nomadic pastoralism. Up to the present day, most of them live in tents. Some members of WR tribes speak English fluently as well as their native dialect because of the tourist industry. The tourist industry and modernisation are threatening this dialect. Consequently, the researcher aims to conduct a

study that shows what makes WR distinct from other dialects in Jordan and the Bedouin dialects in surrounding Arab countries.

1.6 Socio-economic status of the region

Jordan includes fifteen nomadic and semi-nomadic tribes namely: Bani Xālid, Sardiyah, Sirhān, ʿIssa, Ahl-al-Jabal, Rwala, ʿAbbād, Bani Ḥassan, Bani Ṣaxar, Belqawiyah, Bani ʿAttiyah, Bani Ḥamidah, Nuṣaymāt, Ḥajāya, and Ḥwētāt (Bin Muhammad, 1999: 55). Bani ʿAnzah and the Ḥwētāt are the paramount tribes of the southern Jordan, northern Saudi Arabia and the east coast of the Gulf of Aqaba. While Patai (1958: 163) points out that the Ḥwētāt live in the south of Jordan since the 17th century, Sinai and Pollack (1977: 116) claim that the Ḥwētāt could be descended from the Nabataeans who built Petra during the first century C.E. A piece of evidence for this claim comes from Thamudic inscriptions carved on the walls of the mountains such as the canyon of Al-Xazʿali mountain. The mountain of Ngūš, a name which literally means ‘inscriptions’, is also a mountain that includes many inscriptions related to that period of time (see appendix part four).

WR is important in the history of modern Jordan, because it was one of the key places of the Arab revolution (1916-1918) initiated by Sherif Hussein bin Ali to secure independence from the ruling Ottomans through the creation of a unified Arab state from Yemen to Syria. WR and the surrounding areas were the battlefield between Bedouin Arab tribes, under the leadership of Awdih Abu Tayeh with the help of Prince Abdullah and Laurence of Arabia and Ottoman army in 1917. It is now known as the battle of Aqaba. The Ḥwētāt and Bani ʿAnzah participated in the war against Ottoman Empire. These two subdivisions were divided again into clans. The Zawaidih, who live in Ad-Dīsih, and the Zalabiah, who live in Ramm village, affiliated to Bani ʿAnzah tribe which originally comes from Arabic Peninsula. These subtribes have the following families: Al-Kuwāhīt, Al-Xtūm, Al-Simaʿīn, ʿIyāl Miṭlag, Al-Šhētāt, Al-Jimāʿīn, Al-Gʿērāt, Al-Mazanah, ʿEyāl Zēdān, and Al-Flēḥiyyīn (personal communication with the Sheikh Ali Ḥamd). The Ḥwētāt tribe hold all the area around WR from Ṭāba in Egypt, north to al-Ḥusseinyya on the Desert Highway, and into Saudi Arabia to the south. In *The Seven Pillars of Wisdom*, T.E. Lawrence remarks that the Zalabiah were worried about being absorbed by the Ḥwētāt if they cooperated with Abu Tāyih (Lawrence, 2000).

Before the Hashemite Kingdom of Jordan and implementation of the borders, the Zawaidih and Zalabiah migrated in search of grazing and water. After the 1920s, they coexisted with the

Ḥwēṭāt, and then many of them have been recorded under the Ḥwēṭāt fold (personal communication with Mohammad Salim Zawaidih). Evidence in support of this claim comes from the fact that the Jordanian Election Law lists the Zawaidih and Zalabiah as two integral clans of the Ḥwēṭāt (Strachan, 2009: 16). Sakarna (2002: 62) points out that ‘the Zawaidih tribe of southern Jordan is part of the well-known large tribe Al-Ḥwēṭāt’. Before 1970, the Zawaidih lived with the Zalabiah near the mountains of Ramm in Ramm Village. Then they moved to Ad-Dīsih to be close to the permanent source of water. Geḍmān, Ṣwēlhīn, Dbūr and ʿImrān are Ḥwēṭāt tribes. Dbūr live in Rāšdiyyah village, Ṣwēlhīn live in Ṣālḥiyyah and Ṣākriyyah, and ʿImrān live around Titn. Figure 3 shows the WR villages circled, and the mountains of the region:

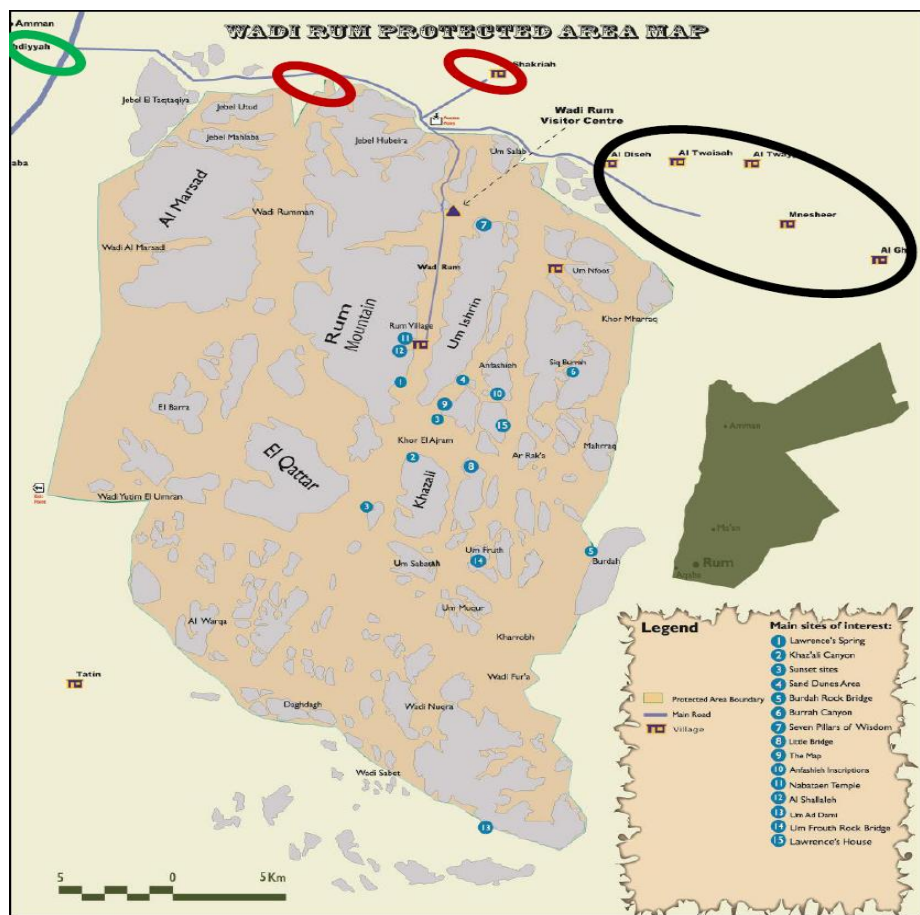


Figure 3: Wadi Ramm villages and mountains

Ramm, Ad-Dīsih, Aṭ-Ṭwēsīh, Aṭ-Ṭwayyīl, Mnēšīr, and Al-Ġāl are villages included in the protected zone. The Bedouin who still live in and around the WRPZ are Bani ʿAnzah and the Ḥwēṭāt.

The most important villages are Ramm and Ad-Dīsih, known also as Qāf Ad-Dīsih, because they are the centre of the Zone. Ramm is the old village with considerable touristic importance. In Ramm village, the Zalabiah continue herding livestock and employed in tourism. They live in hair houses ‘tents’ or village homes. Ad-Dīsih, 23 km northeast of Ramm village, is the village of agriculture and mineral water and the name derives from the verb *dās* ‘walk over’. Over a few years, plants called *ḡaḏa* and *ratum* covered Ad-Dīsih, and therefore, the area looks like a wood that camels walk over (Sakarna, 2002: 63). Ad-Dīsih is home to the Zawaidih who depend on grazing. Some of them are employed by the local agriculture company. A large number of the younger people pursue higher education and some work in tourism. The Zawaidih represents 65% of all citizens, followed by the Zalabiah (30%). Dbūr, Giḏmān, Ṣwailhīn, and ʿImrān also are small groups who live there. They have coexisted for many years sharing pasture and water.

Before 1921 and the Arab revolution (1916-1918), the nomadic tribes of WR adhered to Bedouin law, known as *al-qaḏāʔ al-ḡašāʔiri*. In addition to many issues that may surface in their life, it was oriented towards ‘revenge’ or *tār*, ‘honour’ or *šaraf*, and ‘face cases’ or *tagtīʔ al-wajh*. *At-tār* refers to the way of handling murder cases. A judge intervenes to decide an appropriate punishment. Often the judgment was the family of the murderer to travel to another region where they sought protection from the local tribe to avoid revenge. *Šaraf* cases refer to the abuse of a female by a male. The woman is always considered right in these cases and is believed over the male. *Tagtīʔ al-wajh* refers to cases when two men were involved in a fight where a third party respected by the tribe stands between them to stop the fighting. If one of the conflicting parties breaks the truce, this results in *tagtīʔ al-wajh* for which the sheikh would issue a punishment. Specially qualified Bedouin judges were appointed for special cases such as marriage, criminal acts, land disputes and robberies. After 1921, people are governed by the Hashemite Kingdom law which is partially derived from Islamic principles where revenge is forbidden in Islam. Although the government established new courts of first instance, magistrate courts and courts of cessation, *al-qaḏāʔ al-ḡašāʔiri* is active in the Bedouin tribes. In WR, *jāhah* and *ḡaṭwah* are still working effectively. They refer to a group of men who have a good reputation; their role is to solve problems between people and to help young people to get married.

As for most livestock herders, WR Bedouins use animal branding so as to easily find lost or stolen animals. The location of the brand differs with regard to camels, sheep, or goats. The

Zalabiah sheep and goats brand is similar to the English ‘S’ or snake-like branded on the back of the left ear. The Ḥwētāt brand mark was used by the Bedouin in WR. It is like the Arabic number ‘^’ (or upside-down V) on the left rump of the camel. The cross ‘+’ on the left side of the camel neck represents the Zawaidih brand mark.

Coffee is an important part of Bedouin tradition since it is the key mark of hospitality. It is considered the problem solver in *ṣaṭwah* and *jāhah*. It is a tradition that the guest refuses to drink the coffee till the host accepts what the guest asks for. Women are not permitted to serve male guests because the one who prepares coffee is supposed to be pure and because of the monthly menstrual cycle, women could not be pure all the time. Since men may not ask them about the time of their cycle, women are prohibited from making or serving coffee. There is an order of pouring coffee and receiving it; the host must stand and serve the coffee with his right hand; the guest also receives the coffee with his right hand. When there is a group of men, the host starts from the man on the right. When there is a special guest in the group, the coffee is served to this guest first, then to the others on his right. The coffee may be offered to the guest up to three times; every cup of coffee contains only a mouthful. The three cups have different names as follows: (1) the cup that the host drinks is *funjāl al-hayf*⁴ ‘the unworthy cup’. (2) The first cup that the guest drinks is *funjāl aḍ-ḍayf* ‘the cup of guest’. (3) The second cup that the guest drinks is *funjāl al-kēf* ‘the cup of mood’. (4) The third cup is *funjāl as-sēf* ‘the cup of sword’ (personal communication with the Mohammad Salim Zawaydih, and Al-ṢAbbādi, 1989).

Drinking each cup has its own meaning. The first cup drunk by the host, *funjāl al-hayf* ‘unworthy cup’, is not counted and serves as insurance to the guest of safety and shows that the coffee is drinkable. It also gives the host a chance to check that the coffee is hot since serving cold coffee is considered insulting. The first cup drunk by the guest, *funjāl aḍ-ḍayf*, is for every guest. By drinking the first cup, the guest declares that he accepts and appreciates his host hospitality. The host offers his guest a second cup which serves to ask him about his mood. Drinking the second cup, *funjāl al-kēf*, means that the coffee is tasty and the guest has a good mood. When the guest accepts the third cup, *funjāl as-sēf*, this means that the guest would defend this tribe if another tribe invaded them. The guest is not permitted to ask for a fourth cup; to do so would mean that he was impolite or did not know the Bedouin traditions.

⁴ See (§ 3.2.1) on /ay/ and /aw/ monophthongization under certain conditions

In addition to agriculture in Ad-Dīsih, the Bedouin of WR engage in three major occupations: pastoralism, the Bedouin Army Force, and tourism. Men's key role is to welcome guests into their hair houses, make them coffee, and sometimes provide a meal for them. They are responsible for going to markets, buying goods, hunting wild animals and herding animals. Within the family, the man should train, teach and direct his sons, by teaching them how to rear camels, greet and serve guests, how to use weapons, and how to protect the house and animals in the absence of their father. Household work, teaching daughters, milking animals, making milk products, collecting wood, and bringing water from *al-ḡayn* 'Ramm spring' are women's duties. Women are also responsible for handicrafts; therefore, they make cushions, carpets, straw plates, quilts, and panels for the hair tents. Children are mainly responsible for helping their mother in household duties. After the age of seven, sons start helping their father in herding animals. New-born babies tend to be named according to the prophets or famous people in the region. Many elderly people do not have birth certificates, but associate their age with specific events. After they reach their twenties, it is the responsibility of the sons to take care of their parents.

The clothes worn by men are: *tōb* 'white dress-like apparel', *ḡabāh* 'robe worn for special occasions', *farwah* 'long heavy coat worn in winter', *sirwāl* 'trousers worn under *tōb*', *šmāḡ* ~ *mandīl* 'red scarf or head-cover', *kūfiyyih* 'white scarf or head-cover', *ḡāl* ~ *marīr* 'two black coils put on the top of *šmāḡ*', *jibbih* 'short woollen coat worn in winter', *ḡida* 'shoes', *maḡazam* 'belt worn over the *tōb*', *kaff* 'belt that holds up to 50 bullets', *mijnan* 'shoulder belt for extra bullets', *ḡimd* 'sheath'. The typical weapons a male Bedouin carry are: *barūdih* 'gun', *fard* 'pistol', *sēf* 'sword', *šibriyyih* 'knife', and *ḡarbah* 'bayonet'. Women and girls above ten wear clothes covering all their body except for the hands and face. Some girls uncover their heads. Generally, a woman's dress is very simple: they wear a *mudraḡah* 'long black dress', *laḡfiḡ* 'scarf or head cover for unmarried girls', *ḡaḡbah* 'head cover for married women', *malfaḡ* 'black clothes covering the front part of woman's neck and chest', *ḡida* 'shoes', *dišdāš* 'long underdress'.

In the past, women's make up was *kuḡlih* 'eyeliner' and *nadd* 'perfumed cream'. In addition, *dagg* 'tattoo' covered old women's hands and faces for beautification. It was a tradition transferred from a mother to her daughter and performed by people known as *nuwar* 'gypsies'. Nowadays, young women no longer follow this tradition and tattoos can be seen only on the faces and hands of old women.

The choice of a bride mainly depends on the reputation of the bride's family. In many cases, the parents chose their son's fiancée from one of their relatives. After choosing a specific girl, *jāhah* 'a male group of respect' goes to the girl's family and ask her father's permission to marry her to their male relative. The girl's family welcome the *jāhah* and serve them with coffee. The custom is that the head of the *jāhah*, usually the sheikh of the tribe, would refuse to drink their coffee until they give a positive answer to his request. The wedding parties last between three days and a week. Every member in the clan is invited to the celebration. Coffee and tea are served during the party, and on the final day, the father of the groom-to-be slaughters a sheep to feed his guests. All the expenses of the wedding party are the responsibility of the groom's father.

Polygamy is accepted in WR and a man may marry up to four women. They claim that this is not due to sexual desire, but is a custom based on the need for a large number of sons to help their father in livestock and war and sometimes for political reasons or to build alliances. Many cases were mentioned where women asked other girls to be their husband's wives. Although not permitted in Islam, *badāyil* 'marriage exchange' was traditional in WR: if a man marries a woman, and her brother marries the man's sister neither need pay a bride price. Nowadays, people are more aware of the rulings of Islam and avoid this custom.

Finally, it is worth noting that the life of Bedouin in WR is closely associated with three things: coffee (§ 1.6, p. 13), poetry and *rabābah* ~ *rubbābah* 'musical instrument'. As for poetry, a great number of the Bedouins compose poetic verses called 'Nabataean poetry' *aš-šīr an-nabaṭi* covering every corner of their life. Some of these verses are sung by special singer called *aš-šāfir*. The general scene is that every night men are gathered in the sheikh's hair house to drink Arabic coffee, listen to stories and listen and recite poetry and songs accompanied by the *rabābah*.

1.7 Research methodology

The preparation process began early in October 2012 in coordination with my supervisor, Professor Janet C.E. Watson, based on weekly supervision meetings. During the meetings, we talked about basic issues regarding my research project and the fieldwork such as: review of literature with special focus on Jordanian dialects, preparation of a check-list of phonological and morphological features to be investigated during the fieldwork. I followed the practical techniques described in Bowerman (2008) *Linguistic Fieldwork*. I downloaded the ELAN

programme in order to align transcription and translation with the sound media. I received training in use of the Handy Zoom H4n recorder, a digital voice recorder, and in archiving and backing up of data using Dropbox, USB sticks and DVDs. I prepared a consent form together with its Arabic translation (§ appendix: part one), speaker and recording metadata sheets (§ appendix: part two), colour and picture cards, and a list of questions and topics to talk about in the field. I also made a sample of the lexicon consulting Asiri's lexicon of Rija' Alma' dialect (Asiri, 2009) and Behnstedt and Woidich's *Word Atlas of Arabic Dialects* (2011). I applied for ethical approval confirming that my study follows the code of ethics applied by the University of Salford. I contacted two native speakers of WR Arabic via Facebook who showed willingness to help me any time. In addition, my father contacted a friend in the region, asking him to facilitate my work.

After obtaining ethical approval for my project, I started fieldwork. The research methodology used in this work is basically qualitative. Data collection took place over 6 weeks. Fieldwork began mid-December 2012 and ended mid-February 2013. In the first stage, Ali Audih, a friend of my father who lives in the region and a native speaker of the dialect, helped us to contact the people over there. The Bedouin who participated in this study were randomly chosen. The population of this project is the Zalabiah and Zawaydih who live in WR and constitute the great majority in the region; the sample of this project consists of twenty-one male subjects. Although collecting data from both male and female informants would be ideal, I was unable to record women due to cultural taboos. This problem was acknowledged by other researchers such as (Al-Jehani, 1985; Asiri, 2009). Women's data come from the wife of one of the language consultants; they were elicited by the language consultant, who then double-checked the material with his wife. According to self-report, the target group included ages ranging between 26 and 72 years. The average age is 49 years old. None of them have any hearing or speaking deficiency, all the informants have spent most of their life in WR, and none have travelled outside Jordan. Their level of education varies from primary school to graduate degree holders. Table 3 provides information about the participants with identification through code names for confidentiality.

Code	Name	Gender	Age	Education	Travel	Occupation
AA		Male	30	Secondary school	No	Tour guide
AB		Male	45	Secondary school	No	Tour guide
AC		Male	65	Primary school	No	Retired soldier
AD		Male	47	Primary school	No	Farmer
AE		Male	53	Primary school	No	Farmer and shepherd
AF		Male	72	Primary school	No	Retired soldier
AG		Male	71	Primary school	No	Retired soldier and camel breeder
AH		Male	67	Primary school	No	Retired, tour guide and hunter
AI		Male	31	Graduate	No	Sports teacher and tour guide
AJ		Male	35	Secondary school	No	Tour guide and camel breeder
AK		Male	60	Primary school	No	Tour guide
AL		Male	33	Secondary school	No	Tour guide
BA		Male	27	Secondary school	No	Soldier
BB		Male	56	Primary school	No	Retired soldier
BC		Male	33	Primary school	No	Civil servant
BD		Male	26	Graduate	No	Teacher
BE		Male	39	Graduate	No	Military culture school teacher
BF		Male	52	Primary school	No	Retired soldier
BG		Male	33	Graduate	No	Teacher
BH		Male	31	Secondary school	No	Tour guide
BI		Male	41	Secondary school	No	Tour guide

Table 3: Research participants

The researcher explained the purpose of the project to encourage potential participants. The sample subjects of the study were given a consent form provided with verbal and written explanations of the purpose of the project, told how the data would be used and how it would be stored, told how the confidentiality of every subject would be protected, and assured that the data would be destroyed, if the subjects so wish, at the end of the project. Every session started by introducing myself to the participant followed by a brief talk about the aims and objectives of the study. The speakers were asked to introduce themselves in order to know their names, ages, occupations, travel, and whether they had any hearing or speaking

deficiency. They were recorded indoors in order not to be affected by extraneous noise. While the informants were speaking, I observed the way they talked and took notes; I then double-checked the notes after the recording with the speakers themselves and with the language consultants.

Data was collected from a variety of topics in order to cover basic lexical items that are used in this dialect such as: Bedouin food, clothes, traditions, folk tales, animals, plants, names of camel, history, means of communication, jobs, games, entertainments, jokes, stories, songs, poetry, youth interests, desert, names of mountains, tourism, education, religion, morals, *al-qānūn al-ḥašāʿiri* ‘law of tribe’, etc. In addition, I made cards of animals, plants, and colours and recorded the participants’ descriptions of the cards.

Data was collected by producing audio recordings of native speakers from WR. For this purpose, a digital audio recorder (Handy Zoom H4n) was used. This equipment is one of the most sophisticated handheld digital recording devices. I used this recorder due to the accurate digital results that can help me in transcription and acoustic measurements. It has two internal microphones by which the microphones allow recording patterns at either 90° or 120°. This means the recorded material sounds clear and natural. Recordings were immediately stored on an SD card; data were saved on my laptop which was protected by a password. The material was also saved in a Dropbox folder to which no third party had access. The SD card was wiped clean before it was returned to the Language Centre. Handy Zoom H4n is supplied with (Cubase LE5) software version which ran on my laptop to identify the recorder and easily transfer the recorded sound files into it. Data was saved in WAV format at a sampling rate of 44.1 KHz/16 bit resolution to enable later acoustic analysis using the Praat software programme (<http://www.fon.hum.uva.nl/praat/>).

The data corpus comprises three types of recorded material:

1. Recordings of monologues or narratives on topics relating to local history and culture lasting no longer than 10 minutes.
2. Material resulting from question and answer sessions about specific grammatical categories, such as: How do you negate a sentence or ask a question in your own words? Count from one to twenty?
3. Recordings of conversations or dialogues between native speakers discussing a certain topic such as stories, celebrations, or way of life.

After recording the subject sounds, I double-checked the recorded materials with the speakers themselves and with other native language consultants who helped me in understanding some rare lexical items, double-checked the pronunciation of certain words, and the filling of parts of the lexicon. Table 4 gives details of the three language consultants:

Name	Gender	Age	Education Level	Travel	Occupation
Naji Salih	Male	34	Graduate	No	Arabic teacher
Ali Awdih	Male	39	Secondary school	No	Tour guide
Salim Awdih	Male	33	Secondary school	No	Soldier

Table 4: Language consultants

Forty-five recordings were made, of which ten have been transcribed and translated using the ELAN 4.5 Programme. With ELAN, the researcher can create annotations in tiers, which can be a transcription or translation of a word, a sentence or gloss of the recorded material. ELAN has a number of characteristics that attract a researcher to work with such as: waveform of .wav files is visualized, it allows multi-tier expression navigation and search, and has the ability to import and export Praat. The transcription used is based on that of the Journal of Semitic Studies: <http://jss.oxfordjournals.org/>. Using Excel, I provided a basic lexicon of WR Arabic. The excel sheet was organized as follows: root, lexeme, inflection, English gloss, grammatical category and semantic category. The example sentences used throughout the discussion were extracted from the subjects' speech and double-checked with the help of language consultants.

1.8 Overview of the thesis

This chapter was introduced with a general overview of the linguistic situation in Jordan. I then discussed the specific issues of interest in studying Jordanian Arabic dialects in general followed by a justification of the need to investigate WR Arabic in particular. I gave a description of the location of the study and socio-historical background of WR region. Finally, I described the fieldwork methodology.

The rest of the thesis is organized as follows: chapter two briefly presents basic preliminaries on the Semitic language family and the situation of Arabic as a sister of this group. Special parts have been devoted to review Arabic dialect classifications followed by the general characteristics of Bedouin Arabic dialects. Hereafter, I reviewed the literature on Bedouin Arabic dialects in the region, in general, and Jordanian Arabic dialects, in particular.

Following discussion of fieldwork, chapter three presents a descriptive analysis of the major phonological aspects that WR Arabic exhibits in terms of melodic phonology. The first section establishes the phoneme system to be found in WR Arabic supported with acoustic analyses and spectrograms to explain the main measurements of speech sounds including relative length, formant frequencies, F2 lowering, and voice onset time. Acoustic analysis of geminates, periodicity, and emphasis spread are presented in this chapter. The chapter covers the major melodic processes that affect segments, namely: monophthongization, raising, umlaut, lexical assimilation, post-lexical assimilation, emphasis spread, and metathesis.

Chapter four deals with the prosodic phonology of WR Arabic; syllable structure, consonant clusters, stress assignment, and stress shift have been investigated. A special section has been devoted to the prosodic processes that affect stress assignment and syllable structure, namely: vowel shortening, syncope, epenthesis, and glottal stop /ʔ/ deletion.

Chapter five examines the morphological and grammatical categories to be found in WR Arabic verb. Chapter six investigates the non-verbal morphology in terms of nominal derivation, nominal inflection, quantifiers, pronouns, adverbs, prepositions and particles. In chapter seven, I present a lexicon of WR organised according to the semantic field of each lexeme. Chapter eight presents a summary of the thesis and suggests recommendations for future research.

Chapter two

Literature review

2.1 Introduction

In this chapter, I examine studies on the dialects of the region to which the dialect under investigation belongs. I begin with an overview of Semitic languages and the situation of Arabic within this family. I present some suggested definitions of the linguistic term *dialect* followed by the classifications of Arabic vernaculars and general characteristics of Bedouin Arabic dialects. In light of the literature on JA dialects, I provide an overview of the linguistic situation within Jordan and within the region. Then I review phonological, morphological and some sociolinguistic studies conducted on JA dialects. WR Arabic is spoken in the south of Jordan; therefore, selected studies on Bedouin Arabic in the region are of interest, especially the north-western part of Saudi Arabia and the south of Palestine. The focus in this review will be on relevant sample studies representing the region since there is not sufficient space to review all studies conducted on dialects spoken in Saudi Arabia and Palestine.

2.2 Preliminaries on Semitic language family

The Semitic language family is a group of languages that show a sufficient degree of similarity in their phonology, morphology and basic lexical entries to indicate a common origin. They are well known for their non-concatenative morphology. That is, stems consist of consonantal roots plus vowel patterns or infixes. Some of these languages are extinct (such as Akkadian and Eblaite), and some possess a rich literary heritage and act as liturgical languages (such as Arabic and Hebrew). The ‘Semitic’ languages were named by A.L. Schlazer in 1781 in J.G. Eichhorn’s *Repretorium Fuer Biblisch and Morgenlaendische Literatur* (Vol. VIII, p. 161). Today they are spoken by over three hundred and fifty million people across much of Western Asia, North Africa and the Horn of Africa (Lipiński, 2001). The name Semitic comes from the belief that this group of languages is spoken by the sons of Sem (ibid: 21).

Although the exact geographical homeland of the *Proto-Semitic* mother language is disputed, the earliest texts denoting it date back to 2500 B.C.E. and were composed in the ancient Near East-Syria-Palestine and Mesopotamia (Holes, 2004: 10). New types of Semitic were discovered in Central Mesopotamia at Kish as well as Northern Syria at Ebla, Tel Beydar. This

discovery revealed the existence of a group of Semitic languages dating back to the third millennium B.C.E. (Lipiński, 2001: 49).

The Fertile Crescent (Palestine, Syria and Mesopotamia) was the homeland of the Semites during the 3rd and 2nd millennia B.C.E. From there, the language spread to the east, west, and north with the migration movement of Akkadians, Amorites, Aramaeans, Hebrews and Old South Arabians. Most of the tribes who remain in the region are Arabs (Voigt, 2009a). According to Holes (2004: 10), the earliest textual evidence denoting the existence of Arabic as a distinct language dated to the first century C.E. is an inscription found at 'En Avdat in 1986. Arabic became an important literary Semitic language after the spread of Islam.

Semitic languages fall under the larger family of Hamito-Semitic which itself is part of Afro-Asiatic. The final word has not been said on the sub-classification of the Semitic languages yet. This is because there could be a piece of evidence against any grouping of the language sub-families. Semitic languages are traditionally sub-grouped on grounds of their geographical and cultural distribution (Bergstrasser, 1983; Brockelmann, 1961; Moscati, 1969; Ullendorff, 1970) as well as their structural properties. According to the first basis, Semitic languages are divided into East Semitic and West Semitic. West Semitic is subdivided into Northwest Semitic, to which Aramaic belongs to, and South Semitic to which Arabic belongs (cf. Brockelmann, 1908-1913: i, 6; Moscati, 1969: 4). However, examining shared phonological and morphological innovation, Hetzron (1972, 1973, 1975, 1976) suggested a new grouping of the Semitic languages: the two major branches: East Semitic and West Semitic as for the first classification, with West Semitic subdividing into Central Semitic and South Semitic. According to this classification, Arabic belongs to Central Semitic. Central Semitic has two branches: Arabic and Northwest Semitic, which includes Ugaritic, Canaanite (Hebrew, Phoenician, Moabite, Ammonite, El-Amarna) and Aramaic (Faber, 1997: 6). According to Voigt (2009a: 170), Arabic relates more closely to Canaanite than to Aramaic.

The ancient languages in central and northern Arabia are known as Ancient North Arabian; and those in the southwest Peninsula are classified as Ancient South Arabian. North Arabian is subcategorized into two groups: Arabic, which is subdivided into Old Arabic, Classical and Middle Arabic (Ancient North Arabian), and the vernacular dialects; and North Arabian, which is distinct from Arabic (Macdonald, 2004). Ancient North Arabian dates to the 8th century B.C.E. and the 4th century C.E. and was spoken by the settled people and nomads of central and north Arabia and nomads in southern Syria and eastern and southern Jordan. It was

only attested in graffiti inscriptions and was made up of a number of dialects namely: Oasis North Arabia, Safaitic, Hismaic, Thamudic, and Hasaitic (Macdonald, 2000, 2004). According to Macdonald (2004: 492), Hismaic was the language of nomads of the Ḥismā sand desert in southern Jordan and northwest Saudi Arabia. WR, the northern end of the Ḥismā, is not far away from Petra, the capital of the Nabataeans. The map in figure 4 shows pre-Islamic Arabia; the arrow points to Ramm, the northern end of Ḥismā and the location of the present study.



Figure 4: Pre-Islamic Arabia⁵

Canaanite comes from Canaan, the ancient Palestine appellation of southern Syria. Some sources were discovered tied back to the second millennium B.C.E. Old Canaanite are reflected to a certain extent in the old Babylonian tablets from Hazor attested by a number of

⁵ The map is reproduced with kind permission from Macdonald (2004: 489) and Cambridge University Press.

short inscriptions found in Palestine and Sinai. Pseudo-hieroglyphic inscriptions of Babylon are most likely composed in Canaanite dialect. This stage represents the earliest purely alphabetic form of writing (Lipiński, 2001: 57-60).

According to Bowman (1948: 67), the Bible mentions that the Aramaeans are descended from Aram, the Son of Sem, Son of Noah. Aramaic is attested from the 9th century B.C.E., and survives in the form of Neo-Aramaic. A large number of inscriptions have been found in Syria, North Israel, and Jordan dated from the 9th through the 7th century B.C.E. Because of its simplicity and flexibility, Aramaic was the language of diplomacy and administration used in the Assyrian, neo-Babylonian and then became the lingua franca of the Achaemenid Empire. Later on, it became the official language of the Persian Empire. Aramaic also became the principal tongue of traders over an area from Egypt and Asia Minor to India (al-Theeb, 1989: 29). The oldest written text in Aramaic dating back to the early part of the first Millennium B.C.E was found in Tell-Fekheriye. As a written language, Aramaic was developed through three major phases: Old Aramaic, Imperial Aramaic, and Biblical Aramaic (ibid: 30-1).

Documents written in Nabataean were discovered among the scrolls of the Judean Desert. Some Nabataean graffiti have been found in Jordan, North Arabia, Negev, Egypt, Greece and Italy. From the 2nd century B.C.E. to the 4th century C.E., Nabataean Aramaic was the written language of the Arab population whose main centre (capital) was Petra, historically attested as *Reqem* from the 6th century B.C.E. on (Lipiński, 2001: 64). Nabataean is closely related to Aramaic simply because Nabataean was the West Aramaic language of the Arab people established around Petra, south of the Dead Sea between Northern Arabia and Sinai. This language flourished from the first century B.C.E to the third century C.E (Cantineau, 1930).

2.3 The definition of a dialect

Holes (2004: 37) distinguished between the *ʿArabiyyah* and *Old Arabic*; while the former is defined as the variety of Arabic used in the pre-Islamic poetry, the Quran, and elevated diction, the latter referred to the tribal dialects used in everyday speech. *ʿArabiyyah* retained certain morphosyntactic features that Old Arabic started to lose by the 7th century after being learnt in the towns and cities in the conquered territories. Therefore, Arabic dialects changeability has been applied on the ground, i.e., the spoken Arabic dialects are the varieties of Arabic that all native speakers acquire as their mother tongue before they begin to study the CA or the MSA in their formal education. They also vary substantially from one another with

regard to their geographical distance. That is, neighbouring dialects such as Jordanian and Palestinian are mutually intelligible to native Arabic speakers; however, distant regional dialects, such as Moroccan and Bahraini, have linguistic differences which result in the need for a conscious effort to understand each other, or the need to adjust their everyday language and resort to MSA, the literary language that all native speakers of Arabic share.

Crystal (1980: 110) defines the term ‘dialect’ as ‘a regionally or socially distinctive variety of a language, identified by a particular set of words and grammatical structures’. Watson (1994) conducted a critical examination of the definition of the linguistic notion *dialect* with reference to Yemeni Arabic dialects. She pointed out that a dialect is dependent on the dimension of human perception. She also concludes that ‘a dialect is a dialect, not more or less ...but absolutely because it exists as a psychological reality in the minds of its speakers and the minds of the speakers of other dialects in relation to other dialects.’ (ibid: 247).

2.4 Classification of Arabic dialects

The classification of Arabic dialects may depend on a number of criteria, such as the choice of diachronic or synchronic approach, cultural and historical premises, linguistic research interests, and isoglosses bundles in connection with the geographical boundaries that identify borders between dialects. In the literature, some titles of textbooks, theses, articles as well as courses of Arabic dialects refer to Arabic dialects as Syrian Arabic, Egyptian Arabic, Jordanian Arabic, Moroccan Arabic, and such, though referring to the dialect of the capital city of that country. This classification can be justified because of the trend of speakers of the dialects in a country toward the more prestigious dialect, often the one spoken in capitals and urban centres (cf. Palva, 2006: 604-5).

The first much broader classification is the traditional East-West dichotomy. The Eastern (*mašriq*) dialect group includes Saudi Arabia, Oman, Yemen, Kuwait, Qatar, Bahrain, United Arab Emirates, Iraq, Syria, Jordan, Palestine, Lebanon, Sudan and Egypt. The Western (*mağrib*) dialect group includes Libya, Tunisia, Algeria, Morocco, and Mauritania. The division is from the coast of Mediterranean along the west borders of Egypt south to Lake Chad (Palva, 2006). This division was based on certain linguistic features that each group shares. Differences among Eastern and Western dialects groups are attested on all linguistic levels (cf. Palva, 2006: 605-6).

Jastrow (2002) classifies Arabic into three geographical zones according to where Arabic originated and how it spread: the Peninsula (where Arabic was spoken before Islam), the southern regions of the Peninsula, Levant, Egypt, North Africa, Iraq, parts of Iran (where Arabic moved as a result of the Islamic conquests), and the geographical peripheries (located outside the Arabic language area such as Iran, Uzbekistan, Afghanistan, Chad and Nigeria where Arabic came in as a result of Islamic trade). According to Jastrow, the spoken dialects in the first zone, the Arabic Peninsula, are archaic because of the ‘shift in political and administrative centre of gravity to the new Islamic territories’ (Jastrow, 2002: 348). Watson (2011a) groups the Arabic dialects geographically and politically into the Levant, Egypt and Sudan, Mesopotamia, the Peninsula, North Africa, and dialect enclaves and sub-Saharan Africa dialects.

Ingham (1982) and Palva (1991) classify Arabic dialects of the central region into three classes. The first class represents north-east Arabian dialects spoken by ʕAnizah tribes in Kuwait, Sunni Muslims and Gulf state speakers, Bedouin Šammar tribes in Iraq, and Syro-Mesopotamian dialects in the north of Israel and Jordan. The second class refers to South-west Arabian dialects that spread in Yemen, Ḥadramaut and ʕAden, and Bahrain (Shiʕite). The third class represents the dialects of Ḥijāz spoken in the areas of Ḥijāz and Tihama.

A further classification is the Bedouin-sedentary dichotomy where Bedouin dialects (*Badawī*) tend to retain more ancient features than sedentary dialects (Versteegh, 1984; Rosenhouse, 1984, 2006; Cadora, 1992; Heath, 2002). Sedentary dialects (*ḥadārī*) may be further subdivided into urban (*madanī*) and rural (*fallāḥī/qarawī*) dialects; for example, dialects of Central Palestine and Jordan can be classified into rural and urban (Cadora, 1992; Holes, 2004). Blanc (1964, note 21) points out that all nomads exhibit Bedouin dialect types, but not all sedentary Arabs exhibit sedentary dialect types. Cantineau (1939) shows that outside the Peninsula many Bedouin features are attested in sedentary dialects, including: the maintaining of interdental sibilants in villages of central Palestine, south Lebanon, Palmyra, and in rural and urban dialects in Iraq (Holes, 1996), and affricated reflexes of *k in Palestinian Galil dialects (Palva, 1991: 155). However, Rosenhouse (2006) argues that one cannot say that the features associated with Bedouin dialects are universally ‘conservative’ and we do not find a specific set of features that can distinguish all Bedouin dialects from all sedentary dialects.

Another classification is based on religion, such as the different dialects spoken by Muslims, Christians, and Jews in Iraq (Blanc, 1964), and distinct dialects spoken by the Sunni and Shi'ite in Bahrain (Holes, 1983; Walters, 2006).

Within Jordan, Sakarna (2005) classifies Jordanian dialects into three types: urban (Abd-el-Jawad, 1981), rural (Al-Khatib, 1988; Al-Sughayer, 1990), and Bedouin. The Bedouin dialects include BHĀ (Irshied, 1984), BŞ (Palva, 1980), the Bdūl (Yasin and Jonathan Owens, 1984), the Ḥwētāt (Palva, 1986), the ṢAjārmah (Palva, 1976), ṢAbbādi Arabic (Sakarna, 1999), and Zawaidih Arabic (Sakarna, 2002). His investigation casts doubt on the idea that the Bedouin and rural Jordanian dialects can be classified as a single dialectal grouping.

2.5 General characteristics of Bedouin Arabic dialects

Bedouin dialects are associated with people who lead nomadic or semi-nomadic lives. Bedouin dialects have been generally well documented. Although there are some differences between the Bedouin sub-groups, they share many features that put them under one heading. Because they retain many Classical features that are lost from other groups, they are considered more conservative than sedentary groups (Rosenhouse, 2006: 259). However, the distinction between sedentary and Bedouin groups is becoming blurred because of moves to government-led sedentarisation.

Bedouin subgroups spread to all regions of the Arab world; in her sub-grouping of Bedouin dialects, Rosenhouse (2006: 259-260) provides six main regions where they exist:

(A): The Arabian Peninsula has the North Arabian dialects, Ḥijāz dialects, Southwest Arabian dialects, and Omani dialects. The North Arabian group is subdivided into three dialects: ṢAnizi, Ṣammari, and Syro-Mesopotamian dialects; some of these tribes live now in Jordan. The Southwest Arabian group includes Yemen, Aden, Hadramawt, and Dhofar.

(B): The Iraqi *galāt* dialect and southwest Iranian (Khuzestan) go back to old Bedouin dialects dating back to the 13th century C.E.

(C): The Sinai dialect which, according to (de Jong, 2000), is related to the dialect of Negev, north-eastern Egyptian and Ḥijāz dialects.

(D): The Bedouin dialects in Egypt to the east and the west of the Nile.

(E): The Western Bedouin dialects in North Africa including Libya, Tunis, Algeria, and Morocco that are introduced through the Bedouin tribes migration, such as Bani Sulayman, Bani ʕUqayl, and Bani Hilāl, from the Arabian Peninsula from the 9th century.

(F): The Bedouin dialects found in sub-Saḥāran regions as in Sudan, Chad, Nigeria, and Mauritania as a result of migrations from Arabic-speaking areas in the last 300 years.

In what follows, I will give the main characteristics that Bedouin dialects are most likely share. The CA *q is articulated as the voiced stop /g/ or the affricate /j/. [q] may be produced, in some dialects, as an allophonic variant of /g/. The affricate [č] may be produced as a reflex or variant of *k. Unlike many sedentary dialects, the Bedouin dialects retain the interdentalals /t̪/, /d̪/, and /d̪/. In addition to the usual emphatic stops and fricatives, new emphatics may appear, such as: /ɾ/, /w/, /b/, /l/ and /m̐/.

Bedouin dialects generally exhibit three short vowels, /a/, /i/, and /u/, and three long vowels, /ā/, /ī/, and /ū/. In addition, two new short vowels /e/, and /o/ and their long counterparts /ē/ and /ō/ are attested in some Eastern and some Western dialects. However, vowel length is not phonemic in some Western dialects with vastly reduced vowel inventories.

The basic syllable patterns in Bedouin dialects are CV, CVV, CVC, CVVC, CVCC, and CCV(C). According to Rosenhouse (2006), they are similar to the syllable types found in Eastern sedentary dialects, and differ from those of North African sedentary dialects. Eastern and Western Bedouin dialects have the same rules of stress assignment, but they differ from sedentary dialects. In general, stress assignment depends on syllable weight. For example, word-final superheavy syllables (CVVC and CVCC) receive stress. However, Western and Eastern Bedouin dialects vary as to the stressing of word-final CVC syllables. In many Bedouin dialects, the definite article counts in stress assignment, and enclitics and verb prefixes receive stress when they are followed by a short syllable (ibid).

One typical feature of Bedouin dialects is the *gahawah* syndrome, which involves the insertion of [a] in a cluster ... aGC... where (G = gutturals x, ġ, ḥ, ʕ, ʔ, h). The typical example is *gahwah* ‘coffee’ > *gahawah*. Some Bedouin dialects not only insert such vowel but also delete the first vowel resulting in a consonant cluster word-initially, as in: *gahwah* > *gahawah* > *ghawah*.

Raising of /a/ is found in Bedouin dialects word internally ([i] adjacent to front consonants and [u] adjacent to back consonants). By contrast, vowel raising word-finally, such as in the case of the nominal feminine ending, is attested in Eastern sedentary dialects. With regard to morphophonological structures, unstressed high short vowels are deleted when morphemes are suffixed to the stem.

Bedouin dialects have a set of independent and bound pronouns which distinguish gender in both singular and plural forms. Eastern Bedouin dialects have the typical single form of the relative pronoun (?)*alli*, and Western Bedouin dialects also have *eddi* (Rosenhouse, 2006). Bedouin dialects use diminutives more frequently than sedentary dialects do (ibid). In terms of verbal morphology, verbs in Bedouin dialects inflect for three persons, two numbers, and two genders, exhibiting gender distinction in 2p. and 3p. The verbal prefixes in most Bedouin dialects are similar to those of CA in using /a/ instead of /i/, as in: *yafham* ‘he understands’. They also use several suffixes with the imperfect forms, for example, *-i*, *-īn*, and *-iy* are different suffix forms denoting the 2f.s. in different Bedouin dialects. The deletion of the final vowel in the verb Form IIIw/y of imperative is a typical feature in Eastern Bedouin dialects, as in: *imš* ~ *imiš* ‘go 2m.s.!’.

There are several basic lexemes shared by many Bedouin groups, including: *xašm* ‘nose’, *barāṭim* ‘lips’, *bil* ‘camels’, *ṣajawīd* ‘fine men’, *gōm* ‘tribe’, *ḏḥūf* ‘children’, *šēn* ‘bad’, *rḥamān* ‘merciful’, *gōṭar* ‘go’, *bāčir* ~ *bākir* ‘tomorrow’ and *mint* ‘you m.s. are not’.

Bedouin Arabic has influenced sedentary dialects as a result of continuous contact between the speakers of the two groups. This can be clearly shown through the mixed urban dialects that exhibit features from the speech of both of the groups (Miller, 2004: 183). Rosenhouse (1984: 168-9) found similarities between the Bedouin dialects of the north Israel and Lebanese dialects of the coastal regions such as Sidon and Tyre; Owens’ (1984) work on Eastern Libyan Arabic shows the effect of Bedouinization in the region such as the /g/ reflex of CA *q, which is a feature of Bedouin speech. Another example is the interdentalals; while the Levantine and Egyptian sedentary dialects do not usually have the interdentalals /t̪/ and /d̪/, most Bedouin dialects have three interdentalals namely /t̪/, /d̪/, and /ḏ̪/ (de Jong, 2004: 155). However, some urban dialects in Libya (Owens, 1984: 7) use /t̪/ and /d̪/, suggesting Bedouin influence on sedentary Arabic dialects. Shiʿite in Bahrain and the Gulf, who are sedentary, use some Sunni Arabic, which is Bedouin, for example, Sunni /y/ which is a reflex of CA *j, occurs in the speech of Shiʿite, as in: *jadīd* ‘new’ > *yadīd* (Johnstone, 1967: 20). After the arrival of the

Bedouin to Baghdad and central Iraq in 18th and 19th centuries, Bedouin speech, referred to by Ingham (1982) in this area as Mesopotamian, began to be the dominant variety (Miller, 2004: 183). Finally, many lexical terms of Bedouin dialects are found in the sedentary dialects; Abu-Haidar (2006: 270) points out that the Bedouin loanwords were attested in Christian sedentary dialect spoken by the inhabitants of two towns in Mount Lebanon.

Finally, *nabaṭī* poetry is another example of the influence of Bedouin dialects on sedentary dialects. It is known as *free/foot poetry* which is composed from the Bedouin everyday language, and is written as it is spoken (As-Saṣīd, 1987: 14). No matter who composes this poetry (sedentary or Bedouin), most of the lexical entries are clearly of Bedouin origin. Most Arabic speaking people are proud of Bedouin culture; this can be seen from the citation of words, sentences, proverbs, and verses of Bedouin Arabic in everyday speech. Stylistically speaking, it is stated that ‘the language of the prose tends, to some extent, to take the nomadic dialect as a model’ (Palva, 1970: 19).

2.6 Jordanian Arabic dialects within the region

Cantineau (1936-7) presents a basic classification of the Bedouin dialects spoken in the Syrian desert, eastern Jordan and northern Arabia, into three main groups, as follows: Group A- the dialects of the big ṢAnizah tribe, mainly camel breeders, who live in the central area of Najd and in the Syrian Desert. The dialects of Eastern Arabia and the Arab Gulf, described in Johnstone (1967) are also related morphologically to this group, though apparently not phonologically; Group B- the dialects of Šammar, whose speakers are also camel breeders, and have two main centres: the Šammar Hills in northern Najd, and the Iraqi Jezirah (between the Tigris and Euphrates rivers); Group C- the dialects of the Syro-Mesopotamian small sheep-raising tribes. Cantineau considers this group as ‘pre-ṢAnizi’ because they appear to have migrated from Arabia earlier than the other two groups he defines. Cantineau notes a few tribes mixing B with C elements, which he calls BC on the edges of the Desert, near the territories of C-group tribes.

The dialects spoken by the Bedouin of southern Jordan, the Negev, Sinai, and the north-west part of Saudi Arabia are referred to as the ‘Northwest Arabian Arabic’ group (Palva, 2008: 400). Although this group is culturally and sociologically homogenous, it is less homogenous linguistically as a result of continuous language contact between the migrated tribes. The dialects of this group are subcategorised into two branches; the western branch covers the

dialects of four areas: the Negev, the northern Sinai region, the high plateau of at-Tih in central Sinai, and the mountainous southern Sinai Peninsula. The eastern branch covers the dialects spoken by the Ḥwēṭāt (who lives in southern Jordan, north and northeast Aqaba, and southern Muwayliḥ in Saudi Arabia), Bani ṢAṭiye (who lives on the southern border of Jordan with Saudi Arabia centred in Tabūk), together with the small tribes who live around them such as Zalabiah and Zawaidih in WR, Bdūl in the caves of Petra and NṢēmāt in the east of Petra (Palva, 2008).

There are some lexical, phonological and morphological features that distinguish Jordanian varieties from other varieties; however, one can divide Jordan into zones in terms of geography and socio-economy. The problem lies in the fact that each zone has different sub-dialects which do not have clearly defined linguistic boundaries or isoglosses. Geographically, Jordan has northern, central, and southern dialects. In terms of socio-economy, three groups are divided into: city vs. village dialects, sedentary vs. Bedouin dialects, and high ‘prestigious’ vs. low ‘not prestigious’ dialects (Sawaie, 2007). In terms of lifestyle, the linguistic situation in Jordan is characterized according to: urban *madanī*, rural *fallāḥī*, and Bedouin (cf. Suleiman, 1993); each group retains phonological, morphological and lexical characteristics that distinguish it from the other groups, as in:

(1) Rural	Bedouin	Urban	Gloss
<i>gamuḥ</i>	<i>gam(i)ḥ</i>	<i>ʔamiḥ</i>	‘wheat’
<i>haḍīč</i>	<i>haḍīk ~ ḍāk</i>	<i>hadīk</i>	‘that f.’
<i>baddi/ʔaddi</i>	<i>widdi</i>	<i>biddi</i>	‘I want’

2.7 Review of literature on Jordanian Arabic⁶

To date, no comprehensive study has been conducted on the phonology and morphology of WR Arabic. However, many linguistic studies have been conducted on Jordanian Bedouin and rural Arabic dialects, and other dialects in the Arab world. Some works investigate phonological characteristics, and some concentrate on the sociolinguistics of the respective areas.

⁶ It is beyond the scope of this thesis to provide a detailed review of the phonological and morphological systems for all the varieties related to JA. Such information will be provided only when necessary.

Jordanian dialects are under-studied; Christie (1901) is probably the earliest western attempt to document the dialects in Trans-Jordan and Palestine. Bergstrasser (1915) is the first dialect map for the Arabic spoken in Syria, Palestine and the area to east of the River Jordan. Binder (1939) studies the pronunciation of /q/ and /k/ in Bedouin Arabic dialects. Early serious studies of Jordanian Arabic are conducted by Cantineau (1936, 1939) who studied the villages of Ḥōrān (of which the villages of Irbid and ʕAjlōn, northern Jordan). Cantineau (1939), a very broad study, presents remarks on the sedentary dialects of Syria, Lebanon, and Palestine. In this work, he divides Levantine Arabic dialects into two subcategories in terms of syncope: non-differential dialects in which any short unstressed vowel in a non-final CV syllable is deleted, such as Syrian and Iraqi Arabic, and differential dialects in which deletion is restricted to unstressed non-final high vowels, such as Jordanian, Meccan, and Lebanese Arabic. Cantineau (1940) also produces an atlas on the dialect of Ḥōrān, a region located on the borders between Jordan and Syria. Cantineau (1946) provides some descriptive analysis of the features of the spoken varieties in Ḥōrān villages located in the south of Syria and north of Jordan.

Ferguson (1962) is a survey on the studies investigating Greater Syria dialects. Cleveland (1963) provides an overall picture of the linguistic status in Jordan. His consultants include JA native speakers as well as Palestinian speakers who received Jordanian citizenship after 1949. JA dialects are first classified by Cleveland (1963) in terms of phonological, morphological and syntactic features, categorising JA dialects into four groups: Group I *yigūl*, spoken by the Bedouin in the southern and eastern desert of Jordan and in Kerak which lacks the indicative marker *b-* and whose reflex of *q is /g/; Group II: *bəgūl*, spoken mainly by rural people in southern Palestine and Jordan Valley in which *q is realised as /g/; Group III: *bəkūl*, spoken by the village people around Jerusalem and the northern part of central Palestine in which the reflex of *q is /k/; and Group IV: *bəʔūl* represents the urban variety (the spoken dialect in the capital city, Amman) in which *q is realised as /ʔ/.⁷ This classification reflects the realization of the 3s. of the imperfect form of the verb *gāl* ‘to say’ in different dialects. Broadly speaking, the eastern and southern dialects are of the Najdi Arabic type and have fewer speakers than the northern and north-western dialects. In turn, the northern dialects are classified as ‘southern-Levantine’ which has two subgroups: the Ḥōrān dialect and Balgāwī dialect.

⁷ Speakers of *bəʔūl* group are originally from Palestinian cities (e.g., Jaffa, Haifa, Nablus, Jerusalem, and Hebron) as well as from Damascus (Hérin and Al-Wer, 2013: 56).

There was an increase in the number of studies conducted on the JA in 1970s and 1990s, most of which were done by Palva in a number of descriptive articles from the late sixties onward. Several works were conducted on the phonology of JA dialects, including Palva (1969a, 1969b, 1970, 1976, 1980, 1986, 1991), Alghazo (1987), Hussien and Al Ali (1989), El-Yasin (1982), Yasin and Owens (1984, 1987), Irshied (1984), Al-Sughayr (1990), Sakarna (1999, 2002), Abu-Abbas (2003), Btoosh (2006), and Rakhieh (2009). In this section, I discuss some of these studies.

Among the available resources are a series of articles by Heikki Palva on certain tribal dialects from the Balqāʿ Region. In his study ‘Balgāwi Arabic: Texts from Mādabā’, Palva (1969a) recorded a number of texts of Balgāwi Arabic, a dialect spoken in the Balqāʿ District between the River of Zarqa and Wadi al-Mujib. It is an urban dialect based on ex-Bedouin dialects (Palva, 1969a: 4, text 1: *Madaba kānat ʔawwal maʕ al-badu* ‘Madaba was previously inhabited by Bedouin’). His informants are all Christians, and natives of the town, and Palva accepts their speech to be representative of the dialect. Consonants, vowels, stress, grammar (pronouns, substantives, verbs, and negation), and style are examined in this study. Following Cleveland’s (1963) classification (see p.32), he states that the Madaba dialect belongs to Group II, whose main distinctive features are the use of *b-* for the indicative aspect, and /g/ as the reflex of CA *q. However, this dialect deviates from the *baǧūl* dialects in that *k* is not affricated, and in negation by *mā* without the enclitic particle *-š* (Palva, 1969a: 13). Palva (1970) gives a similar representation of a subgroup of Balgāwi Arabic in Šāfūt, a Christian village in the northern outskirts of Šwēliḥ, west of Amman. One of the salient characteristics is that [č] is an allophone of /k/. Palva (1976) is an extension of his study on the phonology of Balgāwi Bedouin Arabic called ʕAjārmah spoken in the Balqāʿ, Jordan. Phonotactics and grammatical features are discussed. It is concluded that ʕAjārmah dialect shares the main characteristics of the Northern Arabian dialects as well as some features of sedentary dialects, and that it belongs to Cantineau’s group C.

The Bani Šaxar, a tribe extending from the southern areas of Amman to Bāyir (150 km to the south-western edges of Jordan) and following the line Wādi es-Sīr – Mādabā – Dībān from the west, was first studied by Cantineau (1936-7), who admits his investigation of the dialect is ‘rather poor’, and recently again by Palva (1980). Cantineau places it under group BC since it shares with Cantineau’s group B (Šammari) and group C (Syro-Mesopotamian) the affrication of CA *q, *k into /j/ and /č/, respectively, weakening of certain final consonants, mainly (r, l,

m, n, t), and the use of *tanwīn* in certain cases, etc. However, Palva (1980) contradicts Cantineau (1936-7) and claims that these features are also found in Ḥāyil (Abboud, 1964), which is a B-type dialect.

Palva (1980) defines the main characteristics of the Bedouin dialect of BṢ; this article draws on two types of data: the results of a meeting held between Jean Cantineau and a member of the BṢ tribe held in the guest-room of the sheikh of the village Sāl in northern ṢAjlōn in 1936, and Palva's recorded material from two male members of BṢ in the village of al-Lubban, the south of Amman. The article describes BṢ in terms of consonants, vowels, syllable structure and morphology. Palva compares BṢ with the North Arabian group (Syro-Mesopotamian Bedouin and the dialects of camel-rearing tribes who belong to ṢAnizi and Ṣammari). The study reports Cantineau's classification of BṢ as belonging to Group BC of the north Arabian dialects. The comparison Palva makes shows that criteria that Cantineau relies on are not sufficient enough to justify the classification of BṢ under BC Group. The article argues that this dialect is not sufficiently known, i.e., it is still not classified under a specific type of dialect which is attributed to a local koine, often felt to be borrowings in BṢ dialect from the neighbouring dialects (Palva, 1980: 135-7).

Based on recordings of the Abu Tāyih subtribe of the Ḥwēṭāt Ibn Jāzi branch who live in al-Jafr (about 50 km to the east of Maṣān) as well as recordings of the ṢUmērāt subtribe of the Ḥwēṭāt at-Tahama branch who live in al-BadṢ (the Old Madian in Saudi Arabia, 25 km to the east of the Gulf of Aqaba and 140 km to the west of Tabūk), Palva (1986) examines the dialect of the Ḥwēṭāt tribe in southern Jordan and north-western Saudi Arabia in terms of phonetics, phonemics and syllable structure as well as the morphology of pronouns, verbs, nominals, numerals, and particles. He compares the most important characteristics of this dialect to those of neighbouring Bedouin dialects. It has been found that the Ḥwēṭāt dialect exhibits prominent linguistic features that distinguish it from the North Arabian dialect group (ṢAnizi, Ṣammari, and Syro-Mesopotamian): for example, the absence of final /n/ in the imperfect, 2f.s., 2m.p. and 3m.p., the use of the preposition *fi/fī* 'in' instead of *ba/bi*, and the use of the interrogative *kēf* 'how' instead of *čēf* or *šlōn* 'how'. This study results in the claim that the Ḥwēṭāt dialect does not belong to the North Arabian Bedouin group (Najdi-type dialect), but that it shares some features with Negev and Sinai Bedouin (Palva, 1986: 307-8) (cf. § 8.3).

In his article 'Is there a North West Arabian Dialect Group', Palva (1991: 154) claims that the dialects spoken in Sinai, the Negev, the Southern Jordan, the eastern coast of the Gulf of

Aqaba, and the regions of Ḥismā and Ḥarrat al-Riḥa in north-western Saudi Arabia share some linguistic features which distinguish them from the North Arabian dialects, and, therefore, constitute a dialect group with clear boundaries that consists of a bundle of prominent isoglosses (1991: 165-6). Some of these features are similar in nature to sedentary dialects spoken in the greater Syrian region and some are akin to the Bedouin dialects spoken in Hijaz, Egypt, Sudan, and North Africa. However, there are considerable differences between the dialects of the North West Arabian group due to influence of the neighbouring dialects, such as *b*-imperfect, vowel harmony vs. generalized /a/ in the preformative syllable of the imperfect, the reflexes of CA diphthongs, the pronominal suffixes of the 3s., and the plural forms of the demonstrative pronouns. Palva concluded that the North West Arabian dialects are not a homogenous dialect group, which may be attributed to dialect levelling because of contact and borrowing from sedentary dialects. Building on Palva (1986), Palva (1991) classifies the Ḥwēṭāt subtribes as part of the North West Arabian group (cf. § 8.3).

Yasin (1980) presents a descriptive analysis of the Ġawārnih dialect (also known as the Ġōr) spoken in the Jordan Valley. The thesis is introduced with a description of the geographical and socio-economic status of the region. It then describes the dialect in terms of phonology, morphology, lexis and syntax, comparing it with neighbouring Jordanian dialects (as he called them: towns folk, country people, and Bedouin on the Western and Eastern side of the river Jordan), and with Syro-Mesopotamian dialects, and the dialect of North Arabian Desert tribes. In terms of phonology, Ġawārnih dialect is largely similar to the rural dialects both west and east of the river Jordan, but not identical with them; it also has some similarities with Syro-Mesopotamian dialects, in particular, the reflex of CA *q as /j/. The Ġōr dialect differs from the neighbouring dialects in the realization of the definite article *al-*. While the neighbouring dialects assimilate the /l/ in the definite article to following *sun letters*, the Ġawārnih assimilates /l/ of the definite article to any following consonant apart from the glottal stop /ʔ/, which is elided after the definite article: /al-ʔayyām/ ‘the days’ > [liyyām] (cf. Yasin, 1980: 49) (cf. § 3.2.4.1.1).

In terms of morphology, the Ġawārnih dialect is similar to Negev Bedouin, except for the 2f.s. suffix *-iĉ* which, according to Blanc (1970), is not found (§ 6.5.1.2 and § 8.2). It also shows some morphological similarities with eastern and western rural dialects. Among the differences are the frequent use of *b-* prefix in western rural dialects and the frequent use of the negative particle *-š* in eastern and western rural dialects while they are used occasionally in

the Ġawārnih dialect. In terms of lexis, the Bedouin dialect in the Negev is closer to the Ġawārnih than rural dialects. Syro-Mesopotamian dialects, to some extent, and the ʕAjārmah dialect have similar vocabulary to the Ġawārnih dialect; the Northern Arabian Desert dialects have very few lexical links with the Ġawārnih dialect.

Abd-el-Jawad (1981) studies lexical and phonological variations in ʕAmmāni Arabic. He defines three ecological groups in Amman, namely: urban *madani* the indigenes of Amman or those who came from the urban areas of Palestine, *fallāhīn* who came originally from the countryside of Palestine (1981:72), *Bedouin* who are of tribal origin and from several areas of the East Bank (Trans-Jordan) or the Southern Part of Palestine. This study presents disparate dialects that differ in the linguistic features from different regions in Jordan and Palestine. In addition, this study finds out that aspects of gender-based differences in Arabic do not match those reported in Western communities because women in Arab communities do not use the standard linguistic variants as frequently as men. It is concluded that there is a strong interaction between phonological variation and the lexical status of the word (Abd-el-Jawad, 1981: 353).

Ibrahim (1984) argues against this by suggesting that gender-based variation in Arabic is the same as that reported for other speech communities since women use the linguistic properties of urban dialects more than men because they are prestigious varieties in Arab communities. He observes that the prestigious spoken variety tends to be more mutually intelligible than other local varieties, for example, it is a characteristic of the urban Palestinian population to use /ʔ/ for *q, /t/ for *ṭ, and /d/ and/or /z/ for *ḍ and *ẓ (1984: 7). This variety is also emerging in Jordanian urban centres as a local, prestigious, spoken Standard. Based on two sociolinguistic studies of varieties in Jordan and Syria in terms of gender contrast, he claims that the terms ‘prestigious’ and ‘standard’ should not be used interchangeably: a prestigious spoken variety of Arabic exists independently of the prestige of Standard Arabic. On this basis, he argues that we should not consider only one standard variety of Arabic.

Within the framework of lexical phonology, Irshied (1984) investigates Bani Ḥassan Arabic, a Bedouin dialect spoken by a tribe spread over three provinces in Jordan, namely: Mafraq, Zarqa, and Jerash. Irshied introduces his work with a brief overview of BḤA, followed by a presentation of the underlying phonetic and phonemic inventory of vowels and consonants in BḤA. Then, Irshied outlines the morphological structure of BḤA verb. The study compares the dialect with Negev Arabic, Ḥijāz Arabic, Najdi Arabic and Riyadh Arabic. In the

following chapter, he discusses selected phonological rules in the prosodic phonology of BĤA, namely: syncope, trisyllabic elision, raising, umlaut, epenthesis, glide vocalisation and rounding harmony. Irshied claims that there is an order relation between the aforementioned processes when applying the phonological rules in BĤA. Accordingly, the ordering of the major rules of BĤA in the light of lexical phonology is as follows: syllabification, syncope, stress assignment, trisyllabic elision, umlaut, raising, epenthesis, and then, resyllabification. Then, the work discusses selected rules when occurred across word boundary, namely: resyllabification, syncope, epenthesis, glide vocalization and truncation. The work suggests that ‘epenthesis and glide vocalization are really phrase-level rules operating after words have been combined together into sentences’ (Irshied, 1984: 75). In addition, ‘syncope is sensitive to stress at the phrase-level’ (1984: 108). Such rules result in new structures and segments not found in the basic phoneme inventory.

Based on Irshied’s (1984) dissertation, Irshied and Kenstowicz (1984) discuss phonological rules found in the phonology of BĤA such as: syncope, elision, vowel raising, and word stress patterns. The paper briefly compares the morphophonemics of BĤA with some of the Bedouin dialects reported in the literature, particularly Negev Arabic (Blanc, 1970), Najdi Arabic (Abboud, 1979), and Hijaz Arabic (Al-Mozainy, 1981). It is assumed that the phonological rules apply in cyclic fashion. It is argued that metrical stress has a crucial role of defining the operation of the other rules, in particular elision and raising; and therefore, stress assignment must follow syncope and precede elision and raising.

Yasin and Owens (1984) study the phonological and morphological features of Bdūl Arabic spoken by about 750 people who live in the ancient caves in Petra, Jordan. Brief remarks on syntax and summary of the relationship of Bdūl Arabic to other Arabic dialects are also presented. Considering eleven phonological and morphological features, the study finds that Bdūl Arabic is similar to the Bedouin Arabic of the Negev in all measures used, except for the distribution of the *b*- imperfect (cf. § 5.2.2.2.2 and § 8.3) . It is also noticed that the dialect has some significant similarities to Najdi Arabic, Eastern Libyan Arabic, and rural JA.

Kenstowicz (1986) examines syllable structure in three Arabic dialects, namely: Levantine, BĤA, and Sudanese. The study distinguishes between ‘core’ (CV, CVV, and CVC) and ‘marginal’ (CVCC, CVVC) syllables. It is argued that core syllables are constructed in the lexical phonology, whereas marginal syllables are built in the post-lexical phonology (cf. § 4.1).

Al-Sughayer (1990) studies rural JA with reference to MSA within a non-linear phonological framework. The basic claim of the hypothesis is that *al-ʕArabiyyah al-fuṣṣḥā* ‘clarity of articulation’ may concern the way that town dwellers used to speak compared with that one of the nomadic tribes in answer to the question of ‘which variety is the standard one when differences arise among different speakers?’ (Al-Sughayer, 1990: 6). This work focuses on representing a rural dialect as a dialect with exceptional characteristics of clarity and eloquence. The study compares the phonology of the rural dialect with MSA in terms of the phoneme inventory, stress assignment, high vowel alternation, and geminates. His analysis of these rules gives inconclusive evidence in support of the assumption that JA is a close descendent of CA or another sister Arabic variety. Regarding stress assignment, it is claimed that JA and MSA have the same rules of stress assignment (cf. § 4.3 and § 4.3.1).

Zawaydeh (1997) is an acoustic study of uvularization spread in ʕAmmāni Arabic. This study considers F2 measurements of the low front vowel phoneme after segments that block uvularization spread in other dialects. Whereas rightward uvularization spread is significantly weaker from the uvular stop /q/ and is blocked by /i/, /ī/, and the glide /y/, the findings indicate that spread of uvularization from uvularized coronal consonants, also known as emphatics, proceeds unblocked to both edges of the word in ʕAmmāni Arabic. She concludes that the voiced and voiceless uvular fricatives of other varieties of Arabic which have no uvularization effect on neighbouring segments in ʕAmmāni Arabic are probably not uvular but velar in this dialect (cf. § 3.2.4.2.2).

Zawaydeh and Davis (1999) examine hypocoristic ‘nickname’ production in ʕAmmāni Arabic within the framework of OT with reference to root shapes. Although there are some problematic cases, such as the name ʕAddūy(e) and Faddūw(e), they claim that the process of hypocoristic formation involves ‘an output-to-output relation’. The pattern they examine consists of /a/ after the first radical, a geminate second radical, and /ū/ before the final radical. For example, different full names involving the same consonantal root, as in: /salīm/ and /salmān/ from /slm/, have the same hypocoristic; here /sallūm/; prefixes, infixes, and suffixes in the full name do not appear in the hypocoristic. They assume that the problematic issues arise because they involve constraints that are not discussed yet or because they reflect different form of hypocoristic (cf. § 6.2.2.3).

Sakarna (1999) examines the behaviour of emphatic and gutturals and emphasis spread in ʕAbbādi Arabic, a dialect spoken in the central part of Jordan. The dissertation discusses the

phoneme system, vowels, syllable types, stress assignment, verb measures, and phonological processes. The work also uncovers the interaction of emphatics and gutturals with special focus on the analysis of emphasis spread, emphasis blockers, and morpheme and word boundary effects. This discussion provides evidence of the natural class of emphatics. The study argues that it is implausible to say that a syllable or vowel is the source of emphasis spread. Within the suprasegmental approach, he argues for the emphatic consonant approach in which ‘emphasis is an underlying property of an emphatic consonant’ (Sakarna, 1999: 15). Within a feature geometry model, he shows that the interaction of emphatics and gutturals appears to violate the Obligatory Contour Principle (OCP), the No Crossing Lines Constraint (McCarthy, 1994; Halle, 1995) and the Constriction-based Model of Herzallah (1990). The result is that ʕAbbādi Arabic, as other Arabic dialects, requires a modification whereby emphatics are represented with a secondary articulation node. ‘Emphatics may occur in the same word (i.e., root word or complex word) without causing OCP violations’ (Sakarna, 1999: 239) (cf. § 3.1.3).

Sakarna (2002) examines the phonological features of Zawaidih Arabic. His findings question the accuracy of Palva’s generalizations to cover all Ḥwēṭāt subtribes depending on Abu Tāyih tribe concluding that the Ḥwēṭāt forms a single variety of Bedouin Arabic and is classified as part of North West Arabian group. According to Sakarna (2002: 81), Palva’s classification does not apply to all the dialects of the subtribes of the Ḥwēṭāt. However, Sakarna points out that Zawaidih and the Ḥwēṭāt (Eastern and Western) share some features, including: /g/ is never realised as [k], and /k/ is never realised as [č]. Based on consideration of a number of features such as emphatic /ṭ/, the diphthongs /ay/ and /aw/, stress assignment, the *gahawah* syndrome, the *buṣalah* pattern, which involves the raising of the first low vowel /a/ to /u/, and raising of the low vowel /a/ in an open syllable, he claims that Zawaidih Arabic is more closely related to Negev Arabic than to Bani ʕAṭīye in northern Arabia (Sakarna, 2002: 81). As a result, he points out that the classification proposed by Palva is ‘implacable’ (cf. § 8.2 and § 8.3).

Abu-Abbas (2003) accounts for selected phonological topics of Jordanian Arabic within Optimality Theory such as stress assignment, epenthesis, geminates, segment deletion, closed-syllable shortening, and syncope. The study is based on consultations with the native speakers of ʕAjlōn Arabic plus data from Alghazo (1987) and Al-Sughayer (1990). The work considers the interaction between syncope, epenthesis, and geminates in JA and their contribution to the

formation of new consonant clusters at the word and phrasal levels. The study finds that OT, in its current form, is unable to account for stress assignment patterns. Therefore, new constraints are suggested to solve the problematic points. The work also concludes that a geminate is one single consonant rather than a combination of two identical consonants. Closed-syllables with three moras are shortened because of a constraint on three-mora syllables. The work accounted for two rules of syncope namely: the deletion of the short high vowel in an open unstressed syllable, and /i/ deletion between two identical consonants word finally.

Al-Wer (2003) studies spread of the general 2p. clitic *-kum* in ʕAmmāni Arabic. From areas of Jordan and from Palestine, the study finds a lack of the *-kum* allomorph, which represents the 2m.p. in CA and has been generalized to both genders in the group under study. Whereas Palestinian has generalized the classical feminine clitic *-kun* and koineized Jordanian varieties generalize *-ku*, the generalized use of *-kum* parallels that of *-hum* for 3p. in the ʕAmmāni Arabic and in the koineized varieties (cf. § 6.5.1.2).

Sakarna (2005) classifies Jordanian dialects into three types: urban, rural, and Bedouin (§ 2.4). His investigation casts doubt on the idea that the Bedouin and rural Jordanian dialects can be classified under one dialectal grouping. His findings counter those of Abd-el-Jawad (1986: 55), who claims that the urban Jordanian dialect is ‘prestigious’ when compared to both the rural and Bedouin dialects.⁸ His findings also oppose those of Al-Sughayer (1990: 6), who regards the rural Jordanian dialects as ‘fuṣḥā’, associating it with ‘clarity of articulation’. He says that there are differences that arise at the level of lexical variation between the rural dialect and BŞ along with phonological variation between the rural dialect and BĤA. The study concludes that more research and data is needed before a more definite conclusion can be reached about the real linguistic status of the modern Jordanian dialects. That is, it is difficult to establish whether one dialect in Jordan enjoys greater prestige than the others (Reese et al, 1969: 51). He finds that no single dialect in Jordan has a greater ‘prestige’ or

⁸ Abd-el-Jawad (1986) claims that the growth in urban centres, which resulted in unique demographic, social, and geographic structures, produced a ‘gradual process of language urbanization’, i.e., the emergence of spoken urban dialects. He also points out that such social and cultural factors bring about competing linguistic processes of language ‘standardization’ and language ‘Bedouinization’, as it is the retention or adoption of certain linguistic features of the Bedouin dialects. He labels urban dialect as prestigious, rural and Bedouin dialects as stigmatized.

‘clarity of articulation’ than other dialects. In this account, he follows Ferguson (1959: 75), when he argues that such hypotheses are basically ‘myths’.

Khattab et al (2006) examine acoustic differences between the plain /t/ vs. emphatic /t/ in male and female speakers of JA (cf. § 3.2.4.2.2). They find that /t/ is realised as more emphatic by male subjects than by female subjects. A significant difference in VOT has been found between the plain and the emphatic consonants regardless of the subject gender.

Al-Wer (2007) provides a linguistic description of JA, which is commonly used to refer to the dialect spoken in the capital city Amman. The work begins with a historical background on cultural and linguistic situation in Jordan; it is claimed that before the 1950s, Jordan lacked a cultural, educational or even linguistic urban centres what made the local people look for educational refinement in the surrounding Arab centres such as Damascus, Jerusalem, and Beirut. This justifies why Ṣammāni Arabic has been ill-defined among its Arabic capital sisters on the one hand (§ 1.1). On the other hand, this explains the clear linguistic influence of urban Palestinian, in particular, on JA when compared with its effect on Lebanon, Syrian, or Iraqi dialects (Al-Wer, 2007: 506). Therefore, the three Palestinian dialect types, *madanī*, *fallāḥī*, and Bedouin are attested in Amman. Among them, *madanī* is favoured over the other two groups and, at the same time, is competing with the Bedouin dialect of the East Bank. A part was devoted to the consonant and vowel inventories: the plain and emphatic interdentalals are used variably with their stop counterparts; the speakers who use emphatic interdentalals are usually male speakers and exclusively of Jordanian or *fallāḥī* Palestinian origins while the ones who use the stop counterparts could be male or female speakers and from the other group. This generalization is also applied to both the fricative [ʒ] and its affricate [j] counterpart. In Ṣammāni Arabic, these are variants of the same phoneme /j/. The production of this phoneme depends on the speaker’s origin and gender. While the fricative variant may be produced by all group members, the affricate is produced by male Jordanians and *fallāḥī* Palestinians. The glottal stop /ʔ/ functions as an independent phoneme among all speakers, and as the reflex of *q among certain dialects and female speakers of urban dialects. The latter, could be used as a label that distinguishes male speakers (/g/ form) from female speakers (/ʔ/ form); it could also distinguish the Jordanian (/gāl/ dialect from the Jordanian /ʔāl/ dialect, and the less frequently used *fallāḥī* Palestinian in Jordan /kāl/ variant (cf. § 3.1.2). Ṣammāni Arabic has four short vowels: /i/, /a/, /o/, /u/ and five long vowels: /ī/, /ē/, /ā/, /ō/, and /ū/. /o/ and /u/ are contrastive when they occur word finally as in the minimal pair *ʔāmo* ‘he removed

it' vs. *ʔāmu* 'they removed'. ʕAmmāni Arabic tends to use /u/ while other neighbouring urban dialects such as Damascus and Beirut use /i/ instead, as in: *ʔumm* 'mother vs. *ʔimm* (cf. 3.1.6). With regard to syllable structure and word stress, ʕAmmāi Arabic exhibits both open and closed syllables as CV, CVV, CCV, CCVV, CVC, CCVC, CVVC, CCVVC, and CCVCC (cf. 4.1). Stress assignment is predictable; the ultimate syllable receives stress if it is superheavy; if not, stress falls on a heavy penultimate; stress falls on the antepenultimate when there is no heavy penultimate (cf. § 4.3).

In terms of the morphology, gender neutralisation in pronouns and pronominal clitics is an important feature, especially among the younger generation, distinguishing ʕAmmāni Arabic from surrounding Levantine dialects. For example, neutralization of gender is favoured over use of the feminine forms, e.g., *katabu* for both *katabu* 'they m. wrote' and *katabin* 'they f. wrote' (cf. § 5.2.2.2, table 34). The study presents some examples on presentatives using *hayy* + a pronominal suffix (cf. § 6.5.4, table 71), interrogative pronouns, adverbs, and particles, such as: article (*il/li*), genitive marker (*tabaʕ*), negation (*mā, mū, mā + š, miš*), prepositions (*fi/bi*), and conjunctions (*lamma* 'when', *ta* 'when', *ʕašān* 'so that', *bass* 'but', *willa* 'or', *ʔinno* 'that') (cf. § 6.5.6 and § 6.6). She also presents some examples on the productive patterns of nouns of instrument, profession, and the pseudo-dual. She also studies the verb forms in terms of strong verbs and weak verbs, with brief explanations of verb forms, perfect and imperfect verbal inflections, participles, and different verb types.

Aldamen (2007) investigates the phonology of Bani Kinanah Arabic, a rural dialect spoken in Bani Kinanah District to the north of Irbid (northern Jordan). Within a moraic approach and feature geometry, epenthesis, syncope, gemination, vowel shortening, and stress are presented in this work. In addition, part of this study is confined to examine assimilation and *-h* deletion of the nominal/genitive third person dependant pronoun.

Rakhieh (2009) investigates the phonology of Maʕāni Arabic (MA), a rural Jordanian dialect, within OT. After examining onset and coda in JA, it is found that MA allows complex word-initially onset regardless its sonority because of the obligation of the constraint 'complex onset cannot begin with the glottal stop /ʔ/ (Rakhieh, 2009: 92). Consequently, it is argued that there is no need to resort to special constraints for stress assignment rules. On the contrary, stress assignment can be covered by a limited set of universal constraints. The work argues for the opaque interaction between (initial and non-initial) vowel epenthesis and stress in the light of the semi-syllable and mora sharing notions proposed by Kiparsky (2003). Complex coda is

allowed in the case of falling sonority, i.e., when the first consonant is a sonorant followed by an obstruent. It is also argued that heavy syllables attract stress. In contrary with some JA like ʕAmmāni Arabic, the unstressed vowel in MA does not undergo deletion when followed by the feminine suffix *-at* that attached to the verb (Rakhieh, 2009: 244) (cf. § 4.4.2 and § 5.2.2.2, table 34). His example is:

(2) ʕAmmāni Arabic: ka-ta-bat → kat-bat ‘she wrote’

Maʕāni Arabic: ka-ta-bat → ka-ta-bat

Hérin (2010) is the first comprehensive description of a JA variety; the study investigates central sedentary variety of Jordan in terms of phonology, morphology, and syntax based on the traditional dialect of aṣ-Ṣalṭ as spoken in the city itself and the nearby town of Fḥēṣ (Ṣalṭi, as he calls it). The study states that aṣ-Ṣalṭ dialect is a conservative dialect as it does not share a number of common innovative features to be found in urban dialects of the Levant, for example, traditional /g/ as a reflex of *q, interdentals /ṭ/, /ḍ/, and /ẓ/, and the affricated /ǧ/ as a reflex of *j. As a salient feature, *k is also realized either as /k/ or /č/ (cf. § 3.1.2 and § 8.2, table 75). Morphologically, aṣ-Ṣalṭ dialect maintains gender distinction in the plural; it also marks indicative mood by *bi*-prefix.

2.8 Studies on neighbouring Bedouin dialects spoken in Palestine and Saudi Arabia

Blanc (1970), considered a pioneering work, describes the major characteristics of the Arabic dialect of Negev as spoken by Zullām, the semi-nomadic tent dwellers in the northern and central Negev. The paper presents the general characteristics of the consonant and vowel inventory, stress assignment, sound shifts such as *gahawah* syndrome (cf. § 4.4.3.2) and backing and fronting environments. Free and bound personal pronouns, verb forms, and some nominal morphological features were investigated.

Regarding Saudi Arabian dialects in general, a number of works have been conducted, for instance, Johnstone (1967), Ingham (1971, 1982, 1994, 1997), Sieny (1978), Abboud (1964, 1975, 1978, 1979), Bakallah (1979), Al-Mozainy (1982), Abu-Mansour (1987, 1991), Nakshabandi (1988), Prochazka (1988a, 1988b, 1991), Al-Shahrani (1988), Al-Azraqi (1998), and Asiri (2009), among others. The following is an overview of the most important studies conducted on the north and northwest of Saudi Arabia.

Abboud (1979) studies Northern Najdi Arabic spoken in the city of Ḥāyil. The work provides a descriptive analysis of the morphology of verbs, including the stem, the subject markers, and object pronouns of the dialect. Abboud claims that Najdi Arabic retains some characteristics of the *ʿarabiyyah* and some extensions of the ancient dialects of the Arabian Peninsula.

Using recordings of Bedouin oral narratives, ordinary conversation, and radio plays, Ingham (1994) discusses the history and linguistic structure of Najdi Arabic, a dialect spoken in an isolated section of Central Arabia. Attention is paid to phonological and morphological issues of a sentence and noun phrase structure, number, gender, verb transitivity, tense, aspect, modality, time and condition structures. A brief survey of the geography and history of Najd together with its sociolinguistic status have been presented. The study divides the region into three parts: northern, central and southern. Ingham points out that the spoken varieties in these three regions are, to some extent, similar in phonology but different in morphology. The study describes some linguistic features that distinguish Najdi Arabic from other Arabic dialects such as retention of CA *ṭ and *ḍ, retention of the indefinite ending *-in*, retention of the internal passive in verbs, and the use of different particles and formative such as *gid* (cf. § 8.2). The work describes the phonemic inventory and the distribution of vowels within the word. The study discusses the similarities and differences between Najdi Arabic and CA in terms of syllable structure. Phonological processes such as epenthesis, raising, and /a/ elision in an open syllable are investigated.

A number of studies have been devoted to Ḥijāz dialects. The first studies of Ḥijāz Arabic were conducted by Al-Hazmy (1972, 1975). The first study is confined to the variety of Bedouin Ḥijāz Arabic spoken in Badr and Wadi Al-Ṣafra, and the second study covers the varieties of the Ḥarb dialect both in Ḥijāz and Najd. In general, the two works are restricted to the description of certain phonetic features of the dialect such as the vowel system, glottal stop /ʔ/ deletion, the substitution of some consonants for others, palatalization, assimilation, dissimilation, consonant cluster, gemination, stress, high vowel deletion in an open syllable, and the deletion of the low vowel in an open syllable.

Al-Mozainy (1981) studies Bedouin Ḥijāz Arabic in terms of vowel inventory, syllable structure, stress, processes that affect vowels, the relation between raising and stress, and stress shift. The study examines vowel alternations in an attempt to provide evidence that the relation between underlying phonological representation and surface representation might not be direct (because some rules have apparent exceptions and some rules destroy the

environment for some other phonological rules) and phonological rules that affect vowels alternation are not restricted to stress conditions (cf. § 5.2.2.2).

Within the framework of generative phonology (Chomsky, 1965; Chomsky and Halle, 1968), Bakalla (1979) examines the verb morphology of Meccan Arabic. He focuses on phonological rules as applied to the morphological system. He suggests that all the forms of the verb, i.e., sound verb, hollow verb, and defective verb have the same underlying representation. The study also describes the set of rules through which the phonological and morphological processes work. He proposes a set of rules which account for the derivation of the weak as well as hollow stems as opposes to the past grammarians who accounted for weak and hollow verbs using different rules (cf. § 5.2.2.4).

Prochazka (1988a) is a survey of seventeen Saudi Arabian dialects. It describes the common phonological features and verbal morphology of the dialects. The study divides the dialects into two groups: southern Ḥijāz and Tihāmah, and Najd and eastern dialects.

2.9 Conclusion

In conclusion to this review, it can be said that the majority of studies on JA dialects have focused on selected phonological or sociolinguistic features. Morphological aspects and the basic lexicon do not receive as much attention as the phonology or sociolinguistics. It is also noticed that the typological mapping of JA dialects is still relatively poorly understood, and there is a need to reanalyse the Bedouin – sedentary dichotomy. No study demonstrates the degree to which features are based on region or lifestyle in Jordan, a problem that may rise because each zone has different sub-dialects which do not have clearly defined linguistic boundaries or isoglosses. The analysis in the present thesis differs in the following ways from those in the previous literature; the study will highlight links between phonology and morphology since some rules apply within specific morphological environments, as in: monophthongization (§ 3.2.1), definite article assimilation (§ 3.2.4.1.1), syncope (§ 4.4.2), glottal stop deletion (§ 4.4.4), vowel raising with verbs that underlyingly have the dorsal /i/ in the perfect or imperfect form (§ 3.2.2 and § 5.2.2.2). Throughout the analysis of the sound system, acoustic analysis has been provided with particular focus on periodicity, voice onset time, geminates, geminates spread and temporal compensation, and emphasis spread. Stress iambicity will be tested using Metrical Stress Theory (Hayes, 1995), showing how the stress patterns in WR Arabic fit this theory (§ 4.3.1) and suggesting further research to critically

revise the literature on stress rules in JA dialects. This study includes a basic lexicon of WR Arabic (§ 7.3), which is the first documented lexicon for a JA variety, and thus represents a contribution to Arabic dialectology and provides a good indication of how WR Arabic relates to the social history of the region. The present study will show how WR Arabic is distinguished from other JA dialects and, at the same time, how it relates to neighbouring Bedouin varieties within North Arabian type and Negev Bedouin type (§ 8.2 and § 8.3).

Chapter three

Melodic phonology of WR Arabic

This chapter presents a descriptive analysis of the major phonological aspects in WR Arabic. We are mindful that melodic phonology has to do with the set of features used to describe the sound system and the phonological processes that influence segments. For this purpose, (i) speech sounds are first presented as discrete entities showing how each is articulated, and then (ii) as entities that affect each other in the speech chain. Within the first section, I consider the sound system of the dialect in question. A description of the underlying representation of the phonemes internal structure is provided. As the sounds are to be classified articulatorily, I operate with the traditional division between vowels and consonants bearing in mind the characterization of a phoneme as a set of distinctive phonological features. The phonemes of WR Arabic have been established by providing minimal pairs and minimal sets. Where possible, examples are provided of the sounds in word-initial, medial, and final position. Where appropriate, acoustic analysis and spectrograms are provided to explain the main measurements of speech sounds such as length, formant frequencies, F2 lowering, and voice onset time (VOT). The chapter thereafter presents melodic processes in terms of monophthongization, raising, umlaut, lexical assimilation, post-lexical assimilation, emphasis spread, and metathesis.

3.1 Sound system

This section establishes the phoneme system to be found in the present-day WR Arabic. For this purpose, minimal pair and minimal set tests have been considered to establish the phonemes of the dialect. Afterward, the phonemic inventories are structured in terms of the universal phonological features. Throughout the discussion, acoustic analysis is presented with special focus on geminates, periodicity, voice onset time, and emphasis spread. Then, I describe the vocalic system of WR Arabic articulatorily and acoustically.

3.1.1 Minimal set tests

As phonemes are sets of contrastive sounds of a language that distinguish meaning, a basic criterion to establish the phonemes of a language is whether substituting a sound for another one produces a different word. Where it does, the two sounds are said to be different contrastive phonemes. By definition, the two words are said to be *minimal pairs* when they are

identical in everything except for one sound that occupies the same environment (Coleman, 1998; Odden, 2005; Erlinda, 2010; Yule, 2014); thus, *ṣād* ‘to hunt’ and *gād* ‘to drive’ are minimal pairs in WR Arabic, which is enough to establish that /ṣ/ and /g/ are linguistically meaningful units of sound. A minimal pair which shows that /b/ and /m/ are phonemes can be found in WR Arabic; *ḥabas* ‘to lockup’ and *ḥamas* ‘to roast coffee beans’ are minimal pairs. The use of /m/ instead of /b/ changes the meaning and the phonetic form of the word. /b/ and /m/ also contrast with /r/ and /d/ as can be seen from the words: *ḥaras* ‘guards’ and *ḥadas* ‘intuition’. Therefore, /b/, /m/, /r/, and /d/ are all phonemes in WR Arabic and constitute a *minimal set*. In this study, many minimal sets are examined in order to determine the inventory of WR Arabic phonemes. Since some consonants do not occur in words that rhyme with other words, we will have to set up other minimal sets (see table 5 below) until we have tested all the sound units of WR Arabic. Table 5 includes minimal sets attested in WR Arabic where X represents the variant sound segment.

	Xamm	Xadd	xāX	nāXi
ʔ	<i>ʔamm</i> ‘to imamate’	-	xāʔ ‘the letter ʕ’	<i>nāʔi</i> ‘rural’
t	<i>tamm</i> ‘to occur’	-	-	<i>nāti</i> ‘we come’
d	<i>damm</i> ‘blood’	-	-	<i>nādi</i> ‘call for!’
k	<i>kamm</i> ‘how’	<i>kadd</i> ‘to go to’	-	-
ṭ	<i>ṭamm</i> ‘to cover’	-	-	<i>nāṭi</i> ‘is sewing’
f	<i>famm</i> ~ <i>ʔafam</i> ‘mouth’	-	<i>xāf</i> ‘to be afraid of’	<i>nāfi</i> ‘negating’
ṯ	<i>ṯamm</i> ‘then’	-	-	-
ḏ	<i>ḏamm</i> ‘to abuse’	-	-	<i>nāḏi</i> ‘we abuse’
s	<i>samm</i> ‘poison’	<i>sadd</i> ‘to close; dam’	-	<i>nāsi</i> ‘I/he forgot’
z	<i>zamm</i> ‘to carry’	-	-	-
š	<i>šamm</i> ‘to smell’	<i>šadd</i> ‘to saddle the camel’	-	-
ġ	<i>ġamm</i> ‘chagrin’	<i>ġadd</i> ‘tomorrow’	-	<i>nāġi</i> ‘Speak gently to baby!’
ḥ	<i>ḥamm</i> ‘hot weather’	<i>ḥadd</i> ‘border; to mourn’	-	-
ʕ	<i>ʕamm</i> ‘uncle’	<i>ʕadd</i> ‘to count’	-	<i>nāʕi</i> ‘we aware of’
h	<i>hamm</i> ‘sadness’	<i>hadd</i> ‘to mate’	-	<i>nāhi</i> ‘threatening’
ḏ	<i>ḏamm</i> ‘to hug’	-	<i>xāḏ</i> ‘to try’	<i>nāḏi</i> ‘we light’
š	<i>šamm</i> ‘to close one’s legs’	<i>šadd</i> ‘to refuse’	-	<i>nāši</i> ‘asking for’
j	<i>jamm</i> ‘alot of’	<i>jadd</i> ‘serious’	-	<i>nāji</i> ‘rescued’
n	<i>namm</i> ‘to backbite’	<i>nadd</i> ‘cream for women’	<i>xān</i> ‘sheep house’	-
l	<i>lamm</i> ‘to collect’	<i>ladd</i> ‘to looked’	<i>xāl</i> ‘beauty spot’	-
ḷ	-	-	<i>xāḷ</i> ‘uncle’	-
r	-	<i>radd</i> ‘to answer; to bring’	-	<i>nāri</i> ‘we see’

ʔ	<i>ʔamm</i> ‘Ramm’	-	-	<i>nāʔi</i> ‘my fire’
y	<i>yamm</i> ‘beside’	<i>yadd</i> ‘hand’	-	-
g	-	<i>gadd</i> ‘to cut; equal’	-	-
m	-	<i>madd</i> ‘to extend’	<i>xām</i> ‘raw’	<i>nāmi</i> ‘Sleep 2f.s.!’
x	<i>xamm</i> ‘to catch; to take’	<i>xadd</i> ‘cheek’	-	<i>nāxi</i> ‘asking for help’
w	-	<i>wadd</i> ‘to deal gently’	-	<i>nāwi</i> ‘intending’

Table 5: Minimal sets testing consonant phonemes in WR Arabic

The phonemes of WR Arabic are shown in column one; the first attempt at establishing the phonemes as contrastive units is shown in column two; the non-occurring combinations in this column invoke further tests for the gaps. In order to establish their contrastiveness, we need to test word-medial and word-final positions as shown in columns three and four. Geminate consonants are transcribed as double letters, as in: /darras/ ‘to teach’.

3.1.2 Summary of consonant inventory

WR Arabic has twenty-seven main consonants and two marginal consonants (/l/ and /ʔ/).⁹ The consonant inventory includes eight plosives, thirteen fricatives, one affricate, two nasals, two laterals, two flaps, and two glides. In terms of place of articulation, WR Arabic has the following articulatory points: labial, labiodental, interdental, dento-alveolar, palato-alveolar, palatal, velar, uvular, pharyngeal, and glottal. Table 6 illustrates the sets of the underlying consonant phonemes of WR Arabic (E: Emphatic).

Place \ Manner	Labial	Labio-dental	Inter-dental	Dento-alveolar	Palato-alveolar	Palatal	Velar	Uvular	Pharyngeal	Glottal ¹⁰
Plosive	b			t d			k g			ʔ
E. Plosive				ṭ						
Fricative		f	ṯ Ḍ	s z	š			x ġ	ħ ʕ	h
E. Fricative			ḏ	ṣ						
Affricate					j					
Nasal	m			n						
Lateral				l						
E. Lateral				ɭ						
Flap				r						
E. Flap				ɾ						
Glide	w					y	w			

Table 6: Consonant phonemes of WR Arabic

⁹ /l/ and /ʔ/ are the so-called secondary emphatics which are less frequent than their sisters (§ 3.2.4.2.2).

¹⁰ or laryngeals

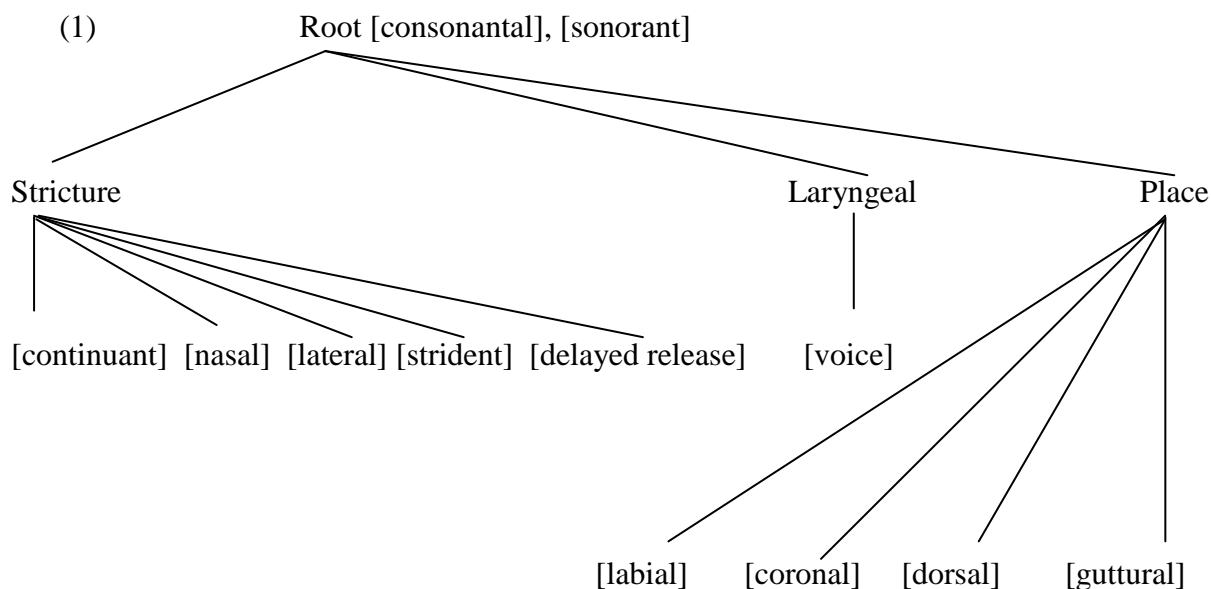
The vertical dimension represents the manner of articulation and the horizontal dimension represents the place of articulation. Consonants that appear in the right of a cell are voiced, while consonants that appear in the left of the cell are voiceless.

3.1.3 Phonological features

There must be some phonetic difference between the substituted sounds in the minimal pairs and minimal sets in order for the two phonetic representations to contrast in meaning. In earlier works, speech sounds are described as groups of arbitrary distinctive features (Chomsky and Halle, 1968; Lass, 1984; Davenport and Hannah, 1998). For example, the difference between /s/ in *sirag* ‘to steal’ and /z/ in *zirag* ‘to enter’ is [voice]: /s/ is voiceless, and /z/ is voiced. Since voicing plays a role in distinguishing these two words in WR Arabic, it is a *distinctive feature*. It has been realized that phonemes are made up of a set of phonological features.

Recent works argue that speech sounds are internally structured (and not arbitrary) rather than being bundles of phonological features (e.g. Clements, 1985; Halle, 1988; Herzallah, 1990; McCarthy, 1994; Halle, 1995; Watson, 2002). This claim results in a modification of the view of distinctive features by regarding them as being organized as a hierarchy of features. The representation relies on phonological constraints as well as acoustic characteristics that affect certain groups of sounds. For example, specific sets of phonological features pattern as one group in assimilation processes; some features seem to rely on other features; for example, [distributed] and [anterior] are pertinent to coronals but not to labials and velars. Some spreading features are conditioned by the occurrence of shared features between the target and the trigger in assimilation processes (Cole, 1987). This hierarchical manifestation of speech sound features, which is first presented in Clements’s (1985) ‘The geometry of phonological features’, is referred to as *feature geometry*.

Adopting a feature geometry approach (Clements, 1985; Watson, 2002, 2007), the internal structure of feature groups of the phonological features that are relevant to WR Arabic are presented in a unified standard consonant and vowel phoneme (see table 7 and table 20). Before that, the following tree diagram explains the hierarchical representation of sound features I assume for WR Arabic:



The feature tree in (1) is organized hierarchically in terms of node configurations. Nodes dominating lower down nodes in the tree are referred to as *mother nodes* and the dominated nodes are referred to as *daughter nodes*. The base of the tree is represented by the root node ([consonantal], [sonorant]).¹¹ The various branches of the tree are shown as intermediate nodes that represent constituents which are termed terminal nodes. The terminal nodes, which have no dependents, dominate specific features that constitute the leaves of the tree which are referred to as terminal features; that is, terminal nodes must have phonetic content. The nodes are not themselves distinctive features, but refer to some part of the anatomy involved in speech production. These nodes are classified as stricture features ([continuant], [nasal], [lateral],¹² [strident],¹³ [delayed release]), the laryngeal feature ([voice]), and place/articulator features ([labial], [coronal], [dorsal], [guttural]). The stricture, place and laryngeal nodes are not represented in square brackets; they are ‘purely structural organizational nodes’ (Watson, 2002: 24) and they cannot occupy the terminal nodes since they do not have any phonetic realization (Archangeli and Pulleyblank, 1994: 21).

Table 7 is a unified structured model of the phonological features of WR Arabic consonants and vowels. The sounds can be grouped into the following phonological features: root features

¹¹ This analysis follows McCarthy (1988), Halle (1992, 1995), and Watson (2002) in presuming that the phonological features [consonantal] and [sonorant] constitute the root node of the feature geometry tree. In addition, stating such hierarchy of configuration, for example assigning [consonantal] and [sonorant] to the root node, would indicate that they are more basic categories of contrast than the others because they are at a higher level than other features (Kenstowicz, 1994: 453).

¹² Few linguists claim that [lateral] is specified as a daughter of [coronal] node as its default articulator (Levin, J. 1988; McCarthy, 1988; Pulleyblank, 1988; Blevins, 1994).

¹³ Strident is an acoustic feature.

(consonantal, sonorant), stricture features (continuant, nasal, lateral, strident, delayed release), laryngeal feature (voice), and place features (labial, coronal, dorsal, guttural).¹⁴

	Root		Stricture					Laryngeal	Place			
	Consonantal	Sonorant	Continuant	Nasal	Lateral	Strident	Del Release	Voice	Labial	Coronal	Dorsal	Guttural
b	+							+	+			
t	+									+		
d	+							+		+		
k	+										+	
g	+							+			+	
f	+		+						+			
t̪	+		+							+		
ɖ	+		+					+		+		
s	+		+			+				+		
z	+		+			+		+		+		
ʃ	+		+			+				+	+	
j	+					+	+	+		+		
ʈ	+									+		+
ʂ	+		+			+				+		+
ɟ	+		+					+		+		+
x	+		+								+	+
ɣ	+		+					+			+	+
ħ			+									++ ¹⁵
ʕ			+					+				++
h			+									+
ʔ												+
m	+	+		+				+	+			
n	+	+		+				+		+		
l	+	+	+		+			+		+		
r	+	+	+					+		+		
ɭ	+	+	+		+			+		+		+
ɹ	+	+	+					+		+		+
w		+	+					+	+		+	
y		+	+					+		+	+	

Table 7: Phonological features of WR Arabic consonants adopting Feature Geometry model

¹⁴ [Guttural] is a non-primary feature for the emphatic consonants.

¹⁵ The second + presents the additional non-primary [guttural] feature of pharyngeals /ħ, ʕ/ that distinguishes them from laryngeals /h, ʔ/.

The root features [consonantal] and [sonorant] distinguish the major segment classes; [consonantal] refers to the group of sounds that involve oral constriction; this group includes a primary [labial] (/b/, /f/, /m/), [coronal] (/t/, /d/, /t̪/, /d̪/, /s/, /z/, /ʃ/, /j/, /tʃ/, /ʒ/, /dʒ/, /n/, /l/, /l̥/, /r/, /r̥/), or [dorsal] (/k/, /g/, /x/, /g̊/) articulator (cf. Watson, 2002: 26). [Guttural] consonants /ħ, ʕ, h, ʔ/ are excluded from this group since guttural involves the laryngeo-pharyngeal region. Glides and vowels lack the feature [consonantal]. [Sonorant] indicates no obstruction in the airflow and subsumes the classes of nasals, laterals, glides and vowels.

The stricture node includes five categories; [continuant] distinguishes stops from the other segments; the [continuant] feature denotes sounds produced with an uninterrupted airflow through the oral tract. [Nasal] sounds involve the opening of the nasal cavity so that air is released through the nose. [Lateral] involves the lateral release of sounds and distinguishes laterally released sounds from centrally released sounds. [Strident], which is an acoustic feature, distinguishes turbulent sounds from non-turbulent sounds. Acoustically, it marks sounds that have the high-pitch intensity associated with sibilants (Watson, 2002: 27). [Delayed release] denotes delay in release of the closure, and distinguishes the affricate from other oral stops. The laryngeal feature [voice] marks sounds produced with vocal fold vibration.

The place or ‘articulator’ node keeps together all the information relating to the place of articulation. However, the place of articulation calls for some more discussion. In the production of speech sounds, we must recognize a basic division between *primary* and *non-primary* place features. This distinction is crucial because some speech sounds involve more than one active articulator. With sounds that are multiply articulated, the two articulations are usually not of equal constriction. The more radical (primary) constriction is referred to as primary place feature, and the less radical constriction is referred to as non-primary place feature (Watson, 2002: 30). This distinction necessarily involves the ‘no dual primary place’ constraint even when the two place features seem to be identical in the degree of constriction (Selkirk 1993: 32, in Watson, 2002: 30), (see 2a). This model suggests that the primary place feature is immediately dominated by the place node, and the non-primary place feature is dominated by the primary feature. For example, the place features of the Arabic vocoids /w/ and /u/ are represented as labial velar (labio-velar); they are characterised as primary [dorsal] and non-primary [labial] in (2b):



Four place features are assigned to designate the four major articulators: [labial]¹⁶ denotes sounds involving the lips as an active articulator. It covers sounds articulated with both lips (bilabial /m, b/), a sound articulated with the lower lip and the upper teeth (labiodental /f/), or, as a non-primary feature, sounds that involve lip rounding, namely the vocoids /w, u/ as daughters of [dorsal]. [Labial] sounds are distinguished from one another by the root features [consonantal] and [sonorant], the stricture feature [nasal], the stricture feature [continuant], and the laryngeal feature [voice].

The place feature [coronal] marks sounds produced by the tongue tip or blade, so it involves true coronals (interdentals, dentals, alveolars, palato-alveolars). The palato-alveolar fricative /ʃ/ requires an additional non-primary place feature, so it can be distinguished from /s/: thus, it has primary [coronal] and non-primary [dorsal] (Watson, 2002: 39-40). Whereas the laryngeal feature [voice] is sufficient to distinguish between the interdentals, the palato-alveolars are also distinguished by the stricture feature [continuant]. True coronals as a group are distinguished from one another by the following features: [sonorant], [voice], [continuant], [nasal], [lateral], [strident] as well as the non-primary [dorsal] feature (in order to distinguish /s/ from /ʃ/). The emphatic coronals (/ʒ/, /t/, and /d/) are distinguished from plain coronals by taking [guttural] as a non-primary feature.

[Dorsal] denotes segments produced by the tongue body as an active articulator; it covers velar stops /g, k/, uvular fricatives /x, ǧ/, and palatal vocoids /y, i/. Each [dorsal] sound can be

¹⁶ Relying on the examination of a considerable number of languages, Selkirk (1993: 54) cited in Watson (2002: 28-9) assumes that the stricture of sounds controls the phonetic interpretation of their features, for example, she introduces the three generalizations on the phonetic interpretation of primary [labial]:

1. A primary [labial] stop is bilabial.
2. A primary [labial] fricative is labiodental.
3. A primary [labial] vocoid is round.

identified by the root feature [sonorant], the laryngeal feature [voice], and the stricture feature [continuant].

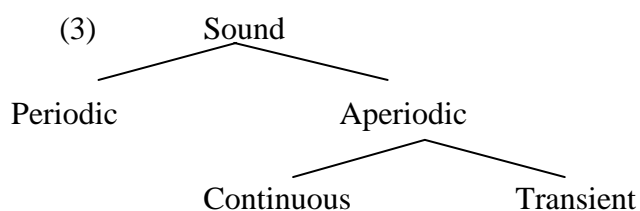
[Guttural] stands for ‘a zone of articulation, rather than an articulator, and distinguishes segments produced in the laryngeo-pharyngeal region’ (Watson, 2002: 38). Primary [guttural] describes backing, and denotes the laryngeals /h, ʔ/, the pharyngeals /ħ, ʕ/, the uvulars /x, ɣ/, and the vowel /a/, and, as a non-primary feature, the pharyngealized coronals /s̠, t̠, d̠, l̠, r̠/. The primary [guttural] segments /h, ʔ, ħ, ʕ/ share the absence of [consonantal]. The additional non-primary [guttural] feature distinguishes the pharyngeals /ħ, ʕ/ from the laryngeals /h, ʔ/. That is why the pharyngeals are said to be the emphatic counterparts of the laryngeals by some researchers (Heselwood and Al-Tamimi, 2011; Watson, 2002: 44). Since they share the absence of the root feature, [consonantal], the primary gutturals /h, ʔ, a/ are distinguished from one another by the root feature [sonorant] for /a/ and the stricture feature [continuant] for /h, a/ (ibid: 38).

Segments such as /u/ and /w/ described as [round] in other models (e.g. Chomsky and Halle 1968: 309; Newman, 1997: 73; Sakarna, 1999: 24; Asiri, 2009: 37) are treated here as non-primary [labial], since rounding involves the lips. The features [anterior] and [distributed], characterized by the tongue tip/front, are dominated by the coronal node. Because the tongue body is the main articulator of the feature [high], it is represented by the node [dorsal] that determines height. In this representation, the class nodes [labial], [coronal], [dorsal], and [guttural] are direct representatives of the main articulators of the vocal tract namely: the glottis, tongue root, velum, tongue body, tongue tip and the lips.

3.1.4 Acoustic terminology

Before discussing the acoustic readings of the consonants and vowels, I supply a note on the terms *periodicity* and *formants*.

There are three main kinds of sound that have a different appearance on spectrograms and waveforms as is shown in the diagram below: (Odgen, 2009: 31).



Sounds can be *periodic* (with regular repetitions of the sound waves), or *aperiodic* (random, or lacking regular repetitions). Sounds can be either *continuous* (like [s], [f], and [t̪], [d̪]) or *transient* (short and momentary like [d], [t], and [k]) (Odgen, 2009). Periodicity is the result of vocal fold vibration, and thus of voicing. Each peak in a periodic waveform corresponds to one opening of the vocal folds. One complete repetition is a cycle or period. The number of cycles/periods reflects the number of times the vocal folds open in the time represented. When reading spectrograms, periodic signals provide two acoustic visual components: first, the *striations* which are vertical lines on a spectrogram, with one striation corresponding to one opening of the vocal folds. Each time the vocal folds open to let air escapes, there is a sudden increase in amplitude (see the arrows in figure 5). Figure 5 is a spectrogram and waveform of the word [xatam] ‘to stamp’ that illustrates the three main kinds of sound: periodic and aperiodic noise and transient portion:¹⁷

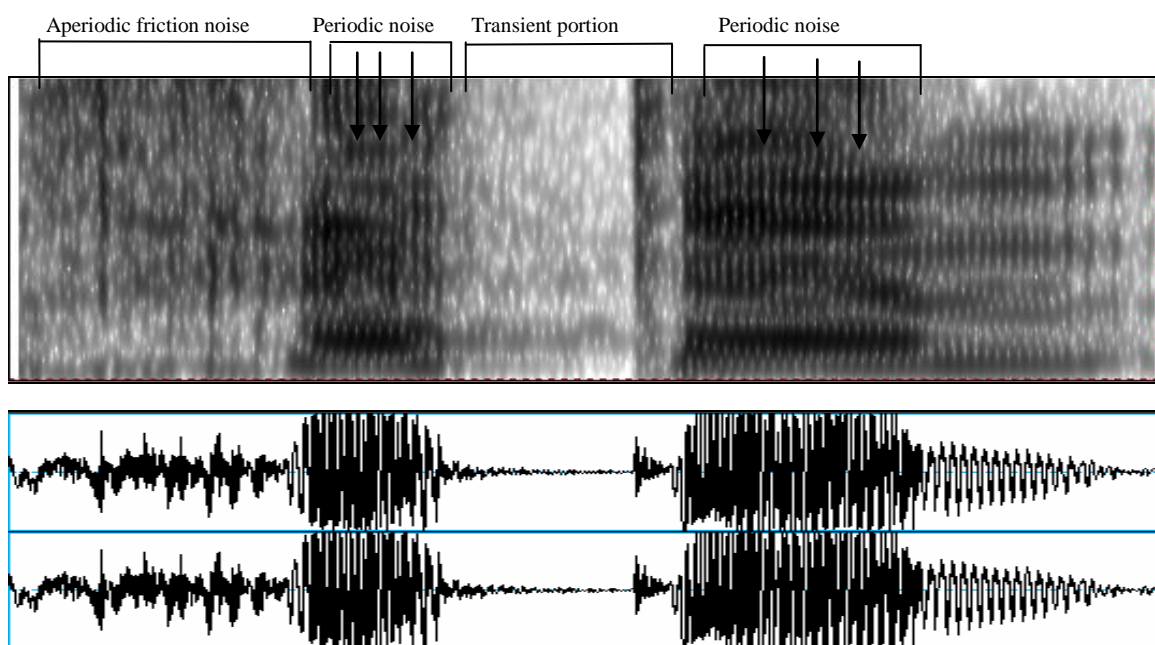


Figure 5: Spectrogram and waveform of the word [xatam] ‘to stamp’, with periodic, aperiodic and transient sounds

Secondly, periodic sounds exhibit clear *formants* which appear as darker horizontal bands running across the spectrogram (Odgen, 2009: 29-36). The traditional articulatory description of vowels is related to the *formant frequencies*. A formant is said to be a concentration of

¹⁷ Throughout the discussion, the selected words were recorded in target word pairs in the carrier phrase [gūl X kamān marrah] ‘Say X again’ to achieve a unified situation for all pairs. The tokens were recorded by three native male subjects of WR Arabic who have no speech or hearing deficiency (see also page 95).

acoustic energy, reflecting the way air from the lungs vibrates in the vocal tract and can be represented as thick dark bars in the sound spectrogram (Crystal, 2008: 196; Trask, 1996: 148). In phonetics, the formant refers to the acoustic resonance of the human vocal tract and is measured as an amplitude peak in the frequency spectrum of the sound. Frequency is a measure of the rate of how many cycles occur per second and measured in Hertz (Ogden, 2009: 175). F1, F2, and F3 are the three clearly visible formants that appear in the spectrogram: F1 centred at around 700 Hz, F2 around 1800 Hz, and F3 around 2800 Hz. The first two formants, F1 and F2, are helpful in identifying vowel quality since there is a correlation between their readings and tongue position (Ladefoged, 2006: 188) (§3.1.6). Traditionally, F1 and F2 are sufficient to determine vowel quality. Figure 6 is a spectrogram of the same word [xatam] with highlighting of F1, F2, and F3 which are represented by red dots:

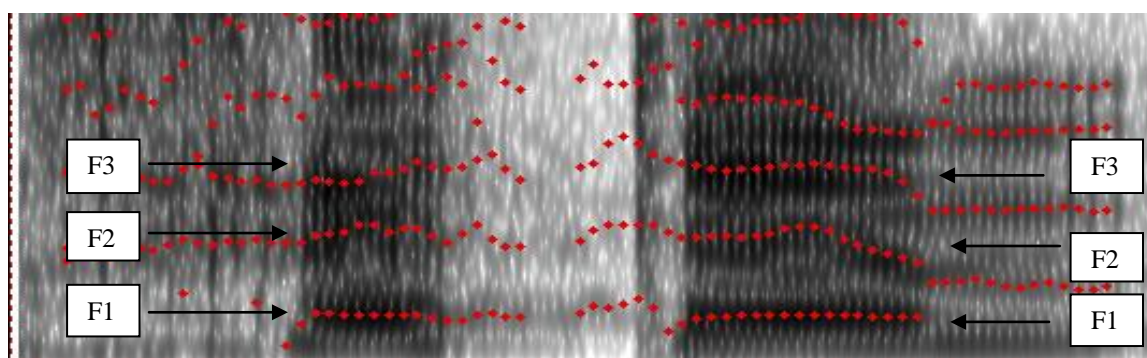


Figure 6: Spectrogram of the word [xatam], with F1, F2, and F3.

3.1.5 Consonants

3.1.5.1 Plosives

The term *plosive* refers to an oral stop made with a pulmonic airstream mechanism; WR Arabic has six plain plosives: /b/, /t/, /d/, /k/, /g/, and /ʔ/ and the emphatic plosive /t̤/. When articulating plosives, the velum is raised and the nasal cavity is closed so air cannot escape through the nose. The plosives are produced at different places of articulation; /b/ is labial; the lips are pressed together. /t/ and /d/ are dento-alveolar; the tongue blade touches the front part of the alveolar ridge. /t̤/ is typically produced with a primary constriction in the dental/alveolar region and a secondary constriction in the posterior vocal tract which involves F2 lowering (§ 3.2.4.2.2). /k/ and /g/ are velar; the back of the tongue is pressed against the end part of the hard palate and the front part of the soft palate. /ʔ/ is glottal which involves the glottis.

Plosives are attested in word-initial, medial, and final positions. They are also found as geminate consonants in word-medial and word-final positions.

Initial	Medial	Final	Geminate: Medial/Final	
Voiced labial plosive /b/				
<i>brayīg</i> ‘jug’	<i>zibīb</i> ‘raisin’	<i>širib</i> ‘to drink’	<i>sibbag</i> ‘to compete’	<i>šabb</i> ‘to ignite’
Voiceless dento-alveolar plosive /t/				
<i>tatin</i> ‘the village of Tatin’	<i>mitli</i> ‘camel that gave birth’	<i>bāt</i> ‘to roost; to sleep’	<i>fattih</i> ‘bread mixed with milk’	<i>fatt</i> ‘to cut into pieces’
Voiced dento-alveolar plosive /d/				
<i>dirham</i> ‘dirham’	<i>badu</i> ‘Bedouin’	<i>šdād</i> ‘part of saddle’	<i>gaddāḥah</i> ‘lighter’	<i>ḥadd</i> ‘border’
Voiceless velar plosive /k/				
<i>kḥaylih</i> ‘dark grey horse’	<i>rukūbah</i> ‘horse/camel used for riding’	<i>barak</i> ‘to sit down (with camels)’	<i>fakkāk</i> ‘problem solver’	<i>fakk</i> ‘to solve’
Voiced velar plosive /g/				
<i>gēḍ</i> ‘hot weather’	<i>magašših</i> ‘sweeper’	<i>sbāg</i> ‘race’	<i>laggaḥ</i> ‘to impregnate/mate’	<i>šigg</i> ‘men’s part of Bedouin tent’
Voiceless glottal plosive /ʔ/				
<i>ʔabad</i> ‘never’	<i>laʔīm</i> ‘cur’	<i>dwaʔ</i> ‘medicine’	-	-
Voiceless emphatic dento-alveolar plosive /t/				
<i>ṭayr</i> ‘bird’	<i>muṭar</i> ‘rain’	<i>rubat</i> ‘to tie’	<i>maṭṭārah</i> ‘water container’	<i>ḥaṭṭ</i> ‘to put’

Table 8: Plosives in initial, medial, and final positions

The voiced labial plosive /b/ has two variants: the plain [b] as in *girbih* ‘water sack’ and the emphatic [b], as in: *gaḇiḷ* ‘before’; there is attested two example in my data in which the two variants are contrastive: *baḥ* ‘to wash’ vs. *ḥaḥ* ‘nothing’ and *ḥabb* ‘to love; like’ vs. *ḥaḇḇ* ‘to kiss’. The voiced velar plosive /g/ has also two phonetic variants: the plain [g], as in: *giblih* ‘Qibla’ and the emphatic [g],¹⁸ as in: *gabir* ‘grave’. The emphatic variant is found before the guttural vowel /a/; it is never contrastive.

The voiceless glottal plosive /ʔ/ is attested in initial, medial, and final positions. The glottal stop /ʔ/ is not deleted intervocally in word-medial position as in /saʔal/ ‘he asked’ which surfaces as [saʔal] (or [saʕal] in the speech of elderly people). However, there is no longer a pre-consonantal /ʔ/ in this dialect; historically, the glottal stop /ʔ/ may be either deleted and the following vowel lengthens as a matter of compensation, or it assimilates to the

¹⁸ I use the bold [g] to refer to the emphatic variant of the voiced velar plosive /g/.

neighbouring vowel undergoing a historical vocalization process; **ṭaʔr* ‘revenge’ is now /*tār*/ and **ḏiʔb* ‘wolf’ is now /*ḏīb*/. It is useful to note that the glottal stop may be non-phonemic: it can be clearly attested in final position after a stressed /a/ in a pause, as in: [ʃtaʔ] ‘winter’, [dwaʔ] ‘medicine’, and [jaʔ] ‘he came’. However, historical /ʔ/ has been deleted word-finally in a very few cases, thus **samāʔ* is now [sima] ‘sky’ and **šahrāʔ* is now [šaḥara] ‘desert’ (§ 4.4.4). The glottal stop /ʔ/ does not appear as a geminate in any position. (There are no examples attested in the recorded data).

Figures 7 and 8 show waveform and spectrogram of the minimal pair [sibag] ‘to win’ and [sibbag] ‘competing’ pronounced by a native speaker. The top waveform and spectrogram shows the word with the singleton [b] and the lower one shows the word with the geminate [bb] counterpart. The selected parts in the figures represent the target [b] and [bb], respectively.

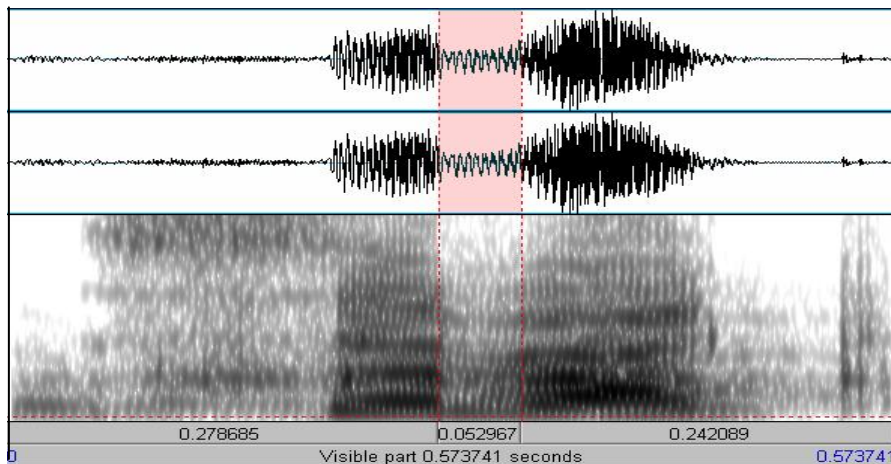


Figure 7: Waveform and spectrogram of the word [sibag]

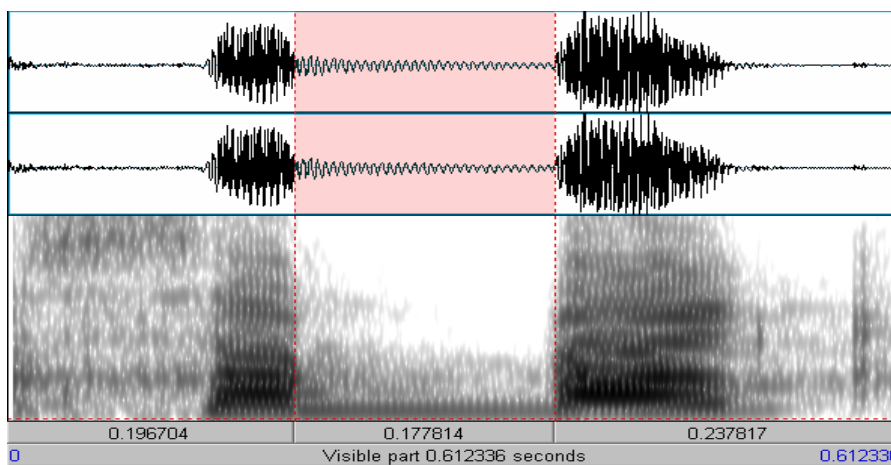


Figure 8: Waveform and spectrogram of the word [sibbag]

The waveform and spectrogram for the geminate [bb] show that it is three times as long as its singleton [b] counterpart. The length of [b] is .05296 ms, whereas the length of [bb] is .1778 ms. Voicing is maintained throughout the production of the singleton [b]. In producing [bb] although voicing is maintained during the closure, as noticed with the regular peaks in the waveform and the darkness in the spectrogram across the baseline, the amplitude and voicing decreases until the release of the closure into the vowel.

It is also noticed that the geminate consonant has an influence on adjacent vowels. Such kind of influence, known as ‘geminate spread’ (Al-Mashagbah, 2010), is acoustically noticed; figures 9 and 10 represent spectrograms of the same minimal pair with special focus on the vowels preceding and following the singleton [b] and geminate [bb]:

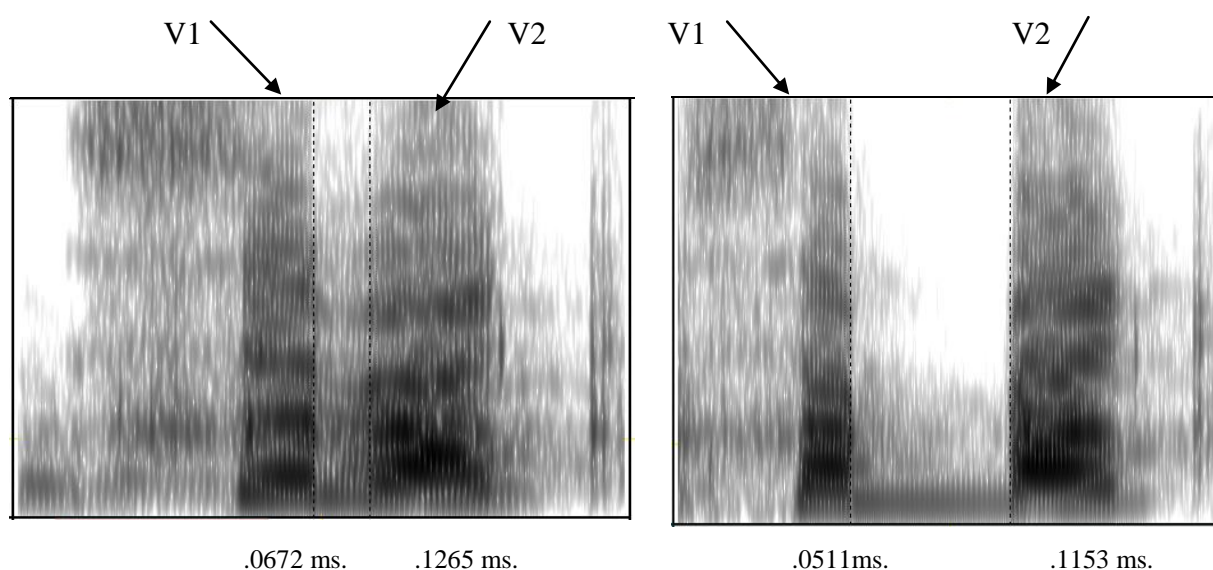


Figure 9 and Figure 10: Spectrogram of [b] in [sibag] and [bb] in [sibbag]

Spectrograms in 9 and 10 show that the peaks of V1, the vowel that precedes the target geminate [bb], and V2, the vowel that follows it, are more compact than their counterparts before and after the singleton [b], i.e., F2 and F1 are closer to each other due to F2 lowering. (Vowels are referred to by arrows). Furthermore, it is noticed that V1 and V2 neighbouring [bb] are shorter than their counterparts that neighbour [b]. They are 0.0511 ms and 0.1153 ms, respectively, in [sibbag]; whereas, they are 0.0672 ms and 0.1265 ms, respectively, in [sibag]. There is a lack of significant overall length difference between the word with a geminate and the word with a singleton though geminates are significantly longer than their singletons counterparts. This may promote the temporal compensation proposed by Local and Simpson, (1988), Hassan, (2002), and Al-Mashagbah (2010). This claim suggests that the lack of a

significant difference between the word with a geminate and the word with a singleton is attributed to the temporal compensation where the vowels before and after singletons are longer than those before and after geminates.

Acoustically, there are three phases of plosive articulation (close, hold, and release) as found in the utterance of [k] in the word [bakar] ‘Bakr [name]’ below (figure 11); the first square bracket indicates pre-aspiration, a feature of voiceless stops in many Arabic dialects (cf. Watson and Heselwood, 2014); the arrow to the left indicates the starting point of the closure; the second square bracket indicates the hold phase; the arrow to the right indicates the point when release starts. The time between the release of the stop /k/ and the beginning of modal voicing in the vowel, which is referred to as **voice onset time (VOT)**, is the fourth stage in the production of this sound (see figures 11, 12, and 13).

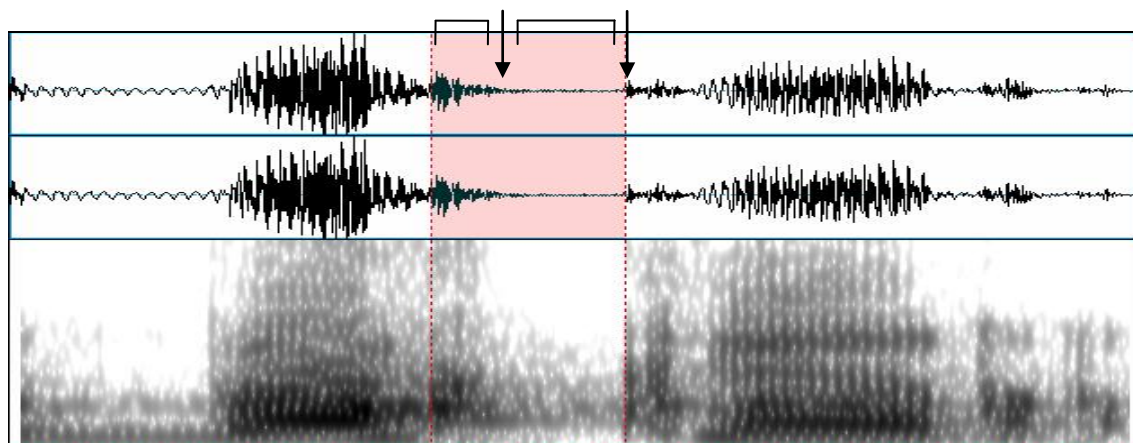


Figure 11: Waveform and spectrogram of [k] in [bakar]

The formants of the vowel move slightly towards the closure phase; these movements are called transitions. They correspond to the movements of the articulators into the closure. During the hold phase, the amplitude drops significantly because there is no airflow through the vocal tract. On release, there is a sudden burst, seen as an increase in energy, in the waveform and the spectrogram (figure 11).

In terms of voice, WR Arabic recognises two sets of plosives: *voiced* /b/, /d/, /g/, and *voiceless* /t/, /k/, /ʔ/, and /t/. To show the relationship between voicing, closure and release, minimal pairs with voiced and voiceless plosives may help to recognise this principle. Consider, for example, the spectrograms in figures 12 and 13 which illustrate the words [gala] ‘to fry’ and [kala] ‘to eat’ uttered by a male native local speaker of WR Arabic.

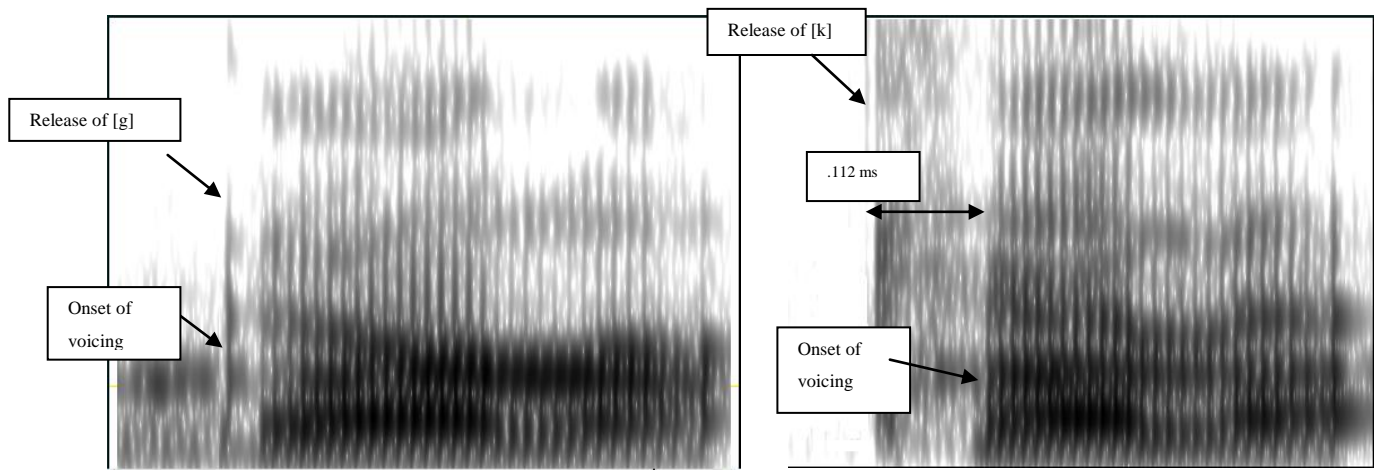


Figure 12 and Figure 13: Spectrograms of [gala] and [kala]

As these two words are a minimal pair, any difference which could be observed will be between the initial consonants: the voiced [g] and the voiceless [k]. One obvious difference concerns the timing of the onset of the vowel; the striations (denoting voicing) begin almost immediately after the release of [g] in [gala]. In [kala], there is a period of aperiodic noise before voicing begins. This considerable gap between the [k] release and the onset of the vowel [a] is not an empty one; rather, it is filled with friction noise which is commonly referred to as *aspiration*. However, the gap is not clear with [g] due to some voicing that is represented by dark striations along the baseline. As can be seen from the figure to the left, with the production of [g], a short period of low amplitude voicing which appears as a grey bar at the bottom of the spectrogram is seen before the release of the stop closure. This voice bar is an acoustic property of fully voiced stops (see figures 7 and 8 above).

Two acoustic cues can be accounted for with reference to figures 12 and 13, namely: the release of the stop consonants, and the beginning of the vowel onset voicing denoted by the striations along the spectrogram. The duration of the gap between release and onset voicing (voice onset time) in [gala] is .021 ms, and in [kala] is .112 ms. VOT for [g] is shorter than that of [k]. In addition, the vowel that follows the voiced stop [g] is significantly longer than the vowel that follows the voiceless stop [k]; [a] after [g] is .117 ms whereas [a] after [k] is .076 ms.

3.1.5.2 Fricatives

The term *fricative* corresponds to a continuant consonant that involves narrowing the distance between two articulators so that air escapes through a small passage making a hissing sound or

friction. WR Arabic has eleven plain fricative phonemes, /f/, /t/, /d/, /s/, /z/, /š/, /x/, /ġ/, /ħ/, /ʕ/, /h/, and two emphatic fricatives, /s/ and /d/. By manner of articulation, fricatives are the largest class of consonants in WR Arabic. The fricatives are produced at different points of articulation. /f/ is labio-dental; the lower lip touches the upper teeth. /t/ and /d/ are interdental; the tongue is in contact with the upper teeth. /s/ and /z/ are dento-alveolar; the air escapes through a narrow passage along the centre of the tongue. /š/ is palato-alveolar; the production of this sound takes place partly palatal, partly alveolar where the tongue is in contact with the area that is further backward and thus the air escapes through a wider passage along the centre of the tongue in comparison with the production of /s/ or /z/. /x/ and /ġ/ are uvular; the articulation involves the narrowing of the tongue against the uvula. /ħ/ and /ʕ/ are pharyngeal; the root of the tongue approximates the back wall of the pharynx. /h/ is glottal; the sound production involves open vocal folds.

Fricatives are attested in word-initial, medial, and final positions in WR Arabic. They are also found as geminate consonants in word-medial and word-final positions.

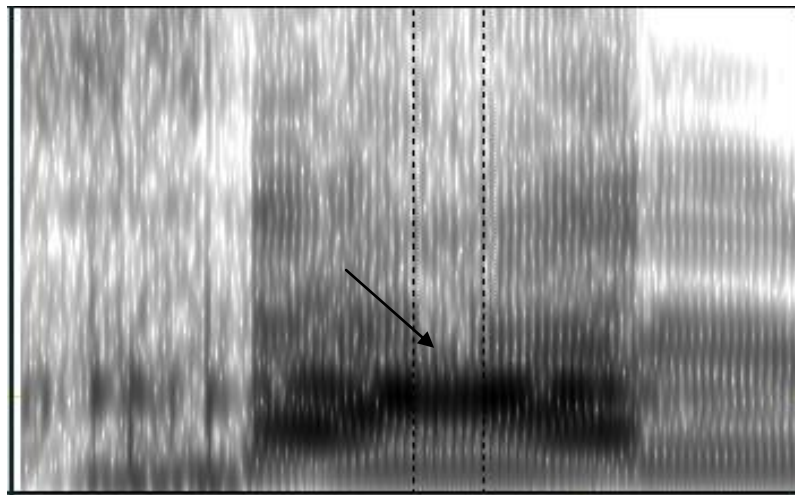
Initial	Medial	Final	Geminate: Medial/Final	
Voiceless labio-dental fricative /f/				
<i>funjān</i> ‘cup’	<i>siffīh</i> ‘part of the saddle’	<i>kēf</i> ‘mood’	<i>kaffārah</i> ‘penance’	<i>xaff</i> ‘camel foot’
Voiceless interdental fricative [t]				
<i>tār</i> ‘revenge’	<i>miṭal</i> ‘proverb’	<i>ġayt</i> ‘rain’	<i>lattam</i> ‘to kick’	<i>ġatt</i> ‘to upset’
Voiced interdental fricative /d/				
<i>dabīhah</i> ‘slaughtered lamb’	<i>ḥadwah</i> ‘horseshoe’	<i>lād</i> ‘to escape’	<i>ḥadda</i> ‘boot maker’	<i>šadd</i> ‘to deviate’
Voiced interdental emphatic fricative /ḏ/				
<i>ḏāf</i> ‘lost’	<i>ḥaḏal!</i> ‘these’	<i>gēḏ</i> ‘hot weather’	<i>ḥaḏḏar</i> ‘to prepare’	<i>jaḏḏ</i> ‘to groan’
Voiceless dento-alveolar fricative /s/				
<i>sēl</i> ‘torrent’	<i>mansaf</i> ‘Mansaf [meal]’	<i>ṭaws</i> ‘shifting sands’	<i>fassar</i> ‘to explain’	<i>bass</i> ‘only’
Voiceless dento-alveolar emphatic fricative /ṣ/				

<i>ṣawfar</i> ‘to whistle’	<i>giṣalah</i> ‘bride price’	<i>ginīṣ</i> ‘hunting’	<i>gaṣṣar</i> ‘to shorten’	<i>gaṣṣ</i> ‘to trace’
Voiced dento-alveolar fricative /z/				
<i>zibīb</i> ‘raisins’	<i>ḥazam</i> ‘to invited’	<i>jōz</i> ‘husband’	<i>fazzaḥ</i> ‘to gather relatives’	<i>ḥizz</i> ‘power’
Voiceless palato-alveolar fricative /ʃ/				
<i>ših</i> ‘Artemisia’	<i>wašim</i> ‘tattoo’	<i>balāš</i> ‘nothing’	<i>xaššag</i> ‘to put sth into sth else’	<i>tašš</i> ‘to tour; walk through’
Voiceless uvular fricative /x/				
<i>xarūf</i> ‘lamb’	<i>baxat</i> ‘luck’	<i>jaxxah</i> ‘good’	<i>tuwaxxar</i> ‘to be late’	<i>faxx</i> ‘trap’
Voiced uvular fricative /ġ/				
<i>ġaḍa</i> ‘xerophytes /wild plant’	<i>baġal</i> ‘mule’	<i>marag</i> ‘to beat off’	<i>daġġam</i> ‘to have mumps’	<i>daġġ b-laġġ</i> ‘to criticize indirectly’
Voiceless pharyngeal fricative /ħ/				
<i>ħwār</i> ‘camel calf’	<i>faħal</i> ‘bull; stallion; male’	<i>nōħ</i> ‘bewail’	<i>šahħād</i> ‘beggar’	<i>gaħħ</i> ‘to cough’
Voiced pharyngeal fricative /ʕ/				
<i>ʕaggad</i> ‘to go with’	<i>baʕar</i> ‘goat droppings’	<i>wijaʕ</i> ‘pain’	<i>baʕʕad</i> ‘to go away’	<i>yaʕʕ</i> ‘nasty’
Voiceless glottal fricative /h/				
<i>hawdaj</i> ‘saddle’	<i>rahaf</i> ‘Rahaf [girl’s name]’	<i>wajh</i> ‘famous reputable man’	<i>jahhaz</i> ‘to prepare’	

Table 9: Fricatives in initial, medial, and final positions

The recorded material does not include any examples of geminate /hh/ word-finally. Some speakers tend to elide word-final /h/ utterance-medially, as in *daħalah* ‘quick sand’ > *daħala*. In such position, when they do pronounce final -h, the preceding guttural vowel /a/ is raised to [i], i.e., *daħalah* > *daħalih* (§ 3.2.2).

The voiceless fricative /h/ is often realised as a *voiced* glottal fricative [f] intervocally, as illustrated in figure 14:

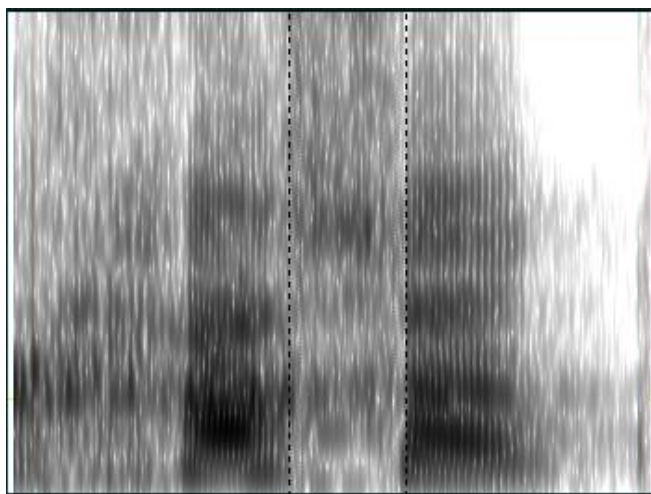


.039 ms

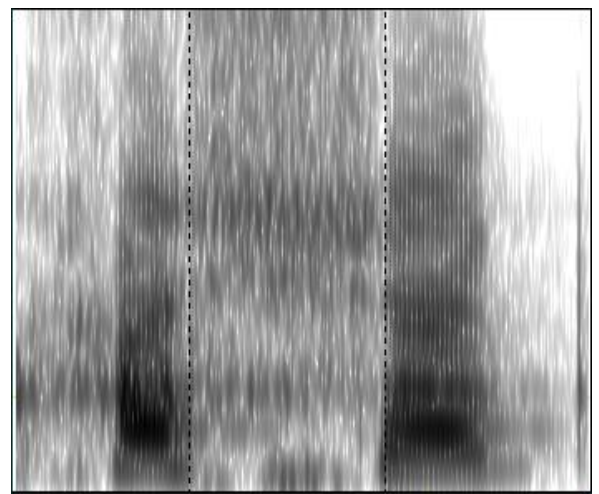
Figure 14: Spectrogram of [ɦ] in [saɦal]

This realization is clearly seen in the selected part in figure 14, where the darker formant lines and regular vertical striations indicate voicing of /h/.

Figures 15 and 16 are the spectrograms of the minimal pair [xašag] ‘to enter’ and [xaššag] ‘to make something enter’. The selected parts in the figures represent the target fricatives [š] and [šš], respectively.



.106 ms



.1964 ms

Figure 15 and Figure 16: Spectrograms of [š] in [xašag] and [šš] in [xaššag]

Figures 15 and 16 show that the geminate fricative [šš] is significantly longer than its singleton counterpart; the length of [šš] is almost twice as long as [š].

With the exception of the labio-dental /f/, the palato-alveolar /š/, and the glottal /h/, each place of articulation has a pair of phonemes that are distinguished by means of voicing, one lenis (voiced) and one fortis (voiceless). The lenis fricatives /d/, /z/, /g/, and /ʒ/ are said to be

articulated with lesser force (breath) and have lower friction than their fortis counterparts /t/, /s/, /x/, and /ħ/, respectively. WR Arabic has two emphatic fricatives; /ḏ/ is interdental and /ṣ/ is dento-alveolar. The former is voiced and the latter is voiceless.

Acoustically, voiced fricatives usually show resonance structure appearing as a shadow of weak formants with little noise intervening. The strongest of these formant structures, indicating voicing, appears along the baseline. Voiceless fricatives usually produce a high noise. Figures 17 and 18 are waveform and spectrogram of the minimal pair words [zāl] ‘to disappear’ and [sāl] ‘to flow’. They provide an acoustic reading that compares the voiced fricative with its voiceless counterpart.

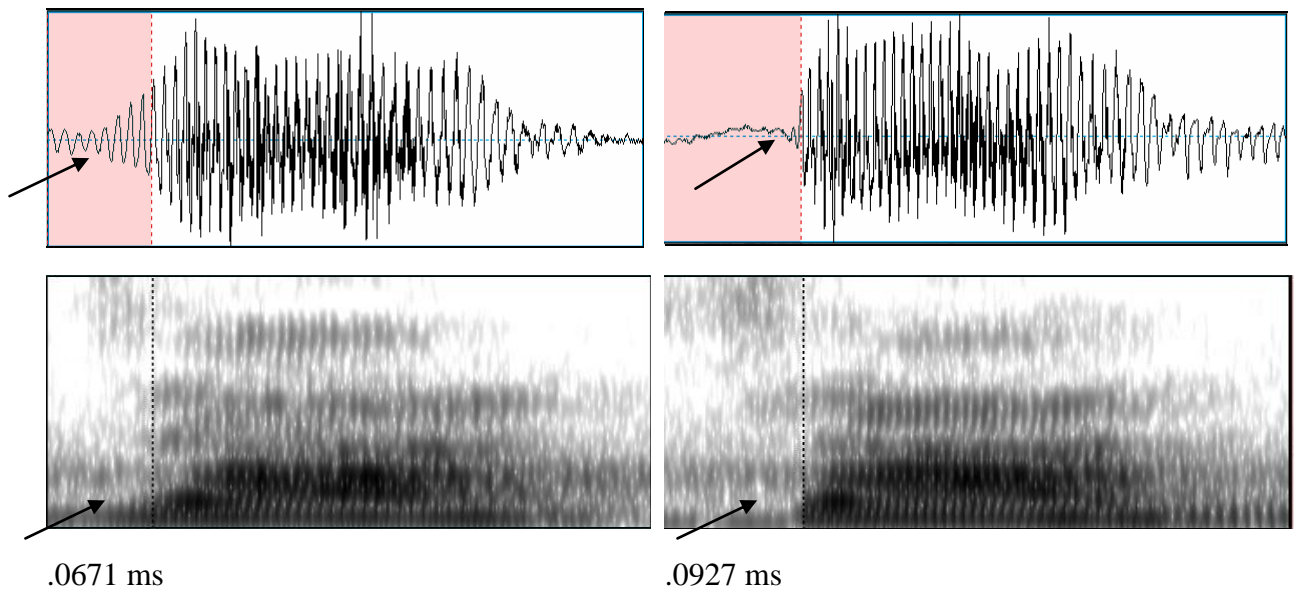


Figure 17 and Figure 18: Waveform and spectrogram of [z] in [zāl] and [s] in [sāl]

In the case of the voiced [z], the flow of air is reduced, and consequently the amount of friction noise is reduced. A regular, steadily increasing periodic waveform can be noticed in [z] indicating vibration of the vocal folds. As pointed to by arrows in the spectrograms, the darker lines for [z] indicate voicing. As for periodicity, [z] is realized as regular striations in the spectrogram and periodic friction noise in the waveform. [s] produces fewer dark striations in the spectrogram, which indicate voicelessness; it also appears as a portion of aperiodic transient noise in the waveform. In addition, the friction in the voiceless [s] is louder and longer in duration than for the voiced [z].

3.1.5.3 Affricates

/j/ is the only affricate phoneme in WR Arabic. /j/ is a palato-alveolar sound; the production of this sound is partly palatal and partly alveolar where the tongue is in contact with this area and the air escapes through a passage along the centre of the tongue. The voiced palato-alveolar affricate /j/ is attested in word-initial, medial, and final position. It is also found as a geminate consonant in word-medial and word-final positions.

Initial	Medial	Final	Geminate: Medial/Final	
<i>jimal</i> 'camel'	<i>wijād</i> 'alot of'	<i>daraj</i> 'stairs'	<i>dajjan</i> 'to domesticate'	<i>hajj</i> 'to perform pilgrimage' <i>hajj</i> 'to run away'

Table 10: Affricate /j/ in initial, medial, and final positions

Figures 19 and 20 are the spectrograms of the minimal pair [najaḥ] 'to succeed' and [najjaḥ] 'to help somebody succeed'. The selected parts in the figures represent the target affricates [j] and [jj], respectively.

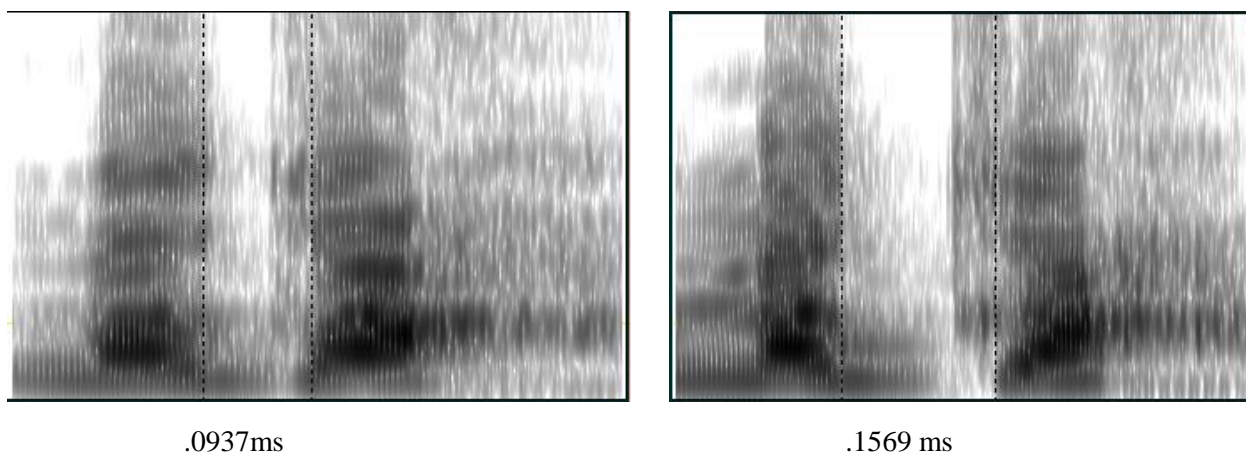


Figure 19 and Figure 20: Spectrograms of [j] in [najaḥ] and [jj] in [najjaḥ]

Acoustically, the articulation of the affricate /j/ involves two phases; starting with a plosive followed by a fricative. The combination of the two phases (closure, hold and release of the stop which is followed by the friction noise) patterns together to form the affricate /j/. The geminate [jj] is significantly longer than its singleton counterpart.

3.1.5.4 Nasals

WR Arabic has two nasal phonemes, /m/ and /n/. The production of the nasal sounds involves the lowering of the soft palate so that the air escapes through the nose. /m/ is labial where the

closure involves the lips; /n/ is dento-alveolar where the closure involves the tongue blade against the front part of the alveolar ridge.

Nasals are attested in initial, medial, and final positions. They are also found as geminate consonants in word-medial and word-final positions.

Initial	Medial	Final	Geminate: Medial/Final	
Voiced labial nasal /m/				
<i>miryāf</i> ‘leading ram of herd’	<i>samin</i> ‘fat’	<i>wasim</i> ‘brand’	<i>šammām</i> ‘melon’	<i>tamm</i> ‘done’ <i>namm</i> ‘to backbite’
Voiced dento-alveolar nasal /n/				
<i>naʕajah</i> ‘lamb’	<i>sanām</i> ‘hump’	<i>duxxān</i> ‘to somke’	<i>tanna</i> ‘to get married to second wife’	<i>ħann</i> ‘to yearn’

Table 11: Nasals in initial, medial, and final positions

Figures 21 and 22 are spectrograms of the minimal pairs [ʔamin] ‘safety’ and [ʔammin] ‘trust!’. The selected parts in the figures represent the target nasals [m] and [mm], respectively.

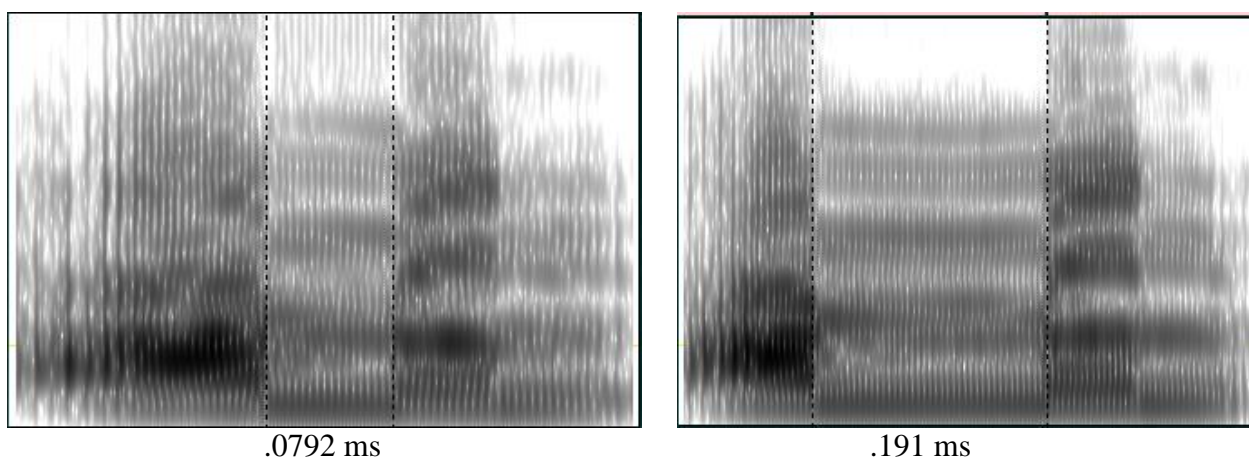


Figure 21 and Figure 22: Spectrograms of [m] in [ʔamin] and [mm] in [ʔammin]

The figures above show that the geminate nasal [mm] is significantly longer than its singleton counterpart; the length of [mm] is .191 ms whereas [m] is .0792 ms.

To produce a nasal sound, the two cavities, oral and nasal, are involved. Nasal sounds can be distinguished easily from the vowels since they produce a discontinuity in volume, which can be seen in waveforms and spectrograms as an abrupt change in amplitude. Figures 23 and 24 show the waveforms and spectrograms of the words [sama] ‘sky’ and [sanah] ‘year’:

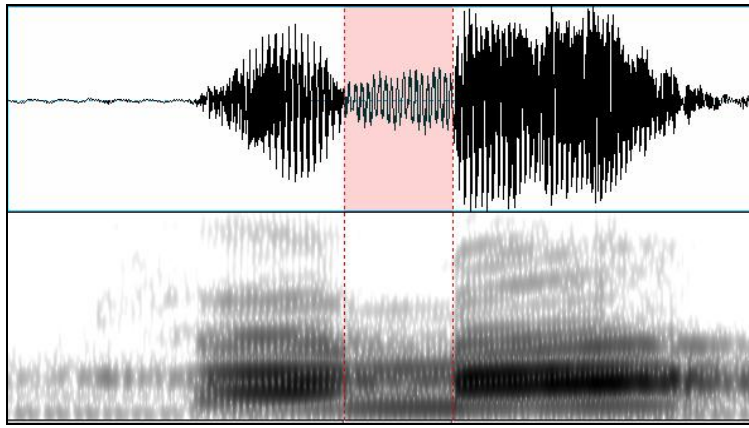


Figure 23: Waveform and spectrogram of [m] in the word [sama]

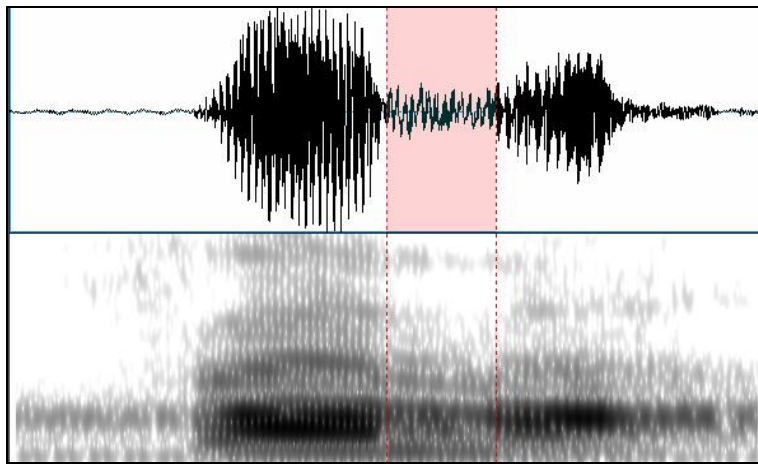


Figure 24: Waveform and spectrogram of [n] in the word [sanah]

The nasal cavity becomes a major resonating tube accompanied with the closure of the oral cavity in order not to allow air to escape from the mouth. This is why nasals show a weak resonance with reduced formant F1, F2, and F3 amplitude (A discussion of formants is given in sections 3.1.4 and 3.1.6). /n/ has higher frequency readings than /m/. Table 12 shows the readings of the formant frequencies F1, F2, and F3 for [m] in [sama] and [n] in [sanah]:

	F1	F2	F3
m	293	1003	1412
n	444	1077	1717

Table 12: F1, F2, and F3 of [m] in [sama] and [n] in [sanah]

3.1.5.5 Laterals

/l/ is the lateral in WR Arabic; the blade of the tongue is raised to the front of the alveolar ridge and the airstream flows over the sides of the tongue. The dento-alveolar lateral /l/ in the

WR Arabic has contrastive variants: the plain lateral and the emphatic *dark* lateral; consider these examples:

(4)	[ballah]	‘to wet something’	[baʎlah]	‘Are you sure?’
	[xāli]	‘empty’	[xāʎi]	‘my uncle’
	[xāl]	‘beauty spot’	[xāʎ]	‘uncle’
	[xallah]	‘wooden nail’	[xaʎlah]	‘let him’
	[walla]	‘he went away’	[waʎlah]	‘I swear’

The voiced dento-alveolar lateral /l/ is attested in initial, medial, and final positions. It is also found as a geminate consonant in word-medial and word-final positions.

Initial	Medial	Final	Geminate: Medial/Final	
<i>lāš</i> ‘immoral’	<i>balaʕ</i> ‘to swallow’	<i>daḥal</i> ‘quick sand’	<i>mallih</i> ‘hot ash’	<i>hall</i> ‘to come’

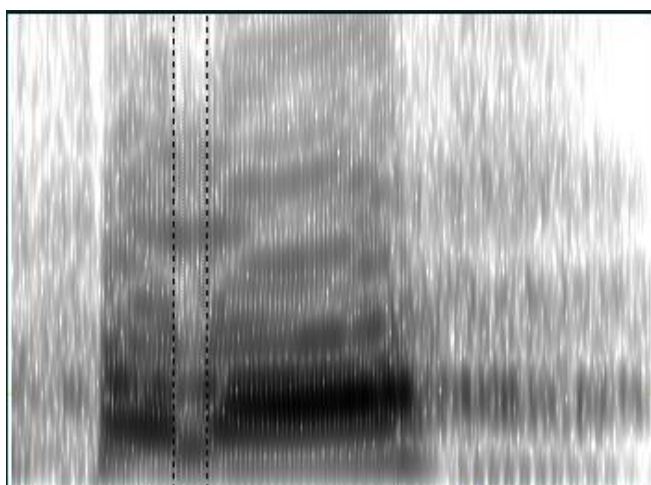
Table 13: Lateral /l/ in initial, medial, and final positions

The marginal pharyngealized (emphatic) voiced dento-alveolar lateral /l/ is attested in medial and final positions. It is also found as a geminate consonant in word-medial and word-final positions. No examples are found in the records attesting it word-initially.

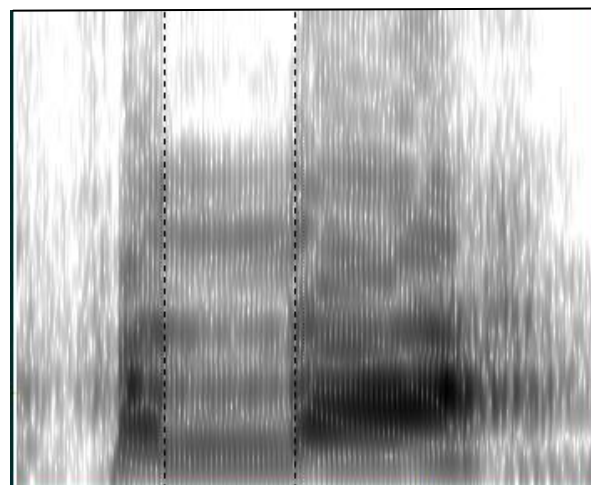
Initial	Medial	Final	Geminate: Medial/Final	
-	<i>gaʎb</i> ‘heart’ <i>xāʎi</i> ‘my uncle’	<i>xāʎ</i> ‘uncle’ <i>gaʎiʎ</i> ‘before’	<i>ʔaʎlah</i> ‘Allah’ <i>gaʎlab</i> ‘to turn down several times’	<i>ʔaʎʎ</i> ‘to come; to look out’

Table 14: Emphatic lateral /l/ in medial and final positions

Figures 25 and 26 are spectrograms of the minimal pairs [falāḥ] ‘Falah [name]’ and [fallāḥ] ‘peasant’. The selected parts in the figures represent the target lateral [l] and [ll], respectively. It is noticed that the geminate lateral [ll] is four times as long as the singleton lateral [l].



.031 ms



.1245 ms

Figure 25 and Figure 26: Spectrograms of [l] in [falāḥ] and [l] in [fallāḥ]

In terms of voicing, the lateral /l/ is voiced throughout. Acoustically, periodicity (seen at the waveform) is accompanied with regular striations (seen at the spectrogram). /l/ shows a vowel-like formant structure. However, the lateral /l/ which is lighter in the spectrogram than the following vocalic sound shows lower amplitude on the waveform. Figure 27 is waveform and spectrogram of the word [falāḥ] ‘Falah [name]’:

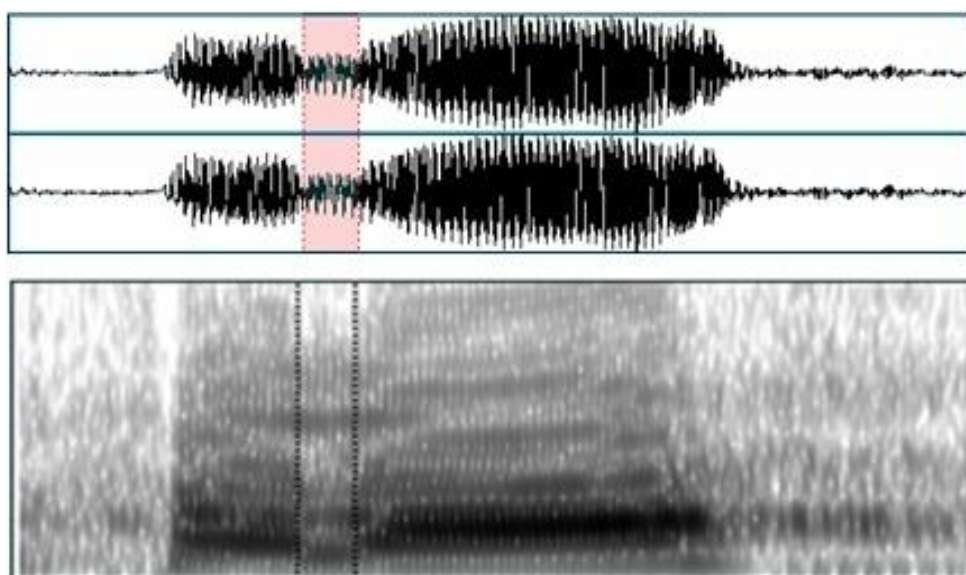


Figure 27: Waveform and spectrogram of [l] in [falāḥ]

3.1.5.6 Flaps

There are two flaps in WR Arabic, the plain /r/ and its marginal emphatic pharyngealized counterpart /r̥/, as in:

(5)	[nāri]	‘we see’	[nāri]	‘my fire’
	[jāri]	‘streaming’	[jāri]	‘my neighbour’
	[barra]	‘to exonerate’	[barra]	‘outdoors’
	[dāri]	‘knowing m.s.’	[dāri]	‘my house’
	[rabbi]	‘bring up!’	[rabbi]	‘my God’

The plain flap /r/ and the emphatic flap /r̥/ are articulated by drawing back the tongue tip and striking it against the alveolar ridge before returning to its rest position. The tongue tip is raised and accompanied with a slight curl further back than the alveolar point. The voiced dento-alveolar flap /r/ is attested in initial, medial, and final positions. It is also found as a geminate in word-medial and word-final positions.

Initial	Medial	Final	Geminate: Medial/Final	
<i>rjūd</i> ‘cemetery’	<i>barak</i> ‘to sit down (with camels)’	<i>šaʕar</i> ‘hair’	<i>warrid</i> ‘to bring [the sheep] to the spring’	<i>garr</i> ‘to confess’

Table 15: Flap /r/ in initial, medial, and final positions

Figures 28 and 29 are spectrograms of the minimal pairs [bara] ‘to sharpen’ and [barra] ‘to exonerate’. The selected parts in the figures represent the target flap [r] and the trill [rr], respectively. It is noticed that the geminate [rr] is almost seven times as long as the singleton flap [r].

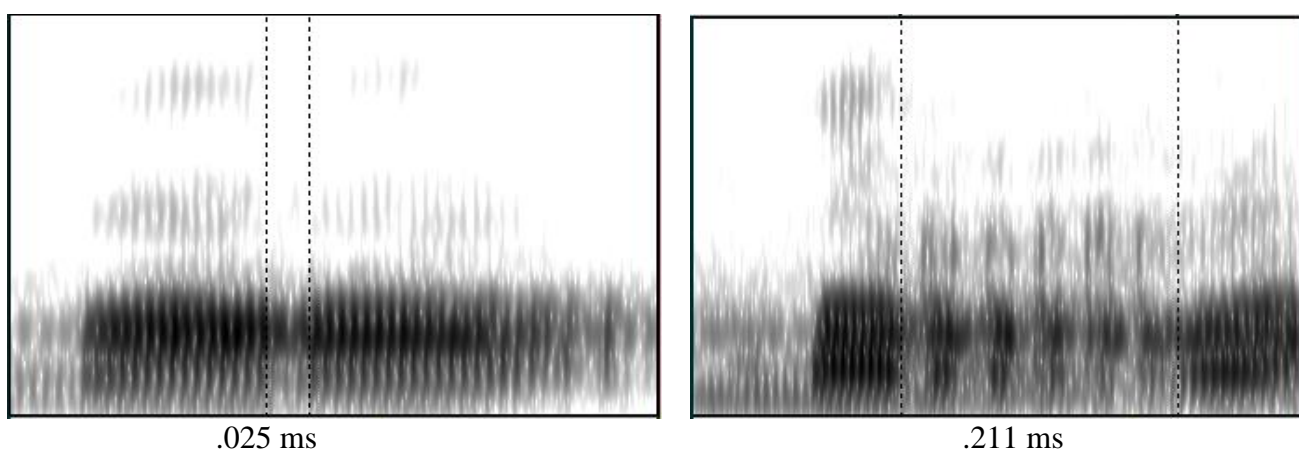


Figure 28 and Figure 29: Spectrograms of [r] in [bara] and [rr] in [barra]

/r/ possesses a formant structure similar to that of /l/. As can be seen from figures 28 and 29, /r/ is a tap produced by the tongue rapid single tap against the alveolar ridge; whereas, /rr/ is a trill in which the tongue tip strikes the alveolar ridge repeatedly (4-6 times); in final position, the singleton /r/ is often realized as a trill.

The marginal emphatic voiced dento-alveolar flap /ɾ/ is attested in initial, medial, and final positions. It is also found as a geminate consonant in word-medial and word-final positions.

Initial	Medial	Final	Geminate: Medial/Final	
<i>ṛabb</i> ‘God’	<i>taṛaktar</i> ‘tractor’	<i>dār</i> ‘house’	<i>ṭarṛād</i> ‘pursuing’	<i>buṛṛ</i> ‘wheat’

Table 16: Emphatic flap /ɾ/ in initial, medial, and final positions

3.1.5.7 Glides

The most important characteristic of the glides /w/ and /y/ is that they are phonetically like vowels and phonologically like consonants. /w/ is labial-velar; the production of the sound involves lip rounding. Dickins (2007: 34-9) suggests that /w/ is better described as *labio-velar* than as labial since velarity is a primary articulation and labiality is involved as a secondary articulation (§ 3.1.3). The voiced glide /y/ is palatal; its production involves raising the front of the tongue towards the hard palate. /y/ and /w/ may glide into the preceding vowels forming a set of closing diphthongs: /ay/, /aw/, /iy/, and /uw/ (§ 3.1.6).

Glides are attested in initial, medial, and final positions. They are also found as geminate consonants in word-medial and word-final positions.

Initial	Medial	Final	Geminate: Medial/Final	
Voiced labial-velar glide /w/				
<i>wahad</i> ‘clothes’	<i>ḥawāṣi</i> ‘camel calves’	<i>baw</i> ‘piece of calf leather’	<i>nawwax</i> ‘to let camel sit down’	<i>gaww</i> ‘hello’
Voiced palatal glide /y/				
Initial	Medial	Final	Geminate: Medial/Final	
<i>yōm</i> ‘a day’	<i>liḥyih</i> ‘beard’	<i>xṭay</i> ‘pathetic’	<i>grayyib</i> ‘near’	<i>simiyy</i> ‘named after’

Table 17: Glides in initial, medial, and final positions

Figures 30 and 31 are spectrograms of the minimal pairs [ḥaya] ‘shyness’ and [ḥayya] ‘to greet’. The selected parts in the figures represent the target singleton glide [y] and the geminate [yy], respectively. It is noticed that the geminate glide [yy] is significantly more than twice as long as the singleton glide [y].

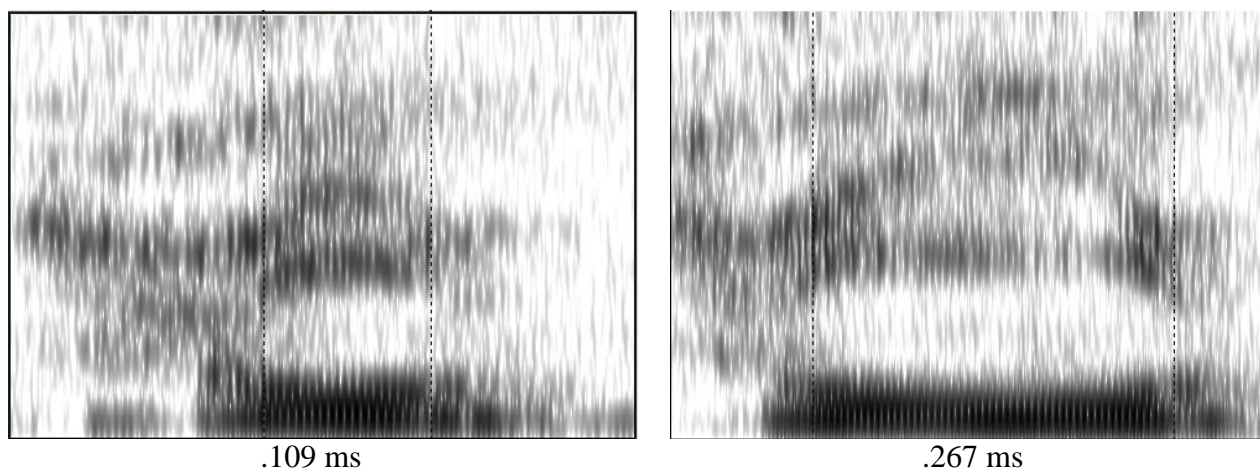


Figure 30 and Figure 31: Spectrograms of [y] in [ḥaya] and [yy] in [ḥayya]

The acoustic characteristics of the glides /w/ and /y/ are more like those of the vowels than the other consonant groups. They are periodic sounds; the periodic noise appears as regular striations in the spectrogram. More specifically, /w/ has a vowel-like formant which is similar to /u/ and /ū/ (low F1 and low F2), and /y/ has a vowel-like formant structure which is similar to /i/ and /ī/ (low F1 and high F2) (§ 3.1.6). In addition, they have relatively high amplitude in comparison with other consonants.

3.1.6 Vowels

CA has three short vowels, /i/, /u/, and /a/, together with three long counterparts /ī/, /ū/, and /ā/. It also has two diphthongs, /ay/ and /aw/. Arabic grammarians referred to the short vowels as *ḥarakāt* ‘movements’ and referred to long vowels as *ḥurūf* ‘letters’ (Versteegh, 2007). We can repeat the minimal pair test (§ 3.1.1), in an effort to establish the vowel phonemes of WR Arabic. All the following words in the minimal sets are identical in every way except for the vowels. Based on the minimal pair/set contrast, each vowel represents a phoneme:

	dXn	sXm	mXrr	šXgg	bXg	bXt
a	-	<i>sam</i> ‘Say!’	<i>marr</i> ‘to pass’	<i>šagg</i> ‘to tear’	-	-
ā	<i>dān</i> ‘to charge’	<i>sām</i> ‘to expect the price’	<i>mārr</i> ‘passing by’	<i>šāgg</i> ‘hard’	<i>bāg</i> ‘to steal’	<i>bāt</i> ‘to sleep’
i	-	-	-	<i>šigg</i> ‘men’s tent’	-	-
ī	<i>dīn</i> ‘religion’	-	-	-	-	-
u	-	-	<i>murr</i> ‘bitter’	-	-	-
ū	<i>dūn</i> ‘under’	<i>sūm</i> ‘Suggest a price!’	-	-	<i>būg</i> ‘triumph’	-
ō	-	<i>sōm</i> ‘expecting the price’	-	-	<i>bōg</i> ‘robbery’	<i>bōt</i> ‘shoes’
ē	<i>dēn</i> ‘debt’	-	-	-	-	<i>bēt</i> ‘tent house’

Table 18: Minimal sets attested in WR Arabic testing vowel phonemes

	xX
aw	<i>xaw</i> ‘Khaw [place name]’
ay	<i>xay</i> ‘brother’

Table 19: Minimal pair attested in WR Arabic testing diphthongs

WR Arabic vowel system is made up of ten vowel phonemes: three short vowels; one open vowel /a/, two close vowels /i/ and /u/, their three long counterparts, /ī/, /ū/ and /ā/, two long mid vowels /ē/ and /ō/, and two diphthongs, the labial-velar /aw/ and the palatal /ay/, as in: *ḍaw* ‘light’, *baw* ‘leather’ and *may* ‘water’. The long mid vowels /ē/ and /ō/, which are monophthongs derived historically from diphthongs, are reflexes of the CA *ay and *aw for example, the CA *dayn ‘debt’ and *mawt ‘death’ are realised in WR Arabic as /dēn/ and /mōt/, respectively (§ 3.2.1).

The long vowel /ā/ is relatively fronter in articulation than its short counterpart; and the long vowels /ī/ and /ū/ (also phonetically diphthongized and realized as [iy] and [uw] word-finally only in pause, as in: *ʕāli* ‘high’ > [ʕāliy], *ḍalu* ‘bucket’ > [ḍaluw]) display an articulation

which is closer than their short counterparts. The following trapezium diagrams summarize the vowel system in WR Arabic:

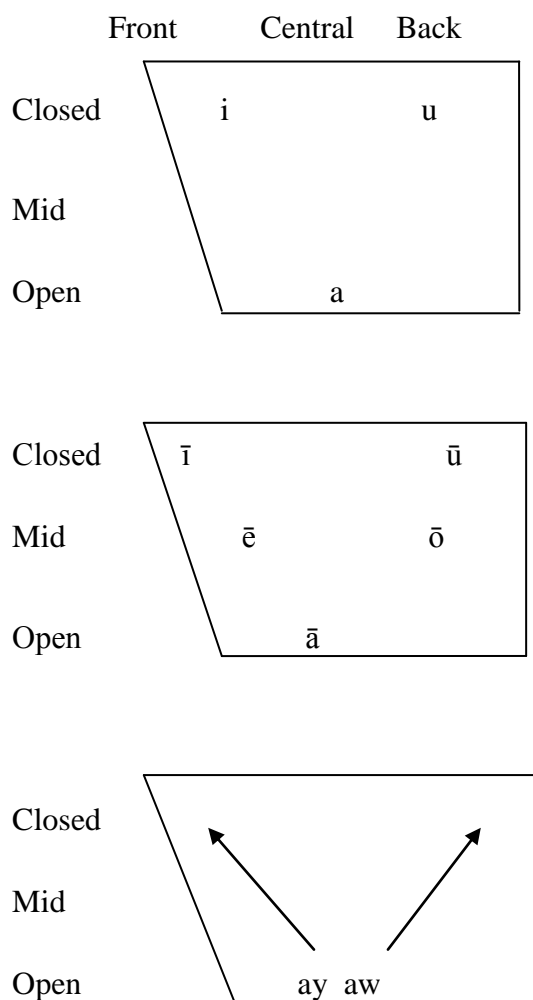


Figure 32: Vowel system in WR Arabic

Vowel length¹⁹ and vowel quality are contrastive in WR Arabic. This can be seen from the existence of minimal pairs involving short monophthongs, long monophthongs and diphthongs (cf. tables 18 and 19). The long vowels /ē/ and /ō/ are stable and do not fluctuate with /ī/ and /ū/. The contrast /ē/-/ī/ and /ū/-/ō/ is firmly established, i.e., no phonetic overlap between /ē/ and /ī/ or between /ū/ and /ō/ occurs, as in:

- (6) a) *gūm* ‘Stand up!’ vs. *gōm* ‘a group of people’
 b) *dēn* ‘debt’ vs. *dīn* ‘religion’

¹⁹ Vowel length seems to be optionally contrastive word-finally, as in: *nādi* ~ *nādiy* ‘call’ vs. *nādī(h)* ‘call him!’ and *šāfu* ~ *šāfaw* ‘they saw’ vs. *šāfū(h)* ‘they saw him’; in such cases a final [h] denoting the 3m.s. object referent is often produced. /ō/ and /ē/ are not contrastive word-finally.

The following table is a unified structure feature model of the vowels of WR Arabic:

	Root		Stricture				Laryngeal	Place				
	Consonantal	Sonorant	Continuant	Nasal	Lateral	Strident	Del Release	Voice	Labial	Coronal	Dorsal	Guttural
i		+	+					+			+	
ī		+	+					+			+	
a		+	+					+				+
ā		+	+					+				+
u		+	+					+	+		+	
ū		+	+					+	+		+	
ē		+	+					+			+	+
ō		+	+					+	+		+	+
aw		+	+					+	+		+	+
ay		+	+					+			+	+

Table 20: Phonological features of WR Arabic vowels

Vowels have the features [sonorant], [continuant], and [voice]; they are distinguished via the place features [labial], [dorsal], and [guttural]: /a/ is [guttural], /i/ is [dorsal] (with non-primary [dorsal] assigned by default) and /u/ is [dorsal] (with the non-primary feature [labial]).²⁰ In the vowel set, [labial] always functions as a daughter to [dorsal], i.e., there is no primary [labial] feature for vowels in WR Arabic.

The traditional articulatory description of vowels is related to the *formant frequencies* (§ 3.1.4 and figure 6): F1 centred at around 700 Hz, F2 at around 1800 Hz, and F3 at around 2800 Hz. F1 and F2 are sufficient to determine vowel quality (Ladefoged, 2006: 188). There is a relatively simple correlation between tongue position (height, frontness and backness) and the relative readings of F1 and F2. F1 relates to vowel height: close/high vowels have a low F1, open/low vowels have a high F1. As shown in table 21, /i/, /ī/, /u/ and /ū/ have a low F1; /ō/ and /ē/ have a higher F1; /a/ and /ā/ have the highest F1 measurements. F2 corresponds to

²⁰ /i/ is palatal and /u/ is labio-velar.

frontness and backness: front vowels have a high F2; back vowels have a low F2; mid/central vowels have a high F2 (see table 21 below); rounding the lips helps in lowering F2. The following table gives the formant frequency measurements in hertz (Hz); it also includes the time measurements in milliseconds (ms), which indicate the relative duration of short and long vowels, when spoken by a male native speaker of WR Arabic.

Vowel	F1(Hz)	F2 (Hz)	F3(Hz)	Length (ms)
i	382	1909	2469	.068
ī	396	2298	2515	.195
a	729	1655	1993	.065
ā	747	1748	2226	.15
u	471	977	1316	.06
ū	371	903	1380	.159
ō	559	942	1288	.151
ē	518	1924	2074	.14

Table 21: F1, F2, F3, and length of short and long vowels as pronounced by a native speaker of WR Arabic

The pronunciation of the vowels, in particular the guttural vowels /a/ and /ā/, is influenced by the neighbouring consonants. For example, /ā/ tends to become more back when it follows one of the back consonants, such as the velar plosive /g/, one of the uvular fricatives /x/ and /ġ/, as in: /gabil/ ‘before’ > [gɒbil], /ġanam/ ‘sheep’ > [ġɒnam], or one of the gutturals.

3.2 Melodic processes

Phonological processes account for the relationship between the lexical or underlying (phonemic) representation and surface (phonetic) representation. Classes of phonemes which share phonetic features pattern together in specific phonological processes. Phonological rules rely on the distinctive features of entire classes of sounds rather than of individual sounds. For example, guttural consonants participate exclusively in the *gahawah syndrome* in which the vowel [a] is inserted to separate a guttural from a following consonant (§ 4.4.3).

When addressing the issue of phonological processes, we need to refer to two levels of structure: melodic and prosodic. Melodic processes influence the quality of segments, whereas prosodic processes relate to the quantity of segments and segment strings, including syllable structure, syllabification and word stress. I first look at melodic processes and then prosodic

processes (§4.4). Melodic processes attested in WR Arabic are: monophthongization, raising, umlaut, assimilation, and metathesis.

3.2.1 Monophthongization

The consonants /w/ and /y/ combine with preceding vowels to produce the diphthongs /aw/ and /ay/, as in: *jaww* ‘weather’, *ḏaww* ‘light’, *fayy* ‘shadow’, *ḥayy* ‘welcome’ and *nayy* ‘raw’. Diphthongs may undergo monophthongization, a process that reduces the diphthong to a monophthong (Youssef, 2013: 186).

The final glide of defective trilateral verbs is subject to monophthongization into /ē/ before consonant-initial subject pronominal suffixes (see data 7a) except when the diphthong is preceded by a primary or non-primary [guttural] consonant (see data 7b), as in:

(7)	a)	n-w-y	[nu.wē-na]	‘we intended’
		r-m-y	[ru.mē-ti]	‘you f.s. threw’
		š-k-w	[ši.kē-tin]	‘you f.p. complained’
		š-r-y	[ša.rē-na]	‘we bought’
	b)	w-ḥ-y	[wi.ḥay-na]	‘we got up’
		s-ḥ-y	[sa.ḥay-taw]	‘you m.p. ran in Mecca’
		d-ḥ-w	[da.ḥay-tin]	‘you f.p. invited’
		d-ḥ-w	[da.ḥay-t]	‘I invited’
		r-ḏ-y	[ri.ḏay-t]	‘I was satisfied’
		n-ṣ-y	[ni.ṣay-t]	‘I resorted to’
		s-h-y	[si.hay-t]	‘I forgot’

Diphthongs are monophthongized when the glide is the second radical (C₂) of a *trilateral* word, as in (8a), unless the initial radical is a primary or non-primary [guttural] consonant; where the initial radical is a primary or non-primary [guttural] consonant, the diphthongs are preserved, as in (8b):

(8)	a)	ḏ-w-d	[ḏōd]	‘ten female camels’
		b-w-s	[bōs]	‘kissing’
		l-w-n	[lōn]	‘colour’
		ṭ-w-r	[ṭōr]	‘bull; ox’
		s-y-f	[sēf]	‘sword’

b) ʕ-w-r	[ʕawrah]	‘woman’
ġ-y-m	[ġaym]	‘clouds’
ṭ-y-r	[ṭayr]	‘bird’
x-y-l	[xayl]	‘horses’
ḍ-y-f	[ḍayf]	‘guest’
x-w-f	[xawf]	‘fear’
ʂ-w-t	[ʂawt]	‘voice’
ḥ-w-l	[ḥawl]	‘year’

Monophthongization is, however, blocked in some cases where guttural consonants are not involved; first, word-final diphthongs are maintained in the case of final-geminate roots, as in:

(9)	/baww/	[baww]	‘piece of camel leather’
	/nayy/	[nayy]	‘raw’
	/jaww/	[jaww]	‘weather’
	/rayy/	[rayy]	‘irrigation’

Monophthongization is blocked if the medial glide is a geminate, (dots [.] indicate syllable breaks), as in:

(10)	f-w-z	*[fō.wāz] [faw.wāz]	‘Fawwaz [name]’
	h-y-n	*[hē.yin] [hay.yin]	‘easy’
	d-w-j	*[dō.wāj] [daw.wāj]	‘street hawker’
	d-w-r	*[dō.war] [daw.war]	‘to search for’

Monophthongization is blocked when the glide is C₂ in derived adjectives with the template CaCCān, as in:

(11)	g-w-y	*[gō.yān] [gaw.yān]	‘tired’
	h-y-m	*[hē.mān] [hay.mān]	‘madly in love’
	ʕ-y-m	*[ʕē.mān] [ʕay.mān]	‘insatiable’
	h-w-y	*[hō.yān] [haw.yān]	‘fallen in love’
	s-w-d	*[sō.dān] [saw.dān]	‘turning black’
	ʕ-w-d	*[ʕō.dān] [ʕaw.dān]	‘being back in minutes’

And monophthongization is blocked where the post-vocalic glide is C₁, as in:

(12)	w-ṭ-n	[ʔaw.tān]	‘countries’
	w-z-n	[ʔaw.zān]	‘weights’
	w-h-m	[ʔaw.hām]	‘illusion’
	w-l-d	[ʔaw.lād]	‘children’
	w-j-h	[ʔaw.jah]	‘better’

Where the glide is C₂ in a quadrilateral root, monophthongization is also blocked, as in:

(13)	m-y-s-n	[may.sūn]	‘female’s name’
	l-y-m-n	[lay.mūn]	‘lemon’
	f-y-r-z	[fay.rūz]	‘female’s name’
	ḥ-y-w-n	[ḥay.wān]	‘animal’
	l-w-l-b	[law.lab]	‘Intrauterine Device IUD’

These last three cases in which monophthongization is blocked share one feature: monophthongization does not take place when the glide is the antepenultimate C in the word, irrespective of root structure:

(14)	sawdān	s- $\left. \begin{array}{c} \text{w} \\ \text{ } \end{array} \right\}$ -d-n
	lawlab	l- $\left. \begin{array}{c} \text{w} \\ \text{ } \end{array} \right\}$ -l-b
	ʔawṭān	ʔ- $\left. \begin{array}{c} \text{w} \\ \text{ } \end{array} \right\}$ -ṭ-n

By contrast, monophthongization does take place when the glide is the penultimate C in the word:

(15)	dōd	d- $\left. \begin{array}{c} \text{w} \\ \text{ } \end{array} \right\}$ -d
	bēt	b- $\left. \begin{array}{c} \text{y} \\ \text{ } \end{array} \right\}$ -t
	šikēt ²¹	š- k- $\left. \begin{array}{c} \text{y} \\ \text{ } \end{array} \right\}$ -t
	rumēt	r-m- $\left. \begin{array}{c} \text{y} \\ \text{ } \end{array} \right\}$ -t

3.2.2 Raising

The term *raising* or *ʔimālah* involves the raising of the short guttural vowel /a/ in an open syllable to the dorsal vowel [i]. This process is an instance of a melodic process affected by the prosody. Acoustically speaking, this process refers to the raising of F2 and lowering of F1

²¹ In words such as [ši.kē-tin] ‘you f.p. complained’ and [nu.wē-tin] ‘you f.p. intended’, monophthongization is maintained through analogy with [ši.kē-t] and [nu.wē-t].

(where F2 corresponds to the tongue position in terms of frontness/backness, and F1 corresponds to open/close of tongue position (Benkirane, 1982; Barkat, 2009) (§ 3.1.6). The following diagram illustrates raising and fronting of the central guttural vowel /a/; see the arrow:

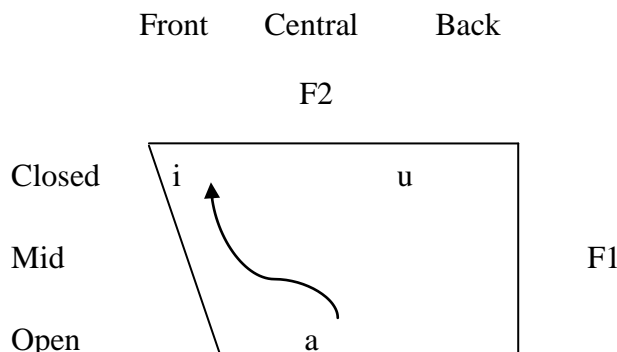


Figure 33: Raising and fronting of /a/ into [i]

Vowel raising, known in Arabic as *ʔimālah*, was described for the first time by Sībawayh in *al-Kitāb* (Sībawayh, II, 294. 4-5). The description of *ʔimālah* by later grammarians is based on that of Sībawayh (Levin, A. 1992: 80-8). Along the lines of Levin, A. (2007), *ʔimālah* occurred in Old Arabic, in some Middle Arabic dialects, and occurs in many modern Arabic dialects (Levin, A. 1971: I, 62-73; 79-412).

Arabic dialects vary with regard to the raising process. According to Cantineau (1960), Eastern Arabian dialects are typically raising dialects, while Western Arabian dialects are non-raising. Rosenhouse (2006) claims that raising is found in Bedouin dialects word-internally ([i] near front consonants and [u] near emphatic and back consonants). By contrast, vowel raising word-finally, such as in the feminine endings, is attested in Eastern sedentary dialects.

In the literature on Bedouin Arabic dialects, raising is shown to be a common phonological process in Negev Arabic (Blanc, 1970), Najdi Arabic (Abboud, 1979), BḤA Arabic (Irshied, 1984), Ṣabbādi Arabic (Sakarna, 1999), Zawaidih Arabic (Sakarna, 2002) and Maṣāni Arabic (Rakhieh, 2009). Raising is a common phonological process in WR Arabic as well. Before presenting examples, I would like to argue for evidence on raising in WR Arabic, i.e., that the underlying representation of the raised short dorsal [i] is the short guttural /a/.

In this study, I claim that the underlying form of CiCaC stems is CaCaC. Evidence comes from the fact that CaCaC stems do not undergo raising where C₂ is /r/ or where C₁ or C₂ is guttural (see also data in 21 below), as in:

(16)	/barak/	[barak]	*[birak]	‘to sit’
	/darak/	[darak]	*[dirak]	‘gendarmerie’
	/xabar/	[xabar]	*[xibar]	‘news’
	/ʕajal/	[ʕajal]	*[ʕijal]	‘wheel’
	/karak/	[karak]	*[kirak]	‘Karak city’

Another piece of evidence in support of this claim comes from *-ah* when it occurs as the 3m.s. possessive suffix or the object pronoun as opposed to the nominal feminine suffix *-ih* as an integral part of the stem. Historical *-ah* has the reflex *-ih* due to historical raising in the feminine form (group b).²² Where the 3m.s. suffix is involved; it is realised as *-ah* (a), as in:

(17) a)	/ħurmt-ah/	[ħurmt-ah]	‘his wife’
	/ragabat-ah/	[ragabat-ah]	‘his neck’
	/naʕilf-ah/	[naʕilf-ah]	‘we feed it m.’
	/naʕizm-ah/	[naʕizm-ah]	‘we invite him’
	/ʔaɖurb-ah/	[ʔaɖurb-ah]	‘I kick him’
b)	/addīisah/	[addīisih]	‘Ad-Dīsih village’
	/lēlah/	[lēlih]	‘night’
	/lahjah/	[lahjih]	‘dialect’
	/ʕatwiyyah/	[ʕatwiyyih]	‘winter (adj.)’
	/talātah/	[talātih]	‘three’

Another example in support of this argument can be seen when the verb that is realized as CiCiC before other suffixes takes the third person suffixes *-it*, *-u(aw)*, or *-in*, raising does not take place (cf. § 5.2.2.2). Consider these examples:

(18)	a) /fahim/	[fahm-it]	‘she understood’
		[fahm-aw]	‘they m. understood’
		[fahm-in]	‘they f. understood’

²² Except (sometimes) when the stem ends in a primary or non-primary [guttural] consonant, as in: *bēḏah* ‘egg’ > [bēḏah] *[bēḏih]), due to phonetic conditions, which state the connection between guttural consonants and /a/.

b)	[fihim-t]	‘I understood’
	[fihim-na]	‘we understood’
	[fihim-tin]	‘you f.p. understood’

Evidence from WR Arabic can also be deduced from the demonstrative pronouns *hāḍa* ‘this m.’ and *hāḍi* ‘this f.’ and from the numeral *wāḥid* ‘one’. WR Arabic uses variants *hāḍa* ~ *hēḍa*, *hāḍi* ~ *hēḍi*, and *wāḥid* ~ *wēḥid*. Most frequently, *hēḍa*, *hēḍi*, and *wēḥid* are the used variants. This suggests that the long vowel /ā/ undergoes historical raising to [ē].

In addition, evidence from neighbouring dialects can be found in Al-Wer (2002). She claims that the feminine *-ah* marker in Nablusi, a Palestinian dialect, is realised as [e] except after emphatic, or pharyngealized sounds where [a] is realised. She claims that while old people of aṣ-Ṣalt (above 55 years old), near to Amman, retain [a] as the default variant, younger speakers of aṣ-Ṣalt use [a] and [ε] variably after non-coronal sounds. According to the Palestinian phonological pattern, her data suggest that the dialect of aṣ-Ṣalt is undergoing change with respect to the variable *-ah*, whereby the local /a/ is raised to [ε]. We can understand from Al-Wer that raising can be subject to various sociolinguistic factors such as competition between urban and rural vernaculars where socially dominant dialects are raising. Accordingly WR Arabic, the dominant dialect in WR region, is a raising dialect. I claim that the realisation of the dorsal front short vowel [i] in WR Arabic in open syllables and as the reflex of the feminine singular nominal morpheme is due to historical raising.

Raising of the short guttural vowel /a/ in an open syllable to the dorsal vowel [i] occurs in WR Arabic. Many disyllabic words in WR Arabic undergo this process, as in:

(19)	/fa'taḥ/	[fi'taḥ]	‘to open’
	/na'gal/	[ni'gal]	‘to transfer’
	/ma'šā/	[mi'ša]	‘to walk’
	/fa'ta/	[fi'ta]	‘boy’
	/ja'mal/	[ji'mal]	‘camel m.’

The data above can be accounted for in the following rule:

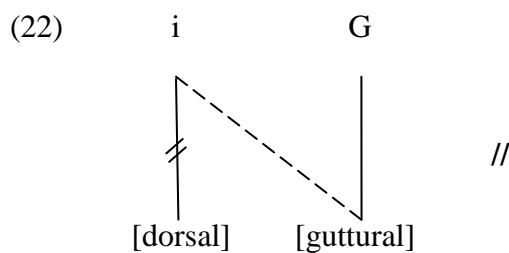
(20)	C V C V
	/
	[guttural]

After guttural deletion, the default [dorsal] feature is associated.

Raising does not work when the short guttural vowel /a/ is preceded or followed by a primary or non-primary [guttural] consonant; therefore, raising is overridden by [guttural] spread from the [guttural] consonant. In such environments, raising is inhibited because /a/ and guttural consonants share the feature [guttural]. Consider the following examples:

(21)	/baʔal/	[baʔal]	‘hero’
	/ʃanaʃ/	[ʃanaʃ]	‘to make’
	/maɣar/	[maɣar]	‘to mix’
	/ʕabad/	[ʕabad]	‘to worship’
	/daħal/	[daħal]	‘quick sand’
	/ɗahab/	[ɗahab]	‘gold’
	/ʔaxaɗ/	[ʔaxaɗ]	‘to take’

Here I claim that raising takes place in this environment, but that the effects of raising are undone by spread of [guttural] and delinking of [dorsal]. The following mirror-image diagram accounts for [guttural] consonants spreading [guttural] to the [dorsal] vowel and delinking [dorsal]:



Raising is also attested in verbs with perfect suffixes when the underlying verb form is CaCaC as can be seen from the stem verb *katab*:

(23)	[kitab]	‘he wrote’
	[kitab-at]	‘she wrote’
	[kitab-u(aw)]	‘they m. wrote’
	[kitab-in]	‘they f. wrote’
	[kitab-t]	‘I/you m.s. wrote’
	[kitab-na]	‘we wrote’
	[kitab-ti]	‘you f.s. wrote’
	[kitabt-u/-aw]	‘you m.p. wrote’
	[kitab-tin]	‘you f.p. wrote’

Palva (1986: 299) provides examples from Abu Tāyih, which according to him apply to all the Hwēṭāt including the Zawaidih and Zalabiah, where he claims that the raised [i] is optional, as in:

- (24) [k(i)tab-t] ‘you m.s. write’
 [k(i)tab-tiy] ‘you f.s. write’
 [k(i)tabt-aw] ‘you m.p. write’
 [k(i)tabt-in] ‘you f.p. write’
 [k(i)tab-t] ‘I write’
 [k(i)tab-na] ‘we write’

Palva (1991:154) does not account for, or mention, the presence or absence of trisyllabic elision within the subtribes in the region. He overgeneralizes what is applied to Abu Tāyih subtribe to all the subtribes in the region (southern Jordan). Our examples suggest that the presence of the raised high short [i] in WR Arabic is obligatory rather than optional as is found in Abu Tāyih subtribe. The generalization that Palva invokes should be revised to take into account the crucial differences between the dialects, a step which may lead to reshaping the grouping of the subtribes.

I turn now to another operation of raising which is reported by Sakarna (2002) as the *buṣalah* pattern for the word ‘onion f.’. Sakarna (2002: 75) claims that the *buṣalah* pattern distinguishes Zawaidih from other Bedouin dialects, namely BḤA (Irshied, 1984), ṢAbbādi Arabic (Sakarna, 1999) and Northern Israel Bedouin dialects (Rosenhouse, 1982, 1984). In this process, /a/ undergoes raising to [u] word-initially due to the adjacency of an emphatic consonant rather than deleting the vowel as is common in the aforementioned dialects. This process occurs in WR Arabic generally, with the underlying form CaEaCah surfacing as CuE[a]Cah. Consider the following examples:²³

(25)	WR Arabic		BḤA, BṢ, Hwēṭāt, ṢAbbādi, North Israel Bedouin	
	/baṣalah/	[buṣalah]	[bṣalah]	‘onion’
	/gaṣalah/	[guṣalah]	[gṣalah]	‘bride price’
	/maṭarah/	[muṭarah ~ maṭṭārah]	[mṭarah]	‘water container’
	/bagarah/	[bugarah]	[bgarah]	‘cow’

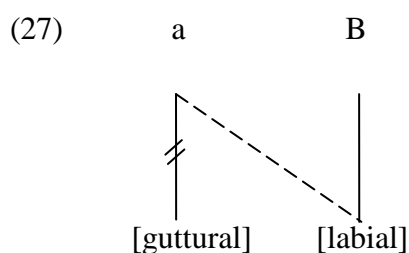
²³ The *bṣalah* pattern refers to a different phonological process in which the second radical in the form CaECaC surfaces as CEaCaC if it is an emphatic, as in /baṣlah/ ‘onion’ > [bṣalah] and /haḡbah/ ‘a hill’ > [hḡbah]. It is a common process in North Israel Bedouin dialects and ṢAbbādi Arabic (cf. Rosenhouse, 1982, 1984; Sakarna, 1999).

This process leads us to add a new feature that distinguishes WR Arabic from the Ḥwēṭāt dialect, further suggesting that Palva’s classification of the dialects in the south of Jordan is misleading.

Raising also involves the raising of the guttural vowel /a/ to a back dorsal vowel [u] in an open syllable when followed by a labial consonant, as in:

(26)	/rama/	[ruma]	‘to through’
	/dawa/	[duwa]	‘medicine’
	/kafrah/	[kufrah]	‘dune’
	/rabābah/	[rubābah]	‘musical instrument’
	/rawātib/	[ruwātib]	‘salaries’
	/šawārib/	[šuwārib]	‘moustaches’
	/jawāmiʕ/	[juwāmiʕ]	‘mosques’

The above data can be accounted for as spread of [labial] from the [labial] consonant, and delinking of [guttural]:



3.2.3 Umlaut

Umlaut is a process that raises the short vowel /a/ in an open syllable to [i] when the following syllable contains the front dorsal vowel /i/ (Irshied, 1984: 50; Irshied and Kenstowicz, 1984: 125). This rule could be better described as historical vowel harmony between V₁ and V₂ in which V₁ assimilates the feature of V₂, as in:

(28)	/fahim/	[fihim]	‘to understand’
	/laʕib/	[liʕib]	‘to play’
	/samiʕ/	[simiʕ]	‘to hear’
	/fašil/	[fišil]	‘to fail’
	/ḥazin/	[ḥizin]	‘to be sad’
	/yaʔis/	[yiʔis]	‘to despair’

/šahid/	[šihid]	‘to testify’
/xafīf/	[xifīf]	‘light’
/laṭīf/	[liṭīf]	‘kind’
/kabīr/	[kibīr]	‘big’
/raḡīf/	[riḡīf]	‘loaf of bread’

The above data shows that this rule changes the historical CaCiC and CaCīC into present-day CiCiC and CiCīC respectively as a result of vowel harmony.²⁴

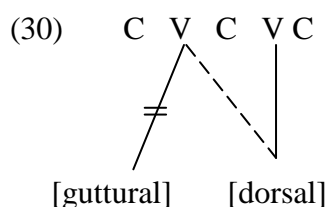
This historical process takes place in Levantine Arabic, BĤA (Irshid and Kenstowicz, 1984: 126), and ṢAbbādi Arabic (Sakarna, 1999: 58-59), as in /nadim/ ‘to regret’ > [nidim]. In these dialects, umlaut is blocked where the initial C is a primary or non-primary [guttural];²⁵ however, the existence of gutturals does not block the umlaut operation in WR Arabic. Compare the following examples from Sakarna (1999: 59) with those from WR Arabic:

(29)	ṢAbbādi Arabic		WR Arabic	Gloss
	/xajil/	[xajil] *[xijil]	*[xajil] [xijil]	‘to get shy’
	/halik/	[halik] *[hilik]	*[halik][hilik]	‘to get tired’
	/ʔaḏin/	[ʔaḏin] *[ʔid̪in]	*[ʔaḏin][ʔid̪in]	‘to let/authorize’
	/ḡarig/	[ḡarig] *[ḡirig]	*[ḡarig][ḡirig]	‘to sink’
	/Ṣarif/	[Ṣarif] *[Ṣirif]	*[Ṣarif] [Ṣirif]	‘to know’
	/ḥazin/	[ḥazin] *[ḥizin]	*[ḥazin][ḥizin]	‘to feel sad’
	/ṭafir/	[ṭafir] *[ṭifir]	*[ṭafir] [ṭifir]	‘to bankrupt’
	/ḏafir/	[ḏafir] *[ḏifir]	*[ḏafir] [ḏifir]	‘to win’
	/ḏaḥik/	[ḏaḥik] *[ḏiḥik]	*[ḏaḥik] [ḏiḥik]	‘to laugh’

The data related to WR Arabic above indicates that the historical process of raising the short guttural /a/ into the front dorsal [i] in an open syllable in the underlying forms CaCiC and CaCīC is triggered by the presence of a front dorsal /i/ in the second syllable. The rule of umlaut can be accounted for in WR Arabic as vowel harmony in which [dorsal] overrides [guttural]:

²⁴ This rule is productive except for where /a/ is preceded by the glottal stop /ʔ/, as in: /ʔajīr/ ‘worker’ > [ʔajīr], /ʔaṣīl/ > [ʔaṣīl] ‘pure-bred’). Interestingly, other guttural consonants do not affect the initial vowel of words of these templates.

²⁵ Gutturals including emphatics



3.2.4 Consonant assimilation

Assimilation is common where two neighbouring sounds are near or share place of articulation; it is defined as a phonological process wherein one sound acquires features of a neighbouring sound so that the sounds become more alike or identical (Ladefoged, 1975; Roach, 1991; Ryding, 2005, among others). Fromkin et al (2009: 301) say that assimilation is said to be a kind of *ease of articulation* because of the tendency to articulate efficiently by copying or spreading a phonetic property from one segment to the other. Watson (2002) assumes, along the lines of Mohanan (1993), when assimilation processes operate, two segments (X and Y) have conflicting features with the feature of a segment (say X) overriding that of the other (say Y) (Mohanan, 1993: 89); and thus, assimilation involves the notion of ‘dominance’. As a result, where X overrides Y, X can be said to be dominant with respect to Y (Watson, 2002: 214).

Assimilation operates in two directions: progressive and regressive. Progressive assimilation looks forward, i.e., where the first sound overrides the second sound, as in: /bāg/ + /s/ ‘bags’ > [bāgz]. Regressive assimilation looks backward, where the second sound influences the first one, as in: /hæv/ + /tu/ ‘have to’ > [hæftu] (Roach, 1991; Spencer, 1996). Regressive assimilation is more common than progressive because it usually affects the coda of a syllable, which is in the weaker prosodic position and therefore, weak consonants are more likely targets of assimilation. Phonological evidence indicates that syllable-initial position is universally stronger than syllable-final position (Vennemann, 1972: 9). In addition to progressive-regressive, total-partial and contact-distant are the parameters that determine assimilation processes (Campbell, 1998: 28).

3.2.4.1 Lexical assimilation

Lexical assimilation involves total assimilation of adjacents in the case of concatenation of particular morphemes. In this section, I look at definite article assimilation rule and assimilation of the detransitivizing prefix *t-*.

3.2.4.1.1 Definite article assimilation

The most obvious example of regressive lexical assimilation in Arabic is that of the definite article *al-*. In dialects spoken outside the southwest of the Arabian Peninsula, the definite article in Arabic has six variants: [ʔVI] ~ [VI] ~ [I] ~ [ʔVC] ~ [VC] ~ [C] (Salib, 1981; Watson, 2002; Youssef, 2013): [ʔal] or [ʔil] is attested with an utterance-initial noun or adjective that starts with a non-coronal consonant or vowel; [I] surfaces when the noun or adjective begins with a non-coronal consonant after a vowel-final word; [ʔaC] or [ʔiC] occurs when the noun or adjective begins with a [coronal] consonant in utterance-initial position; and [C] occurs in utterance-medial position following a vowel-final word preceding coronals (Haywood and Nahmad, 1965: 22).

Most accounts consider /l/ the underlying form of the definite article, with total assimilation before coronal consonants.²⁶ Some dialects in the western Yemeni mountain range, and some dialects of southern Oman, for example, in Rāziḥīt, Jiblah, Ġamar and Xawlān exhibit an article which involves total assimilation of any nominal-initial consonant, as in: *ab-bēt* ‘the house’, *ag-gamar* ‘the moon’, *ih-hōd* ‘the wedding’ (Behnstedt, 1987: 85). (cf. Heselwood and Watson, 2013).²⁷

Referring back to the popular account of Arabic definite article, when the definite article *al-* precedes a noun or an adjective that begins with any of the sounds /t/, /t̤/, /d/, /d̤/, /š/, /t̤/, /s/, /s̤/, /d̤/, /z/, /n/, /r/ and /l/, the lateral /l/ in the definite article /al/ undergoes complete assimilation to it. The above-mentioned consonants (traditionally called solar consonants) share the feature [+coronal] which refers to sounds articulated with the tip or blade of the tongue, and includes sounds produced in the dental, alveolar and post-alveolar regions (Ladefoged and Maddieson, 1996: 19). As in the majority of Arabic dialects (cf. Blanc, 1970; Palva, 1980, 1986;

²⁶ Heselwood and Watson (2013), in their article ‘The Arabic definite article does not assimilate’, argue that an assimilatory account is not justified. They point out that the process involving the /l/ of the definite article with a following coronal consonant is not the result of synchronic assimilation; rather, coronal geminates as realisation of the definite articulation should be regarded as ‘true geminates, not assimilatory geminates’ (ibid: 50).

²⁷ Some dialects in the south-west of the Arabian Peninsula do not exhibit the /l/ definite article in any environment, for example, Saudi Rijāl Alma‘ (Asiri, 2009) and Yemeni Minabbih (Behnstedt, 1987: 85) show /m/ ~ /am/ ~ /im/ which does not undergo complete assimilation to any following consonant, as in: *am-safar* ‘the journey’, *am-qamar* ‘the moon’. In other dialects in northern Yemen, the definite article surfaces as an /n/, which also does not assimilate fully to any following consonant, as in northern Yemeni Majz *in-šaʔbah* ‘the female donkey foal’, *in-šams* ‘the sun’.

Rosenhouse, 1982; Irshied, 1984; Sakarna, 1999; 2002), /l/ in the definite article assimilates to a following coronal consonant in WR Arabic, as in:

(31)	/al-tēs/	[attēs]	‘the billygoat’
	/al-ṭāwlih/	[aṭṭāwlih]	‘the table’
	/al-tōb/	[attōb]	‘the gown’
	/al-ramil/	[arramil]	‘the sand’
	/al-zēt/	[azzēt]	‘the oil’
	/al-lōḥ/	[allōḥ]	‘the plate’
	/al-nāgah/	[annāgah]	‘the camel f.’
	/al-sāyig/	[assāyig]	‘the driver’
	/al-šams/	[aššams]	‘the sun’
	/al-dims/	[addims]	‘the stone’
	/al-dilūl/	[addilūl]	‘the camel f.’
	/al-ṣawt/	[aṣṣawt]	‘the voice’
	/al-ḍayf/	[aḍḍayf]	‘the guest’

By contrast, non-coronal consonants do not trigger definite article assimilation, as in:

(32)	/al-gēḍ/	[algēḍ]	‘the hot weather’
	/al-kalb/	[alkalb]	‘the dog’
	/al-bāb/	[albāb]	‘the door’
	/al-ḥṣān/	[alḥṣān]	‘the horse’
	/al-hijj/	[alhijj]	‘the five-year camel’
	/al-xašab/	[alxašab]	‘the wood’
	/al-fāris/	[alfāris]	‘the knight’
	/al-yōm/	[alyōm]	‘the day’
	/al-wasim/	[alwasim]	‘the brand’
	/al-mōt/	[almōt]	‘the death’
	/al-ṣagīd/	[alṣigīd]	‘the leader’
	/al-ḡada/	[alḡada]	‘the lunch’

The data above raises a problem because the class of assimilatory triggers /t, t̄, d, d̄, š, š̄, s, s̄, ḍ, ḍ̄, z, n, r, l/ is the class of coronals, but does not include the coronal /j/^{28 29} since /j/ does not trigger assimilation, as in: /al-jamal/ > [aljimal] ‘the camel m.’. This is similar to Standard Arabic (Wright, 1974, I: 15), some dialects in Peninsula (cf. Hadrami, Al-Saqqaf, (1999: 162-3), and Sanʿani Arabic (Watson, 2002: 218). This could be attributed to historical language change where the present-day /j/ ‘had an original velar articulation /g/ in Proto-Semitic’ which later moved forward in most varieties (Watson, 2002: 218).

Assimilation of /l- is a lexical process as /l/ does not assimilate totally to a following coronal obstruent within any other morpheme; the examples of assimilation in the first column below compare with those in the second column in which assimilation fails to take place:

(33)

/al-tēs/	[attēs]	‘the goat’	/al.ti.fat/	[al.ti.fat]	‘to look at’
/al-sāyig/	[assāyig]	‘the driver’	/mal.sūʕ/	[mal.sūʕ]	‘being stung’
/al-tāwlih/	[attāwlih]	‘the table’	/mal.tūʕ/	[mal.tūʕ]	‘being alone’
/al-tōb/	[attōb]	‘the gown’	/kal.tūm/	[kal.tūm]	‘Kalthum [name]’
/al-ḍayf/	[aḍḍayf]	‘the guest’	/yal.zam/	[yal.zam]	‘should’

The data show that [coronal] is insufficient to trigger /l- assimilation since total assimilation of /l/ requires it to be part of the definite article.

3.2.4.1.2 Detransitivizing prefix

In WR Arabic, the Forms V and VI of trilateral verb are characterized by initial *ti-* in the perfect and the imperative, and *t-* in the imperfect (*ta-* before a root-initial guttural for the perfect and the imperative, as in: *ta-ʕallam* ‘he learnt’ and ‘Learn, 2m.s.!’), as in: *ti-sawwag* ‘he went shopping/Go shopping m.s.!', *yi-t(i)sawwag* ‘he goes shopping’. This initial morpheme is referred to as a *detransitivizing prefix* (McCarthy and Prince, 1990a: 39; Watson, 2007: 141).

In ʕAbbādi Arabic (Sakarna, 1999), the prefix *t-* in Forms V and VI undergoes total assimilation to the following consonant when the verbal stem begins with obstruent [coronal]

²⁸ In Cairene, /l- of the definite article assimilates optionally to a following velar plosive (Watson, 2002: 217).

²⁹ In many dialects, /l- assimilates to a following /j/, such as JA (Yasin, 1980: 69; Sakarna, 1999: 73), Central Sudanese (Persson and Persson, 1979: 29; Hamid, 1984: 106), Eastern Libyan (Abumdas, 1985: 138), and Palestinian (Shahin, 2000: 18).

consonants /t, d, ṭ, ḍ, j, s, z, š, ṭ, ṣ, or ḍ/. Interestingly, this kind of assimilation does not occur in WR Arabic, consider the following comparison (ʕAbbādi dialect examples are from Sakarna, 1999: 77-9).

(34)	Form V	ʕAbbādi Arabic	WR Arabic	
	/t-taffal/	[ṭṭaffal]	[tiṭaffal]	‘to spit’
	/t-ḏakḳar/	[ḏḏakḳar]	[tiḏakḳar]	‘to remember’
	/t-dabbar/	[ddabbar]	[tidabbar]	‘to arrange’
	/t-ṭabbat/	[ṭṭabbat]	[tiṭabbat]	‘to settle’
	/t-jaffal/	[jjaffal]	[tijaffal]	‘to scare’
	/t-sammaʕ/	[ssammaʕ]	[tisammaʕ]	‘to listen’
	/t-zahhag/	[zzahhag]	[tizahhag]	‘to get bored’
	/t-šarraf/	[ššarraf]	[tišarraf]	‘to get honour’
	/t-ṭaffar/	[ṭṭaffar]	[taṭaffar]	‘to be bored’
	/t-ṣabbar/	[ṣṣabbar]	[taṣabbar]	‘to be patient’
	/t-ḏaʕʕaf/	[ḏḏaʕʕaf]	[taḏaʕʕaf]	‘to be weak’
(35)	Form VI	ʕAbbādi Arabic	WR Arabic	
	/t-tāʕab/	[ṭṭāʕab]	[tiṭāʕab]	‘to get tired’
	/t-dāfaʕ/	[ddāfaʕ]	[tidāfaʕ]	‘to defend’
	/t-tāgal/	[ṭṭāgal]	[tiṭāgal]	‘to feel heavy’
	/t-ḏābah/	[ḏḏābah]	[tiḏābah]	‘to fight’
	/t-jālaf/	[jjālaf]	[tijālaf]	‘to be rude’
	/t-sāmaḥ/	[ssāmaḥ]	[tisāmaḥ]	‘to forgive’
	/t-zānax/	[zzānax]	[tizānax]	‘be impolite’
	/t-šākal/	[ššākal]	[tišākal]	‘to disagree’
	/t-ṭābaš/	[ṭṭābaš]	[taṭābaš]	‘to break’
	/t-ṣālah/	[ṣṣālah]	[taṣālah]	‘to reconcile’
	/t-ḏāʕaf/	[ḏḏāʕaf]	[taḏāʕaf]	‘to double’

A comparison between the data provided for the two dialects above shows the difference between WR Arabic and ʕAbbādi Arabic in the application of *t-* prefix. While the detransitivizing prefix *t-* completely assimilates to [coronal] obstruents in ʕAbbādi Arabic, it does not assimilate in WR Arabic. We believe that this lack of assimilation is due to the intervening vowel in WR Arabic, which is absent in ʕAbbādi Arabic. Evidence that assimilation in WR Arabic may be blocked by the vowel intervening between the

detransitivizing prefix and the initial root C_1 can be seen in the imperfect. Here, the t - of the detransitivizing prefix assimilates to the coronals /j/, /t/, /d/, /t̪/, /d̪/, or /d̪/ if syncope has removed the vowel intervening between the detransitivizing prefix and the initial root C_1 . Where the vowel remains, assimilation does not take place, as in:

- (36) /y-tjawwaz/ [yijjawwaz] ~ [yitijawwaz] ‘he gets married’
 /y-tṭawwar/ [yittawwar] ~ [yitiṭawwar] ‘he gets improved’
 /y-tdarrab/ [yiddarrab] ~ [yitidarrab] ‘he is training’
 /y-tḏāḏaf/ [yiddāḏaf] ~ [yitiḏāḏaf] ‘it is doubled’
 /y-ttāgal/ [yittāgal] ~ [yititāgal] ‘he feels heavy’
 /y-tḏābah/ [yiddābah] ~ [yitiḏābah] ‘he is fighting’

Note that t - of the subject prefix does not assimilate to the coronal sibilants /s/, /š/, and /s/, as in:

- (37) /y-tṣawwar/ [yitiṣawwar] ‘he takes photos’
 /y-tšāwar/ [yitišāwar] ‘he consults’
 /y-tsābag/ [yitisābag] ‘he competes’

3.2.4.2 Post-lexical assimilation

Post-lexical assimilation occurs simply due to particular phonological environments and makes no reference to the lexical content of morphemes. The following discussion tackles cases of place assimilation, voice assimilation, and emphasis assimilation.

3.2.4.2.1 Place assimilation

At the post-lexical level, the nasal /n/ adapts the place of articulation of the following consonant; it is realised as the labial nasal [m] when it is followed by /b/, as the labio-dental [m̪] when followed by /f/, and as a velar nasal [ŋ] when followed by /k/ or /g/, as in:

- (38) /janb/ [jamb] ‘beside’
 /manfas/ [mam̪fas] ‘exit’
 /yankāl/ [yaŋkāl] ‘to be eaten’
 /ʔiŋgūš/ [ʔiŋgūš] ‘Ingush mount’

The above examples show that the dominant place specification of the triggers /b/, /f/, /k/, and /g/ spreads leftward overriding the weaker place specification of the coronal target /n/.

3.2.4.2.2 Emphasis spread

Emphasis spread or ‘pharyngealization’, a secondary articulation of the posterior vocal tract, is a distinctive feature in the majority of Arabic dialects. A number of studies investigate this phenomenon theoretically and instrumentally, including Al-Ani (1970), Ghazeli (1977), Giannini and Pettorino (1982), Card (1983), Norlin (1987), Heath (1987), Younes (1993), Davis (1995), Rose (1996), Zawaydeh (1998, 1999), Watson (1999), Al-Masri and Jongman (2004), Al-Tamimi et al (2009), Jongman et al (2007, 2011). These studies have assumed different articulatory processes involving emphasis, including pharyngealization (Al-Ani, 1970; Younes, 1982; Davis, 1995), pharyngealization and labialization (Watson, 1999), uvularization (McCarthy, 1994), pharyngealization and dorsalization (Herzallah, 1990) or retracted tongue back (Zawaydeh, 1999). Acoustically, F2 lowering of the vowel adjacent to the emphatic seems to be the key cue for the perception of emphatics.

The set of emphatics in WR Arabic is: stop /t̤/, two fricatives /d̤/ and /s̤/, flap /ɾ/ and lateral /l̤/; of these, /l̤/ and /ɾ/ are less frequent than their sisters. They can be classified under two subclasses; the set /d̤/, /t̤/, /s̤/ are the so-called primary emphatic consonants which contrast with a set of non-emphatic consonants in all environments. /l̤/ and /ɾ/ are the so-called secondary emphatics which show phonemic contrast in specific environments only when they are adjacent to guttural vowels (cf. Younes, 1994). The following minimal pairs differ in the presence of a plain versus an emphatic consonant.

(39) Plain	Emphatic
/tāb/ ‘to repent’	/t̤āb/ ‘to recover (v); game (n)’
/ḥatt/ ‘to uncover’	/ḥatt̤/ ‘to put’
/ḍarr/ ‘ants’	/ḍarr̤/ ‘to appear; to harm’
/mass/ ‘to touch’	/maṣṣ̤/ ‘to suck’
/xāli/ ‘empty’	/xāl̤i/ ‘my uncle’
/jārī/ ‘streaming’	/jār̤ī/ ‘my neighbour’
/barr/ ‘to obey’	/bar̤r/ ‘outdoors’

Emphatics in WR Arabic lower F2 in vowels adjacent to the emphatic consonant in comparison with their plain counterparts. This acoustic effect, known as ‘emphasis spread’, works in both directions, leftward and rightward. Using different vowel contexts and both short and long vowels, F1, F2, and F3 were measured for all vowels at three points: the onset, the midpoint, and the offset. The emphatics of WR Arabic and their plain counterparts were

recorded in target word pairs in the carrier phrase [*gūl X kamān marrah*] ‘Say X again’ to achieve a unified situation for all pairs (§ 3.1.4, page 56). The tokens were recorded by three native male subjects of WR Arabic who have no speech or hearing deficiency. Table 22 provides F1, F2, and F3 of the following vowel (and the preceding vowel if available). Because the formant values are not the same throughout the vowel, the results in the table are the mean F1, F2, and F3 for the selection (onset, midpoint, and offset of the vowels).

Minimal Pair	F1	F2	F3
tīn	813	2105	2903
ṭīn	516	1553	2762
sām	797	1617	2322
ṣām	804	1119	2306
ḍall	594	1775	2464
ḍall	656	1269	2076
saffar	633	1631	1965
ṣaffar	660	1276	2212
mass	731	1602	1694
maṣṣ	746	1156	2178
fatt	621	1590	2205
fatt	679	1281	2217
xāli	[ā] 648	1806	2096
	[i] 195	1965	2297
xāli	[ā] 710	1070	2401
	[i] 381	1824	2359
nāri	[ā] 653	1520	2056
	[i] 219	2234	2048
nāri	[ā] 733	1052	2291
	[i] 272	2180	2296

Table 22: F1, F2, and F3 of vowels adjacent to emphatic and plain consonants

The data support the view of Al-Masri and Jongman (2004) and many others (such as: Zawaydeh, 1999; Khattab et al, 2006; Watson, 1999, 2002; Al-Tamimi et al, 2009; Jongman et al, 2011) that Arabic exhibits a lowering of F2 of vowels adjacent to emphatic consonants. Figures 34 and 35 show a visible formant contour for the [ā] in the minimal pair words [sām]

‘to suggest’ and [šām] ‘to fast’ with an arrow pointing to the F2 contour; the vertical dotted lines are the borders of the target vowels:

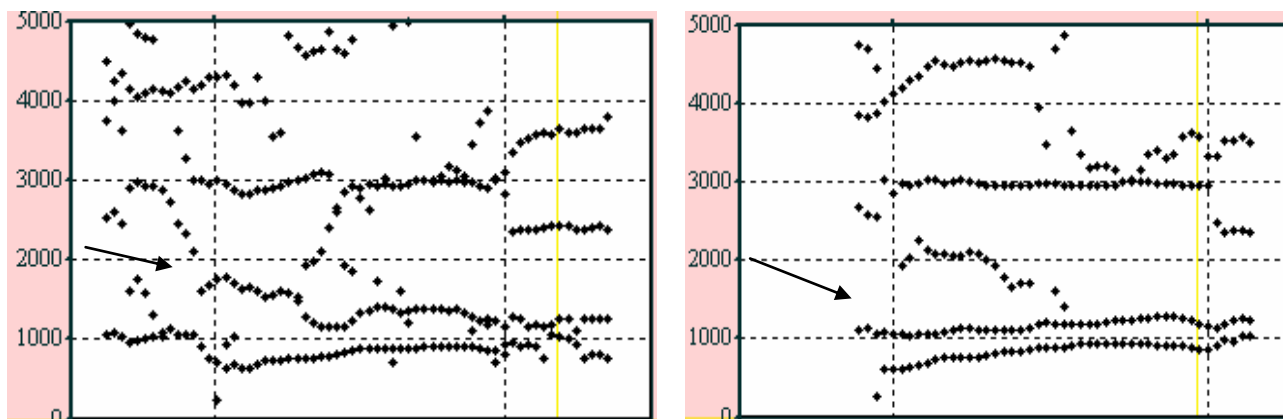


Figure 34 and Figure 35: Visible formant contour of [ā] in [sām] and [šām]

F2 starts low after an emphatic consonant and high after a plain consonant. The figures show how the F2 of [ā] that follows the plain [s] in [sām] is falling. By contrast, the F2 rises after the release of the emphatic because the emphatic lowers F2 and the effect wears off over time; it is said to be lowered to be 1119 Hz on average. By contrast, [ā] that follows the plain [s] in [šām] registered a higher F2, 1617 Hz on average, i.e., 489 Hz more than F2 measured for its counterpart in [šām]; (see also table 22).

Consider also the spectrograms of the words [saffar] ‘to make somebody travel’ vs. [šaffar] ‘to whistle’ with the formant frequencies which appear in the spectrograms as red dots; see figures 36 and 37 below:

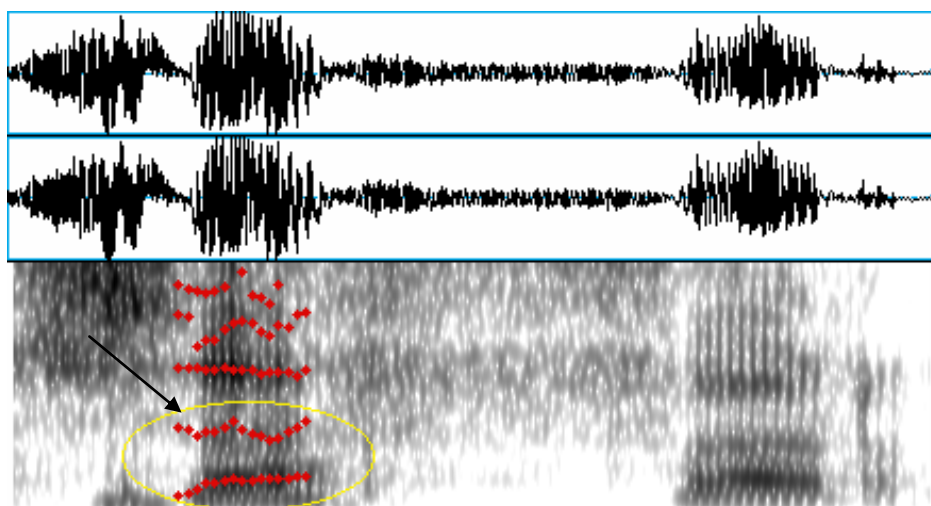


Figure 36: Waveform and spectrogram of the word [saffar]

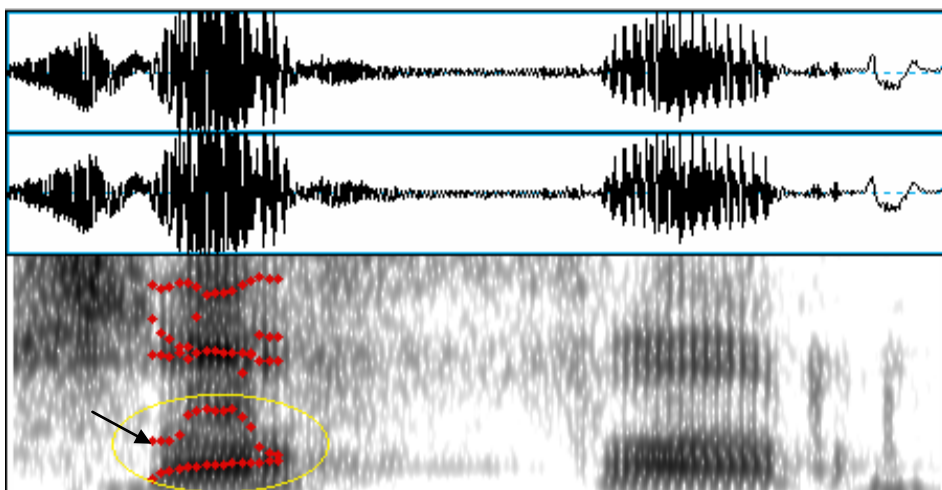


Figure 37: Waveform and spectrogram of the word [ʃaffar]

The arrows show the starting point of F2 values of the vowel [a] after both [s] and [ʃ]. It is clearly noticed that F2 of the vowel after [ʃ] undergoes a sudden sharp decrease then gradually starts to rise as it goes far in distance from emphatic [ʃ]. By contrast F2 of the vowel after plain [s], has steady values throughout the three phases of the vowel. Stating the difference between the two values in numbers, F2 after emphatic [ʃ] is 355 Hz lower than its counterpart after plain [s]. A critical glance on the spectrograms shows that the vowels adjacent to the emphatic consonants are more compact than the vowels adjacent to the plain counterparts; F1 and F2 are closer together due to F2 lowering.

The spectrograms in 38 and 39 below also represent the emphasis spread leftward where the emphatic geminate /ʃʃ/ overrides both the low short vowel /a/ and the labial nasal /m/.

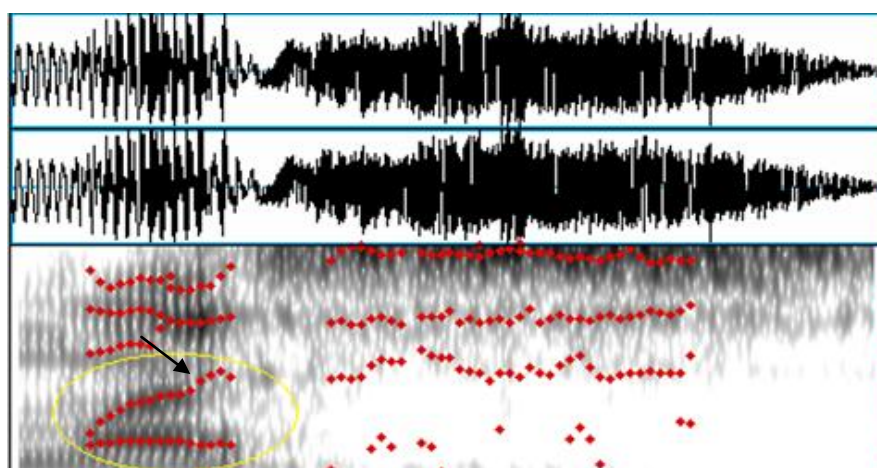


Figure 38: Waveform and spectrogram of the word *mass* ‘to touch’ showing F2 values of [a]

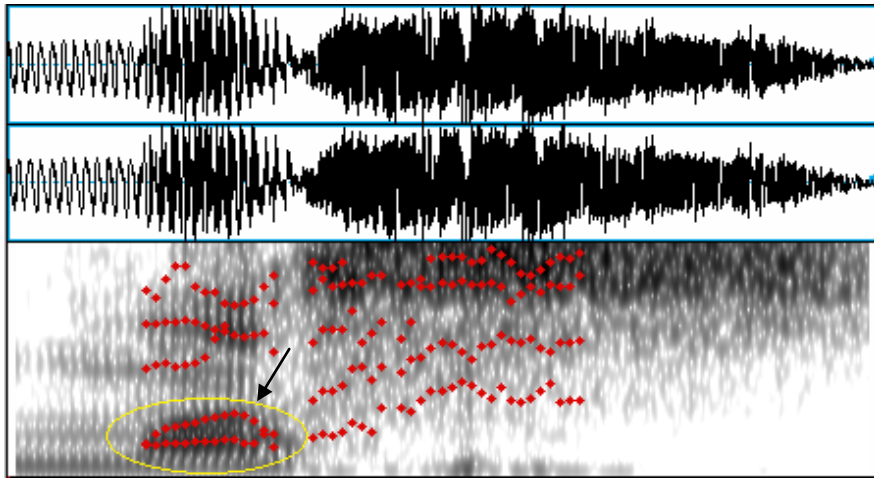


Figure 39: Waveform and spectrogram of the word *maṣṣ* ‘to suck’ showing F2 values of [a]

Figure 38 shows that F2 of [a] before the plain geminate [ss] is slightly raised along the production of the vowel. In figure 39, F2 of the vowel [a] before the emphatic geminate [ṣṣ] falls till almost touching F1. The mean value registered for F2 of [a] before [ss] is 1602 Hz, whereas it is 1156 Hz for its counterpart before [ṣṣ]. That is to say, F2 of [a] before the emphatic [ṣṣ] is 446 Hz lower than its counterpart before the plain [ss]. Interestingly, F2 is also clearly curved down when it approaches the labial nasal [m]. This suggests that [m] assimilates emphasis from [ṣṣ]. Table 23 shows F2 of [a] in the three points for the two words:

	Onset	Midpoint	Offset
F2 of [a] in [mass]	1391	1517	1900
F2 of [a] in [maṣṣ]	1105	1464	899

Table 23: F2 values of the vowel [a] in [mass] and [maṣṣ]

In the first part, emphasis has been described articulatorily and acoustically. In what follows, I examine the phonetic effect of emphatic oral consonants on consonantal and vocalic targets, which combine together with the phonological pharyngealization and takes place as ‘darkening’ (Harrell, 1957: 69; Lehn, 1963: 30-31 for Cairene). I also describe the domain of emphasis spread directionality in WR Arabic.

In the literature, emphasis is not an absolute phenomenon cross-dialectally; instead, it is relative and gradient which denotes that emphatic consonants in one dialect may be more pharyngealized than in another dialect (Davis, 1995: 466; Watson, 2007: 269-270). For instance, emphasis spreads leftward and rightward in Qatari Arabic covering the whole phonological word; it may spread leftward across the word boundary if the emphatic occupies

the leftmost position of a word (Bukshaisha, 1985: 217-19); likewise, emphasis spreads bidirectionally in the rural northern Palestinian dialects, but shows asymmetries between the rightward and leftward spread; while leftward spread is unblocked, a set of segments block rightward spread (Herzallah, 1990; Davis, 1995); in Abha Arabic, the adjacent vowel undergoes emphasis spread, but emphasis rarely spreads beyond the adjacent vowel (Younes, 1991). In Cairene, emphasis spreads over the whole phonological word, however in rightward spread non-tautosyllabic dorsal vocoids optionally block emphasis spread. In Sanfani, pharyngealization spreads leftward within the phonological word (Watson, 2002), while labialisation, the other correlate of emphasis in this dialect, spreads rightward. In this view, dialects differ with respect to emphasis spread direction, distance, and the nature of opaque phonemes.

Emphasis spreads bidirectionally in WR Arabic. While the minimal domain is the syllable, it may extend across the phonological word. In this section, I provide data showing leftward and rightward emphasis spread patterns. In the following examples, the target of emphasis spread is traced by underlining the target sounds.

(40)	Rightward	Leftward	Bidirectional
	<u>talāl</u> ‘male name [Talal]’	<u>lahat</u> ‘to eat’	<u>muṭar</u> ‘rain’
	<u>ḍarr</u> ‘to appear’	<u>rubat</u> ‘to tie’	<u>mataff</u> ‘part of the tent’
	<u>sāj</u> ‘metal used for baking’	<u>farat</u> ‘to die’	<u>guṣalah</u> ‘bride price’
	<u>sfūf</u> ‘classes’	<u>garaṣ</u> ‘to tweak’	<u>giḍab</u> ‘to catch’
	<u>ḍarab</u> ‘to kick’	<u>ganāṣ</u> ‘to hunt’	<u>ruṭab</u> ‘dates’
	<u>ḍabāb</u> ‘fog’	<u>gēḍ</u> ‘hot weather’	<u>ṣabb</u> ‘to pour’

The data in column one (40) show that emphasis spreads rightward from the emphatic trigger to the end of the word. As can be seen from the second and third columns, emphasis spreads rightward or leftward depending on the position of the underlying emphatic triggers in the word.

Leftward spread is absolute and extends across the syllable boundary as can be seen from (41) below:

(41)	<u>fayyaḍ</u>	‘to flood’
	<u>bayyaḍ</u>	‘to whiten’
	<u>ṣāṣ</u>	‘car’
	<u>gannāṣ</u>	‘hunter’

By contrast, the examples in (42) show that tautosyllabic dorsal vocal sounds /i/, /ī/, and /y/ optionally block rightward emphasis spread:

- (42) ḏīx ~ ḏīx ‘dog’
ṣīt ~ ṣīt ‘reputation’
ḏyūf ~ ḏyūf ‘guests’
ṭīb ~ ṭīb ‘perfume’
ḡiṣīr ~ ḡiṣīr ‘guest’
ḥaṣīl ~ ḥaṣīl ‘good’

The dorsal vocal segments block rightward spread when they are non-tautosyllabic dorsal vocoids:

- (43) ṣayyaf ‘to get warmer’
ṭayyar ‘to get sth flying’
tayyan ‘to mud’
ṭuwīl ‘tall’
ṣuwīb ‘wounded’
masyūb ‘touched’

Suffixes also block rightward emphasis spread:

- (44) ṣabb-at ‘she poured’
ḡuṣalat-ah ‘her price’
rubat-ha ‘he tied it’
ḡiḏab-tah ‘I caught it’

The most common marginal emphatics attested in WR Arabic are /l/ and /r/. The other marginal emphatics, /b/, /m/, and /g/, are not attested in contrastive situations and are less common than their sisters. The marginal emphatics are found adjacent to the guttural vowels /a/ and /ā/. Though the marginal emphatics /l/ and /r/ are very few, emphasis spread in words involving these emphatics is active bidirectionally. Consider the following examples:

- (45) ballah ‘Are you sure?’
barra ‘outdoors’

In conclusion, unlike rightward emphasis spread, leftward emphasis spread is not restricted since no phonemes block spread. It is found that the leftward spread starts from the emphatic sound and extends to the beginning of the word.

In addition to assimilation of emphasis, emphasis spread may involve assimilation of primary place and manner of articulation; the following data include examples on local emphasis spread:

(46)	/gaʕʕad ɖayfah/	[gaʕʕadɖayfah]	‘he let his guest sit down’
	/ʕawt tayyārah/	[ʕawttayyārah]	‘the sound of the plane’
	/talāt ɖarbāt/	[talāɖɖarbāt]	‘three kicks’
	/xubiz ʕāxin/	[xubiʕʕāxin]	‘fresh bread’

3.2.4.2.3 Voice assimilation

Voice is one of the most common features that play a significant role in assimilation. It is common in WR Arabic where two neighbouring sounds are near/share the place of articulation but differ in voice. The final voiced dento-alveolar /d/ in the verbal stem CiCaC undergoes assimilation to a following voiceless dento-alveolar /t/ in an inflectional suffix, as in:

(47)	/sijad/		‘to worship/prostrate’
	/sijad-t/	[sijatt]	‘I/you m.s. prostrated’
	/sijad-ti/	[sijatti]	‘you f.s. prostrated’
	/sijad-tu/	[sijattu]	‘you m.p. prostrated’
	/sijad-tin/	[sijattin]	‘you f.p. prostrated’

Further examples of voice assimilation are attested among the recordings:

Examples of voice assimilation in adjacent coronals:

(48)	/jat daxīlih/	[jaddixīlih]	‘A guest f. came’
	/zōd taʕwīr/	[zōttaʕwīr]	‘beautiful’
	/al-walad tizānax/	[alwalattizānax]	‘The boy was naughty’
	/mōz ʕūmāli/	[mōʕʕūmāli]	‘Somali banana’
	/talaɖ ɖabāyih/	[talaɖɖibāyih]	‘three sacrifices’
	/xuɖ tōbak/	[xuttōbak]	‘Take your m.s. garment!’
	/kīs zaʕatar/	[kīzzaʕatar]	‘thyme sack’
	/kān fōz sahl/	[kān fōssahl]	‘It was an easy win’

Examples of voice assimilation in adjacent uvulars:

- | | | | |
|------|---------------|--------------|-------------------------|
| (49) | /šmāġ xālah/ | [šmāxxālah] | ‘his uncle’s headscarf’ |
| | /baṭṭīx ġāli/ | [baṭṭīġġāli] | ‘expensive melon’ |

Examples of voice assimilation in adjacent velars:

- | | | | |
|------|-----------------|---------------|------------------------------|
| (50) | /anḥarag katfi/ | [anḥrakkatfi] | ‘my shoulder has been burnt’ |
| | /jāk gabli/ | [jāggabli] | ‘he came to you before me’ |

Examples of voice assimilation in adjacent pharyngeals:

- | | | | |
|------|------------------|-----------------|-------------------------|
| (51) | /ḍayyaḥ ḥawāšīh/ | [ḍayyahḥawāšīh] | ‘he lost his calves’ |
| | /šalaḥ ṣabātah/ | [šalaḥṣabatah] | ‘he takes off his gown’ |

When two adjacent sounds share a place feature, voicing may spread across phonological words. A voiceless segment may become voiced under the influence of a voiced sound immediately after it just as a voiced segment may become devoiced under the influence of a voiceless sound immediately following it.

Voice assimilation also takes place within and across words where adjacent consonants do not share a place of articulation, thus not resulting in total assimilation, as in:

- | | | | |
|------|-----------------|----------------|---------------------------------------|
| (52) | /ʔakalt jirjib/ | [ʔakaldjirjib] | ‘I ate thick yoghurt (Greek yoghurt)’ |
| | /ḥalaf gabli/ | [ḥalavgabli] | ‘he swears before me’ |
| | /tarak ḍilūli/ | [taragḍilūli] | ‘he let my camel go’ |
| | /takḍib/ | [tagḍib] | ‘she tells lies’ |
| | /masgūf/ | [mazgūf] | ‘ceiled’ |

Voice assimilation does not occur, however, before sonorant consonants, as in:

- | | | | |
|------|---------------|--------------|--------------------|
| (53) | /šarēt nāgah/ | [šarētnāgah] | ‘I bought a camel’ |
| | /mismār/ | [mismār] | ‘nail’ |
| | /yasrah/ | [yasrah] | ‘to herd sheep’ |
| | /mašlūl/ | [mašlūl] | ‘paralyzed’ |

Voiceless gutturals fail to assimilate [voice] when they are followed by a voiced obstruent or sonorant, as in:

(54)	/al-maḥdūdih/	[almaḥdūdih]	‘Al-Mahdudih, a district in Aqaba’
	/taxbiz/	[taxbiz]	‘she bakes’
	/jāhzīn/	[jāhzīn]	‘we are ready’
	/ḥrām/	[ḥrām]	‘blanket’
	/raḥmāni/	[raḥmāni]	‘nice’
	/xmayṣah/	[xmayṣah]	‘food made of bread and milk’
	/hlayyil/	[hlayyil]	‘male name [Hlayyil]’

Devoicing may be a good example of historical assimilation at a distance; consider the following examples where the segment /d/ loses its voicing feature in harmony with the voiceless consonants /k/, /f/, and /s/ within the phonological word:

(55)	/dakātrih/	[tikātrih]	‘doctors’
	/daftar/	[taftar]	‘notebook’
	/dastūr/	[tastūr]	‘constitution’

3.1.2.5 Metathesis

Metathesis involves the change of position between segments. In Arabic terminology, metathesis is termed *ḥiqḥāb* or *al-qalb al-makāni* ‘place change’ (Al-Rajihi, 1984: 14). With regard to WR Arabic, a number of words involve historical metathesis, as in:³⁰

(56)	*zōji	/jōzi/	‘husband’
	*tizawwaj	/tijawwaz/	‘to get married’
	*gibaḍ	/giḍab/	‘to catch’
	*milṣagah	/miṣlagah/	‘spoon’
	*mikattah	/mitakkah/	‘ashtray’
	*burtugāl	/burgdān/	‘orange’
	*bardagōš	/bargadōš/	‘medical herbs’
	*makintōš	/matinkōš/	‘sweets’
	*zanjabīl	/janzabīl/	‘ginger’
	*ʔaṣṭayt	/ṭaṣṭayt/	‘I gave’

³⁰ Some of these examples have been reported in other studies on other Arabic regional varieties, namely, Iraqi Arabic dialect (Jasim and Sharhan, 2013) and Cairene and Makkan dialects (Banjar, 2003).

*faṣaṭ	/fiṭaṣ/	‘to break the top of the pencil’
*banalty	/balanty/	‘penalty (in football)’
*yalṣan	/yanṣal/	‘he damns’
*barṭamān	/baṭrabān ~ maṭrabān/	‘glass jar’
*ḥafar	/faḥar/	‘to dig’
*xasaf	/xafas/	‘to eclipsed’
*ṣaffag	/zaggaf/	‘to clap’
*narfaz	/nafraz/	‘to become angry’
*blāstik	/blāskit/	‘plastic’
*ʔablah	/ʔahbal/	‘stupid’

3.3 Concluding remarks

In this chapter, I have presented the sound system and major melodic phonological processes in WR Arabic. Minimal pair and minimal set tests have been conducted in order to establish the phoneme system. Adopting a feature geometry approach (Clements, 1985), the phonemic inventories are structured in terms of universal phonological features. Consonantal and vocalic systems of WR Arabic have been examined articulatorily and acoustically. The acoustic analyses covered a number of issues: the acoustic readings of consonants, geminates, the influence of geminate consonants on adjacent vowels, the three phases of plosive articulation (close, hold, and release), voice onset time, emphasis spread, and the relative readings of F1 and F2 of vowels. Under the melodic processes, the chapter then examined monophthongization, raising, umlaut, lexical assimilation, post-lexical assimilation, and metathesis.

Chapter four

Prosodic phonology of WR Arabic

Prosodic phonology refers to the study of units larger than segments, such as the syllable, word and phrase, and to prosodic processes. This chapter provides an analysis of the syllable structure, consonant clusters, stress assignment, and stress shift. A section has been devoted to the prosodic processes that affect stress assignment and syllable structure, namely vowel shortening, syncope, epenthesis, and glottal stop /ʔ/ deletion.

4.1 Syllable structure

The syllable is typically divided into two constituents: the *onset* (a consonant preceding the vowel) and the *rhyme* (also known as *peak*) which consists of the vowel (*nucleus*) and any following optional marginal consonants (*coda*). The onset, which is obligatory in Arabic, consists of one or more consonants that precede the nucleus. The nucleus is also obligatory and composed of one of any of the three short vowels or their long counterparts or diphthongs. The coda may consist of up to two consonants. Since onsetless syllables are forbidden in Arabic, a glottal stop is inserted before a phrase-initial vowel and before vowel-initial loanwords such as /ʔiksibres/ ‘express’ (cf. Watson, 2002: 66). CA and MSA allow syllables of the type CV, CVV, CVC, CVVC, CVCC, and CVVCC syllables.

WR Arabic has well-defined restrictions on the possible combinations of consonants and vowels. Such restrictions are often analysed in terms of possible syllables. The core syllables in WR Arabic are: CV, CVC, CVV, CVVC, and CVCC, where C stands for ‘consonant’, V for ‘short vowel’, and VV for ‘long vowel’. Examples are shown below:

- (1) CV: *da* in *da.ḥal* ‘quicksand’
- CVC: *waṣ* in *waṣ.ṣal* ‘to link’
- CVV: *rā* in *rā.sal* ‘to contact’
- CCV: *sbi* in *sbi.gat* ‘to forerun’
- CVVC: *rās* ‘head’
- CVCC: *radd* ‘to bring back’

No word or syllable starts with a vowel. If a word seems to start with an open syllable, such as *aswad* ‘black’, *ana* ‘I’, or *arbaʕah* ‘four’, what is actually heard is a vowel preceded by a

glottal stop [ʔ]. In contrast to the Standard Arabic which does not permit word-initial consonant clusters (Ryding, 2005: 36), consonant clusters are attested word-initially in WR Arabic either whether or not the sonorant hierarchy is obeyed, such as /br/, /r̥k/, /mr/, /sk/, /sb/, /bʃ/, /jb/, /jm/, /dr/, or /rd/, as in: *brayīg* ‘water jug (diminutive form)’, *r̥kab̥b̥* ‘knees’, *mrāy* ‘mirror’, *skūt* ‘silence’, *sbāg* ‘race’, *bʃall* ‘onion’, *jbāl* ‘mountains’, *jmāl* ‘camels m.’, *drās* ‘harvest’, and *rdān* ‘sleeves’.

Referring to the above examples, syllables can be classified into three types:

- a) weak ‘light’ syllables, as in:
 - CV, as in: *ši* in *ši.rib* ‘to drink’
 - CCV, as in: *bra* in *bra.yīg* ‘water jug’
- b) strong ‘heavy’ syllables, as in:
 - CVC, as in: *šar* in *šar.bit* ‘she drank’ or each syllable in *ʔan.šar.bit* ‘to be drunk’.
 - CVV, as in: *ḥā* in *ḥā.sab* ‘to count’, *bū* in *ʔa.bū.ha* ‘her father’.
 - CCVC, as in: *f̣ḍaʔ* ‘outdoors’, *lhum* ‘their’, *r̥ḥaʔ* ‘millstone’, *ʕliy* ‘Ali [name]’.
 - CCVV, as in: *ṭwā* in *ṭwā.gah* ‘rope’, *zbā* in *zbālih* ‘garbage’.
- c) Super-strong ‘superheavy’ syllables, as in:
 - CVVC, as in: *fāt* ‘to come in’ *jās* in *haw.jās* ‘monologue’.
 - CVCC, as in: *sadd* ‘to close’, *galt* in *ʕa.galt* ‘to tie’.
 - CCVVC, as in: *ʕlūm* ‘news’, *fnūn* ‘arts’, *snīn* ‘years’, *šdād* ‘saddle and blanket on camel’, *ʕfūn* ‘eyelids’.
 - CCVCC, as in: *šjarr* ‘trees’, *jwarr* ‘holes’, *jzarr* ‘carrot’, *bʃall* ‘onion’.
 - CVVCC, as in: *lādd* ‘is looking to’, *ḥādd* ‘is mourning’, *šārr* ‘is catching’, *šādd* ‘is not coming’, *ʕādd* ‘is counting’, *ḍārr* ‘poisonous’, *ḥārr* ‘hot’, *dāgg* ‘is starting (eating)’, *ḥāgg* ‘is seeing’.

In WR Arabic, the onset is obligatory up to two consonants, while codas are permitted up to two consonants. Two-consonant codas occur only word-finally following a short vowel, or a geminate following a long vowel, as in CVVCC. The weak syllable CV, the strong syllables CVC and CVV occur word-initially, medially and finally. However, there are restrictions on the position of other syllable types; CCV and CCVC occur word-initially only. CVCC cannot occur word-medially; CVVCC, CCVVC and CCVCC occur in isolation. The non-final syllable CVVC occurs in derived environments as a result of syncope, as in: *māsik-īn* ‘they m.’

are catching' > *māskīn*; (see § 4.3.1 data (30) in which we propose a mora-sharing account to avoid trimoraic syllables). The following table summarises the syllable types in WR Arabic:

	Open	Closed	Doubly Closed
Light	CV, CCV	-	-
Heavy	CVV, CCVV	CVC, CCVC	-
Superheavy	-	CVVC, CCVVC	CVCC, CCVCC, CVVCC

Table 24: Syllable types in WR Arabic

WR Arabic has words of up to six syllables; the following are examples of monosyllabic and multisyllabic words in WR Arabic:

i. Monosyllabic words:

(2)	/hu/	‘he’
	/lak/	‘yours m.s.’
	/lāš/	‘not a good man’
	/šadd/	‘to tie’
	/bšall/	‘onions’
	/šdād/	‘saddle and blanket on camel’

ii. Disyllabic words:

(3)	/ha.la/	‘welcome’
	/fa.ras/	‘horse’
	/bi.šīr/	‘male camel’
	/wā.jid/	‘lot of’
	/šaw.wa/	‘fast camel’
	/gir.bih/	‘leather sack for water’
	/daw.wāj/	‘walking salesman’
	/gi.ṭamt/	‘I/you m.s. broke/cut’
	/bra.yīg/	‘jug’
	/fāy.zīn/	‘winners’
	/tlā.jih/	‘Thlājih valley’

iii. Trisyllabic words:

(4)	/ʔa.ħa.mar/	‘red’
	/an.gi.ʔamt/	‘I was/you m.s. were broken’
	/bdu.wiy.yih/	‘Bedouin woman’
	/ba.ʕā.rīn/	‘camels’
	/mit.ʕall.mīn/	‘educated m.p.’
	/mʕā.ra.ʕah/	‘wrestling’
	/ʔal.lā.jih/	‘fridge’

iv. Quadrisyllabic words:

(5)	/ʕa.ʕī.rit.na/	‘our clan’
	/ʔih.ḏī.wā.tīh/	‘my shoes’
	/miʕ.na.giy.yih/	‘pure-bred horse’
	/yis.ta.ha.di/	‘he knows’
	/ma.ħab.bat.hum/	‘their m. respect’
	/an.ta.ʕā.raf/	‘to know each other’

v. Five-syllable words:

(6)	/mir.ba.ʕā.niy.yih/	‘40 cold days in winter’
	/ta.la.fō.nāt.na/	‘our mobile phones’
	/ʔal.faz.yō.nāt.na/	‘our televisions’
	/xa.mā.sī.niy.yih/	‘50 hot days in summer’
	/yi.ti.ħaw.ħa.ʕu/	‘they m. are afraid’

vi. Six-syllable words:

(7)	/mir.ba.ʕā.niy.yit.na/	‘our 40 cold days of winter’
	/xa.mā.sī.niy.yit.na/	‘our 50 hot days in summer’
	/yi.ti.gā.sa.mū.hin/	‘they m. share them’
	/yi.ti.ʕā.ya.lū.ha/	‘they m. cooperate to hold it f.’
	/yi.ti.nā.wa.lū.ha/	‘they m. cooperate to catch it f.’

4.2 Consonant clusters

Consonant clusters in WR Arabic are limited to two consonants (three medial consonant clusters are restricted to a few examples). Clusters occur word-initially, medially, and finally.

i. Initial:

- (8) /rjūd/ 'graveyard'
/šjarr/ 'trees'
/ʕtāš/ 'thirsty'

ii. Medial:

- (9) /nalʕab/ 'we play'
/majlis/ 'guest room'
/ʔajwād/ 'gentlemen'
/tijawwad/ 'take care!'

iii. Final:

- (10) /ʕagalt/ 'I tied'
/maǧart/ 'I mixed sth.'

After examining a large number of words in WR Arabic, restrictions on the combinations of consonant clusters can be summed up as follows:

- a) The sonorants /l/, /n/, /m/, /r/, /w/, and /y/ may occur to the left or right of any consonant, as in: *lṭayyif* 'lovely', *rxayyiṣ* 'cheap', *ʔābliḥ* 'yesterday', *miryāf* 'ram that leads the herd', *ḥraymih* 'wife', *bnayyih* 'daughter', *byūt* 'houses', *ḥwār* 'calf', *šrāk* 'bread', *taʕarf* 'you m.s./she know(s)', *taḥalb* 'you m.s./she milk(s)', *ʕkaḥḥ* 'knees', etc.
- b) Initial sonorant-sonorant and obstruent-sonorant clusters may occur due to syncope (§ 4.4.2), as in: *rwāg* 'piece of cloth dividing men's from women's part of tent', *nyāg* 'camels', *glūb* 'hearts', *ḥwār* 'calf', *ṭlāg* 'shots'. Sonorant-obstruent clusters occur and optionally are preceded with a prosthetic vowel and ʔ-, as in: *wjūh* 'reputable men', *(ʔi)mʕaššāh* 'pastures' *(ʔi)mʕarūf* 'known'). Obstruent-obstruent clusters are also attested, as in: *jbāl* 'mountains', *bṣāṭ* 'mat', *bṭūš* 'family name', *ṭḥāl* 'spleen'.
- c) Medial CCC clusters are attested in a very few cases in the recordings, and all involve at least one sonorant: *taskni* 'you f.s. live in', *tanksuw* 'you m.p. return back', *ḥurmtah*

‘his wife’; medial CC is very frequent, as in: *ʔurubṯīha* ‘you f.s. tie it f.!’ *yaguḍbah* ‘he catches him’, *nakirmah* ‘we welcome him’, *nakrimkuw* ‘we welcome you’

- d) Word-final obstruent-sonorant clusters are usually broken up by epenthesis between C₂ and C₃, as in: /wasm/ ‘brand’ > [wasim], /šaʕr/ ‘hair’ > [šaʕar] (§ 4.4.3).

4.3 Stress assignment

A syllable that receives stress is relatively prominent compared to the syllables surrounding it. Although the morphological structure of a word may affect stress assignment, word stress is not distinctive in most dialects of Arabic. Phonetically, Arabic stressed syllables have greater loudness, longer duration and higher pitch levels than unstressed syllables (Al-Ani, 1992). WR Arabic exhibits predictable word stress, i.e., the stress is rule governed. The mechanics of word stress assignment is sensitive to syllable structure. Therefore, the position of stress is a result of syllable location and syllable weight (cf. Watson, 2011c). The length of a word is also an important factor for stress assignment. With this in mind, I may generalise some basic rules of stress assignment on WR Arabic considering three factors: number of syllables, syllable position, and syllable weight. Stress placement is governed by some basic generalisations; the following rules must be introduced at the beginning:

- (11) 1. Superheavy syllables always attract stress in final position (cf. Watson, 2011c).
 2. In words with more than three syllables, stress may be assigned to the ultimate, penultimate, OR antepenultimate; however, it NEVER falls on any syllable that precedes the antepenultimate.

In monosyllabic content words, the only syllable is assigned stress, as seen from the following examples:

- (12) [ʔaws] ‘quick sand’
 [dās] ‘to walk over’
 [gēḍ] ‘hot weather’
 [jīt] ‘I came’

With words of two syllables, stress falls on a final superheavy syllable, as in:

- (13) [mir.'yāʕ] ‘ram leading the herd’
 [gū.'šān] ‘land property ownership’
 [si.'bagt] ‘I foreran’

[sā.'bagt]	‘I compete’
[mās.'kīn]	‘they m. are catching sth’
[mʕall.'mīn]	‘teachers m.’

In the absence of a final superheavy syllable, stress is assigned to the right-most non-final heavy syllable, if there is one.

(14) [nā.gil]	‘newly pregnant’
[kiḥ.tih]	‘mean’
[ʔat.ram]	‘deaf’
[ʕaw.rah]	‘woman’
[waʕ.ʕal]	‘to connect’

In contrast to the majority of eastern Arabic dialects, in disyllabic words in which the initial syllable is light, stress falls on the second syllable; thus, WR Arabic is classified as an iambic dialect (cf. Hayes, 1995: 227), as in:

(15) [da.'ḥal]	‘dune’
[ba.'ʕar]	‘camel muck’
[zi.'bil]	‘sheep muck’
[li.'fa]	‘to come’

With words of three syllables or more, the final syllable receives stress **ONLY** if it is superheavy (group a). Otherwise, stress is assigned to the rightmost non-final heavy syllable (group b). Otherwise, stress is assigned to the penult (group c).

(16) Group (a)

[an.gi.'ʕamt]	‘I had my leg/hand broken’
[mit.ʕall.'mīn]	‘educated m.p.’
[war.rā.'dāt]	‘women who bring water from the spring’
[mu.xay.ya.'māt]	‘camps’
[ta.la.fō.'nāt]	‘telephones’

Group (b)

[ʔa.'bū.na]	‘our father’
[wa.'lad.ha]	‘her son’
[yi.ti.'gal.laʔ]	‘to proceed/ forward’
[gi.ʕa.'lat.ha]	‘her marriage contract’

[miʕ.ni.'giy.yih]	‘pure-bred horse’
[ʔih.ɗi.'wā.ti]	‘my shoes’
[ʔim.ʕaʃ.'šā.ha]	‘its f. pasture’
[ʔin.daj.'jin.hin]	‘we domesticate them f.’
[miʕ.na.giy.'yit.na]	‘our horse’
['yax.ti.ris]	‘he is frightened’

Group (c)

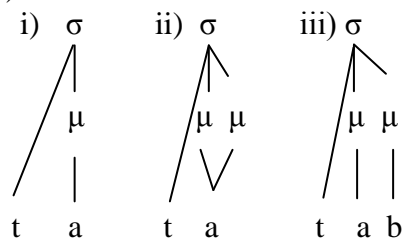
[fi.'lu.na]	‘our mare’
[ʔa.'ʕa.war]	‘one-eyed’
[mu.'ʔa.rah]	‘water bottle’
[da.'ħa.lih]	‘quicksand’

Thus data suggests that word length and syllable weight combine to affect stress assignment. In strings of three or more light syllables, the penult or the antepenult is stressed, whichever is separated from the onset of the word by an odd number of light syllables, as in: [na.'ʕa.ja.ti] ‘my ewe’, [gi.'ʕa.lah] ‘bride price’.

4.3.1 Theoretical model

To account for the properties of stress rules in WR Arabic, I draw on the insights of metrical theory (Lieberman and Prince, 1977; Selkirk, 1980; McCarthy, 1979; Hayes, 1995). As proposed by Hayes (1995), syllable weight is manifested by a standard representation in which metrical trees show the relative prominence of syllables. A CV syllable counts as a light syllable and is assigned one mora; CVV counts as a heavy syllable and is assigned two moras; CVC counts as a heavy syllable and is assigned two moras, with the final C assigned a mora through the Weight-by-Position condition (Hayes, 1995; Watson, 2002); geminate consonants are assigned one mora underlyingly. The metrical trees in (17) represent the syllables: CV, CVV, and CVC.

(17)



Four main parameters of stress representation should be highlighted, namely: Foot Boundedness, Foot Dominance, Quantity-sensitivity, and Directionality. While bounded feet can have no more than two syllables, unbounded feet can have any number of syllables. Boundedness is motivated by culminativity and non-exhaustivity. The former says that every content word must have at least one stress. The latter suggests that foot extrametricality is not applied where it exhausts the entire domain of the stress rules, i.e., where the peripheral foot is the only foot in the word (cf. Watson, 2002: 92). In terms of the second parameter, Foot Dominance, left dominance indicates that the left nodes of feet are stressed, so feet are trochaic; right dominance indicates that the right nodes of feet are stressed, in which case feet are iambic. The Quantity-sensitivity principle says that syllable weight affects stress assignment. That is, in a Quantity-sensitive language, heavy syllables are distinguished from light syllables. The Directionality principle controls the direction of foot assignment.

The foot in WR Arabic is bounded and right headed, and feet are parsed from left-to-right. A foot comprises a light syllable followed by a light or heavy syllable, or a single heavy syllable. Accordingly, (L'L), (L'H) and ('H) form the basic foot inventory in WR Arabic. Feet are grouped into right-headed constituents through application of End Rule Right.

Parsing syllables may raise a problem; grouping an even number of light syllables is achieved easily, whereas, an odd number of syllables or a heavy syllable followed by a light syllable may result with a leftover light syllable at the end of a string. These sub-minimal elements may be stressed as in some languages degenerate feet (Hayes, 1995: 87). In others, unparsed syllables remain unfooted and unstressed. Three different levels of prohibition on degenerate feet are proposed (Hayes, 1995: 87):

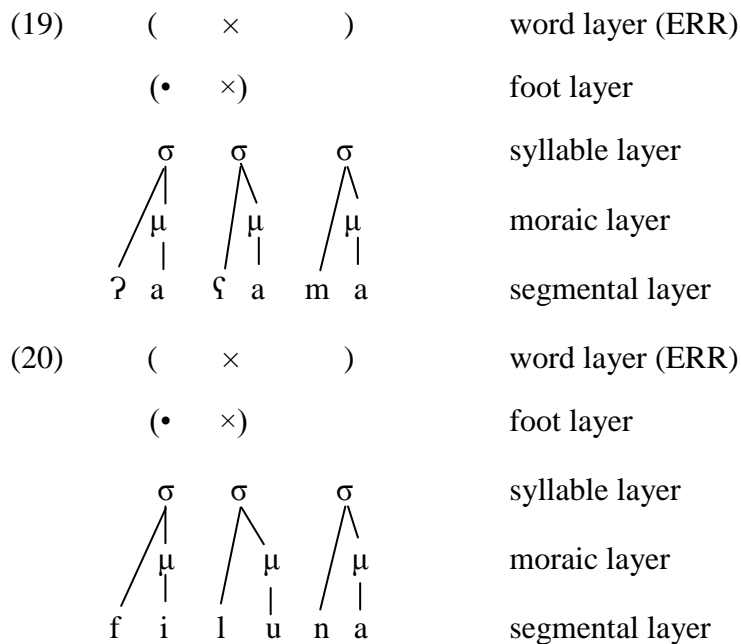
(18)

- | | |
|-----------------------|--|
| a) strong prohibition | absolutely disallowed |
| b) weak prohibition | allowed only in strong position, i.e., when dominated by another grid mark |
| c) non-prohibition | degenerate feet are freely allowed ³¹ |

In WR Arabic, peripheral light syllables that remain after main foot assignment are not stressed, as in the rightmost syllables in: [ʔa.'ʕa.ma] 'blind' and [fi.'lu.na] 'our mare'.

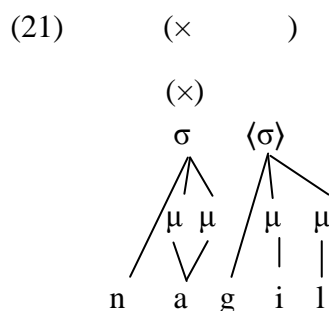
³¹ This level has weak supporting evidence (Hayes, 1995: 87).

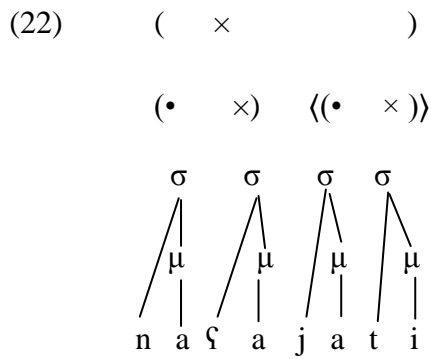
Following Hayes (1995) and Watson (2002), the stressed component (head) of a foot is marked by (×) and the non-stressed component (weak) of the foot is marked by a dot (•).



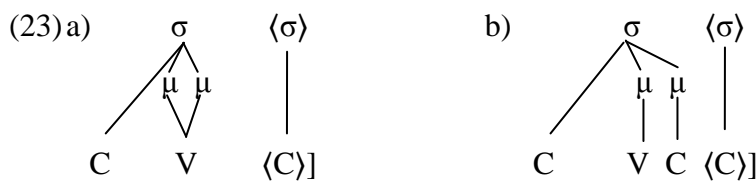
The foot parse accomplishes left-to-right direction to produce a right-headed foot over the syllables (?a) and (fa) in (19), (fi) and (lu) in (20). The rightmost syllables (ma) and (na) are monomoraic and remain unfooted since they cannot support a foot. Stress is governed by the End Rule Right (ERR) principle; ERR assigns stress to the rightmost visible foot, so, it assigns stress to (fa) in (19) and (lu) in (20). The final unfooted syllable remains unparsed in WR Arabic supporting the claim that WR Arabic bans degenerate foot.

The failure of stress of final heavy syllables, such as *nāgil* ‘pregnant’ and penultimate light syllables in strings of four light syllables, such as *naʕajati* ‘my ewe’, suggests that the peripheral foot is rendered extrametrical if it does not exhaust the domain of the word (Hayes, 1995: 58). Foot extrametricality is attested in a number of iambic and trochaic Arabic dialects (cf. Hayes, 1995: 227 ff. for Negev Bedouin; Watson, 2002 for Sanʕani). In the diagrams below, angled brackets are used to denote extrametricality of the foot:





In a final superheavy syllable, the final C is extrasyllabic and is not integrated into the adjacent syllable, i.e., final superheavy syllables are analysed as a bimoraic syllable plus a degenerate syllable (cf. Watson, 2002: 92-4).



The rules of stress assignment in WR Arabic are outlined as follows:

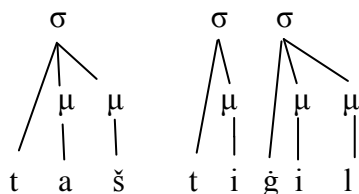
- (24)
- a- Syllable Weight CVC, CVV = /-/, CV = /~/ . Final C is unsyllabified in CVCC, CVVC.
 - b- Foot Construction Form iambs from left to right. Degenerate feet are not permitted.
 - c- Foot Extrametricality³² Foot → <Foot>/___]word
 - d- Word Layer Construction End Rule Right

In the following examples, I will explain how the metrical analysis correctly generates the different patterns of stress assignment. Consider, for example, the word ['taš.ti.ɟil] 'she works':

³² Four restrictions on extrametricality are proposed (Hayes, 1995): constituency (only constituents - segments, syllables, feet, affixes, and so on - can be designated as extrametrical), peripherality (restricts extrametrical constituents to the edges of a domain), edge-markedness (restricts the edge they occur at), non-exhaustivity (ensures that extrametricality cannot exhaust the domain of a rule, preventing it from applying altogether).

(25) (×)

(×) ((• ×))

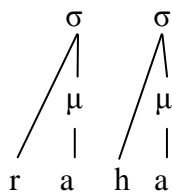


The foot parse is constructed left-to-right. The first syllable (*taš*) (which is bimoraic) constitutes the leftmost foot and the following syllables (*ti*) and (*ġil*) constitute the rightmost foot. The rightmost foot is rendered extrametrical because it is both peripheral and does not exhaust the domain of the word. ERR assigns stress to the rightmost visible foot.

By contrast, when the peripheral foot is the only foot in the word, foot extrametricality is blocked and the head of the only foot is stressed, as in [ra.'ħa] ‘grinding stone’ and [ji.'mal] ‘camel’ in (26) and (27):

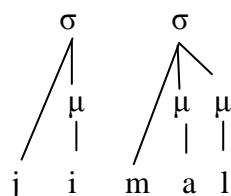
(26) (×)

(• ×)



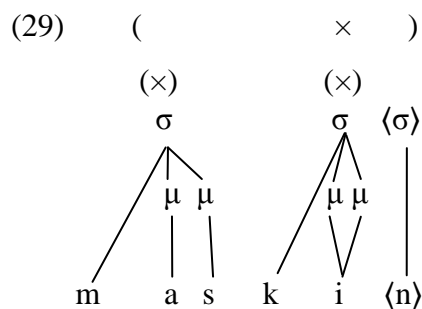
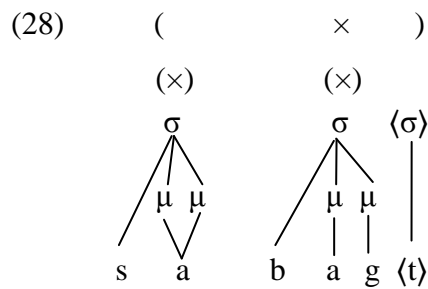
(27) (×)

(• ×)



Foot Extrametricality is also blocked when it violates the Peripherality condition, i.e., when the rightmost foot is non-peripheral. For words ending in a superheavy (CVCC or CVVC) syllable, the final consonant is extrasyllabic (Hayes, 1995: 106-7) and directly attached to a

separate syllable node. Consider, for example, [sā.'bagt] ‘I competed’ and *maskīn* ‘catching m.p.’:

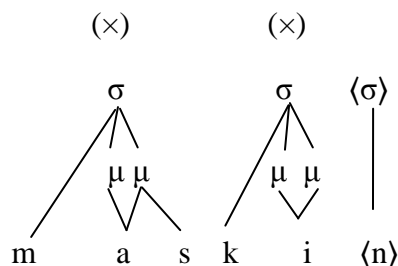


In these cases, the leftmost bimoraic syllable (*sā*) and (*mas*) forms a foot. A second foot is constructed over the rightmost syllable (*bagt*) and (*kīn*). The rightmost foot is rendered non-peripheral by presence of an extrasyllabic element (*⟨t⟩* and *⟨n⟩*) which intervenes between the foot and the end of the word. ERR assigns stress to the head of the rightmost visible foot.

A final important point in this argumentation is how to account for words in which the non-final syllable is CVVC, where the penultimate superheavy syllable arises through syncope (*māsik-īn* ‘they m. are catching’ > *māskīn*). To avoid trimoraic syllables, we propose a mora-sharing account whereby the rightmost mora dominates two adjacent segments, a principle which is first referred to as Adjunction-to-Mora (Broselow, 1992; Broselow et al, 1995; Broselow et al, 1997). Mora-sharing connects the second part of the long vowel with the final consonant of the syllable so the rightmost part of the vowel shares a mora with the following consonant.³³ The following metrical tree provides a mora-sharing representation.

³³ With CVVC syllable, mora sharing is supported by phonetics; Broselow et al (1995, 1997) find out that the long vowel in a CVVC syllable is significantly longer than the short vowel in a CV or CVC syllable, and shorter than the long vowel in a CVV syllable.

(30) (×)



In terms of the present model, WR Arabic shows accentual parallels with neighbouring Bedouin dialects, especially the Negev-type. It shares foot type, foot extrametricality, and assignment of stress according to End Rule Right.

4.4 Prosodic processes

In this section, I outline principal prosodic processes in the dialect: vowel shortening, syncope, vowel epenthesis, and glottal stop deletion.

4.4.1 Vowel shortening

Vowel shortening reduces long vowels in a closed syllable in certain forms irrespective of vowel quality, as in:

	/šāf/ ‘to see’	/jāb/ ‘to bring’	/māt/ ‘to die’	/tār/ ‘to fly’	/tār/ ‘to revolute’	/dāg/ ‘to taste’
1s.	[šif-t]	[jib-t]	[mit-t]	[tir-t]	[tir-t]	[dig-t]
1p.	[šif-na]	[jib-na]	[mit-na]	[tir-na]	[tir-na]	[dig-na]
2m.s.	[šif-t]	[jib-t]	[mit-t]	[tir-t]	[tirt]	[dig-t]
2f.s.	[šif-ti]	[jib-ti]	[mit-ti]	[tir-ti]	[tirti]	[dig-ti]
2m.p.	[šift-u]	[jib-tu]	[mit-tu]	[tir-tu]	[tir-tu]	[dig-tu]
2f.p.	[šit-in]	[jib-tin]	[mit-tin]	[tir-tin]	[tir-tin]	[dig-tin]
3m.s.	[šāf]	[jāb]	[māt]	[tār]	[tār]	[dāg]
3f.s.	[šāf-it]	[jāb-it]	[māt-it]	[tār-it]	[tār-it]	[dāg-it]
3m.p.	[šāf-u]	[jāb-u]	[māt-u]	[tār-u]	[tār-u]	[dāg-u]
3f.p.	[šāf-in]	[jāb-in]	[māt-in]	[tār-in]	[tār-in]	[dāg-in]

Table 25: Vowel shortening in WR Arabic

Vowel shortening in WR Arabic is morphologically motivated (§ 5.2.2.4). The data in table 25 shows that the long vowel /ā/ undergoes shortening when the perfect verb stem CāC takes C-initial subject suffixes. This process may help to repair the syllable structure since the vowel undergoes shortening in the case of a C-initial suffix. When the suffix begins with a vowel, shortening does not occur. Evidence of this constraint may come from data covering such kind of verbs when C-initial prepositional clitics are suffixed to them; in these cases, the long vowel remains even though the syllable is closed:

/jāb/ ‘to bring’	Gloss
[jāb-li]	he brought for me
[jāb-lna]	he brought for us
[jāb-lak]	he brought for you m.s.
[jāb-lki]	he brought for you f.s.
[jāb-lku]	he brought for you m.p.
[jāb-lkin]	he brought for you f.p.
[jāb-lah]	he brought for him
[jāb-lha]	he brought for her
[jāb-lhum]	he brought for them m.
[jāb-lhin]	he brought for them f.

Table 26: Prepositional clitics with the verb *jāb*

Vowel shortening in closed syllables also occurs at the phrase-level; the long vowel /ī/ is shortened in the preposition *fī*. For example, /fī + al-bēt/ ‘in the tent house’, pronounced [filbēt], with the long vowel of /fī/ reduced to [i] and subsequent resyllabification of the utterance resulting with a closed syllable *-fil-*. The long vowel /ā/ of *mā* ‘not’ undergoes the same process, as in: /mā + ištara/ ‘he did not purchase’ is pronounced as: [maštara].

4.4.2 Syncope

Syncope,³⁴ which is a common process in many Arabic dialects, involves deletion of dorsal vowels in unstressed open syllables and subsequent resyllabification. In an initial syllable, syncope of /a/ can also occur. Syncope applies at both the word-level and the phrase-level.³⁵

a) Word-level

The inflected nouns, verbs, and adjectives exhibit /i/ syncope when vowel-initial suffixes are attached to stems ending in -iC. The underlying form /fa.him/ ‘to understand’ is realised as [fah.mit] ‘she understood’, [fah.min] ‘they f. understood’, and [fah.maw] ‘they m. understood’ in WR Arabic (§ 5.2.2.2). Compare (31a), where syncope does not occur, with (31b) where syncope does occur:

(31)	a)	/širib/	[širib]	‘he drank’
		/širib+t/	[širibt]	‘I drank’
		/širib+na/	[širibna]	‘we drank’
	b)	/širib + it/	[šarbit]	‘she drank’
		/širib + ū/	[šarbaw]	‘they m. drank’
		/širib + in/	[šarbin]	‘they f. drank’

The examples in (31b) show that the dorsal vowel is deleted in the verb form /CiCiC/³⁶ and surfaces as [CaCC] before vowel-initial subject suffixes (-it, aw, -in). However, unlike ʕAbbādi Arabic (cf. Sakarna, 1999: 44), it is not realised as [CCiC] before consonant-initial suffixes, as in: *[lʕibt] ‘I played’, *[lʕibna] ‘we played’, *[lʕibtin] ‘you f.p. played’ (see 31a).

The guttural /a/ is not syncopated in the same environment in (31b), consider the following examples (cf. § 5.2.2.2 for detailed discussion):

(32)	a)	/kitab/	[kitab]	‘he wrote’
		/kitab+t/	[kitabt]	‘I wrote’
		/kitab+na/	[kitabna]	‘we wrote’

³⁴ Syncope refers to the deletion of a sound word-medially. Apocope refers to the deletion of a sound word-finally; Aphaeresis refers to the deletion of a sound word-initially (Campbell, 1998: 31-2).

³⁵ Some dialects like BHA involve syncope only across morpheme boundaries, i.e., at the word level (Irshied, 1984: 25).

³⁶ The cognate form of this verb is CaCiC (see 3.2.3). In this respect, the verb undergoes two processes: umlaut before C-initial suffixes, and syncope before vowel-initial suffixes.

b)	/kitab+at/	[kitabat]	‘she wrote’
	/kitab+aw/	[kitabaw]	‘they m. wrote’
	/kitab+in/	[kitabin]	‘they f. wrote’

Similarly syncope occurs in the active participle patterns CāCiC and muCaCCiC when they are attached to vowel-initial suffixes. This can be seen in the following data:

Underlying	m.s	f.s.	m.p.	f.p.	Gloss
/fāhim/	[fā.him]	[fāh.mih]	[fāh.mīn]	[fāh.māt]	be understanding
/rākib/	[rā.kib]	[rāk.bih]	[rāk.bīn]	[rāk.bāt]	rider
/muṣallim/	[mṣal.lim]	[mṣall.mih]	[mṣall.mīn]	[mṣall.māt]	teacher
/mutarjim/	[mtar.jim]	[mtar.jmih]	[mtar.jmīn]	[mtar.jmāt]	translator

Table 27: Active participle patterns CāCiC and mCaCCiC attached to feminine or plural markers

Examples of syncope in the imperfect and imperative include:

(33)	Imperfect		Imperative	‘to wash’	
	/yaḡsil/	[yaḡsil]	-	‘he’	
	/taḡsil/	[taḡsil]	-	‘she’	
	/taḡsil/	[taḡsil]	/ʔiḡsil/	[ʔiḡsil]	‘you m.s’
	/taḡsil-i/	[taḡsli]	/ʔiḡsil-i/	[ʔiḡsli]	‘you f.s.’
	/taḡsil-in/	[taḡslin]	/ʔiḡsil-in/	[ʔiḡslin]	‘you f.p.’
	/taḡsil-u/	[taḡslu]	/ʔiḡsil-u/	[ʔiḡslu]	‘you m.p.’
	/yaḡsil-u/	[yaḡslu]	-	‘they f.p.’	
	/yaḡsil-in/	[yaḡslan]	-	‘they m.p.’	

Where syncope results in a word-medial three consonant cluster, epenthesis may be invoked to repair syllable structure. Consider the following examples:

Imperfect			Imperative		
/taǧsil-i/	[taǧsli ~ taǧisli]	‘you wash 2f.s’	/ʔiǧsil-i/	[ʔiǧsli ~ ʔiǧisli]	‘Wash f.s.!’
/taǧsil-an/	[taǧslan ~ taǧislan]	‘you wash 2f.p.’	/ʔiǧsil-an/	[ʔiǧslan ~ ʔiǧislan]	‘Wash f.p.!’
/taǧsil-u/	[taǧslu ~ taǧislu]	‘you wash 2m.p.’	/ʔiǧsil-u/	[ʔiǧslu ~ ʔiǧislu]	‘Wash m.p.!’

Table 28: Syncope and epenthesis in the verb *ǧasal* in the imperfect and imperative

Woidich (1980a) and Broselow (1992) point out, also reported in Kiparsky (2003), that metathesis takes place through a two-stage process: medial syncope followed by vowel epenthesis into the resulting CCC cluster (CCiC > CCC > CiCC).

Examples of syncope in nominal forms include:

- (34) /ħi'sān/ [ħsān] ‘horse’
 /ħi'jār/ [ħjār] ‘stones’
 /ni'xālah/ [nxālah] ‘bran’
 /mu'faṣṣal/ [mfaṣṣal] ‘elaborate’
 /ru'wāg/ [rwāg] ‘part of the tent’
 /gu'lūb/ [glūb] ‘hearts’

Syncope thus occurs whenever an unstressed non-final light syllable occurs with a dorsal vowel. This phenomenon is also found in some Bedouin Arabic dialects, such as BĤA (Irshied, 1984) and ʕAbbādi Arabic (Sakarna, 1999).

Word-initially, all short vowels may be targeted by syncope. Interestingly, the loss of the initial vowel tends to be compensated by resyllabifying a word of two light syllables to a superheavy syllable through final gemination in the case of stems with final consonants, as in:

- (35) /ši.jar/ CV.CVC [šjarr] CCVCC ‘trees’
 /jizar/ [jzarr] ‘carrot’
 /ʕugad/ [ʕgadd] ‘tangles’
 /baṣal/ [bṣall] ‘onions’
 /juwar/ [jwarr] ‘holes’
 /rukab/ [rkabb] ‘knees’
 /la-hum/ [lhum] ‘theirs’

Words that end in a final light syllable are realised with a glottal stop [ʔ] in pause (§ 4.4.4), as in:

(36)	/ħida/ CV.CV	[ħdaʔ] CCVC	‘shoes’
	/faḏa/	[fḏaʔ]	‘outdoors’
	/raḥa/	[rḥaʔ]	‘grinding stone/mill’
	/ġaṭa/	[ġṭaʔ]	‘cover’
	/la-ha/	[lhaʔ]	‘her’

Syncope results in the resyllabification of the word, shifting stress from the syllable that would have been stressed by the normal stress assignment algorithm onto the head of a new heavy syllable. Consider the following examples:

(37)	/ši.'rib + at/	[ʔsar.bit]	‘she drank’
	/'yaġ.sil + in/	[yaġ.'slin]	‘they f. are washing’
	/mu.'han.dis/	[ʔmhan.dis]	‘engineer’

The above data supports the claim of interaction of stress and syncope in WR Arabic.

b) Phrase-level

Syncope of dorsal vowels, but not of guttural /a/, occurs at the phrase level in WR Arabic when the final syllable is followed by the glottal stop /ʔ/ or a following nominal takes the definite article *al-*, as in:

- (38) a) *šar.fit ad.dal.lih* > *šarf.tad.dal.lih* ‘the first sip of coffee’
 b) *nam.sik as.sa.lag* > *nams.kas.sa.lag* ‘we catch the dog’
 c) *tā.šit al.lah* > *tāš.taš.lah* ‘obedience to Allah’
 d) *mtar.jim ?in.gli.zi* > *mtar.jmin.gli.zi* ‘English translator’
 e) *hā.fid ?ismi* > *hāf.ḏis.mi* ‘he remembered my name’
 f) *wā.kal. aḏ-ḏayf* > *wā.ka.laḏ.ḏayf* ‘he ate with his guest’
 g) *ji.mal ?aš.šal* > *ji.ma.laš.šal* ‘yellow camel m.’

To conclude, syncope is a productive process in WR Arabic at the word-level and the phrase level. It takes place in unstressed open syllables where /i/ and /u/, and in initial position also /a/, may undergo syncopation.

4.4.3 Vowel epenthesis

Epenthesis refers to the process of adding a vowel to break up a cluster of two or three consonants (Crowley, 1997: 43). The function of the epenthetic vowel is to repair an input that does not match the structure of a language, or to allow the syllabification of stray consonants (Hall, 2011: 1576). The location of the epenthetic vowel differs from one dialect to another. For example, the vowel may occur before C_2 or C_3 in a medial $C_1C_2C_3$ cluster. In terms of syllable structure and syllabification patterns, Kiparsky (2003) typologically classifies Arabic dialects into three groups: VC-dialect, CV-dialect, and C-dialect. In CV-dialects (also known in the literature as ‘onset’ dialects, like Cairene Arabic) the epenthetic vowel is inserted between C_2 and C_3 ; in VC-dialects (also known in the literature as ‘coda’ dialects, like Iraqi) the epenthetic vowel is inserted between C_1 and C_2 (Broselow, 1992; Kiparsky, 2003; Watson, 2007); in C-dialects, no epenthesis occurs and triconsonantal clusters are realised. Consider the examples below of CV- versus VC-dialects from Itô (1989) and Kiparsky (2003):

(39)	Cairene	/ʔul-t-l-u/	[ʔul.ti.lu]	‘I said to him’
	Iraqi	/gil-t-l-a/	[gi.lit.la]	‘I said to him’

In light of this approach, WR Arabic is a VC-dialect as it splits CCC cluster by epenthesis to the left of the unsyllabified consonant.

Epenthesis occurs in WR Arabic within stems and across morpheme boundaries. The epenthetic vowel of JA dialects as well as most Arabic dialects (e.g., Egyptian, Iraqi, Lebanese, and Palestinian) is the short unrounded dorsal vowel [i] (Hall, 2011); while in Sudanese (Hamid, 1984), Sanʕani (Watson 2002) and Makkan (Abu-Mansour, 1990, 1991) dialects, the epenthetic vowel is the short guttural vowel [a]. WR Arabic, by contrast, epenthesises [i], [a], and [u].

In BĤA (Irshied, 1984: 54-67), epenthesis depends on the quality of the consonants in the cluster. When the first radical of the cluster word-finally is less sonorant than the second radical in the nominal stem CVCC, epenthesis occurs. Following the Sonorant Hierarchy, [(most sonorous): vowels, glides, liquids, nasals, obstruent (least sonorant)], epenthesis in BĤA takes place when the cluster consists of an obstruent followed by a sonorant word - finally, as in:

(40)	group a)		group b)
	/ħilm/	[ħilm]	‘dream’
	/jamʕ/	[jamʕ]	‘collecting’
	/ħarg/	[ħarg]	‘a burn’
			/dafn/ [dafin] ‘burial’
			/xatm/ [xatim] ‘stamp’
			/ħiml/ [ħimil] ‘load’

Al-Sughayer (1990) provides examples of epenthesis from rural JA. In terms of sonority, he gives the sounds values from one to ten in order to make a scale that shows the sonority value. When the first consonant of the cluster is more sonorous than the second consonant, the dorsal vowel [i] is epenthesized, as in (Al-Sughayer, 1990: 95-100):

(41)	/naʕš/	[naʕiʕ]	‘coffin’
	/šaʕb/	[šaʕib]	‘people’
	/xazg/	[xazig]	‘puncturing’
	/waʕd/	[waʕid]	‘promise’

WR Arabic does not allow consonant clusters word-finally unless the right-most consonant is less sonorant than the left-most consonant, or the second or third radical is a guttural (as will be seen in examples (42) and (44)). With all other cases in which the Sonority Hierarchy is not obeyed, a vowel is epenthesized to break up the consonant cluster.

4.4.3.1 Dorsal front vowel epenthesis

The first more frequent attested type of vowel epenthesis in WR Arabic is the insertion of the dorsal front vowel [i] to break up final consonant clusters in the nominal stems CaCC and CiCC to give CaCiC and CiCiC, respectively, as in:

(42)	/ʔakl/	[ʔakil]	‘food’
	/zaml/	[zamil]	‘ten camels m.’
	/wasm/	[wasim]	‘brand’
	/gabr/	[gabir]	‘grave’
	/najm/	[najim]	‘star’
	/naḍr/	[naḍir]	‘vow’
	/dijn/	[dijin]	‘domestic’
	/ʕidl/	[ʕidil]	‘pannier of flour’
	/gifl/	[gifil]	‘lock’

WR Arabic differs from ʕAbbādi Arabic for which Sakarna (1999) points out that epenthesis is not restricted to violations of the Sonority Hierarchy. He provides examples where the left-most radical of the final consonant cluster is more sonorous than the right most; or where the two consonants share the same degree of sonority; his examples include the following (pp: 40-1):

(43)	/ħilm/	[ħilim]	‘dream’
	/jamʕ/	[jamiʕ]	‘collecting’
	/ħarg/	[ħarig]	‘burn’
	/kabd/	[kabid]	‘liver’
	/kasf/	[kasif]	‘disappointing’

In WR Arabic where C₃ is guttural, [i] epenthesis fails to take place, irrespective of the sonority profile of the cluster, as in:

(44)	/gamħ/	[gamħ]	*[gamaħ]	*[gamiħ]	‘wheat’
	/milħ/	[milħ]	*[milaħ]	*[miliħ]	‘salt’
	/ribħ/	[ribħ]	*[ribaħ]	*[ribiħ]	‘profit’
	/damʕ/	[damʕ]	*[damaʕ]	*[damiʕ]	‘tear’
	/waʕx/	[waʕx]	*[waʕax]	*[waʕix]	‘dirty’
	/šamʕ/	[šamʕ]	*[šamaʕ]	*[šamiʕ]	‘wax’
	/šamġ/	[šamġ]	*[šamaġ]	*[šamiġ]	‘glue’
	/nabʕ/	[nabʕ]	*[nabaʕ]	*[nabiʕ]	‘spring’
	/wajħ/	[wajħ]	*[wajaħ]	*[wajiħ]	‘face’

Thus, final gutturals block epenthesis in WR Arabic. This claim matches with Sakarna (2002: 71, note 18) who claims that in Zawaidih Arabic, CaCC nominal stems whose third radical is guttural block both epenthesis.

By contrast, it is worth noting that rural JA (al-Sughayer, 1990) exhibits epenthesis in the nominal stem CaCC when the final C is a lateral, flap, or pharyngeal, but with the insertion of [u] instead of [i], as in:

(45)	/faʕl/	[faʕul]	‘chapter’
	/gaʕr/	[gaʕur]	‘palace’
	/šarħ/	[šaruħ]	‘explanation’

Al-Sughayer (1990: 133) argues that the application of [i] epenthesis in rural JA is restricted to the context of a following non-emphatic coronal and a preceding pharyngeal, flap, emphatic, velar, lateral, coronal and labial consonant, as in:

(46)	/baḥš/	[baḥiṣ]	‘digging’
	/karš/	[kariṣ]	‘belly’
	/ḥaṣd/	[ḥaṣid]	‘harvesting’
	/wakt/	[wakit]	‘time’
	/jald/	[jalid]	‘whipping’
	/bajd/	[bajid]	‘torn because of high pressure’
	/kabš/	[kabiṣ]	‘ram’

4.4.3.2 Guttural vowel epenthesis

Guttural vowel epenthesis, known as the *gahawah* syndrome (Blanc, 1970: 125), is associated with dialects of Bedouin origin (de Jong, 2007). The *gahawah* syndrome involves the insertion of [a] after the second radical in stems of the forms CaCCa(C) (group a) and CaCC (group b) and is motivated by a constraint against primary gutturals (/ʔ/, /h/, /ʕ/, /ħ/, /x/, /ǧ/) in coda position, as in:

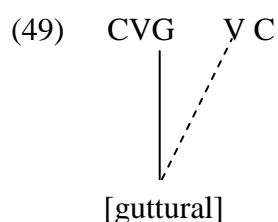
(47) a)	/gahwah/	[gahawah]	‘coffee’
	/naʕjah/	[naʕajah]	‘ewe’
	/daḥlah/	[daḥalih]	‘sand’
	/ṣaxlah/	[ṣaxalah]	‘goat’s kid’
	/baǧlah/	[baǧalah]	‘mule’
	/ʔaʕma/	[ʔaʕama]	‘blind’
	/ʔaʕwar/	[ʔaʕawar]	‘one-eyed’
	/maḥram/	[maḥaram]	‘women part of the hair house’
	/zaʕtar/	[zaʕatar]	‘thyme’
b)	/sahl/	[sahal]	‘plain’
	/šaḥm/	[šaḥam]	‘fat’
	/baʕd/	[baʕad]	‘together’
	/šaʕr/	[šaʕar]	‘hair’
	/taxt/	[taxat]	‘bed’
	/baǧl/	[baǧal]	‘mule’

Examples of the *gawah* syndrome in verb and participle stems can be seen below:

(48)

/yaʕrif/	[yaʕar(i)f]	‘he knows’	/maʕrūf/	[maʕarūf]	‘known’
/yaʕzim/	[yaʕaz(i)m]	‘he invites’	/maʕzūm/	[maʕazūm]	‘invited’
/yaʕzil/	[yaʕaz(i)l]	‘he sorts’	/maʕzūl/	[maʕazūl]	‘isolated’
/yaxdim/	[yaxad(i)m]	‘he serves’	/maxdūm/	[maxadūm]	‘served’

This data is accounted for as vowel insertion motivated by the coda G consonant (CVGC prompts epenthesis) with the epenthesised vowel then takes its feature from the adjacent guttural consonant (cf. diagram (22) in chapter three):



The *gawah* syndrome distinguishes WR Arabic and Negev dialect (Blanc, 1970) from BŞ dialect (Palva, 1980), BĤA (Irshied, 1984), the Ĥwēṭāt dialect (Palva, 1986), and ʕAbbādi Arabic (Sakarna, 1999). The *gawah* syndrome is evidence that WR Arabic should not be classified under the Ĥwēṭāt dialect (as represented by Abu Tāyih subtribe), because the *gawah* syndrome is realised differently in the dialect of the Abu Tāyih subtribe (Palva, 1986). In contrast to WR Arabic, BĤA (Irshied, 1984), the Ĥwēṭāt (Palva, 1986), and ʕAbbādi Arabic (Sakarna, 1999) insert the vowel [a] after the second radical but delete the guttural short /a/ that follows the first radical, i.e., the underlying CaGCa(C) surfaces as CGaCa(C), as in (examples from Irshied (1984) and Sakarna (1999; 2002)):

(50)	/gahwah/	[ghawah]	‘Arabic coffee’
	/baġlah/	[bġalah]	‘mule’
	/saĥlah/	[šĥalah]	‘drinking pot’
	/ṣaxlah/	[ṣxalah]	‘goat kid’
	/šaʕla/	[šʕala]	‘milky colour camel’
	/naʕjah/	[nʕajah]	‘ewe’
	/yaxdim/	[yxadim]	‘to serve’
	/yaġsil/	[yġasil]	‘to wash’
	/yaĥsib/	[yĥasib]	‘to count’

Rakhia (2009: 213) follows Irshied (1984) and Sakarna (1999) in generalizing the claim that JA deletes *all* dorsal short vowels in non-final open syllables; and that the guttural short vowel /a/ is deleted systematically in Bedouin JA when it is followed by a non-final open syllable. The data provided above (47) provide evidence against this assumption. In other words, Rakhia's rule is not applicable to WR Arabic and thus the generalization is false.

The examples further support Sakarna (2002: 74) in that 'neither the generalization of Palva (1986) nor the classifications of Palva (1991) are on the right track'. It also gives evidence that the Zawaidih and Zalabiah tribes belong to WR Arabic which exhibits characteristics that distinguish it from the Ḥwēṭāt dialect. This claim further seems to agree with Sakarna's classification of the region under Eastern and Western Ḥwēṭāt.

4.4.3.3 Dorsal back vowel epenthesis

The third type of vowel epenthesis in WR Arabic involves epenthesising the dorsal back vowel [u] after the second radical word-finally in the nominal stem CuCC to give CuCuC, as in:

(51)	/juħr/	[juħur]	'deep hole'
	/furn/	[furun]	'oven'
	/kuħl/	[kuħul]	'eyeliner'
	/šugl/	[šugul]	'work'
	/xurj/	[xuruj]	'pouch'

Since [u] epenthesis is found only in case the stem vowel is /u/, it appears to result from harmony with the stem vowel. This process is also common in Western Ḥwēṭāt (Sakarna, 2002: 71). [u] epenthesis is common in rural JA, but in this case is motivated by the quality of stem consonants (where C₂ of the consonant cluster is labial) rather than the quality of the stem vowel. Al-Sughayer (1990: 126) gives a number of examples from rural JA in which [u] epenthesis takes place; his examples include:

(52)	/sakb/	[sakub]	'raining heavily'
	/ħarf/	[ħaruf]	'letter'
	/farm/	[farum]	'cutting'

[u] epenthesis is not attested in ṢAbbādi Arabic (Sakarna, 1999: 41). In such environments, ṢAbbādi Arabic resorts to [i] epenthesis instead, as in:

(53)	ʕAbbādi Arabic		WR Arabic	
	/xurj/	[xurij]	/xurj/	[xuruj] ‘pouch’
	/jubn/	[jubin]	/jubn/	[jubun] ‘coward’
	/furn/	[furin]	/furn/	[furun] ‘oven’

Finally, prosthesis of [i], [u], or [a] in WR Arabic occurs in the imperative verb form (§ 5.2.2.2.5). As for [u] epenthesis discussed above, the quality of the prosthetic vowel depends on the quality of the stem vowel. The epenthetic vowel then triggers prosthesis of [ʔ] in order to satisfy the constraint against onset-less syllables in WR Arabic, as in:

(54)	/ktub/	[uktub]	[ʔuktub]	‘Write!’
	/gʕud/	[ugʕud]	[ʔugʕud]	‘Sit down!’
	/rmi/	[irmi]	[ʔirm(i)]	‘Throw!’
	/šrab/	[ašrab]	[ʔašrab]	‘Drink!’

Stress is of interest to Arabic phonologists due to the complex interactions of stress assignment, syllabification, and processes of syncope (§ 4.4.2) and epenthesis. Contrary to Kiparsky (2000: 353) and Kiparsky (2003:161) who claims that epenthetic vowels in VC-dialects are *invisible* to stress, they may be assigned stress in WR Arabic where they head the rightmost visible foot in the word. This suggests that epenthesis occurs prior to stress assignment in this dialect.

(55)	/maḥ.ram/	[ma.ʔa.ram]	‘women’s part of the tent’
	/naʕ.rif/	[na.ʕarf]	‘we know’
	/šaxl/	[ša.xal]	‘kid’
	/ʔaḥ.mar/	[ʔa.ʔa.mar]	‘red’
	/dihn/	[di.hin]	‘fat’
	/jubn/	[ju.ʔun]	‘coward’

4.4.4 Glottal stop /ʔ/ deletion

The glottal stop occurs in all prosodic positions in CA: word-initially, as in *ʔatā* ‘to come’; intervocally, as in *daʔab* ‘to use to’; pre-consonantly, as in *kaʔs* ‘glass’; post-consonantly, as in *badʔ* ‘beginning’; and post-vocally, as in *šahrāʔ* ‘desert’ (Watson, 2002: 18).

The glottal stop /ʔ/ in WR Arabic undergoes a historical change that is typically realized as a process of weakening especially in word-final position, as in: *šaqrāʔ > /šagra/ ‘blonde’, *marīʔ > /miri/ ‘gullet’. However, a final stressed short guttural vowel with a glottal stop [-aʔ] is a pausal variant of /-a/, as in: *rḥáʔ* ‘millstone’, *dwáʔ* ‘medicine’.

In pre-consonantal position, the glottal stop /ʔ/ has been deleted historically with compensatory vowel lengthening, as in: *faʔr ‘mouse’ > /fār/, *baʔs > /bās/ ‘strength’, *faʔl > /fāl/ ‘chance’. In the reflexes of CA and MSA initial hamzated verbs, the glottal stop is not realised word-initially: when the hamzated trilateral verb takes a vowel-initial subject suffix in the perfect aspect, hamzah is not realised: ʔ-x-d > [xaḍat] ‘she took’, [xaḍaw] ‘they m. took’, [xaḍin] ‘they f. took’) (§ 5.2.2.4.2); where the verb takes a consonant-initial suffix or no overt suffix, initial hamzah is realised: [ʔaxaḍ] ‘he took’, [ʔaxaḍt] ‘I/you m.s. took’, [ʔaxaḍna] ‘we took’, [ʔaxaḍti] ‘you f.s. took’, [ʔaxaḍtu] ‘you m.p. took’. In certain verbs, the original initial hamzah has been replaced historically by a glide, such as *w-n-s* from (*ʔ-n-s) ‘to keep company’, *w-k-d* (*ʔ-k-d) ‘to ascertain’, *w-l-f* (*ʔ-l-f) ‘to accustom’. Hamzah is retained intervocally where the preceding vowel is short, as in: *saʔal ‘to ask’ > /saʔal/, *raʔas ‘to head’ > /raʔas/, *raʔīs ‘head of’ > /raʔīs/, *laʔīm ‘bad’ > /laʔīm/; where the preceding vowel is long, original hamzah is replaced by a glide *ḥafāʔiḍ ‘fire stones’ > /ḥafāyiḍ/, *māʔil ‘inclined’ > *māyil*.

4.5 Concluding remarks

This chapter has examined the major prosodic phonological features of WR Arabic in terms of its syllable structure, the phonotactics of consonant clusters, and stress rules. Metrical Stress Theory (Hayes; 1995) has been adopted in analysing stress patterns. Vowel shortening, syncope, epenthesis, and glottal stop deletion are outlined in this chapter. The *gahawah* syndrome is investigated under epenthesis, here providing evidence that WR Arabic should not be classified under the Ḥwēṭāt dialect as claimed by Palva (1986, 1991).

Chapter five

Verbal morphology

5.1 Introduction

Chapters five and six describe WR Arabic morphology and grammatical categories. Grammatical categories refer to parts of speech, including: nouns, verbs, modifiers, prepositions, adverbs, and minor categories (such as particles, conjunctions, and adjuncts). Morphological categories usually refer to person, number, gender, case, definiteness, degree, tense/aspect, and mood. The morphology of WR Arabic is investigated in two sections; I examine the verbal morphology of WR Arabic in this chapter, and consider the non-verbal morphology in chapter six.

5.1.1 Introductory remarks

Morphology is the branch of linguistics that studies the internal structure of the meaningful parts of words and their patterns of occurrence within the word (Allerton, 1979: 47). Words have identifiable structure; it is recognized that words fall into two classes: simple which has the minimal meaningful unit, and complex which may be broken down into meaningful parts. Every basic unit that together with the other units makes up the internal structure of a word is referred to as a *morpheme* (Akmajian et al, 2001). Thus, morphology is the area of linguistics that explains how words are formed from morphemes. In turn, morphemes are categorized into free morphemes, which can stand alone, and bound morphemes, which cannot stand alone and must be attached to another morpheme(s). In turn, simple words are free morphemes while complex words consist of two morphemes or more.

It is well established that words occur in different forms/shapes. By convention, morphology covers the study of the collection of units (root and affixes)³⁷ that are constructed to change the word form as well as the rules that account for such kinds of change. In this respect, one might judge that X language has a more complex morphology than Y language (Bauer, 1988).

³⁷ Affixation is the process of adding a bound morpheme to a free morpheme attached in front (prefix) or at the end (suffix) of a stem. The combination of a prefix and a suffix is called a circumfix. The infix is an affix where the placement is defined in terms of some phonological conditions. Reduplication requires copying of some portion of the stem. It can be complete or partial (prefixal, infixal, or suffixal reduplications). Infixation and reduplication are non-concatenative morphological processes.

5.1.2 Historical background on Arabic morphology

The study of morphology, for which the closest Arabic term is *ṣarf*, was of interest to ancient Arabic linguists. Volume II of Sibawayh's *al-Kitāb* is confined to study internal word structure. Afterwards, a number of grammarians devoted special parts in their works to study words (e.g. Zajjāji, *Jumal*; Jurjāni *Muqtaṣid*; Mubarrad *Maqtaḍab*; Ibn ʿUṣfūr *Mumtiʿ fi t-Taṣrīf*; Ibn Yaʿīṣ, *Šarḥ al-Mulūki*; Ibn as-Sarrāj, *Mawjaz*). The most important of these were those of Ibn Jinni, *al-Munṣif*, *Sirr šināʿat al-ʿIṣrāb*, and *Xaṣāʾiṣ*. Ibn Jinni gives a clear division between morphology and syntax in Arabic pointing out that *ṣarf* 'morphology' deals with *al-kalim* 'the fixed form of words', whereas *naḥu* 'syntax' deals with words at the sentential level. In his book *al-Munṣif*, Ibn Jinni pointed out that the study of *ṣarf* 'morphology' must precede the study of *naẓm* 'syntax' because the word structure provides the basic ground of understanding the syntactic level of the sentence (*al-Munṣif*, I: 4 edited by Ibrāhīm Muṣṭafa and ʿAḥmad ʿAmīn: 1954).

The word *ṣarf* literally means 'divert, change'. The term *taṣrīf* 'distribution' in its linguistic sense is translated as 'morphologization' (Owens, 2000: 68). *Taṣrīf* correlates with the relation between root and affixes (non-root), while *ištiqāq* is associated with the concept of hierarchy of the categories within a *wazn* 'pattern' (also known as prosodic templates). For example, 'a less basic form can be derived from a more basic one' (ibid: 68). This illustrates why Ibn ʿUṣfūr in his book (*Šarḥ*: I. 53f.) claims that an adjective is less basic than a noun, so the adjective is derived from the noun and not vice versa. In this respect, *taṣrīf* is 'inflection', as in: *katab*, *yaktub*, *taktub*, *katabū*, etc, and *ištiqāq* is 'derivation', as in: *katab*, *kitāb*, *maktab*, *kātib*, etc.

The basic unit that the Arabic grammarians (e.g. Sibawayh, *al-Kitāb*; Zajjāji, *Jumal*; Jurjāni, *Muqtaṣid*; Ibn Jinni, *al-Munṣif* and *Sirr šināʿat al-ʿIṣrāb*) identify is the *jadʾ* or *ʾaṣl* 'consonantal root' that they represent with the symbols *f-ʿ-l*, as compared with *zāʾid* 'non-root/added element'; the distinction between root and non-root elements is clear; for instance, *yaktub* 'he writes' has the consonantal root *k-t-b*, and *y-* is an added element. The short vowels do not appear in the root template, but they are recognised in the *wazn* or *bināʾ* 'measure/melody'; therefore, the *wazn* of *yaktub* is *yafʿul*. The meaning of the new item depends on the correlation between the *wazn* 'measure' and the affixed sound. That is to say, the meaning is the combination of the root and the affixed elements, as in: *daras* (faʿʿal) 'he

studied' vs. *darras* (faʕʕal) 'he taught' or *dāras* (fāʕal) 'he studied with'; the gemination of /r/ and the lengthening of /a/ add new meaning to the root.

5.1.3 Concatenative and non-concatenative morphology

Studies on morphology usually focus on two issues: derivational morphology working with word formation or derivation which involves the creation of one lexeme³⁸ from another and inflectional morphology working with the processes that interact with syntax to express grammatical contrast or categorical markers to show gender, number, case, tense, and such. Inflection involves the formation of grammatical forms of a single lexeme (singular, dual, plural, present, past, masculine, feminine, etc.). The words that belong to the same lexical family are referred to as its *derivatives* (*muštaqqāt*). As a procedure, derivation seems to be processed prior to inflection since it is responsible for creating lexical entries while inflection seems to work with word stem modification (Watson, 2002; Ryding, 2005).

There are two principal types of morphological operation: concatenation and non-concatenation. Concatenation works by adding prefixes, suffixes, and infixes to the word stem, and non-concatenation alters the stem of the word through different templates, infixation or vowel change. Following Ratcliffe (1990) and Watson (2002), the morphology of Arabic works at two levels. Level one, which realises derivational morphology, is typically non-concatenative, and level two, which realises inflectional morphology, is typically concatenative. However, non-concatenative processes also produce some inflectional forms, notably broken plurals of nouns and adjectives, and the elative from basic adjectives.

Several criteria have been suggested to distinguish between inflectional and derivational processes to decide whether an affix is inflectional or derivational. Firstly, inflectional morphology has compositional (fixed) meaning, i.e., it does not change the core lexical meaning of the word to which the inflectional affixes apply. By contrast, derivational morphology changes the word category and/or its meaning; although the meaning of a basic lexeme and its derivatives are related, they cannot be said to mean the same thing in the way that a word and its inflectional forms do. Derivation produces a different grammatical category or a different lexical meaning, as in:

³⁸ A lexeme is a word with a specific sound and a specific meaning. Its shape may vary according to the syntactic context where it is used (Aronoff and Fudeman, 2005: 43).

Inflection	<i>ṭalab</i> (V)	‘to ask’
	<i>yaṭlub</i> (V)	‘he asks’
	<i>taṭlub</i> (V)	‘she asks’
	<i>ṭalabu</i> (V)	‘they m. asked’
	<i>yaṭulbu</i> (V)	‘they m. ask’
Derivation	<i>ṭalab</i> (V/N)	‘to ask; application’
	<i>tiṭallab</i> (V)	‘to impose a lot of conditions’
	<i>ṭālib</i> (AP)	‘student; one who asks for sth’
	<i>ṭwēlib</i> (Dim. N)	‘student’
	<i>ṭlēb</i> (Dim. N)	‘application; demand’
	<i>ṭulbah</i> (VN)	‘asking for the bride’s hand’
	<i>maṭlūb</i> (PP)	‘wanted’
	<i>ṭallāb</i> (Intensive AP)	‘one who asks for the bride’s hand on behalf of bridegroom’
	<i>ṭilbih</i> (Adj)	‘betrothed’
	<i>ṭlābih</i> (VN)	‘need; demand’
	<i>ṭalabiyyih</i> (VN)	‘order’

Table 29: Examples of inflectional and derivational processes from WR Arabic

In the examples above, inflectional affixes have a regular meaning, i.e., the meaning of the whole word equals the sum of the meaning of its components. We can consider that the difference in meaning between the inflectional affix; for example, the 3m.s. affix *ya-* in *yaṭlub* ‘he asks’ and the base form as in: *ṭalab* ‘to ask’ is always the same. But, we are not able to capture a fixed change in the meaning caused by a derivational affix, for example *ṭalab* ‘to ask; application’, and *ṭālib* ‘student’. Derivational morphology marks lexical or grammatical distinctions; in this example, the meaning of the whole word cannot be composed from the sum of the meanings of its components. The examples provided for derivation involve a change of categories (noun, verb, adjective, active participle, passive participle, diminutives, etc.) and/or a change of lexical meaning, as in: ‘to ask’, ‘student’, ‘application’, ‘wanted’, ‘betrothed’, ‘demand’, and ‘order’.

5.1.4 Root and pattern in the morphological system of WR Arabic

Root-and-pattern is the basic morphological principle that Arabic shares with other Semitic languages (Holes, 2004: 99; Ussishkin, 1999),³⁹ and has widely been recognised for its centrality in word formation of such languages. The fundamental feature of Arabic derivational morphology is that the verbal root exhibits ‘morphosemantic’ patterns (Holes, 2004: 100). The Semitic verbal root, as defined by Vernet (2011: 2), is ‘a radical morpheme whose constituent elements cannot be combined arbitrarily but are subject to specific combinatory sequences’. Payne also defines root as, ‘an unanalyzable form that expresses the basic lexical content of the word’ (Payne, 1997: 24). In the consonantal root, each separate consonant is referred to as a radical shared by all its derivatives, overlapping with vocalic patterns and certain other consonants to form words, or word stems; i.e., to form words, vowels are superimposed on the consonantal pattern. Words with the same root commonly have related meanings. The vowels and affixes match the Arabic concept of pattern. For example, the triconsonantal root *l-ʕ-b* ‘to play’ in (1) has the following stem forms in WR Arabic, among others:

- | | | |
|-----|---------------|----------------------------------|
| (1) | <i>liʕib</i> | ‘to play’ |
| | <i>lāʕab</i> | ‘he played with’ |
| | <i>laʕʕab</i> | ‘he made (cause) someone played’ |
| | <i>lāʕib</i> | ‘player’ |
| | <i>luʕab</i> | ‘toys’ |
| | <i>liʕʕīb</i> | ‘skilled player’ |
| | <i>malʕab</i> | ‘court; pitch’ |

New stems with the root *l-ʕ-b* have been derived through the process of modifying the pattern and/or internal vowels. For example, the word *malʕab* ‘court’ comprises a root *l-ʕ-b* associated

³⁹ The issue of *root-and-pattern* principle remains controversial in Arabic morphological theory. Two major opposing approaches on Arabic morphology are proposed. The first one, the morpheme-based theory, argues for roots and patterns as the basis of word formation (e.g., McCarthy, 1981). The second theory, the stem-based theory, claims that derivations are a stem- or word-based (e.g., Ratcliffe, 1997; Benmamoun, 1999). This approach assumes that words are represented and accessed as whole units. Therefore, theories of Arabic morphology argue for word structure from two points of view: the first one considers the patterns essential in word formation where they overlap with roots to form words, whereas the second one supports the claim of overlapping between stems and affixes in word formation.

with the activity of ‘playing’, and a pattern maCCaC, associated with the place where the activity is carried out. Therefore, a word is not derived from another word, but from a root schemed with a specific pattern template.⁴⁰

The procedure of a word-internal vowel change that indicates grammatical variation is known as ‘introflexion’,⁴¹ or ‘ablaut’ (Ryding, 2005: 46). The stem *liʕib* in (1) may also have inflectional affixes as: *yalʕab* ‘he plays’, *laʕbit* ‘she played’, among others. The data shows that root and pattern are interacting components in the meaning of a word. This may be best presented by the definitions provided by Ryding (2005: 47):

A root is a relatively invariable discontinuous⁴² bound morpheme, represented by two to five phonemes, typically three consonants in a certain order, which interlocks with a pattern to form a stem and which has lexical meaning. (Riding, 2005: 47)⁴³

A pattern is a bound and in many cases, discontinuous morpheme consisting of one or more vowels and slots for root phonemes (radicals), which either alone or in combination with one to three derivational affixes, interlocks with a root to form a stem, and which generally has grammatical meaning. (Ryding, 2005: 48)

Thus, roots and patterns cannot exist independently: a root is an ordered set of consonants; the pattern is a template into which vowels and consonants are inserted.

5.1.5 Word structure

In the non-concatenative morphology (McCarthy, 1986; Watson, 2002), the set of morphemes (tiers) is formalized as the ‘interdigitation’ of four components: the consonantal root (consonantal melody), the templatic pattern (prosodic pattern), the vocalic melody, and the affixes. The first three components are presented as discontinuous morphemes of a content word. The vocalic melody marks variations in verbs and nouns, for example, voice in verbs, agentive relations in nouns derived from verbs, and in a few cases number/(singular-plural) in nouns. Following this discussion, the stem *liʕib* has three morphemes as follows:

⁴⁰ According to stem-based analysis *malʕab* is derived from *liʕib* ‘to play’ not from the root.

⁴¹ It refers to the notion that inflection takes place not only by affixes but also by restructuring the word. (Zamánek, 2009).

⁴² Root is defined as ‘discontinuous’ since vowels can be intervened between the consonants. As well, the pattern is defined as ‘discontinuous’ because it intervenes itself among the root consonants (Ryding, 2005: 47-8).

⁴³ Ryding pointed out that the definitions of root and pattern are from Professor Wallace Erwin.

l	ʃ	b	root	‘play’
C	V	C	pattern	perfect
i	i		vocalic melody	active

In terms of the fourth type, the word then acts as a stem for grammatical affixes such as person/gender/number markings for example, the 3f.s. suffix *-it* in *laʃbit* ‘she played’:

l	ʃ	b	root	‘play’
C	V	C	pattern	perfect
a			vocalic melody	active
	i	t	affix	3f.s.

In order to fold Cs and Vs and then the affixes, these four morphological tiers are subject to Tier Conflation (McCarthy, 1986, after Younes, 1983; cf. also Watson, 2002), as below:

C	V	C	C	V	C	
l	a	ʃ	b	i	t	‘she 3f.s. played’

5.2 Verbal morphology

This section examines the verbal morphology of WR Arabic under derivation and inflection. The discussion covers the derived patterns of strong and weak verb, the morphosemantics of each pattern, morphophonological processes, and then verb inflection for aspect, mood, tense, person, number, gender and voice.

5.2.1 Verbal derivation

The majority of verbs in WR Arabic have three root consonants, some have two consonants with a doubled second radical, as in: *ʕadd* ‘to count’ from the root *ʕ-d-d*, and a few verbs have four root consonants, as in: *dahgan* ‘to fall down’, from the root *d-h-g-n*. All the derived forms of a basic lexeme are related to the central meaning of the root. For example, the lexical root *l-ʕ-b* produces different forms of the verb that are related to the process of playing: Form I *liʕib* ‘to play’; Form II *laʕʕab* ‘to cause/make someone play’; Form III *lāʕab* ‘to play with’; Form VI *tilāʕab* ‘to play behind, manipulate’; Form VII *anlaʕab* ‘to be played’.

5.2.1.1 Strong and weak verbs

The Arabic verb is subcategorized into *ṣaḥīḥ* ‘strong’ (a verb that does not have /w/ or /y/ among its radicals), and *muʕtall* ‘weak’ (where /w/ or /y/ is one of the three radicals). The former is also subdivided into *sālim* ‘completely strong/sound/regular’ (consisting of three different radicals, none of which are /w/, /y/, or /ʔ/), *mahmūz* ‘hamzated’ (where one of the three radicals is /ʔ/), and *muḍaʕʕaf* ‘doubled/geminate’ (where $C_2 = C_3$). The weak verb is subdivided, according to the position of the /w/ and /y/ in the root, into four types *miṭāl* ‘assimilated’⁴⁴ ($C_1 = /w/$ or $/y/$), *ʔajwaf* ‘hollow’⁴⁵ ($C_2 = /w/$ or $/y/$), *nāqiṣ* ‘defective’ ($C_3 = /w/$ or $/y/$), and *lafīf* ‘doubly weak’ (the root includes both of /w/ and /y/, or one of them together with /ʔ/) (Larcher, 2009: 645; Ryding, 2005: 430-1). Adopting this classification, table (30) summarizes these verb subcategories and provides illustrative examples from WR Arabic:

⁴⁴ They are called ‘assimilated’ because the initial /w/ and /y/ disappear in some verb forms.

⁴⁵ They are called ‘hollow’ because they may change into a long vowel leaving C_2 unrealised.

Strong Verb			Weak Verb		
sound	š-r-b	<i>širib</i> ‘to drink’	assimilated	w-r-d y-b-s	<i>wirid</i> ‘to bring water’ <i>yibis</i> ‘to dry’
hamzated	ʔ-x-d ʔ-s-r r-ʔ-s š-d-ʔ	<i>ʔaxad</i> ‘to take’ <i>ʔisar</i> ‘to capture’ <i>riʔas</i> ‘to head’ <i>šida</i> ~ <i>šadda</i> ⁴⁶ ‘to rust’	hollow	s-y-l b-w-g	<i>sāl</i> ‘to flow’ <i>bāg</i> ‘to steal’
geminate (doubled)	b-l-l	<i>ball</i> ‘to wet’	defective	ṭ-n-y d-n-w	<i>ṭina</i> ‘to drape’ <i>dina</i> ‘to approach’
			doubly weak	w-ṣ-y ṭ-w-y s-w-w ʔ-b-y j-y-ʔ w-ṭ-ʔ	<i>waṣa</i> ‘to realize’ <i>ṭuwa</i> ‘to fold’ <i>sawwa</i> ‘to do’ <i>ʔaba</i> ‘to refuse’ <i>ja(ʔ)</i> ‘to come’ <i>wuṭa</i> ‘to tread’
			trebly weak (hamzated doubly weak) ⁴⁷	ʔ-w-y	<i>ʔawa</i> ‘to betake to’ <i>ʔāwa</i> ‘to betake oneself to’

Table 30: Strong and weak verb subcategories in WR Arabic

There are a few cases of weak quadrilateral verbs (intrusive or defective), such as: *barwaz* ‘to frame’, *malyan* ‘to become rich’, *harwal* ‘to run slowly’, *taḥaywan* ‘to conduct stupidly’, *tuwaldan* ‘to be childish’, *tikaswar* ‘to crumble’, *timarka* ‘to lean on’.

In order to exemplify patterns in WR Arabic, a model CV pattern is adopted so that any pattern is declined by fitting into it. This procedure is used not only to refer to verb forms, but also refers to any template or word pattern throughout this chapter. Tables 31 and 32 contain the paradigm of completely strong verb forms in WR Arabic provided with some attested examples, also designated by roman numerals:

⁴⁶ We dealt with verbs like *šida* ‘to rust’, *gara* ‘to read’, *wuṭa* ‘to set foot on’ etc. with reference to their cognate historical form as hamzated rather than their synchronic realization as final weak.

⁴⁷ For the name ‘trebly weak’, see Wright (1974: I, 95); hamzated doubly weak (Janet C.E. Watson, p.c.)

No	Form	Root	Example	Gloss
I	C ₁ aC ₂ aC ₃	b-r-k	<i>barak</i>	‘to sit’
	C ₁ iC ₂ aC ₃	f-t-ḥ	<i>fiṭaḥ</i>	‘to open’
	C ₁ iC ₂ iC ₃	š-r-b	<i>širib</i>	‘to drink’
	C ₁ uC ₂ aC ₃	r-m-ḥ	<i>rumaḥ</i>	‘to jump’
II	C ₁ aC ₂ C ₂ aC ₃	r-k-b	<i>rakkab</i>	‘to help someone ride’
III	C ₁ āC ₂ aC ₃	j-m-l	<i>jāmal</i>	‘to flatter’
IV	aC ₁ C ₂ aC ₃	g-r-ḏ	<i>agraḏ</i>	‘to lend’
V	t-C ₁ aC ₂ C ₂ aC ₃	k-t-m	<i>tikattam</i>	‘to hold a secret’
VI	t-C ₁ āC ₂ aC ₃	s-m-r	<i>tisāmar</i>	‘to spend the evening’
	t-C ₁ ōC ₂ aC ₃	n-m-s	<i>tinōmas</i>	‘to be proud’
VII	anC ₁ aC ₂ aC ₃	k-s-r	<i>angaṭam</i>	‘to be broken’
VIII	aC ₁ taC ₂ aC ₃	ġ-n-m	<i>aġtanam</i>	‘to take advantage of’
X	astaC ₁ C ₂ aC ₃	n-j-d	<i>astanjad</i>	‘to seek help’

Table 31: Triliteral verb forms in WR Arabic

No	Form	Root	Example	Gloss
I	C ₁ C ₂ C ₃ C ₄	d-f-l-j	<i>daflaj</i>	‘to run quickly’
	C ₁ C ₂ C ₁ C ₂	š-ṣ-š-ṣ	<i>šaṣṣaṣ</i>	‘to shine’
	C ₁ C ₂ C ₁ C ₃	s-m-s-r	<i>samsar</i>	‘to broke; be middleman’
II	t-C ₁ C ₂ C ₃ C ₄	l-ṣ-ṭ-m	<i>tilaṣṭam</i>	‘to stutter’
	t-C ₁ C ₂ C ₁ C ₂	m-l-m-l	<i>timalmal</i>	‘to fidget’
	t-C ₁ C ₂ C ₁ C ₃	s-ḥ-s-l	<i>tisaḥsal</i>	‘to fall down smoothly’
	t-C ₁ C ₂ C ₃ C ₁	f-l-s-f	<i>tifalsaf</i>	‘to philosophize’
	t-maC ₁ C ₂ C ₃	m-r-j-l	<i>timarjal</i>	‘to want scuffle’
	t-C ₁ C ₂ C ₃ an	ġ-š-m-n	<i>tagašman</i>	‘to act stupid’

Table 32: Quadriliteral verb forms in WR Arabic

Verbs are distinguished from other parts of speech by taking one basic verbal pattern and a number of regular derivative patterns. Form I, known in Arabic as *mujarrad* ‘the stripped verb’, is understood as being the basic and the simplest form. The other forms are more

complex and are referred to as *mazīd* ‘augmented’ verbs.⁴⁸ It is important to know that not all forms apply to the same lexical roots. Some roots associate with five, six, or even seven forms, but no root associates with all forms. The tables show all forms in the unmarked 3m.s. active past tense. For the quadrilateral verb where a root or stem has four original consonants (also known as basic quadrilateral), another C is added to give the pattern C₁aC₂C₃aC₄, as in: *dahbar* ‘to make a ball’ from *d-ḥ-b-r* has the templatic pattern C₁aC₂C₃aC₄. Where root consonants are repeated, the equivalent root radical is also repeated. Two types are attested: single-radical reduplicatives, as in: *sahsal* ‘to fall down smoothly’ has the templatic pattern C₁aC₂C₁aC₃, and twin-radical reduplicatives, as in: *šafšaf* ‘to rise/become clear’ has the templatic pattern C₁aC₂C₁aC₂.

Form I has four sub-patterns in WR Arabic: C₁aC₂aC₃, C₁iC₂aC₃, C₁iC₂iC₃, and C₁uC₂aC₃; they differ by interdigitating the vowels following the first and/or the second radical. The CA active ~ deponent ~ qualitative distinction between Form I verbs marked by the right-most stem vowel, *-a-* ~ *-i-* ~ *-u-*, as in: *kataba* ‘to write’ ~ *laʿiba* ‘to play’ ~ *karuma* ‘to become generous’ is no longer present in WR Arabic; rather it leaves traces in some forms, e.g. CA *šarib* ‘to drink’ is realised in WR Arabic as *širib*, *kabur* ‘to grow’ is realized as *kibir*.⁴⁹ As can be seen from table 31, the internal vowel system of the basic Form I verbs has been determined by phonological changes as certain restrictions are enforced on the occurrence of the short vowels /a/, /i/, or /u/ (§ 3.2.2; 3.2.3). Form VI of the sound verb also has two subpatterns: t-C₁āC₂aC₃ and t-C₁ōC₂aC₃.

The patterns are understood to be augmented forms of the basic Form I verb. They are derived via: second radical gemination (Forms II and V); prefixation of *ti-/ta-* (Forms V and VI), *an-* (Form VII), *a-* (Forms IV and VIII), and *ast-* (Form X); lengthening of the vowel between the first two radicals (Forms III and VI); and infixing *-t-* immediately after the first radical (Form VIII). One of the subpatterns of Form VI is derived by prefixing *ti-* and suffixing *-an*, also producing one of the subpatterns of the quadrilateral verb forms. CA Form IX (iC₁C₂aC₃C₃) is not used in the dialect, but has been replaced either by the periphrastic use of *gada* or *šār* ‘to become’ + the adjective pattern *ʔaC₁C₂aC₃*; so CA *iḥmarr* ‘to turn/become red’ is realised in

⁴⁸ Retsö (2011: 797) refers to the stem with doubled C₂ and the stem with a long vowel after C₁ as derived and the others as augmented.

⁴⁹ cf. also Naïm (2011: 929) for dialects of the Levant.

WR Arabic as *gada ʔah(a)mar*;⁵⁰ alternatively Form VII (anC₁aC₂aC₃), or sometimes Form V (tiC₁aC₂C₂aC₃) in the case of colours is used where Form IX would be used in CA, as in *anḥawal* ‘to be squint-eyed’ instead of CA *iḥwall* and *ansuwad* or *tisawwad* ‘to turn black’ instead of CA *iswadd*. One of the traits shared by forms VII, VIII, and X is the stable occurrence of the word-initial /a/ in the perfect form.

The quadriliteral verb forms⁵¹ are derived by extending the trilateral verb radicals: through adding a new radical in C₄ position, as in: *daflaj* ‘to run quickly’, repetition of C₁ in C₃ position, as in: *samsar* ‘to broker’, reduplication of C₁ and C₂ in C₃ and C₄ positions,⁵² as in: *ḍahḍah* ‘to appear; float to the surface’, or addition of /n/ as C₄, as in: *tahablan* ‘to act stupid’. In Form II quadriliteral verbs, the addition of final /n/ is common in denominative verbs, as in: *tifarʕan* ‘not to obey’ from *firʕawn* ‘Pharaoh’, *taḥamran* ‘to behave stupidly’ from *ḥimār* ‘donkey’, and the addition of /m/ as C₁, as in: *timašṭar* ‘to dodge/fudge’ from *šāṭir* ‘skilful’ *timarjal* ‘to show his strength’ from *rajul*.

Below, table 33 gives examples of strong and weak verbs covering all verb forms of WR Arabic.

⁵⁰ Exclusively the verb *ḥamraṭ* is used instead of *iḥmarr*, and *ṣafran* instead of *iṣfarr*.

⁵¹ Reduplicated quadriliteral roots are derived from particular sounds or repeated motions, i.e., they are considered to be onomatopoeic (Ryding, 2005: 432).

⁵² It is referred to as twin-radical reduplicatives (Asiri, 2009: 177).

Form	sound	doubled	hamzated	assimilated	hollow	defective
I	<i>barak</i> ‘to kneel’	<i>ball</i> ‘to wet’	<i>šida</i> ‘to rust’	<i>yibis</i> ‘to dry’	<i>bāg</i> ‘to steal’	<i>ṭina</i> ‘to drape’
II	<i>rakkab</i> ‘to help someone ride’	<i>fattat</i> ‘to flake’	<i>ʔajjar</i> ‘to let’	<i>wazzan</i> ‘to scale’	<i>dayyan</i> ‘to lend’	<i>ṭanna</i> ‘to marry a second wife’
III	<i>jāmal</i> ‘to flatter’	<i>ḥāḥab</i> ‘to kiss each other’	<i>ʔāman</i> ‘to believe’	<i>wāṣal</i> ‘to continue’	<i>dāwam</i> ‘to go work’	<i>dāna</i> ‘to approach’
IV	<i>ajbar</i> ‘to force’	<i>(a)barr</i> ‘to obey his parents’	<i>ʔājar</i> ‘to participate in funeral’	<i>awlām ~ ḍlām</i> ‘to prepare feast’	<i>agāl</i> ‘to fire’	<i>agfa</i> ‘to go away’
V	<i>tikattam</i> ‘to keep a secret’	<i>tiraddad</i> ‘to hesitate’	<i>taʔallam</i> ‘to suffer’	<i>tuwajjaṣ</i> ‘to suffer’ <i>tiyassar</i> ‘to be solved’	<i>tijawwad</i> ‘to take care’	<i>tisalla</i> ‘to entertain’
VI	<i>tijādal</i> ‘to argue with’	<i>tirāṣaṣ</i> ‘to close the gaps’	<i>taʔākal</i> ‘to erode’	<i>tuwāzan</i> ‘to outweigh’ <i>tiyāman</i> ‘to start from the right’	<i>tišāwar</i> ‘to consult’	<i>tirāxa</i> ‘to slacken’
VII	<i>ankasar</i> ‘to be broken’	<i>aṇḍamm</i> ‘to join’	<i>ansaʔal</i> ‘to be asked’	<i>anwalad</i> ‘to be born’	<i>anduwar</i> ‘to daze’	<i>angila</i> ‘to be fried’
VIII	<i>aḡtanam</i> ‘to take advantage of; exploit’	<i>aštadd</i> ‘to get worse; to feel strong’	<i>altaḍam</i> ‘to heal’	<i>attaṣaḡ</i> ‘to pay attention’	<i>ariāḥ</i> ‘to take a rest’	<i>aḡtana</i> ‘to become rich’
X	<i>astagraḡ</i> ‘to borrow’	<i>astaṣadd</i> ‘to get ready’	<i>astaʔjar</i> ‘to hire’	<i>astawrad</i> ‘to import’	<i>astamwat</i> ‘to do his best’	<i>astahada</i> ‘to be guided’
QI	<i>daflaj</i> ‘to run’	-	<i>ʔasfan</i> ‘to backbite’	<i>walwal</i> ‘to squeal’	<i>barwaz</i> ‘to frame’	
QII	<i>tilaṣṭam</i> ‘to stutter’	-	<i>taʔamrak</i> ‘to be American’	<i>tuwaldan</i> ‘to be childish’	<i>taḥaywan</i> ‘to conduct stupidly’	<i>timarka</i> ‘to lean on’

Table 33: Strong and weak verbs by verb form for WR Arabic

5.2.1.2 Morphosemantics

A pattern carries a semantic meaning which modifies the meaning of the lexical root and distinguishes itself from the other derived patterns. For instance, Form II typically denotes causative/transitive function; may change an intransitive verb into transitive, as in: Form I verb *kibir* ‘to grow’ vs. Form II verb *kabbar* ‘to enlarge’, or a transitive verb into a causative, as in: *širib* ‘to drink something’ vs. *šarrab* ‘to cause/help somebody drink’. Form III usually involves making an effort by two or more entities participating to achieve the meaning implied in Form I, as in: *lāṣab* ‘to play with/together’, so it is commonly considered to hold associative meaning.⁵³ Form IV, one of the common derivative patterns in Bedouin dialects, gives a factitive or causative meaning to the root, as in: *arsan* ‘to leash’, *aḏhar* ‘to reveal’). Form V, which is almost invariably intransitive, describes the effect of an action on the subject and mainly functions to derive the passive/medio-passive or reflexive of Form II, as in: Form II *ṣaddal* ‘to change’ vs. *taṣaddal* ‘to be changed’. Form VI is related with Form III in the same way as Form II is related with Form V, as in: *ṣāḷaj* ‘to treat/cure’ vs. *taṣāḷaj* ‘to be treated’. Where Form III indicates participation, Form VI indicates reciprocity. However, Form VI may have meanings other than that mentioned above, including the process of continuity or repetition, as in: *tifāgam* ‘to continue getting worse’. Form VII usually conveys the passive of the meaning implied in Form I. It focuses on the action and not the doer of the action, as in: *fišax* ‘to kick’ and *anfašax* ‘to be kicked’; Form VIII often conveys the reflexive of Form I. This sense is similar to that of Forms V and VII, as in: *nihad* ‘to make something stand up’ vs. *antahaḏ* ‘to stand up’, or the sense of passivity; *raḥam* ‘to bless’ vs. *artaḥam* ‘to pass away’. Form X most often involves asking for something, as in: *astaḡfar* ‘to seek forgiveness’. Further, Form X may convey estimative or educative meanings (cf. Watson, 1993: 442 for Ṣanṣāni; Cowell, 1964: 244 for Syrian). They are estimative when derived from adjectives, as in: *bišīd* ‘far’ vs. *astabṣad* ‘to consider something far’, and educative when derived from transitive verbs, as in: *fitah* ‘to open’ vs. *astaftah* ‘to start with’. Some trilateral verbs in derived forms are derived from foreign borrowings, as in: *ḡaršaf* ‘to archive’, *sayyaf* ‘to save’, *šayyak* ‘to check’.

The verb Form I of quadriliteral verb describes the effect of an action on an entity, as in: *dahraj* ‘to roll down’, and sometimes it intensifies the effect of an action, as in: *gargaṭ* ‘to eat

⁵³ Danks (2011: 137) defines its role as mainly ‘mutual’, whereas Holes (2004: 102) refers to them as ‘conative’.

everything’, *zangal*⁵⁴ ‘to become rich’. The quadrilateral Form II has a reciprocal/reflexive/passive meaning in relation to quadrilateral Form I, as in: *barṭal* ‘to bribe somebody’ vs. *tibarṭal* ‘to be bribed’. Quadrilateral verbs of the patterns *t-maC₁C₂aC₃* and *t-C₁aC₂C₃an* most often are produced to criticize somebody who pretends to do something; they indicate being ignorant, naughty and silly.⁵⁵ Some quadrilateral verbs are derived from foreign loanwords as in *talfan* ‘to call’ (from telephone), *maknak* ‘to fix’ (from mechanic), *kansal* ‘to cancel’, *fasfas*⁵⁶ ‘to use Facebook’.

Interestingly, some morphological differences are attested in relation to different verb patterns; for instance, some roots prefer the use of Form II instead of Form IV to denote causativity, as in: *raḍḍaṣ* ‘to breastfeed’ and *labbas* ‘to cause to wear’ rather than *arḍaṣ* and *albas*. Some Form II verbs are (optionally) transitive, but do not denote causativity, as in: *waggaṣ* ‘to sign’, *baṣṣam* ‘to provide a thumbprint’, *rassam* ‘to draw land borders’, *fakkar* ‘to think’. In addition, WR Arabic sometimes does not use Form VI, but the reciprocity which is implied in this verb form in other dialects or CA may be expressed analytically, i.e., speakers of WR Arabic use a verb followed by the particle *baṣaḍ* ‘each other’, as in: *sāmaḥaw baṣaḍ* ‘they m. forgave each other’. Some new verbs are denominal, as in: *taḥalla* ‘to eat sweet’ derived from *ḥulu* ‘sweet’, *arṣadat* ‘it thundered’ derived from *raṣad* ‘thunder’, *aḥram* ‘to start Iḥrām for pilgrimage’ derived from *ḥaram* ‘Haram (Mecca mosque campus)’, *ṣayyad* ‘to celebrate Eid’ derived from *ṣīd* ‘Eid’, *tiyāman* ‘to start from the right’ derived from *yimān* ‘right’. Examples of denominal quadrilateral verbs include: *malyan* ‘to become rich’ derived from *malyōn* ‘million’, *darbal* ‘to used field glasses’ derived from *darbīl* ‘field glasses’.

5.2.2 Verbal inflection

The inflectional morphology in WR Arabic is mainly concatenative, where morphemes are linearly concatenated. Verbs in WR Arabic are inflected for gender, number, person and aspect (§ 5.2.2.3). These morphological categories are marked by means of affixes, pattern change, and vowel melody. However, aspect is expressed concatenatively and non-concatenatively, through templatic (i.e., root, pattern, vocalism) and affixal (prefix and suffix) morphemes.

⁵⁴ Borrowed from Turkish *zengin* ‘rich’

⁵⁵ Interestingly, Sanʿāni Arabic and Rijāl Almaʿ Arabic have the pattern (t)-C₁ayC₂aC₃ which conveys a similar sense to these two patterns, t-maC₁C₂aC₃ and t-C₁aC₂C₃an.

⁵⁶ They are newly derived and only used by youth. When the lexeme *fasfas* is used by elderly people, it means ‘to back-bite’.

5.2.2.1 Gender, number and person

While the first person in verbal inflections is gender-neutral in WR Arabic, as it is in all documented Arabic dialects to the best of my knowledge, verbs are marked for masculine or feminine gender in the second and third persons. They inflect for number: singular or plural, person: first person (I, we), second person (you), and third person (she, he, and they), and gender. In terms of gender, WR Arabic retains the gender distinction in the second and third person plural inflections (cf. table 34 and table 35 below).

Gender, number and person inflections are marked by affixes attached to the verb stem. In the perfect aspect (see table 34), a suffix may convey gender, number and person; for example, the suffix *-it* in *šarbit* ‘she drank’ carries three markers namely: third person, feminine, and singular. In the imperfect aspect (see table 35), gender, person, and number markers are realised by prefixes and suffixes; for example, in *tašraban* ‘you f.p. are drinking’, the prefix *ta-* marks person (second), and the suffix *-an* marks gender and number (feminine, plural). Table 34 and table 35 in the next section show gender, number and person in the perfect and imperfect aspect.

5.2.2.2 Aspect, mood and tense

According to Eades and Watson (2013: 24), aspect defines ‘the internal event structure or stative semantics described by a predicate’. Aspect has a two-way distinction in WR Arabic; every verb stem has two forms: one for perfect and one for imperfect (the terms s-stem and p-stem respectively are preferred by Holes (2004), denoting the suffix-stem and prefix-stem without prejudging their meaning). These categories are distinguished, according to Comrie (1976: 16), as follows:

Perfectivity indicates the view of a situation as a single whole, without distinction of the various separate phases that make up the situation, while the imperfect pays essential attention to the internal structure of the situation (Comrie, 1976: 16).

Perfect verb forms take suffixes in order to inflect while the imperfect verb forms take suffixes and/or prefixes to inflect. The most common function of the perfect aspect is to indicate the past tense. As stated above, person markers carry also number and gender. Except for the base verb form which marks the 3m.s., the stem by itself is not an independent word; in the perfect aspect, verbs need the suffixes to give the full meaning. The perfect tense suffixes 1s. and 2m.s., as in

most documented Arabic dialects, are identical (represented by the suffix *-t*). Tables 34 and 35 below illustrate the different types of Form I verb inflection in the perfect and the imperfect; the exemplified verbs are *širib* ‘to drink’, *širif* ‘to know’, *kitab* ‘to write’, and *gašad* ‘to sit down’:

Inflection	š-r-b	š-r-f	k-t-b	g-š-d
1s.	<i>širibt</i>	<i>širift</i>	<i>kitabt</i>	<i>gašatt</i>
1p.	<i>širibna</i>	<i>širifna</i>	<i>kitabna</i>	<i>gašadna</i>
2m.s.	<i>širibt</i>	<i>širift</i>	<i>kitabt</i>	<i>gašatt</i>
2f.s.	<i>širibtī(y)</i>	<i>širiftī</i>	<i>kitabtī(y)</i>	<i>gašattī(y)</i>
2m.p.	<i>širibtu/aw</i>	<i>širiftu(w)</i>	<i>kitabtu(w)</i>	<i>gašattu</i>
2f.P.	<i>širibtin</i>	<i>širiftin</i>	<i>kitabtin</i>	<i>gašattin</i>
3m.s.	<i>širib</i>	<i>širif</i>	<i>kitab</i>	<i>gašad</i>
3f.s.	<i>šarbit</i>	<i>šarfit</i>	<i>kitabāt</i>	<i>gašadat</i>
3m.p.	<i>šarbu/aw</i>	<i>šarfu/aw</i>	<i>kitabū/aw</i>	<i>gašadu/aw</i>
3f.p.	<i>šarbin</i>	<i>šarfin</i>	<i>kitabīn</i>	<i>gašadin</i>

Table 34: Conjugation of sound trilateral Form I in the perfect, (*širib*, *širif*, *kitab*, *gašad*)

The conjugation of the verb *š-r-f* is similar to that of the verb *š-r-b* in the perfect aspect but they differ in the imperfect aspect (see table 35). I intentionally present this verb here because this verb is conjugated differently from the Ḥwēṭāt dialect where V_1 is realized as /a/ in all verb inflections, as in: *šarift*, *šarifna*, *šariftī*, *šariftin*, etc. (cf. Palva, 1986: 299).

Secondly, although the verbs *kitab* and *gašad* have the same underlying form (C₁aC₂aC₃), they surface in different forms: *kitab* has the vowel melody *i-a*; whereas *gašad* has the vowel melody *a-a*. Again, the conjugation of *gašad* verb adds to the features that distinguish WR Arabic from the Ḥwēṭāt because the dialects differ in their inflection of the 3m.p. and 3f.p. (the Ḥwēṭāt: *gašdaw/-u* ‘they m. sit’ and *gašdin* ‘they f. sit’). The conjugation of the verbs *kitab* and *gašad* does not involve trisyllabic elision in WR Arabic⁵⁷ in contrast to the Ḥwēṭāt and a number of other Bedouin dialects, such as BḤA, BṢ, ṢAbbādi, and Najdi.

Interestingly, the vowel melody of the inflected perfect and imperfect Form I verb varies according to the shape of the base (underlying form) in the third person, in which the

⁵⁷ A process that involves the deletion of the first short low /a/ of the underlying C₁aC₂aC₃ stems when followed by a vowel-initial suffix.

determinant criterion is NOT only the final vowel (V_2), as reported by Blanc (1970: 134-5). Though his generalization seems to be applicable to verbs such as *širib* ‘to drink’ and *kitab* ‘to write’, it does not work in the case of verbs like *gašad* ‘to sit’, and *širif* ‘to know’, because these have the same underlying form but are realized differently. It seems that the imperfect form should be considered as another criterion of such conjugation, as in:

(2)	Root	Underlying perf.	Underlying imperf.
	š-r-b	/šarib/	/yašrab/
	š-r-f	/šaraf/	/yašrif/
	g-š-d	/gašad/	/yagšud/
	k-t-b	/katab/	/yaktub/

We may claim that the determinant criterion is the final vowel (V_2) of the underlying imperfect or perfect, whether or not it is the short dorsal front vowel /i/.

The conjugation contrast is striking in three points: first, the V_1 alternation between /a/ and /i/ in the case of the verb *širib* and *širif* in the conjugations of the third person which does not occur in the case of the verbs *kitab* and *gašad*. That is, the presence of the third person suffix with the perfect verb base $C_1aC_2iC_3$ (*šarib*) or the imperfect verb base $yaC_1C_2iC_3$ (*yašrif*) seems to block low short vowel /a/ raising; this means that the vowel-initial third person suffix is not enough by itself to block vowel raising in the verbs *kitab* and *gašad*. This is also reported for Negev Arabic (Blanc, 1970: 134) and the Ḥwēṭāt (Palva, 1986: 299).

Secondly, V_2 is syncopated in the verbs *širib* and *širif* when they receive the third person suffixes, whereas it is retained in verbs of the type *kitab* and *gašad*, as in: *šarbit* and *šarfit* vs. *kitabāt* and *gašadāt* (cf. § 4.4.2). This process seems to apply before the first process (umlaut/vowel harmony) affected V_1 . This morphophonemic rule would highlight the interaction that ties phonology with morphology; i.e., in the analogous phenomenon in the conjugation of Form I verb, V_2 syncope takes place only if the verb underlyingly contains /i/ in its perfect or imperfect forms.

Thirdly, the shape of the 3f.s. suffix attached to the perfect verb form differs depending on the vocalisation of the stem; it involves *-it/at* suffixation and internal vowel ablaut, as in: *širib* ‘to drink’ > *šarbit* ‘she drank’, *širif* ‘to know’ > *šarfit*, vs. *kitab* ‘to write’ > *kitabāt* ‘she wrote’, *gašad* ‘to sit down’ > *gašadāt* ‘she sat down’ (for details, cf. § 3.2.2 and § 4.4.2).

The imperfect indicates incompleteness of action, and is marked by prefixes and suffixes attached to the verb stem. The combination of prefixes and suffixes is referred to as a ‘circumfix’ (Anderson, 1992: 53). The suffixes show number and gender, and the prefixes show person. 2f.s., 2p., and 3p. involve a combination of suffixes and prefixes in the imperfect aspect.

Inflection	<i>š-r-b</i>	<i>ʕ-r-f</i>	<i>k-t-b</i>	<i>g-ʕ-d</i>
1s.	<i>ʔašrab</i>	<i>ʔaʕarf</i>	<i>ʔaktib</i>	<i>ʔagʕud</i>
1p.	<i>našrab</i>	<i>naʕarf</i>	<i>naktib</i>	<i>nagʕud</i>
2m.s.	<i>tašrab</i>	<i>taʕarf</i>	<i>taktib</i>	<i>tagʕud</i>
2f.s.	<i>tašrabay</i>	<i>taʕarfi</i>	<i>takitbi(y)</i>	<i>taguʕdi(y) ~ tagʕudi(y)</i>
2m.p.	<i>tašrabaw</i>	<i>taʕarfu</i>	<i>takitbu(w)</i>	<i>yaguʕdu</i>
2f.p.	<i>tašraban</i>	<i>taʕarfin</i>	<i>takitbin</i>	<i>taguʕdin</i>
3m.s.	<i>yašrab</i>	<i>yaʕarf</i>	<i>yaktib</i>	<i>yagʕud</i>
3f.s.	<i>tašrab</i>	<i>taʕarf</i>	<i>taktib</i>	<i>tagʕud</i>
3m.p.	<i>yašrabaw</i>	<i>yaʕarfu</i>	<i>yakitbu(w)</i>	<i>yaguʕdu(w)</i>
3f.p.	<i>yašraban</i>	<i>yaʕarfin</i>	<i>yakitbin</i>	<i>yaguʕdin</i>

Table 35: Conjugation of sound trilateral verb Form I in the imperfect, (*širib*, *ʕirif*, *kitab*, and *gaʕad*)

The prefixes of the second person are all identical (represented by the prefix *ta-*); the prefixes of 3m.s. and 3p. are also identical (represented by the prefix *ya-*). This contrasts with the Negev dialect which exhibits vowel harmony derived from the imperative form (*yiktib* ‘he writes’ < *iktib* ‘write!’), *yašrab* ‘he drinks’ < *ašrab* ‘drink!’), *yugʕud* ‘he sits’ < *ugʕud* ‘sit!’) (Blanc, 1970: 136).⁵⁸ We also notice the *-in* vs. *-an* contrast of the 3f.p. suffix when attached to the perfect and the imperfect stem, as in: *šarbin* vs. *yašraban*. The imperfect forms of the verb *ʕ-r-f* seem to be affected by the *gahawah syndrome* which bans the [guttural] consonant from occupying coda position (§4.4.3.2).

In Forms II, III, IV, VII, VIII and X, the melody of the final stem vowel changes from /a/ in the perfect to /i/ in the imperfect; consider the following table:

⁵⁸ Few examples with vowel harmony like *yugʕud* have been attested in my recordings.

Form	Perfect	Imperfect	Gloss
II	<i>gaṭṭaʿ</i>	<i>ygaṭṭiʿ</i>	‘to cut into pieces’
III	<i>jāwab</i>	<i>yjāwib</i>	‘to answer’
IV	<i>arsan</i>	<i>yarsin</i>	‘to leash’
VII	<i>ankasar</i>	<i>yankisir</i>	‘to be broken’
VIII	<i>aḡtanam</i>	<i>yaḡtinim</i>	‘to take advantage’
X	<i>astanjad</i>	<i>yastanjid</i>	‘to seek help’

Table 36: Conjugation of perfect and imperfect forms showing the melody change

As in Watson (1993), tense and mood are addressed here within the discussion of aspect. According to Comrie (1985: 9), tense is ‘a grammaticalised location in time’. It focuses on the point on the timeline (past/present) at which the action occurs. However, as Eades and Watson (2013: 53) conclude, ‘no inherent time frame is exhibited morphologically in the verbal systems of the varieties of Arabic’ due to the following issues: (1) reference to past time seems to be secondary to the perfect aspect; (2) perfect and imperfect do not encode tense in themselves because, for example, the perfect is sometimes used in non-past contexts and the time it refers to is often determined by the context; (3) both forms may occur in constructions where no tense is implied such as conditionals, optatives, and preformatives. In this respect, as a conservative dialect, WR Arabic shows aspect with relative tense implications.

In this study, I am following Watson (1993) in classifying mood into the following grammatical categories: indicative, subjunctive, optative, imperative, and wonder. In this view, the verb in WR Arabic may maintain indicative, subjunctive, optative, imperative, and wonder moods.

5.2.2.2.1 Perfect aspect

5.2.2.2.1.1 Realis contexts

Perfect aspect denotes the completion of an action or process (past tense); henceforth relevant elements are highlighted in bold in the data examples below, as in:

- (3) ***jimaʿt** al-ḥaṭab* ‘I collected wood’.
ʔasgēt al-faras ‘I let the mare drink’.

No particles are used in WR Arabic before the verb stem to denote or emphasize the completion of an action.⁵⁹

5.2.2.2.1.2 Irrealis contexts

The subjunctive mood typically denotes various states of unreality including intent, wishing, doubt, desire, or necessity. The verb is frequently placed in the perfect aspect when a speaker uses the conditional clause, as in:

- (4) *law rāfagtna ma-tinaddam* ‘if you accompanied with us, you would not lose/regret’
law radd ṣalay ma-kān sakkar dukkānah ‘if he obeyed me, his shop would not have been closed’
law haṭṭayt rāṣi ma-ṣār alli ṣār ‘if you would hire a shepherd, this problem would not have occurred’.

The auxiliary *kān* may precede the verb in the perfect aspect only in main conditional clauses to denote hypothetical conditions, as in:

- (5) *law daxal fa-š-šēx kān jāblah ḥaggah* ‘if he had sought help from sheikh, he would have given him his right’

To mark the pluperfect in WR Arabic, *kān* is followed by the active participle, as in:

- (6) *lamma jīna kān wāṣil* (**kān wiṣil*) ‘when we came, he had arrived’.
kānin ṭabxūt (**kānin ṭabaxin*) ‘they had cooked’.

5.2.2.2.1.3 Wishes

The optative mood is expressed by the perfect aspect in greetings, as in:

- (7) *ṣabbahku aḷlah ba-l-xayr* ‘may Allah make your m.p. morning good’
massāk aḷlah ba-l-xayr ‘may Allah make your m.s. evening good’
ḥayyāk aḷlah ‘may Allah welcome you m.s.’
ḥayy aḷlah fa-ḍ-ḍayf ‘may Allah welcome you m.s. our guest’

⁵⁹ In Sanṣāni and Rijāl Almaḍ dialects, the particle *gad* precedes the verb in the perfect aspect stem to emphasize the sense of action completion.

Other contexts denoting optative mood include congratulations, condolence, and invocation, as in:

- (8) *kattar* *aḷḷah xayrak* ‘may Allah multiply your m.s. welfare’
bāarak aḷḷah fī-k ‘may Allah bless you m.s.; thanks for congratulation’
ṣaḍḍam aḷḷāh ʔajrak ‘may Allah greaten your m.s. deeds; I give you m.s. my condolences’
tagabbal aḷḷāh ‘may Allah accept your deeds’
twakkalna ʕala aḷḷah ‘let’s put our trust in Allah (let’s go!)’
ʔaṣbahna wa-aṣbah *al-mulk li-llāh* ‘we get up believing in Allah (for morning prayers)’

5.2.2.2.1.4 Wonder

The perfect aspect is used to express wonder, and represented by the Form IV verb (cf. Watson, 1993), as in:

- (9) *ma (ʔ)atwal bālak* ‘how patient you m.s. are!’
yā aḷḷāh, ma (ʔ)aṣjaz al-walad ‘oh Allah, how lazy the boy is’

5.2.2.2.2 Imperfect aspect

The imperfect aspect denotes an incomplete action or process, uncertainty, or vagueness. Though the imperfect aspect can either stand by itself or prefixed with verbal prefix particles in a number of Arabic dialects (e.g., Sanʕāni, Syrian, Palestinian, Lebanese, Cairene: Watson, 1993; Rijāl Almaʔ: Asiri, 2009; Negev Arabic: Blanc, 1970),⁶⁰ no verbal prefixes are attested before the imperfect verb in WR Arabic.

5.2.2.2.2.1 Realis contexts

Typically, the non-prefixed imperfect aspect denotes indicative mood; it expresses an incomplete action usually situated in the present or near future, as in:

- (10) *al-banāt yalṣaban* ‘the girls are playing’
al-kull yajtimiʕ ʕind aš-šēx al-lēlih ‘everybody [will] meet in the Sheikh’s tent tonight’

⁶⁰ Though Negev Arabic shares a number of phonological and morphological features with WR Arabic, it differs from WR Arabic in that the *b-* morpheme is regularly prefixed to the imperfect (cf. Blanc, 1970: 139).

The imperfect aspect is usually used to express indicative mood in descriptions of general events (habits, festivals, visits, games, etc.) that are not limited to a specific time, as in:

- (11) *naṣḥa* *bakkīr mnaṣ-ṣubḥ* ‘we get up early morning’
Ḍiḥna nṣammi kalb al-ḥrāsīh ḍīx ‘we call the watchdog *ḍīx*’
ḥayātna biṣṭāḥ nākul ḥarbūd iw-naṣrab al-liban iw-narkab al-bill ‘our life is simple, we eat bread, drink fresh milk, and ride camels’

Perfect and imperfect verbs may be combined within the same phrase maintaining a fixed order: the perfect verb followed by the imperfect verb. Such combination adds the incomplete aspect of the imperfect verb within the past tense sense of the perfect verb, as in:

- (12) *rāḥ yalṣab* ‘he went playing’
ṣārat tabki ‘she started crying’

The auxiliary verb *kān* ‘to be’ may precede the imperfect verb forming a verbal phrase which denotes the completion of the aspect of that verb and setting it in the past, as in:

- (13) *kān yalṣab* ‘he was playing’
kānat talṣab ‘she was playing’
kunna nalṣab ‘we were playing’
kānin yalṣaban ‘they f. were playing’

The future tense is formed by prefixing the particle *widd* + (-i, -na, -ah, -ha, -hum, -hin, -ku, -kin), *raḥ* ~ *rāyḥ* ‘will’, or *nāwi* ‘intending to’ to the imperfect verb form. *raḥ* and *rāyḥ* ~ *rāyḥ* are less frequent than the first particle. By adding such particles, the verb indicates future tense, as in:

- (14) *widd arkaba l-biṣīr* ‘I will/am going to ride the camel’
widha tarkaba l-biṣīr ‘she will/is going to ride the camel’
rāyḥ iydawwir ḥawāših ‘he is going to look for his calves’

Another attested strategy of denoting progressive tense can be expressed by the active participle *gāṣid* (which is fully inflected), lit. ‘sitting’, before an imperfect verb, as in:

- (15) *gāṣid yagra* ‘he is studying now’
gāṣidih tagra ‘she is studying now’
gāṣdīn yagraw ‘they m. are studying now’
gāṣdāt yagran ‘they f. are studying now’

5.2.2.2.2 Irrealis contexts

The imperfect may be used to express uncertainty, vagueness, or tentativeness (Watson, 1993: 67). This includes a variety of structures such as questions and conditional clauses, as in:

- (16) *lēh talṣab fal-jamir* ‘why are you playing with red coal?’
fī ḥada yhibb iyrafīgnī ‘is there anybody would like to accompany me?’
wēn arubṭ an-nāgah ‘where should I tie the camel?’
ʔida yāṣal bakkīr yākul maṣna ‘if he arrives early, he will eat with thus’
trūḥ yamhum ʔadbahak ‘if you go to them, I will punish you’
law tadriy f-ḥālī taṣḍirni ‘if you had known what I suffer from, you would have excused me’

The imperfect aspect is used in circumstantial clauses,⁶¹ as in:

- (17) *lagētah gāʕid yasmaʕ al-giṣīdih* ‘I found him sitting down listening to the poem’
yasmaʕ al-giṣīdih widdu yahfaḍha ‘he is listening to the poem to memorise it’

Where the verb implies ability, volition, suggestion (preceded by *yimkin*, *yijūz* ‘may’), or exhortation, the imperfect aspect is invariably used denoting subjunctive mood, as in:

- (18) *yimkin yilfi dyūf* ‘guests may come’
yijūz ʔatlaʕ la-ṣ-ṣayd bākīr ‘I may go hunting tomorrow’
taṣrabu ṣāy ‘would you m.p. like to drink tea?’
ʔansahku tasknu hniyya ‘I advise you m.p. to live in here’

⁶¹ A circumstantial clause explains the circumstances, manner, or conditions under which an action in the main clause is accomplished.

5.2.2.2.3 Imperative

The imperfect aspect can be used to denote the positive imperative mood, as in:

- (19) *taštiri wi-trawwiḥ ib-surḥah* ‘buy and come back quickly!’
tāxud al-waragah w-taktib b-xatt wāḍiḥ ‘take the exam paper and write the answer in a readable handwriting!’
tsāllim w-tagḥud miṭl al-kbār ‘say salam and sit down as the elderly do!’

It also denotes the negative imperative preceded by the negative particles *la* or *ma*, as in:

- (20) *la tḥdha marritin tānyah* ‘do not m.s. do this again!’
ma ʔašūfak hān martin tānyah ‘don’t let me see you m.s. here again!’

5.2.2.2.4 Wishes

The imperfect aspect often expresses optative mood, particularly in the case of replies to greetings (as in 21a and 21b), and invocations/prayers (as in 21c, 21d, and 21e):

- (21) a) A: *ṣubāḥ/misa al-xayr* ‘good morning/evening’
B: *aḷḷah yṣabbiḥku/ymassīku bal-xayr* ‘good morning/evening’
b) A: *gawwa ar-rjāl* ‘hello men!’
B: *aḷḷah yḥayyīku* ‘may Allah give you m.p. life (you are welcome)’
c) *tarjaḥ sālim* ‘may you m.s. return safely’
d) *aḷḷah yarḥamha* ‘may Allah bless her’
e) *yā-ṛabbi tjṭb al-ḡayṭ* ‘may my Lord (Allah) bring rain’

The optative is not restricted to the above contexts; it may cover contexts of invitations in the 1p., as in:

- (22) *yaḷḷah nrūḥ bēt aš-šēx* ‘let’s go to the sheikh’s tent’
gūmu xallna nāxud laffih fa-s-sayyārah ‘stand up, let’s take a tour in the car’
taḥālu nṣalli fa-l-masjid ‘come on, let’s pray in the mosque’

5.2.2.2.5 Imperative

The positive imperative of the verb forms (both the basic and augmented) is typically formed from second person in the imperfect verb stem with deletion of the person prefixes, as in:

(23)	Imperfect/Second person	Imperative	
	<i>t-ašrab</i>	<i>ʔašrab</i>	‘drink m.s.!’
	<i>t-gūm</i>	<i>gūm</i>	‘stand up m.s.!’
	<i>t-laṭṭim</i>	<i>laṭṭim</i>	‘hit m.s.!’
	<i>t-šāwir</i>	<i>šāwir</i>	‘consult m.s.!’
	<i>t-antifiʕ</i>	<i>ʔantifiʕ</i>	‘benefit m.s.!’

The imperative mood can be used in the main clause of a conditional sentence, as in:

(24) *bass tarkab as-siyyārah tijawwad* ‘when you m.s. ride the car, take care’

Sometimes an imperative has a verbal complement; in such cases, both verbs are in the imperative, as in:

- (25) *taʕāl aḥḍar al-mubārāh* ‘come m.s. and watch the match!’
rūh ǧassl īdak ‘go m.s. and wash your hand!’
ʔagra w-šūf b-nafsak ‘read m.s. and see for yourself!’
ʔukutbiy w-rajjʕ li al-galam ‘write f.s. and give me the pen!’

The negative imperative is formed by the imperfect verb maintaining the second person prefixes, pre-negated by *la* or *ma*, as in:

- (26) *la-tākul f-īdak al-yasār* ‘do not eat with you left hand!’
ma-tkallim ḥada ‘do not speak to anybody!’

5.2.2.3 Morphosyntactic patterns

WR Arabic retains a two-way distinction of voice: active vs. passive. Although the verb forms have sets of internal vowel patterns for active voice, the apophonic passive, which involves internal vowel change in the stem (cf. Retsö, 1983: 147), does not apply in WR Arabic. The passive/mediopassive in WR Arabic is typically denoted through the derived Forms V, VI, VII and VIII for triliteral verbs and Form II for quadriliteral verbs (§ 5.2.1.2). The following tables

show the active – passive relationship between Forms I and VII, Forms II and V, Forms III and VI, Forms IV and VII, Forms X and VII, and quadrilateral Forms I and II:⁶²

Form	Root	Gloss	Perfect Active	Perfect Passive	Imperfect Active	Imperfect Passive
I > VII	f-t-ḥ	‘to open’	<i>fitah</i>	<i>anfitah</i>	<i>yaftah</i>	<i>yanfitih</i>
II > V	r-k-b	‘to help riding’	<i>rakkab</i>	<i>tirakkab</i>	<i>(i)yrakkib</i>	<i>yitirakkab</i>
III > VI	j-m-l	‘to flatter’	<i>jāmal</i>	<i>tijāmal</i>	<i>(i)yjāmil</i>	<i>yitijāmal</i>
IV > VII	j-b-r	‘to force’	<i>ajbar</i>	<i>anjibar</i>	<i>yajbir</i>	<i>yanjibir</i>
X > VII	n-j-d	‘to seek help’	<i>astanjad</i>	<i>annijad</i>	<i>yastanjid</i>	<i>yannijid</i>

Table 37: Passive patterns of trilateral verb forms in WR Arabic

Form	Root	Gloss	Perfect Active	Perfect Passive	Imperfect Active	Imperfect Passive
I > II	k-r-f-t	‘to fall down’	<i>karfat</i>	<i>tikarfat</i>	<i>ykarfat</i>	<i>yitikarfat</i>

Table 38: Passive pattern of quadrilateral Forms I verb in WR Arabic

In particular, Form VII (which is derived from Form I)⁶³ and in a few cases Form V (which is derived from Form II) may express the true passive. The true passive implies the presence of an external causative agent, though there is no explicit mentioning of the agent (Watson, 1993: 92), as in: *anfitah* ‘to be opened’, *angatal* ‘to be killed’, *tikassar* ‘to be broken’, *tirakkab* ‘to be built up/combined’. Where transitive verbs do not have a true passive, they may have a corresponding medio-passive using certain derived verb forms, particularly Form VII, Form V, Form VI, and Form VIII. The medio-passive may express passive meaning, but usually involves a reflexive or reciprocal sense, as in: *anaxadaʿ* ‘to be deceived’, *tirammal* ‘to become a widower’, *tišaggag* ‘to be torn’, *tifarrag* ‘to separate/was separated’, *aḥtarag* ‘to burn’, *antafaʿ* ‘to benefit from’, *taʿālij* ‘to be treated’.

Generally, WR Arabic tends to reserve Form VII for the true passive voice, whereas, Form V tends to imply the reflexive or medio-passive of the corresponding Form I or II. Consider the difference between the following two examples: *angaṭam* ‘to be injured’ *tiṭawwar* ‘to be improved’. The former describes an external action on the subject, whereas the latter describes

⁶² Trilateral Forms V, VI, VII, and VIII, and quadrilateral Form II have not been considered in the table because they already have indicated a passive or a medio-passive.

⁶³ With few exceptions, for example *anfaʿal* ‘to be excited’ is not derived from the Form I *faʿal* ‘to do’ although it expresses a medio-passive sense.

an action which is a reflex or an effect resulting from an action made by the subject. Though it is not an absolute rule, this applies to a wide range of verbs.

As seen in table 38, the passive of both quadriliteral verb forms can be expressed by Form II (t-CaCCaC), i.e., by adding the prefix *t-* to Form I, and denoting medio-passive voice, as in: *tidaħraj* ‘to roll down’, *taxarbaṭ* ‘to be confused’.

Although passivisation requires the base verb to be transitive, an intransitive Form I verb may be passivized through the passive prefix *an-*. This application gives an impersonal meaning to the derived verb, as in: *miša* ‘to walk’ > *anmaša* ‘to be walked’, *wiṣil* ‘to arrive to’ > *anwaṣal* ‘to be arrived at’, *rāḥ* ‘to go’ > *anrāḥ* ‘to be gone’, *gaṣad* ‘to sit down’ > *angaṣad* ‘to be set down’, *wigaṣ* ‘to fall down’ > *yanwigiṣ* ‘to be fallen down’. Contextual examples include:

- (27) *hēdi blād ma yanmaša fīha* ‘this is a land that cannot be walked in’
al-ṣayn biṣīdih bas yanrāḥ-ilha? ‘the spring is far but (it) should be gone to’

Form II can be used in a few lexical cases to express the medio-passive, particularly in the case of physical defects, as in: *ḡayyab* ‘to be unconscious’, *šayyab* ‘his hair became grey’, *ṣayyad* ‘to become mad (metaphorical)’, *fayyaz* ‘to pass away (metaphorical)’.

5.2.2.4 Morphophonology

This section deals with the trilateral verbs where the second and third radicals are identical (geminate) or those which have /ʔ/, /y/ or /w/ among the radicals. The change of word structure appears to be clear when one of the three radicals, is an /ʔ/, /w/, or /y/. The morphological system of weak verbs, no matter whether C₃ = /y/ or /w/, as in: /r-ḡ-y/ > *riḡa* ‘to accept, /x-ṭ-w/ > *xaṭa* ‘to step’ as well as where C₃ = /ʔ/, as in: /g-r-ʔ/ > *gara* ‘to read’ has been subject to historical coalescence from /ay/ > /ē/ when C-initial suffixes are added irrespective of the historical root. For illustration, consider examples of different weak verb subcategories suffixed with the 1s. suffix *-t*:

- (28) *g-f-y* > *ḡafēt* ‘I went away’
d-n-w > *dinēt* ‘I approached’
g-r-ʔ > *garēt* ‘I read’
j-y-ʔ > *jēt* ‘I came’
n-w-y > *nuwēt* ‘I intended’

The doubled verbs in classical Arabic are classified as ‘strong’ by the Arabic grammarians. On analogy with third-weak verbs, the Form I doubled verb shares with weak verbs the long vowel /ē/ before C-initial suffixes in WR Arabic as well as many Arabic dialects, as in: *s-d-d* > *saddēt* ‘I paid’ (cf. Watson, 2002: 145, 181).⁶⁴

In the case of derived doubled verbs, the conjugation of trilateral Forms II, III, V, and VI is the same as for strong trilateral verbs; consider the following table:

Form	II: <i>fakkak</i> ‘to solve’	III: <i>ḥāḇaḇ</i> ‘to kiss’	V: <i>tiballal</i> ‘to get wet’	VI: <i>tihāḇaḇ</i> ‘to kiss each other’
1s.	<i>fakkakt</i>	<i>ḥāḇaḇt</i>	<i>tiballalt</i>	<i>tihāḇaḇt</i>
1p.	<i>fakkakna</i>	<i>ḥāḇaḇna</i>	<i>tiballalna</i>	<i>tihāḇaḇna</i>
2m.s.	<i>fakkakt</i>	<i>ḥāḇaḇt</i>	<i>tiballalt</i>	<i>tihāḇaḇt</i>
2f.s.	<i>fakkakti(y)</i>	<i>ḥāḇaḇti(y)</i>	<i>tiballalti(y)</i>	<i>tihāḇaḇti(y)</i>
2m.p.	<i>fakkaktu(w)</i>	<i>ḥāḇaḇtu(w)</i>	<i>tiballaltu(w)</i>	<i>tihāḇaḇtu(w)</i>
2f.p.	<i>fakkakin</i>	<i>ḥāḇaḇin</i>	<i>tiballalin</i>	<i>tihāḇaḇin</i>
3m.s.	<i>fakkak</i>	<i>ḥāḇaḇ</i>	<i>tiballal</i>	<i>tihāḇaḇ</i>
3f.s.	<i>fakkakit</i>	<i>ḥāḇaḇit</i>	<i>tiballalit</i>	<i>tihāḇaḇit</i>
3m.p.	<i>fakkaku(w)</i>	<i>ḥāḇaḇu(w)</i>	<i>tiballalu(w)</i>	<i>tihāḇaḇu(w)</i>
3f.p.	<i>fakkakin</i>	<i>ḥāḇaḇin</i>	<i>tiballalin</i>	<i>tihāḇaḇin</i>

Table 39: Conjugation of doubled trilateral verb Forms II, III, V, and VI

In the derived Forms IV, VII, VIII, and X, the monophthong /ē/ is inserted before C-initial suffixes, as for Form I. Consider the following table:

⁶⁴ Diachronically, the original root structure of geminate verbs is preferable not to be 1-2-2 but rather 1-2:, with a lengthened second consonant (indicated with :) (Voigt, 2009b: 699).

Form	I: <i>šadd</i> ‘to tighten’	IV: <i>ašarr</i> ‘to insist’	VII: <i>aṇḍamm</i> ‘to join’	VIII: <i>aštadd</i> ‘to warm’	X: <i>astašadd</i> ‘to be ready’
1s.	<i>šaddēt</i>	<i>ʔašarrēt</i>	<i>aṇḍammēt</i>	<i>aštaddēt</i>	<i>astašaddēt</i>
1p.	<i>šaddēna</i>	<i>ašarrēna</i>	<i>aṇḍammēna</i>	<i>aštaddēna</i>	<i>astašaddēna</i>
2m.s.	<i>šaddēt</i>	<i>ašarrēt</i>	<i>aṇḍammēt</i>	<i>aštaddēt</i>	<i>astašaddēt</i>
2f.s.	<i>šaddēti(y)</i>	<i>ašarrēti(y)</i>	<i>aṇḍammēti(y)</i>	<i>aštaddēti(y)</i>	<i>astašaddēti(y)</i>
2m.p.	<i>šaddētu(w)</i>	<i>ašarrētu(w)</i>	<i>aṇḍammētu(w)</i>	<i>aštaddētu(w)</i>	<i>astašaddētu(w)</i>
2f.p.	<i>šaddētīn</i>	<i>ašarrētīn</i>	<i>aṇḍammētīn</i>	<i>aštaddētīn</i>	<i>astašaddētīn</i>
3m.s.	<i>šadd</i>	<i>ašarr</i>	<i>aṇḍamm</i>	<i>aštadd</i>	<i>astašadd</i>
3f.s.	<i>šaddit</i>	<i>ašarrit</i>	<i>aṇḍammit</i>	<i>aštaddit</i>	<i>astašaddit</i>
3m.p.	<i>šaddu(w)</i>	<i>ašarru(w)</i>	<i>aṇḍammu(w)</i>	<i>aštaddu(w)</i>	<i>astašaddu(w)</i>
3f.p.	<i>šaddīn</i>	<i>ašarrīn</i>	<i>aṇḍammin</i>	<i>aštaddīn</i>	<i>astašaddīn</i>

Table 40: Conjugation of doubled trilateral Forms I, IV, VII, VIII, and X

In the imperfect form, the conjugation processes the same as the sound verb (§ 5.2.2.2). In the Form I verb, the vowel of the prefix is optionally elided, as in:

	<i>š-d-d</i> ‘to tighten’
1s.	<i>ʔašidd</i>
1p.	<i>nšidd</i>
2m.s.	<i>tšidd</i>
2f.s.	<i>tšiddi(y)</i>
2m.p.	<i>tšiddu(w)</i>
2f.p.	<i>tšiddīn</i>
3m.s.	<i>yšidd</i>
3f.s.	<i>tšidd</i>
3m.p.	<i>yšiddu(w)</i>
3f.p.	<i>yšaddan</i>

Table 41: Conjugation of the verb *š-d-d* in the imperfect

Hamzated verbs, verbs in which $C_1=ʔ$, undergo certain morphophonemic rules in relation to the glottal stop /ʔ/. First, the word-initial glottal stop and vowel is elided when the hamzated trilateral verb inflects for the 3f.s. or the 3p. in the perfect aspect. Thus while initial hamzah is maintained in inflections that do not involve C-initial subject suffixes, as in: *ʔ-x-d* > [ʔaxad] ‘he

took' [ʔaxaḏt] 'I/you m.s. took', [ʔaxaḏna] 'we took', [ʔaxaḏtiy] 'you f.s. took', [ʔaxaḏtu(w)] 'you m.p. took', the hamzah and the following vowel is not realised in the case of V-initial subject suffixes, as in: [xaḏat] 'she took', [xaḏaw] 'they m. took', [xaḏin] 'they f. took'. Secondly, the hamzated verbs undergo vowel lengthening when one of the imperfect markers is prefixed; in the imperative form, the initial syllable (including the glottal stop /ʔ/) is deleted,⁶⁵ as in:

	ʔaxaḏ 'to take'			ʔakal 'to eat'		
	Perf.	Imperf.	Imper.	Perf.	Imperf.	Imper.
1s.	ʔaxaḏt	ʔāxuḏ	-	ʔakalt	ʔākul	-
1p.	ʔaxaḏna	nāxuḏ	-	ʔakalna	nākul	-
2m.s.	ʔaxaḏt	tāxuḏ	xuḏ	ʔakalt	tākul	kul
2f.s.	ʔaxaḏti(y)	tāxḏi(y)	xuḏi(y)	ʔakalti(y)	tākli(y)	kuli(y)
2m.p.	ʔaxaḏtu(w)	tāxḏu(w)	xuḏu(w)	ʔakaltu(w)	tāklu(w)	kulu(w)
2f.p.	ʔaxaḏtin	tāxḏan	xuḏin	ʔakaltin	tāklan	kulin
3m.s.	ʔaxaḏ	yāxuḏ	-	ʔakal	yākul	-
3f.s.	xaḏat	tāxuḏ	-	kalat	tākul	-
3m.p.	xaḏaw	yāxḏu(w)	-	kalaw	yāklu(w)	-
3f.p.	xaḏin	yāxḏan	-	kalin	yāklan	-

Table 42: Conjugation of the verbs ʔaxaḏ and ʔakal in the perfect, imperfect, and imperative

The hamzated verbs ʔaxaḏ and ʔakal exhibit strong inflection for the first and second person in the perfect aspect. The imperfect form is marked by vowel lengthening (the long vowel /ā/). The imperfect stem vowel is [u] as in: yāxuḏ and yākul,⁶⁶ and the imperative takes the vowel quality of the imperfect stem, as in: xuḏ and kul.

In deriving Forms II, III, and VI, another phonological change results in the glottal stop /ʔ/ being replaced by the velar glide [w], as in:

⁶⁵ This rule is not absolute, consider for example: ʔamar 'to order' > ʔāmir, ʔisar 'to capture' > ʔiʔsir.

⁶⁶ This is different from the Ḥwētāt dialect because the imperfect vowel in such verbs is /i/ (e.g., yākil, yāxiḏ (Palva 1986: 300).

Form	Derived perfect form	Prefixed form
II	<i>ʔaddan</i> ‘to call for prayer’	<i>(i)ywaddin</i>
III	<i>ʔākal</i> ‘to eat with’	<i>(i)ywākil</i>
VI	<i>tiʔākal</i> ‘to erode’	<i>tuwākal</i>

Table 43: Phonological change in deriving Forms II, III, and VI

The semivowels /w/ and /y/ in the weak verbs undergo various mutations, turning into a short vowel, a long vowel, or assimilating to the dento-alveolar plosive /t/ depending on the verb form. For example, the assimilated weak verb (Iw) loses its first radical in the imperfect and the imperative; consider the verb *wirid* ‘to collect water from spring’ in the table below:

	perfect	Imperfect	Imperative
3m.s.	<i>wirid</i>	<i>yirid</i>	-
3f.s.	<i>wardit</i>	<i>tirid</i>	-
3m.p.	<i>wardu(w)</i>	<i>yirdu(w)</i>	-
3f.p.	<i>wardin</i>	<i>yirdan</i>	-
1s.	<i>wiritt</i>	<i>ʔarid</i>	-
1p.	<i>wiridna</i>	<i>nirid</i>	-
2m.s.	<i>wiritt</i>	<i>tirid</i>	<i>ʔirid</i>
2f.s.	<i>wiritti</i>	<i>tirdi(y)</i>	<i>ʔirdi(y)</i>
2m.p.	<i>wirittu</i>	<i>tirdu(w)</i>	<i>ʔirdu(w)</i>
2f.p.	<i>wirittin</i>	<i>tirdan</i>	<i>ʔirdin</i>

Table 44: Conjugation of the verb *wirid* in the perfect, imperfect, and imperative

In some other verbs, the assimilated weak verb (Iw) does not only lose its first radical, but also stem-initial /ā/ is observed in the imperfect and (optionally) in the imperative; consider the verb *wigif* ‘to stand up’ in the table below:

	perfect	Imperfect	Imperative
3m.s.	<i>wigif</i>	<i>yāgaf</i>	-
3f.s.	<i>wagfit</i>	<i>tāgaf</i>	-
3m.p.	<i>wagfu</i>	<i>yāgafaw</i>	-
3f.p.	<i>wagfin</i>	<i>yāgafan</i>	-
1s.	<i>wigift</i>	<i>ʔāgaf</i>	-
1p.	<i>wigifna</i>	<i>nāgaf</i>	-
2m.s.	<i>wigift</i>	<i>tāgaf</i>	<i>ʔāgaf ~ waggif</i>
2f.s.	<i>wigifti</i>	<i>tāgafay</i>	<i>ʔagafay ~ waggfi</i>
2m.p.	<i>wigiftu</i>	<i>tāgafaw</i>	<i>ʔāgafaw ~ waggfu</i>
2f.p.	<i>wigiftin</i>	<i>tāgafan</i>	<i>ʔāgafan ~ waggfin</i>

Table 45: Conjugation of the verb *wigif* in the perfect, imperfect, and imperative

The rare assimilated verb *Iy* is formed regularly in the perfect form, i.e., without any loss, but /y/ is reduced to the short vowel [i] after an imperfect prefix. The result is formation of a long vowel together with the vowel /i/ that precedes it; consider the conjugation of the verb *y-b-s* ‘to become dry’:

Infl.	Perfect	Imperfect ⁶⁷
3m.s.	<i>yibis</i> ‘to become dry’	<i>yības</i> ‘it m. becomes dry’
3f.s.	<i>yabsit</i> ‘it became dry’	<i>tības</i> ‘it f. becomes dry’
3m.p.	<i>yabsaw</i> ‘they m. became dry’	<i>yībasu(w)</i> ‘they m. become dry’
3f.p.	<i>yabsin</i> ‘they became dry’	<i>yībasan</i> ‘they f. become dry’

Table 46: Conjugation of the verb *yibis* in the perfect and imperfect

The semivowel /w/ in *Iw* assimilates to the dento-alveolar plosive /t/ in Form VIII, as in: *w-š-l* > *attiṣal* ‘to call’ (**awtiṣal*).

When /w/ or /y/ occurs as the second radical in the Form I hollow verb (*IIw/y*), some morphophonological changes take place in the concatenating perfect affixes. This variation seems to be remarkable when we compare this form with ‘sound’ strong verbs; consider the following table that compares *š-r-b* ‘to drink’ with *s-w-m* ‘to suggest a price’ and *b-y-ʕ* ‘to sell’:

⁶⁷ The initial [y] in the imperfect verb forms *yības*, *yībasuw*, and *yībasan* is not the C₁ of the root verb *y-b-s*. Rather, it is the imperfect prefix that denotes 3m.s. or 3p.

Infl.	Hollow IIw		Hollow IIy		Sound strong	
	Perfect	Imperfect	Perfect	Imperfect	Perfect	Imperfect
1s.	<i>simt</i>	<i>ʔasūm</i>	<i>biʕt</i>	<i>ʔabiʕ</i>	<i>širibt</i>	<i>ʔašrab</i>
1p.	<i>simna</i>	<i>nišūm</i>	<i>biʕna</i>	<i>nibiʕ</i>	<i>širibna</i>	<i>našrab</i>
2m.s.	<i>simt</i>	<i>tisūm</i>	<i>biʕt</i>	<i>tibiʕ</i>	<i>širibt</i>	<i>tašrab</i>
2f.s.	<i>simti</i>	<i>tisūmi(y)</i>	<i>biʕti(y)</i>	<i>tibiʕi(y)</i>	<i>širibt(y)</i>	<i>tašrabi(y)</i>
2m.p.	<i>simtu</i>	<i>tisūmu</i>	<i>biʕtu</i>	<i>tibiʕu(w)</i>	<i>širibtu</i>	<i>tašrabu</i>
2f.p.	<i>simtin</i>	<i>tisūman</i>	<i>biʕtin</i>	<i>tibiʕan</i>	<i>širibtin</i>	<i>tašraban</i>
3m.s.	<i>sām</i>	<i>yisūm</i>	<i>bāʕ</i>	<i>yibiʕ</i>	<i>širib</i>	<i>yašrab</i>
3f.s.	<i>sāmit</i>	<i>tisūm</i>	<i>bāʕit</i>	<i>tibiʕ</i>	<i>šarbit</i>	<i>tašrab</i>
3m.p.	<i>sāmu</i>	<i>yisūmu(w)</i>	<i>bāʕu(w)</i>	<i>yibiʕu(w)</i>	<i>širbu</i>	<i>yašrabu(w)</i>
3f.p.	<i>sāmin</i>	<i>yisūman</i>	<i>bāʕin</i>	<i>yibiʕan</i>	<i>šarbin</i>	<i>yašraban</i>
Passive	<i>ʔansām</i>	<i>yansām</i>	<i>ʔambāʕ</i>	<i>yambāʕ</i>	<i>ʔanšarab</i>	<i>yanširib</i>

Table 47: Conjugation of *š-r-b*, *s-w-m*, and *b-y-ʕ* ‘to sell’

It is observed that the consonantal radical sequence is maintained in all inflected forms of the ‘sound’ strong verb *š-r-b*. However, a crucial internal change is attested with the hollow verbs *s-w-m* and *b-y-ʕ*. Two variations are observed: in an open syllable, /w/ and /y/ are realised as a long vowel; in a closed syllable, they are shortened to the unrounded dorsal [i]. Both semivowels are realised as the long /ā/ with the perfect form when the third person affixes are suffixed to the verb stem. In the imperfect verb forms, /w/ is realised as /ū/ and /y/ is realised as /ī/. The last example shows that /w/ and /y/ in the hollow verb become /ā/ in the perfect and imperfect passive verb forms. It is also observed that the vowel quality of the imperfect prefix in the hollow verb is different from that of the strong verb: [i] for the hollow verb and [a] for the strong verb, as in: *yisūm* and *yibiʕ* vs. *yašrab*.

The conjugation of the hollow Forms IV, VII, VIII, and X involve internal change of the verb stem; for example, /w/ and /y/ are realised as [ā] before V-initial suffixes and are shortened to [a] before C-initial suffixes. Hollow verbs in Forms II, III, V, and VI conjugate as for sound trilateral verbs; consider the following verb forms when attached to the 1s. and 3f.s. suffixes:

Form	Hollow verb	Verb stem + 1s.	Verb stem + 3f.s.
II	<i>dayyan</i> ‘to give a loan’	<i>dayyant</i>	<i>dayyanit</i>
III	<i>dāwam</i> ‘to go work’	<i>dāwamt</i>	<i>dāwamit</i>
IV	<i>agāl</i> ‘to fire’	<i>agalt</i>	<i>agālit</i>
V	<i>tijawwaz</i> ‘to get marry’	<i>tijawwazt</i>	<i>tijawwazit</i>
VI	<i>tišāwar</i> ‘to consult’	<i>tišāwart</i>	<i>tišāwarit</i>
VII	<i>anšāl</i> ‘to be carried’	<i>anšalt</i>	<i>anšālit</i>
VIII	<i>artāḥ</i> ‘to take rest’	<i>artaḥt</i>	<i>artāḥit</i>
X	<i>astarāḥ</i> ‘to take rest’	<i>astaraḥt</i>	<i>astarāḥit</i>

Table 48: Conjugation of the trilateral verb attached to 1s. and 3f.s. suffixes

An interesting phonetic change is attested when deriving the active and passive participle from the hollow verb IIw. Consider these examples: *s-w-m* ‘to suggest a price’ and *b-y-ʕ* ‘to sell’ in comparison with the sound strong verb *j-m-ʕ* ‘to collect’.

Form I →	<i>s-w-m</i>	<i>b-y-ʕ</i>	<i>j-m-ʕ</i>
Active participle	<i>sāyim</i>	<i>bāyiʕ</i>	<i>jāmiʕ</i>
Passive Participle	<i>masyūm</i>	<i>mabyūʕ</i>	<i>majmūʕ</i>

Table 49: Active and passive participle forms of the verbs *sām*, *bāʕ*, and *jimaʕ*

While the active and passive participle of sound and hollow verb IIy keep the three radicals as they are, /w/ is realized as /y/ in participles of the hollow verb IIw, i.e., $C_1\bar{a}C_2iC_3$ and $maC_1C_2\bar{u}C_3$ become $C_1\bar{a}yiC_3$ and $maC_1y\bar{u}C_3$, respectively. This rule is restricted to Form I verbs.⁶⁸ In other verb forms, IIw is retained in the new derived forms, as in:

	Verb	Act. Part.	Pass. Part.
Form II (<i>g-w-m</i>)	<i>gawwam</i> ‘to cause standing up’	<i>mgawwim</i>	<i>mgawwam</i>
Form III (<i>ḥ-w-l</i>)	<i>ḥāwal</i> ‘to try’	<i>mḥāwil</i>	<i>mḥāwal</i>

Table 50: Active and passive participle forms of the verbs *gawwam* and *ḥāwal*

A sound change is also observed in the treatment of the defective verb where the third radical is /w/ or /y/, IIIw/y, as in: *ġ-z-w* ‘to raid’ and *ʔ-n-y* ‘to drape’, respectively:

⁶⁸ In other dialects, the glide in derived hollow verb Forms IX and X is realized as a long vowel /ī/ in the active participle and /ā/ in the passive participle (Watson, 2002: 150).

Infl.	Perfect	Imperfect	Perfect	Imperfect
3m.s.	<i>ġaza</i>	<i>yaġazi</i>	<i>ṭina</i>	<i>yaṭni</i>
3f.s.	<i>ġazat</i>	<i>taġazi</i>	<i>ṭanat</i>	<i>taṭni</i>
3m.p.	<i>ġazu</i>	<i>yaġazu</i>	<i>ṭanu</i>	<i>yaṭnu</i>
3f.p.	<i>ġazin</i>	<i>yagazan</i>	<i>ṭanin</i>	<i>yaṭnan</i>
2m.s.	<i>ġazēt</i>	<i>taġazi</i>	<i>ṭanēt</i>	<i>taṭni</i>
2f.s.	<i>ġazēti</i>	<i>taġazi</i>	<i>ṭanēti</i>	<i>taṭni</i>
2m.p.	<i>ġazētu</i>	<i>taġzu</i>	<i>ṭanētu</i>	<i>taṭnu</i>
2f.p.	<i>ġazētin</i>	<i>taġzan</i>	<i>ṭanētin</i>	<i>taṭnan</i>
1s.	<i>ġazēt</i>	<i>ʔaġzi</i>	<i>ṭanēt</i>	<i>ʔaṭni</i>
1p.	<i>ġazēna</i>	<i>naġzi</i>	<i>ṭanēna</i>	<i>naṭni</i>

Table 51: Conjugation of defective trilateral verbs *ġ-z-w* and *ṭ-n-y*

It follows from this table that the third radical /w/ or /y/ does not appear in any imperfect or perfect form of the stem: /w/ and /y/ are deleted in all conjugations of the imperfect verb forms and the third person perfect forms. /w/ and /y/ are monophthongized to /ē/ in the other perfect conjugations. This generalization extends to all defective derived forms.

Form	Defective	Perfect verb stem + 1/2m.s.	Imperfect verb stem + 1s.	Perfect verb stem + 3f.s.
II	<i>ṭanna</i> ‘to marry a second wife’	<i>ṭannēt</i>	<i>ʔaṭanni(y)</i>	<i>ṭannat</i>
III	<i>dāna</i> ‘to approach’	<i>dānēt</i>	<i>ʔadāni(y)</i>	<i>dānat</i>
IV	<i>agfa</i> to go away	<i>ʔagfēt</i>	<i>ʔagfi(y)</i>	<i>agfat</i>
V	<i>tisalla</i> ‘to entertain’	<i>tisallēt</i>	<i>ʔatisalla</i>	<i>tisallat</i>
VI	<i>tirāxa</i> ‘to slacken’	<i>tirāxayt</i>	<i>ʔatirāxa</i>	<i>tirāxat</i>
VII	<i>anʕama</i> ‘to become blind’	<i>ʔanʕamēt</i>	<i>ʔanʕami(y)</i>	<i>anʕamat</i>
VIII	<i>aġtana</i> ‘to become rich’	<i>ʔaġtanēt</i>	<i>ʔaġtani(y)</i>	<i>aġtanat</i>
X	<i>astahada</i> ‘to find the road’	<i>ʔastahdēt</i>	<i>ʔastahadi(y)</i>	<i>astahadat</i>

Table 52: Conjugation of trilateral verb (imperfect with 1s. and perfect with 1/2m.s. and 3f.s.)

In doubly weak verbs, the weak elements (/ʔ/, /w/ and /y/) undergo a phonological change in inflectional processes. Consider the following examples:

	<i>w-g-y</i> ‘to protect’		<i>ṭ-w-y</i> ‘to become strong’		<i>w-ṭ-ʔ</i> ‘to set foot on’	
Infl.	Perfect	Imperfect	Perfect	Imperfect	Perfect	Imperfect
3m.s.	<i>wiga</i>	<i>yāga</i>	<i>ṭuwa</i>	<i>yaṭwi</i>	<i>wuṭa</i>	<i>yāṭa</i>
3f.s.	<i>wigat</i>	<i>tāgi</i>	<i>ṭuwat</i>	<i>taṭwi</i>	<i>wuṭat</i>	<i>tāṭa</i>
3m.p.	<i>wigu</i>	<i>yāgu</i>	<i>ṭuwaw</i>	<i>yaṭwu</i>	<i>wuṭu</i>	<i>yāṭu</i>
3f.p.	<i>wigan</i>	<i>yāgan</i>	<i>ṭuwan</i>	<i>yaṭwan</i>	<i>wuṭan</i>	<i>yāṭan</i>
2m.s.	<i>wigēt</i>	<i>tāgi</i>	<i>ṭuwēt</i>	<i>taṭwi</i>	<i>wuṭayt</i>	<i>tāṭa</i>
2f.s.	<i>wigēti</i>	<i>tāgi</i>	<i>ṭuwēti</i>	<i>taṭwi</i>	<i>wuṭayti</i>	<i>tāṭi</i>
2m.p.	<i>wigētu</i>	<i>tāgu</i>	<i>ṭuwētu</i>	<i>taṭwu</i>	<i>wuṭaytu</i>	<i>tāṭu</i>
2f.p.	<i>wigētīn</i>	<i>tāgan</i>	<i>ṭuwētīn</i>	<i>taṭwan</i>	<i>wuṭaytīn</i>	<i>tāṭan</i>
1s.	<i>wigēt</i>	<i>ʔāgi</i>	<i>ṭuwēt</i>	<i>ʔaṭwi</i>	<i>wuṭayt</i>	<i>ʔāṭa</i>
1p.	<i>wigēna</i>	<i>nāgi</i>	<i>ṭuwēna</i>	<i>naṭwi</i>	<i>wuṭayna</i>	<i>nāṭa</i>

Table 53: Conjugation of doubly weak verbs *w-g-y*, *g-w-y*, and *w-ṭ-ʔ*

In the first example (*w-g-y*) and the second example (*ṭ-w-y*), it is noticed that the weak IIIy is elided in the perfect and imperfect forms. Iw in *w-g-y* and *w-ṭ-ʔ*, is preserved in the perfect aspect, but is lost in the imperfect aspect. IIw in *ṭ-w-y* is preserved in both the perfect and imperfect aspects. This suggests that /w/ and /y/ are treated as strong as they occupy the middle radical in doubly weak roots.

The analysis above leads us to conclude that the morphological system of WR Arabic has lost the distinction between IIIw, IIIy and IIIʔ. /w/, /y/ and /ʔ/ are weak elements in the sense that there are restrictions on how they combine and interact with vowels when they are root radicals. It has been seen that they are unstable elements; sometimes, they behave as regular consonants; sometimes, they do not manifest themselves in inflectional forms. Rather, they are realised as long or short vowels, and in some cases they are elided.

5.2.3 Concluding remarks

In dealing with verbal morphology, and the subsequent discussion of the next chapter on nominal morphology, I first presented a brief discussion of the root system in Arabic and the general processes of morpheme combining within pattern templates. Then, I examined the morphology of the verb in terms of derivation and inflection. The section investigated simple and the derived patterns of strong and weak verb forms, the morphosemantics of each pattern,

verb inflection for aspect, mood, tense, person, number, gender and voice, and then the morphophonological processes.

Chapter six

Non-verbal morphology

6.1. Introduction

This chapter deals with the nominal morphology of WR Arabic, and other non-verbal grammatical categories. In common with the literature on other Arabic dialects, the discussion of nominal morphology investigates the major categories of nominals, namely: substantives, derivatives, adjectives, pronouns, and quantifiers. The discussion examines the patterns and properties of inflection (including gender, number, person, definiteness, and agreement) of nouns and adjectives. It then examines pronouns, adverbs, prepositions, and particles. The analysis is guided by previous works, especially Watson (1993) on Şanşani Arabic, Asiri (2009) on Rijāl Alma? Arabic, and Davey (2013) on Coastal Dhofārī Arabic.

6.2. Nominal derivation

The term ‘nominal’ can be used as an umbrella term for all nominal parts of the sentence, including nouns, adjectives, pronouns and numerals. The study of Arabic nouns has posed problems for morphological analysis. According to the Arabic grammarians, the term ‘noun’ is not easy to be defined as no straightforward definition is handled; *ism* may assign everything that can be referred to as a noun. As cited in Bernards (2007: 424), the term *ism* is ‘a word [*kalima*, also *lafḍ* ‘sound’] indicating a meaning in itself and not containing any reference to time (e.g. Daḥdāḥ, 1990: 29; Ryding, 2005: 74, n. 1; Howell and Mukhopadhyay, 1990: I, 1)’. Wright (1974: I, 104ff.) discusses six kinds of nouns in Arabic: a noun that can be qualified by an adjective (common and proper nouns), adjectives, numbers, demonstrative pronouns, relative pronouns, and pronouns.

Nominals can be divided into two categories, namely ‘primitives/simple’ and ‘derivatives’ (cf., for instance, Holes, 2004; Edzard, 2008). Thus, *liban* ‘milk’, *jimal* ‘camel’ and *galam* ‘pen’ are examples of primitive nouns in WR Arabic; whereas, *misann* ‘file’, *mibrak* ‘camel barn’, and *tagnīb* ‘pruning’ are derivative nouns, derived from *sann* ‘to file’, *barak* ‘to sit down’, and *gannab* ‘to cut’, respectively.

Another classification posits that the noun class can be subdivided into three main sub-classes, namely, (1) substantives (which exhibit all the properties of the class of nouns), (2) verbal derivatives and adjectives (which exhibit most of the categories of the noun class), and (3)

pronouns and circumstants (which exhibit some of the properties of the noun class but also share some properties with the class of particles (cf. Watson, 1993: 23). In this work, I adopt the orientation of the last classification to investigate the nominal morphology in WR Arabic.

6.2.1 Substantives

Morphologically, substantives are ‘core nouns’ which display all the properties of the noun class (Watson, 1993: 23). In this sense, the term substantive is said to be used in words that refer to ‘substances’, i.e., names of persons, things, places (cf. Crystal, 2008: 463).

6.2.1.1 Proper nouns

Proper nouns, as in: *ramm* ‘Ramm village’, and common nouns, as in: *nāgah* ‘camel’ fall under the class of substantives. A proper noun, known in Arabic as *ism ḥalam*, refers to a unique entity, including personal nouns, as in: *ṭallāl* ‘Talal [male name], *tarfih* ‘Tarfih [female name]’, family or tribe names, as in: *zawāyidih* ‘Zawaidih [subtribe]’ *zalābyah* ‘Zalabiah [subtribe]’, mountains, as in: *al-xarj* ‘Al-Xarj mountain’, *al-xazḥali* ‘Al-Xazḥali mountain’, animal names, as in: *kḥaylān* ‘Kḥaylān [horse m. name]’, *ḥamm masḥūd* ‘Umm Masḥūd [camel f. name]’, plant names, as in: *al-ḡaḍa* ‘ḡaḍa; euphorbia’, geographical places, as in: *al-ḡāḥ* ‘al-Gāḥ [plain full of mud between Ramm and Ad-Dīsih]’, names of the days of the week, as in: *at-tulūt* ‘Tuesday’, *ar-rubūḥ* ‘Wednesday’, and names of months, as in: *ramadān* ‘Ramadan [the month of fasting]’.

6.2.1.2 Common nouns

Common nouns are divided into concrete nouns, as in: *dallih* ‘metal coffee jug’ and abstract nouns, as in *wifa* ‘trustfulness’ (cf. Watson, 1993: 23; Haywood and Nahmad, 1965: 357). Concrete nouns are subdivided into count nouns, as in: *girbih* ‘water sack’, collective nouns, as in: *ḡanam* ‘sheep’, and mass nouns, as in: *zēt* ‘oil’.

Grammatically, mass nouns cannot be directly modified by a numeral. Mass nouns are singular in number, and the majority of mass nouns are masculine in gender. They differ from collective nouns in terms of referentiality and grammaticality in that they do not refer to a set of objects and singulatives cannot be formed from mass nouns. Examples of mass nouns in WR Arabic include: *ḥūf* ‘wool’, *ḡamḥ* ‘wheat’, *wahad* ‘stuff’, *liban* ‘milk’, *hawa* ‘air’, *ṭiḥīn* ‘flour’, *faḥam* ‘coal’, *zubbih* ‘butter’, *xubiz* ‘bread’, *jirjib* ‘thick/Greek yoghurt’, *ḡahawah* ‘coffee’. Though mass nouns do not inflect for dual, they do inflect for plural (usually taking the sound feminine plural), as in: *ḥūfāt* ‘wool’, *ḡamḥāt* ‘wheat’, *w(a)hadāt* ‘stuff’, *libanāt* ‘milk’, *hawayāt* ‘air’,

tihīnāt ‘flour’, *faḥamāt* ‘coal’, *zudāt* ‘butter’, *xubzāt* ‘bread’, *jirijbāt* ‘thick yoghurt’, *gahawāt* ‘coffee’, *zētāt* ~ *zyūt* ‘oils’.

Collective nouns, in Arabic known as *ism jins jamʿi*, denote a group of objects regarded as a unit. Collective nouns in WR Arabic are grammatically singular, and, with few exceptions, may derive a singulative, through suffixation of *-ah*, as in: *baṭṭīx* ‘watermelons’ vs. *baṭṭīxah* ‘watermelon’; *bēḍ* ‘eggs’ vs. *bēḍah* ‘egg’; *naxl* ‘palm trees’ vs. *naxalih* ‘palm tree’; *ṣayd* ‘prey’ vs. *ṣaydih* ‘a single prey’; *naḥl* ‘bees’ vs. *naḥalah* ‘bee’.

Some nouns that refer to a group of things inherently do not have a singular from the same root; such nouns are referred to in Arabic as *ism jamʿ*. Here are some examples:

<i>ism jamʿ</i>	gloss	singulative	gloss
<i>bill</i>	‘camels’	<i>jamal/nāgah</i>	‘camel m./f.’
<i>ḡanam</i>	‘sheep’	<i>šāh/naṣajah/xarūf/kabiš/ṭili</i>	‘lamb/ewe/ram/kid’
<i>zamil</i>	‘ten male camels’	<i>biṣṭir/jimal</i>	‘camel m.’
<i>dōd</i>	‘ten female camels’	<i>nāgah</i>	‘camel f.’

Table 54: *ism jamʿ* in WR Arabic

WR Arabic may deal with this kind of nouns as singular, considering its grammatical form, or plural, considering its meaning. In terms of agreement, both forms are used, as in:

- (1) *jaw* *al-jēš* *wi-hjam-aw* *ʕa-l-atrāk*
 came.3m.p. the-army and-attacked-3m.p. on-the-Turks
 ‘the army attacked the Turks’
jaʔ *al-jēš* *w-hijam* *ʕa-l-atrāk*
 came.3m.s. the-army and-attack-3m.s. on-the-Turks’
 ‘the army attacked the Turks’

As a singular entity, these nouns may have plural forms, as in: *jēš* ‘army’ has *juš* ‘armies’; *ṣaylih* ‘family’ has *ṣawāyil* ‘families’; *šaʕb* ‘nation’ has *šʕūb* ‘nations’.

6.2.1.3 Substantive patterns

The following is a list of the more frequent basic patterns of substantives attested in WR Arabic. They are represented in a series of Cv patterns; the table includes the canonical forms covering the majority of basic nouns which conform to the mono-syllabic or bi-syllabic rule, and begin

with a CV sequence. Non-canonical forms include deverbal derivatives, such as: verbal nouns, participles (active and passive participles), diminutives, nouns of instrument, locative nouns (nouns of place or time), and nouns of profession (§ 6.2.2).

Pattern	Example	Pattern	Example
C ₁ aC ₂ C ₃	<i>sarj</i> ‘saddle’	C ₁ aC ₂ C ₂ āC ₃	<i>ṭabbāx</i> ‘cook’
C ₁ iC ₂ C ₃	<i>bint</i> ‘girl’	C ₁ aC ₂ C ₂ āC ₃ ah	<i>maṣṣāṣah</i> ‘lollipop’
C ₁ uC ₂ C ₃	<i>xur(u)j</i> ‘sack’	C ₁ uC ₂ C ₂ āC ₃	<i>nuggāṭ</i> ‘water line dripper’
C ₁ ēC ₃	<i>gēd</i> ‘chain’	C ₁ uC ₂ C ₂ āC ₃ ih	<i>dukkānih</i> ‘shop’
C ₁ āC ₃	<i>dār</i> ‘house’	C ₁ īC ₂ āC ₃	<i>dīwān</i> ‘sheikh’s tent’
C ₁ īC ₃	<i>bīr</i> ‘well’	C ₁ iC ₂ īC ₃ ih	<i>sifṭīh</i> ‘part of the saddle’
C ₁ C ₂ ūC ₃	<i>rjūd</i> ‘graveyard’	C ₁ āC ₂ ūC ₃	<i>māṣūn</i> ‘plate’
C ₁ C ₂ āC ₃	<i>ḥṣān</i> ‘horse’	C ₁ C ₂ āC ₃ ih	<i>wsādih</i> ‘cushion’
C ₁ aC ₂ C ₃ ih	<i>fanṣīh</i> ‘English gun’	C ₁ aC ₂ iC ₃	<i>fajir</i> ‘dawn’
C ₁ iC ₂ C ₃ ih	<i>gīrbih</i> ‘water sack’	C ₁ aC ₂ īC ₃	<i>ḥalīb</i> ‘milk’
C ₁ uC ₂ C ₃ ah	<i>ḥurmah</i> ‘wife’	C ₁ aC ₂ ūC ₃	<i>xarūf</i> ‘lamb’
C ₁ aC ₂ aC ₃	<i>laḥam</i> ‘meat’	C ₁ iC ₂ īC ₃	<i>biṣīr</i> ‘camel m.’
C ₁ iC ₂ aC ₃	<i>risan</i> ‘halter’	C ₁ iC ₂ C ₁ iC ₃	<i>jirjib</i> ‘thick yoghurt’
C ₁ āC ₃ ah	<i>nāgah</i> ‘camel f.’	C ₁ aC ₂ C ₃ ūC ₄	<i>ṣarbūd</i> ‘bread’
C ₁ aC ₂ C ₃ ah	<i>ḡarfah</i> ‘big spoon’	C ₁ aC ₂ aC ₃ ah	<i>gahawah</i> ‘coffee’
C ₁ āC ₂ iC ₃	<i>wāṣīṭ</i> ‘main column of tent’		

Table 55: Substantive patterns in WR Arabic

Substantives, proper nouns and common nouns are open-system items in the sense that this class can be expanded by accommodating new words, as in: *winš* ‘winch’, *trēn* ‘train’, *bāṣ* ‘bus’, *lōrans* ‘Lawrence [male name]’, *fōrbayfōr* ‘four by four car’, *bukam* ‘pick-up car’, *matūr* ‘motor’, *budi* ‘body’, *kafar ~ kavar* ‘cover’, *gīr* ‘car gear’.

6.2.2 Deverbal nominal derivatives

Following Wright (1974: I, 106), WR Arabic derivative nouns are subcategorized into ‘deverbal’, as in: *misann* ‘file’ from *sann* ‘to file’; ‘denominal’, as in: *mizbalah* ‘dustbin’ from *zibil* ‘droppings, and nouns that are derived from particles, as in: *kammiyyih* ‘quantity/large amount of’ from *kam* ‘how much’. In turn, derivative nouns may be substantives or adjectives;

all primitive nouns and the majority of loanwords are substantives. Deverbal derivatives (especially participles and, to a lesser degree, verbal noun) distinguish themselves from the other types of nouns by being able to substitute their verbal counterpart, as in:

- (2) *sāmṣīn aṣ-ṣawt* vs. *yasmaṣaw ṣ-ṣawt* ‘hearing m.p./they m. hear the voice m.’
sāygiḥ is-siyyārah vs. *tsūg as-siyyārah* ‘driving f.s./she is driving the car’
ḥakla l-ḥarbūd vs. *nākul al-ḥarūd* ‘eating/we are eating ḥarboud (bread)’

Most nouns in WR Arabic are derived from three-root consonants; some have four-root consonants; and a few have five-root consonants (most of these are loan words, as in: *tilfiẓyōn* ‘television’). The following sections investigate the most important types of deverbal and denominal derivatives together with their typical semantic content.

6.2.2.1 Verbal noun

Verbal noun, also known in Arabic as *al-maṣdar*,⁶⁹ is a nominal derived form that denotes a situation or an event without any reference to time. It is closely associated with the derived patterns of the verb (Rajihi, 1984). Verbal nouns may have different functions in the sentence which other elements of the category noun do not have. Thus, it may be ambiguous when it is taken out of the context. It may denote the actual occurrence of an activity or the possibility of its occurrence, as in: *ḥāwalt ṣaydha* ‘I tried to hunt it f.’ (but I failed) vs. *ṣaydha ḥatṣabni* ‘it was difficult to hunt it f.’ (I succeeded in the end). It may correspond to an activity or its occurrence, *aṣ-ṣiḥr yamši fi-dammna* ‘poetry is part of our life’ (general process) vs. *ṣiḥrak zēn* ‘your m.s. poetry is interesting’ (product). Within a single context, a verbal noun may be ambiguous and only the larger situational context disambiguates its meaning; for example, *ḍabḥak ḥalāl* could mean either ‘to kill you m.s. is Halal/you deserve punishment’ (the process of killing somebody) or ‘your m.s. way of slaughtering (animals) is Halal’ (the product of killing). The action/result ambiguity of the verbal noun is a common feature shared between MSA and Arabic dialects (cf. Rosenhouse, 2004, 2009).

⁶⁹ Sībawayh describes it as ‘noun of the event’ as he thinks that it is the basis from which the verb originates. This opposes the Kūfan theory, which claims that the verb is the origin of deriving the noun (al-Ḥanbārī, *Ḥinṣāf* I, *masḥalah* 28 cited in Ditters, 2008). The issue of originality/referentiality between the verbal noun and the finite verb is still debatable between the Baṣran and Kufan grammarians in Ibn al-Ḥanbārī’s *Ḥinṣāf* (102; no. 28 in the enumeration of the Leiden codex). The Kufan grammarians argue that the verbal noun is derived from the verb, whereas the Baṣran grammarians claim that verb is derived from the verbal noun

The verbal noun in WR Arabic is derived from the verb forms, for example: *ktābih* ‘writing’ is derived from Form I *kitab* ‘to write’. The pattern of the majority of Form I verbal nouns cannot be predicted from either the meaning or transitivity of the verb. The following are the most common Form I verbal noun forms in WR Arabic:

Form I	Example	Form I	Example
C ₁ aC ₂ aC ₃	<i>xajal</i> ‘shyness’	C ₁ īC ₃ ih	<i>jīzih</i> ‘marriage’
C ₁ aC ₂ (i)C ₃	<i>wasim</i> ‘brand’	C ₁ C ₂ āC ₃ ih	<i>grāyih</i> ‘studying’
C ₁ aC ₂ C ₃	<i>ṭaxx</i> ‘shooting’	C ₁ uC ₂ āC ₃	<i>duwām</i> ‘work’
C ₁ uC ₂ (u)C ₃	<i>šur(u)b</i> ‘drink’	C ₁ aC ₂ aC ₃ ān	<i>ṭayarān</i> ‘flying’
C ₁ uC ₂ aC ₃	<i>buṭar</i> ‘squandering’	C ₁ C ₂ āC ₃ ih	<i>drāsih</i> ‘study, harvesting’
C ₁ iC ₂ iC ₃	<i>fihim</i> ‘understanding’	C ₁ C ₂ ūC ₃ ih	<i>rjūlih</i> ‘manhood’
C ₁ aC ₂ āC ₃	<i>falāḥ</i> ‘success’	C ₁ iC ₂ C ₃ ih	<i>fitnih</i> ‘temptation/seduction’
C ₁ iC ₂ āC ₃	<i>fisād</i> ‘corruption’	C ₁ C ₂ āC ₃	<i>ḥdād</i> ‘mourning’
C ₁ iC ₂ īC ₃	<i>riḥīl</i> ‘departure’	C ₁ aC ₂ a	<i>ḥaya</i> ‘shyness’
C ₁ aC ₂ āC ₃ ih	<i>ḥašāmih</i> ‘beauty’	C ₁ iC ₂ i	<i>rija</i> ‘hope’
C ₁ aC ₂ aC ₃ ah	<i>barakah</i> ‘blessing’	C ₁ ūC ₃	<i>jūf</i> ‘hunger’
C ₁ iC ₂ āC ₃ ah	<i>nibāhah</i> ‘smartness’	C ₁ ēC ₃	<i>kēf</i> ‘mood/temper’
C ₁ C ₂ ūC ₃	<i>dḥūl</i> ‘rolling down smoothly’	C ₁ ōC ₃	<i>gōd</i> ‘driving/leading’

Table 56: Form I verbal noun patterns in WR Arabic

The most basic pattern of the Form I verbal noun has the C₁vC₂(v)C₃ structure. Some verbal nouns take the feminine suffix, as in: *ḥašāmih* ‘beauty’. Although the Form I verbs may share the same vowel melody, they do not share the same template of the verbal nouns, as in: *dḥūl* ‘rolling down smoothly’ (from *daḥal* ‘to roll down’) and *riḥīl* ‘departure’ (from *raḥal* ‘to depart’).

In a few cases, the pattern of Form I verbal nouns in WR Arabic can be predicted. For instance, C₁aC₂āC₃ih and C₁iC₂āC₃ah are usually associated with personal characteristics and qualities, as in: *ḥašāmih* ‘elegance’, *faxāmih* ‘grandeur’, *razānih* ‘sobriety’, *nibāhah* ‘smartness’. C₁C₂āC₃ih generally denotes professions or crafts, such as *drāsih* ‘study; harvesting’, *ḥrāṭih* ‘farming’, *ḥdādih* ‘metalwork’. C₁C₂ūC₃ denotes motions, such as: *hjum* ‘attack’, *dḥūl* ‘rolling down’, *ṭlūf* ‘going up’, *rjūf* ‘return’, *nzūl* ‘going down’.

While the pattern of many Form I verbal nouns cannot be predicted from either the meaning or transitivity of the verb, the pattern of verbal nouns derived from derived verb forms are easily predicted, as in:

Form	Pattern	Example
II	taC ₁ C ₂ iC ₃ , taC ₁ C ₂ uC ₃ ah	<i>taḥkīm</i> ‘arbitration’, <i>tajrubah</i> ~ <i>tajurbah</i> ‘experience’
III	mC ₁ āC ₂ aC ₃ ah/ih, C ₁ C ₂ āC ₃	<i>mdāhanih</i> ‘lubricate’ <i>jdāl</i> ‘argument’
IV	iC ₁ C ₂ āC ₃ , iC ₁ āC ₃ ah/ih (hollow verb)	<i>iḥsān</i> ‘kindness’ <i>ijāzih</i> ‘vacation’
V	tC ₁ iC ₂ C ₂ iC ₃ , tC ₁ aC ₂ C ₂ i (defective)	<i>tḥissin</i> ‘improvement’ <i>tḥaddi</i> ‘challenge’
VI	taC ₁ āC ₂ uC ₃	<i>tanāfus</i> ‘competition’
VII	C ₁ aC ₂ iC ₃	<i>anfiṣāl</i> ‘separation’
VIII	aC ₁ tiC ₂ āC ₃	<i>ajtimāf</i> ‘meeting’
X	astiC ₁ C ₂ āC ₃ astiC ₁ āC ₃ ah (hollow verb)	<i>astiḡfār</i> ‘repenting’ <i>astigālah</i> ‘resignation’
Q. I	CaCCaCah, CvCCāC	<i>wašwašah</i> ‘whispering’, <i>burhān</i> ‘proof’, <i>zilzāl</i> ‘earthquake’
II	tCiCCiC	<i>tsilsil</i> ‘graduation’

Table 57: Verbal noun patterns of derived verb forms in WR Arabic

The derived verbal noun forms II-X may have one, two or three patterns (of which VI, VII, and VIII, have one form each). These non-concatenative structures may be reproduced by internal derivational affixes (i.e. with internal lengthening of vowels and/or gemination of either the second or third radical, as well as prefixation of *m-*, *ʔ-* or *t-*). Some verbal nouns are derived with the feminine suffix, as in *astigālah* ‘resignation’.

Certain predicted verbal nouns of derived verb forms are not found. For example, in *angād* ‘to be led’, *anšāl* ‘to be held’, or *angaṭaṣ* ‘to be cut’, the verbal noun is predicted to be *angiyād*, *anšiyāl*, and *angiṭāṣ*, but this form does not occur: *gōd*, *šēl*, and *gaṭṣ* are used in the dialect instead. It is generally noticed that Form V and VII do not have specific verbal noun forms, as in: *taʔallam* ‘to suffer’, *taʔallam* ‘to study’, *tikallam* ‘to speak’, *angaṭam* ‘to be broken’, *anjarah*

‘to be wounded’. To express the verbal noun of such verbs, a native speaker resorts to the Form I verbal noun: *ḥalam* ‘pain’, *ʿilm* ‘knowledge’, *kalām* ‘speech’, *gaṭm* ‘breaking’, *juruḥ* ‘wound’, respectively.

6.2.2.2 Participles

Two participles are found in WR Arabic, namely active participles, *ism al-fāʿil* (lit. noun of the agent), and passive participles, *ism al-mafʿūl* (lit. noun of the patient). Participles reflect voice: active participle refers to the doer of the action (Holes, 2004: 149); passive participle refers to the object of the action and derived from any form of transitive verb to refer to the object of the action.

The patterns of the participles are predictable in WR Arabic. Their derivation depends on the number of consonantal segments the verb has. With Form I, the active participle has the form $C_1\bar{a}C_2iC_3$, and the passive participle the form $maC_1C_2\bar{u}C_3$, as in:

Form I	Gloss	Active Participle	Passive Participle
k-t-b	‘to write’	<i>kātib</i>	<i>maktūb</i>
s-ʔ-l	‘to ask’	<i>sāʔil</i>	<i>masʔūl</i>
r-m-y	‘to throw’	<i>rāmi</i>	<i>marmi</i>
s-w-m	‘to suggest a price’	<i>sāyim</i>	<i>masyūm</i>
š-r-b	‘to drink’	<i>šārib</i>	<i>mašrūb</i>

Table 58: Form I participle patterns in WR Arabic

Exceptions to these predictable patterns are found in weak roots; in the hamzated verb Iʔ, the active participles of *ḥakal* ‘to eat’ and *ḥaxaḍ* ‘to take’ are *mākil* and *māxiḍ*. The second radical /w/ in the hollow verb IIw surfaces as /y/ in both participles (§ 5.2.2.4, table 49), as in: *s-w-m* ‘to suggest a price’ > *sāyim* ‘suggesting a price’ and *masyūm* ‘suggested; evaluated’. In some lexemes the passive participle does not fit the sound pattern, as in: *b-w-g* ‘to steal’, *minbāg* ~ *mimbāg* (**mabyūg*), *š-y-l* ‘to carry’, *minšāl* ‘carried’, (**mašyūl*). The defective verb has the pattern $C_1\bar{a}C_2i$ for the active participle, as in: *s-r-w* ‘to go early’ > *sāri* ‘going early’, *t-n-y* ‘to drape’ > *ṭāni* ‘draping’ and maC_1C_2i for the passive participle, as in: *masri* ‘gone early’, *maṭni* ‘draped’. The geminate verb has the pattern $C_1\bar{a}C_2C_3$ for the active participle, e.g., *l-d-d* ‘to look at’ is derived as *lādd* ‘looking for’; but adopts the sound pattern of the passive participle $maC_1C_2\bar{u}C_3$. The table below gives examples:

Form I	Gloss	Active Participle	Passive Participle
d-n-w	‘to be close’	<i>dāni</i>	<i>madni</i>
b-n-y	‘to build’	<i>bāni</i>	<i>mabni</i>
s-m-m	‘to poison’	<i>sāmm</i>	<i>masmūm</i>

Table 59: Form I participle forms of defective and geminate verbs

When the verb form has more than three consonants (with the derived Forms II-X, and Quadrilateral Forms I-II), both participles are formed by *m*-prefixing; the active and passive participle are distinguished by the quality of the right-most stem vowel, as in:

Form	Verb stem	Gloss	Act. Part.	Pas. Part.
II	<i>ṭahhar</i>	‘to circumcise’	<i>mṭahhir</i>	<i>mṭahhar</i>
III	<i>xāṭab</i>	‘to address’	<i>mxāṭib</i>	<i>mxāṭab</i>
IV	<i>arsal</i>	‘to send’	<i>mirsil</i>	<i>mirsāl</i>
V	<i>tijawwaz</i>	‘to get marry’	<i>mijjawwiz</i>	<i>mjawwaz</i>
VI	<i>taḥāsab</i>	‘to be accounted’	<i>mithāsib</i>	<i>mḥāsab</i>
VI	<i>tinōmas</i>	‘to be proud of’	<i>mitnōmis</i>	<i>mnōmas ~ mitnōmas</i>
VII	<i>anṣazal</i>	‘to be isolated’	<i>minṣizil</i>	<i>maṣazūl ~ mṣazūl</i>
VIII	<i>antiṣar</i>	‘to win’	<i>mintiṣir</i>	<i>manṣūr</i>
X	<i>astaṣār</i>	‘to consult’	<i>mistaṣīr</i>	<i>mistaṣār</i>
Quad.I	<i>tarjam</i>	‘to translate’	<i>mtarjim</i>	<i>mtarjam</i>
Quad.II	<i>tilaṣṭam</i>	‘to stammer’	<i>mitlaṣṭim</i>	<i>mḷaṣṭam</i>

Table 60: Participle patterns of the derived verb forms

In the case of passive participle derivation, in lexically specific cases some derived verbs adopt patterns associated with other forms: for example, the passive participle of Form V may be isomorphic with that of Form II, as in: *tijawwaz* ‘to get marry’ > *mjawwaz* ‘married’; the passive participle of Form VI may be isomorphic with that of Form III, as in: *taḥāsab* ‘to be accounted’ > *mḥāsab*; the passive participle of Forms VII and VIII may be isomorphic with that of Form I, as in: *anṣazal* ‘to be isolated’ > *maṣazūl ~ mṣazūl*, *antaṣar* ‘to win’ > *manṣūr*; the passive participle of quadrilateral Form II may be isomorphic with that of quadrilateral Form I, as in: *tilaṣṭam* ‘to stammer’ > *mḷaṣṭam*. Furthermore, the active participle of the above mentioned forms (V, VI, VII, VIII, and Quadrilateral II) may function for both participle patterns when derived from transitive verbs that denote passive meaning, such that only the context determines which participle is intended, as in:

- (3) *hēda l-walad mijjawwiz binti* ‘this boy is getting married to my daughter’
hēdi l-bint mijjawzih ʕindina ‘this girl is being got married (to somebody) here’

Forms II, III, X, and Quadrilateral I, however, have regular patterns with a clear active-passive contrast based on the quality of the right-most stem vowel, as in: *jabbar* ‘to splint’ > *mjabbir* ‘the one who splints bone/technician’ > *mjabbar* ‘one who is being splinted’; *gāṭaʕ* ‘to boycott’ > *mgāṭiʕ* ‘boycotting’ > *mgāṭaʕ* ‘boycotted’; *astašār* ‘to consult’ > *mistašīr* ‘consulter’ > *mistašār* ‘consultant’; *garbal* ‘to sift’ > *mgarbil* ‘sifting’ > *mgarbal* ‘sifted’.

Both types of participles may function as adjectives or as substantives, as in: *tābiʕ* ‘stamp; printing’, *jāmiʕ* ‘mosque; collecting’, *mašrūʕ* ‘project; legal’, *maktūb* ‘letter; written’. In some cases, WR Arabic uses an active participle form to function as the noun of instrument, as in: *šāḥin* ‘charger’, *šāḥnah* ‘lorry’, *munabbih* ‘alarm clock’, *muḥawwil* ~ *mḥawwil* ‘adaptor’, *mukayyif* ~ *mkayyif* ‘air conditioning’ (§ 6.2.2.5). In very few cases, active participles have become grammaticalised as adverbs, as in: *ʔābliḥ* ‘yesterday’, *gābliḥ* ‘tomorrow’, *xārij*, outside’ *dāxil* ~ *fāyit* ‘inside’ (§ 6.6.1). In the following examples of active participles in context, the first functions as an adjective, the second as a substantive, and the third as an adverb:

- (4) *al-walad al-fāliḥ* ‘the successful boy’
as-sāyiḥ ambiṣaṭ ‘the tourist was happy’
ana xār(i)j ‘I am outside’

The passive participle may designate noun of place or time, as in: *mujammaʕ* ‘bus station’, *mustawṣaʕ* ‘clinic’, *muxayyam* ‘camp’, *muʕaskar* ‘army camp’, *muxtabar* ‘laboratory’, *mustašfa* ‘hospital’, *mustaḥmarah* ‘settlement’, *mujtamaʕ* ‘society’, *mustagbal*, ‘future’, *murtafaʕ* ‘high landscape’ (§ 6.2.2.4). The passive participle may take the pattern C₁iC₂īC₃/C₁uC₂īC₃, as in: *ṣuwīb* ‘wounded’, *jirīḥ* ‘wounded’, *gītīl* ‘killed’, *ṭīlīb* ‘wanted’, *minīʕ* ‘jailed’, *šuwīr* ‘consultant’ as compared to *mušāb*, *majrūḥ*, *magtūl*, *maṭlūb*, *mamnūʕ*, *mustašār*, respectively.

Temporal meaning is conveyed in WR Arabic for a high degree of productivity by means of the active participle (cf. Eades and Watson, 2013: 25). Verbal participles distinguish themselves from the other nouns and particles by encoding a sense of tense/aspect. For instance, the tense/aspect sense denoted by the imperfect form of the verb stem may also be conveyed by the active participle; the active participle of verbs of motions exhibits motions intended (5a) or in progress (5c), whereas the active participle of stative verbs describes a state event (5c) (implying

continuity/habituality with dynamic verbs, and future or continuation with stative verbs) (§ 5.2.2.2), as in:

- (5) a) *tara jāyyak il-lēlih* ‘I am going (intend) to visit you tonight’
b) *hayhum lāhgīnni* ‘they are following me’
c) *ʔana wāgij barra* ‘I am standing up outside’

The active participle may also indicate near past, as in:

- (6) *šārib šāy w-jāy* ‘I have already drunk tea and come’

The verbal function of the active participle is one feature that distinguishes WR Arabic from Negev Bedouin, which uses the *b*-imperfect (Blanc, 1970: 139) in place of the active participle of WR Arabic.

The passive participle, in turn, assigns a perfective meaning when derived from verbs of motion. It denotes tense/aspect sense either of a completed action, as in (7a) and (7b), or expresses that the object continues to feel the effects of a completed activity, as in (7c) and (7d):

- (7) a) *gahawatak mašrūbah* ‘your coffee was drunk’
b) *al-bnayyih mtaššamah* ‘the baby girl was vaccinated’
c) *al-jarrah madfūnih* ‘the jug is buried’
d) *al-mayyih magtūšah* ‘the water has been cut’

Participles are distinguished morphologically from verbs by not taking subject pronoun suffixes to express person. Though participles exhibit context-independent morphological contrast of gender and number, they show no person (only the context does that). For example: *šārfīn* may mean ‘we know’, ‘you m.p. know’, or ‘they m.p. know’, *šārif* may mean ‘he knows’, ‘I know’ or ‘you m.s. know’. With verbs, they pattern as: *našarf* ‘we know’, *tašarfaw* ‘you m.p. know’, *yašarfaw* ‘they m. know’, *yašarf* ‘he knows’, *ʔašarf* ‘I know’, *tašarf* ‘you m.s. know’.

In the following sections, I examine other nominal derivatives, namely diminutives, nouns of instrument, and nouns of place and time. I start with diminutive nouns.

6.2.2.3 Diminutive nouns

Diminutives may denote smallness, as in: *brayyig ~ Brayīg* ‘small jug’, endearment or affection, as in: *ḥraymah* ‘wife’, contempt, as in: *mrayyah* ‘lit. little woman/coward’. Semantically,

diminutives denote different senses depending on the noun from which they are derived. Diminutives derived from count nouns may convey smallness in size or importance; whereas those derived from mass nouns may convey the sense of smallness of amount (cf. Watson, 2006: 191, 2012: 62). Diminutives are productive and commonly used in WR Arabic by both males and females. This is evident from the wide range use of hypocoristics for men's and women's names and place names, as in: *zwayyid*, *swēlim*, *krayyim*, *hlayyil*, *ḥsēn* [male names], *zwēnah*, *ršēdih*, *zhērih* [female names] (cf. Zawaydeh and Davis, 1999), *ṭwaysih*, *mnēšīr*, *gwērih* [villages names]. Many substantives, adjectives, and some adverbs⁷⁰ have diminutive patterns. Diminutive patterns are predictable and depend on the pattern of the non-diminutive stems. Table 61 gives examples attested in WR Arabic.

Pattern	Plain form	Diminutive	Gloss
C ₁ C ₂ ayyiC ₃	<i>brīg</i>	<i>brayyig</i> ~ <i>brayīg</i>	'water jug'
C ₁ C ₂ ēC ₃ (ih)	<i>walad</i>	<i>wlēd</i>	'boy'
	<i>dār</i>	<i>dwērih</i>	'home'
C ₁ wēC ₂ iC ₃	<i>šāfir</i>	<i>šwēfir</i>	'poet'
C ₁ C ₂ ēC ₃ īC ₄	<i>buṣṭār</i>	<i>bṣēṭīr</i>	'boot'
mC ₁ ēC ₂ īC ₃	<i>miftāḥ</i>	<i>mfēṭīḥ</i>	'key'
C ₁ aC ₂ C ₂ ūC ₃	<i>fāṭmih</i>	<i>faṭṭūm</i>	'Fatima, name f.'
	<i>muṣṭaṣim</i>	<i>ṣaṣṣūm</i>	'Mu'tasim, name m.'
	<i>gāsīm</i>	<i>gassūm</i>	'Gasim, name m.'

Table 61: Diminutive patterns in WR Arabic

With few exceptions, diminutives are marked by long vowels in the final or penultimate syllable and by changing the pattern of the base noun. The most productive diminutive patterns in WR Arabic are C₁C₂ayyiC₃, C₁C₂ēC₃, and C₁C₂ēC₃īC₄. Forms with more than three consonants or including long vowels in the final syllable frequently employ the pattern C₁C₂ēC₃īC₄/mC₁ēC₂īC₃, as in: *bṣēṭīr* 'boot [dim]', *mfēṭīḥ* 'key [dim]'. Diminutives are frequently found in hypocoristics employ the pattern C₁aC₂C₂ūC₃, constructed by internal vowel change (accompanied with V₁ shortening and V₂ lengthening) and C₂ gemination, as in *faṭṭūm*, *ṣaṣṣūm* [proper names], and sometimes C₁ deletion, as in *ṣaṣṣūm* < *muṣṭaṣim* 'Mu'tasim [male name]', *barhūm* < *ḥibrāhīm* 'Ibrahim [male name]'.

⁷⁰ The adverbs *hān* 'here' and *gabiḷ* 'before' are frequently used in their diminutive pattern as *hnayya* and *gbēlān*.

Diminutives may be derived from adjectives, as in: *xafif* ‘lightweight’ > *xfayyif*, *hayyin* ‘easy’ > *hwayyin*. As for other adjectives (§ 6.3.2), their diminutive forms inflect for number, gender, and definiteness, as in: *xfayyif* ‘lightweight [dim]’ > *xfayyifih* ‘lightweight f.s.’; *xfayyifin* ‘lightweight m.p.’; *xfayyifāt* ‘lightweight f.p.’; *al-xfayyif* ‘the lightweight’. Diminutive adjectives can also be formed from colours of the pattern $\text{ʔaC}_1\text{C}_2\text{aC}_3$, where they have three possible patterns: $\text{ʔaC}_1\text{ēC}_2\text{iC}_3$, $\text{C}_1\text{C}_2\text{ēC}_3$,⁷¹ and $\text{C}_1\text{C}_2\text{ayyiC}_3$, of which $\text{ʔaC}_1\text{ēC}_2\text{iC}_3$ and $\text{C}_1\text{C}_2\text{ēC}_3$ patterns are more common than $\text{C}_1\text{C}_2\text{ayyiC}_3$, as in:

- (8) Colour adjective diminutive form
- ʔasmar* ‘brown’ *ʔasēmīr* ~ *smayyīr* ~ *smēr*
- ʔašgar* ‘blond’ *ʔašēgīr* ~ *šgayyīr* ~ *šgēr*
- ʔah(a)mar* ‘read’ *ʔahaymīr* ~ *ḥmayyīr* ~ *ḥmayr*
- ʔkhal* ‘dark blue’ *ʔakēḥīl* ~ *kḥayyīr* ~ *kḥayl*

Diminutives can be derived from plural nouns as well. Depending on the context, plural diminutives denote paucity in number or a number of small entities:

Plural noun	Plural diminutive	Gloss
<i>grūš</i>	<i>grēšāt</i>	‘money’
<i>darāhim</i>	<i>drēhmāt</i>	‘dirhams’
<i>šyāh</i>	<i>šwēhāt</i>	‘sheep’
<i>hdūm</i>	<i>hdaymāt</i>	‘clothes’
<i>ʕyūn</i>	<i>ʕwēnāt</i> ~ <i>ʕwaynāt</i>	‘eyes’
<i>ḡurfīn</i>	<i>ḡrayfēn</i>	‘two rooms’
<i>ḡuraf</i>	<i>ḡrayfāt</i>	‘rooms’

Table 62: Plural diminutives in WR Arabic

In table 61, the feminine diminutive preserves the feminine gender of the base through the feminine suffix, as in: *binit* ‘girl’ > *bnayyih*, *dār* ‘house’ > *dwērih*. In table 62, the diminutive plurals exhibit the regular feminine plural suffix *-āt*.

6.2.2.4 Nouns of place and time

A noun that indicates a place such as a building, area, etc. is referred to as noun of place *ism al-makān*. A noun that indicates a time is referred to as noun of time *ism az-zamān*. The basic noun

⁷¹ Where C_1/C_2 is guttural consonant, the patterns are realised as: $\text{ʔaC}_1\text{ayC}_2\text{iC}_3$ and $\text{C}_1\text{C}_2\text{ayC}_3$ (§ 3.2.1)

of place and time patterns share the process of prefixing *mv-* to the Form I stem. The most commonly attested patterns are $maC_1C_2aC_3$, $maC_1C_2iC_3$, and $maC_1C_2aC_3ih/ah$. The following items are examples of the most frequent patterns for noun of place and time in WR Arabic:

Pattern	Examples
$maC_1C_2iC_3$	<i>majlis</i> ‘sitting room’, <i>mawfid</i> ~ <i>mōfid</i> ‘appointment’ <i>mağrib</i> ‘sunset’
$maC_1C_2aC_3$ (maC_1C_2a , with defective verb)	<i>marbaṭ</i> ‘stall; place to tie a horse’, <i>maṭlaṭ</i> ‘sunrise’, <i>marṣa</i> ‘pasture’
$maC_1C_2aC_3ah$	<i>magbarah</i> ‘graveyard’
$mC_1aC_2C_2a$ (defective verb)	<i>mḡabba</i> ‘dike’, <i>mḡašša</i> ‘place of feeding’
$miC_1aC_2C_3$	<i>mišabb</i> ‘fireplace, stove’
$miC_1C_2āC_3$	<i>miḡṭāb</i> ‘place of collecting wood’
$maC_1aC_2aC_3$	<i>maḡaram</i> ‘women’s part of the tent’
$miC_1īC_3$	<i>miḡīf</i> ‘guest room’, <i>miḡīb</i> sunset’
$maC_1āC_3ah$	<i>maḡārah</i> ‘cave’
$mC_1aC_2C_2iC_3$	<i>mšarrig</i> ‘east-directed/towards east’, <i>mḡarrib</i> ‘west-directed’
$m(u)C_1aC_2C_2aC_3$	<i>m(u)xayyam</i> ‘camp’

Table 63: Patterns of nouns of place and time in WR Arabic

Nouns of place and time derived from verbs other than Form I (as in the last two examples of the table above) take the passive participle pattern,⁷² as in: *mujammaṭ* ‘bus station’, *muxayyam* ‘camp’, *mudarraj* ‘stadium’ (Form II), *mustašfā* ‘hospital (Form X) (§ 6.2.2.2). The plural of nouns of place and time is produced through the sound feminine plural suffix *-āt*, as in: *mujammaṭāt* ‘bus stations’, *muxayyamāt* ‘camps’, *mudarrajāt* ‘stadiums’, *mustašfayāt* ‘hospitals’, *mustawdaṭāt* ‘warehouses’.

Many nouns refer to place or time without using the regular derived patterns, as in: *rjūd* ‘graveyard’, *mrāḡ* ‘pasture’, *šigg* ‘men’s part of the tent’, *gibliḡ* ‘prayer direction’, *dukkān* ‘shop’, *xamasīniyyih* ‘fifty hot days in summer’.

⁷² With few exceptions, such as *astirāḡah* ‘restaurant, lounge’, derived from *astarāḡ* ‘to rest’.

6.2.2.5 Nouns of instrument

Nouns of instrument denote items or tools used in accomplishing a certain action, and thus are usually derived from transitive verbs. Nouns of instrument are characterized by the *m-* prefix. WR Arabic has a number of patterns denoting nouns of instrument, as in: $miC_1C_2aC_3$, $miC_1C_2āC_3$, $miC_1C_2aC_3ih/ah$. It also produces other derived forms as in $C_1aC_2C_2āC_3a/ih$ and $C_1āC_2ūC_3$. The table below provides some examples.

Pattern	Noun of Instrument	Gloss
miCCaC	<i>minjal</i>	‘sickle’
miCCāl	<i>mihbāš</i>	‘wooden pot to grind coffee beans’
miCCaCah	<i>mišyadah</i>	‘trap’
CāCūC	<i>šākūš</i>	‘hammer’
CaCCaCah	<i>gaṭṭāṣah</i>	‘pliers’

Table 64: Nouns of instrument in WR Arabic

As for nouns denoting place or time, many nouns denoting instrument do not take one of these derived patterns, including: *diḡrān* ‘pitchfork’, *sēr* ‘belt’, *rḡa?* ‘quern’, *dallih* ‘metal coffee heater’, *sarj* ‘saddle’, *fanših* ‘[English] gun’, *xallih* ‘nail in main wooden column of tent used to hang torch’, *rwāḡ* ‘piece of cloth dividing men’s from women’s part of tent’, *šdād* ‘wooden saddle put on camel’, *hawdaj* ‘(howdah) wooden bed carried by camel’, *girbih* ‘water sack’, *bšāt* ‘rug’, *mērakah* ‘stirrup’, *faxxah* ‘trap’. In addition, the active participle may function as a noun of instrument, as in: *wāšit* ‘main column of tent’, *jāfid* ‘wool mattress’, *šāhin* ‘charger’ (§ 6.2.2.2).

6.2.2.6 Nouns of profession

There is a pattern, $C_1aC_2C_2āC_3$, to denote someone who conducts regular activities, professions and occupations; nouns formed on this pattern are referred to as ‘nouns of profession’, as in: *šabbāb* ‘coffee server’, *gaššāš* ‘tracer’, *dawwāj* ‘retailer’, *fakkāk* ‘problem solver’, *warrād* ‘water collector’, *xabbāz* ‘baker’, *najjār* ‘carpenter’, *ḡaššād* ‘harvester’, *laḡḡām* ‘butcher’, *ḡaddād* ‘goldsmith’, *ḡarrāt* ‘ploughman’, *šaḡḡād* ‘beggar’.

Another productive way of producing nouns of profession is through the suffix *-ji*,⁷³ as in: *mišmarji* ‘builder’, *ṭūbarji* ‘construction worker (using wood)’, *ḡahawji* ‘coffee server in

⁷³ *-ji* is a suffix of Turkish origin (Watson, 2002: 193).

Sheikh's house', *gōlanji* 'goalkeeper', *sufraji* 'waiter', *gōmarji* 'gambler', *dakanji* 'shopkeeper', *xuḍarji* 'grocer', *tamarji* 'nurse'.

6.2.3 Adjectives

For the most part, adjectives in WR Arabic are morphologically similar to nouns. However, the patterns of elatives (§ 6.3.6), and relational adjectives are particular to adjectives, though both may function as nouns once defined. In this section, I examine WR adjective in terms of their patterns, functions, and then relational adjectives.

6.2.3.1 Patterns of adjectives

There are many adjectival basic patterns in WR Arabic, some of which are identical to the substantive patterns (§ 6.2.1.3); here I provide the most common adjectival patterns:⁷⁴

Pattern	Example
C ₁ iC ₂ īC ₃	<i>fiṭīn</i> 'clever'
C ₁ aC ₂ C ₂ iC ₃	<i>ṭayyib</i> 'alive/generous'
C ₁ aC ₂ iC ₃	<i>sahil</i> 'easy'
C ₁ iC ₂ iC ₃	<i>hibil</i> 'stupid'
C ₁ uC ₂ C ₃	<i>murr</i> 'bitter'
C ₁ C ₂ āC ₃	<i>ṣṭāš</i> 'thirsty'

Table 65: Adjective patterns in WR Arabic

In addition to these basic patterns, other adjectival derivational patterns are attested in WR Arabic; produced by modifying the basic template. For example, the pattern maC₁C₂īC₃ produces adjectival forms, as in: *maskīn* 'petty'. The adjectival pattern C₁aC₂C₃ān is particularly productive in WR Arabic derived from verbs denoting a temporary state or feeling, as in: *gawyān* 'tired', *ḍawyān* 'withered', *ḍablān* 'drooping', *ḥardān* 'furious', *sakrān* 'drunk', *jīṣān* 'hungry', *ṭafrān* 'poor'.

Adjectives function either attributively or predicatively. As attributes, they follow the noun to describe an attribute of the noun they qualify. They inflect for gender (§ 6.3.2.2), number (§ 6.3.1.4), and definiteness (§ 6.3.4) to agree with the attributed head noun, as in:

⁷⁴ Participles are basically adjectives but I will not look at them here because they have already been looked at above (§ 6.2.2.2).

- (9) Gender: *šarēt al-jimal al-abyaḏ*⁷⁵ ‘I bought the black m. camel’
šarēt an-nāgah al-bēḏa ‘I bought the black f. camel’
- Number: *šarēt nāgah bēḏa* ‘I bought a black f. camel’
šarēt talat nyāg bīḏ ‘I bought three black f.p. camels’
- Definiteness: *šarēt nāgah bēḏa* ‘I bought a black f. camel’
šarēt an-nāgah al-bēḏa ‘I bought the black f. camel’
šarēt nāgtah al-bēḏa ‘I bought his black f. camel’

As predicates, adjectives agree in number and gender only with the head noun.

- (10) *an-nāgah waḏḥa* ‘the camel f. is white f.s.’
nāgti waḏḥa ‘my camel f. is white f.s.’
ḏīk waḏḥa ‘that f. is white f.s.’

Defined adjectives may stand independently or in initial position in an annexion phrase and function as substantives, as in:

- (11) *al-waḏḥa nāgti* ‘the white f.s. [one] is my camel f.’⁷⁶
az-zġār yasiktaw ‘the youngsters m.p. (boys) should keep silent’
ʔal-aḥsan tšūf aṭ-ṭibīb ‘it is better to go m.s. to doctor’
tijammaṣ ikbār al-šašīrih ‘the adults of the tribe gathered’

6.2.3.2 Relational adjectives

The term relational adjective, known in Arabic as *nisbah*, is used for adjectives declined regularly from basic nouns to refer to countries, cities, tribes, groups, or persons (Ibn ʕAqīl, Šarḥ II, 471, cited in du Grandlaunay, 2008; Holes, 2004: 160). Mainly, it has a special function of producing onomastics, a way of revealing the genealogy, origin, the residence, or socio-cultural relations of the person religion, as in: *masīḥi* ‘Christian’, *yahūdi* ‘jewish’, country/city origin, as in: *brīṭāni* ‘British’, *mṣāni* ‘from Ma’an city’, ethnicity, as in: *šarabi* ‘Arabic’, tribe or family, as in: *ḥwēṭi ~ ḥwayṭi* ‘member of Ḥwēṭāt tribe’, sect, as in: *sunni* ‘Sunni’, religious school/doctrine, as in: *ḥanafī* ‘following Ḥanafī law’, or socio-cultural divisions, as in: *bduwi* ‘Bedouin’.

⁷⁵ WR people call the black camel *ʔabyaḏ/bēḏa* as a matter of respect.

⁷⁶ Adjectives functioning as circumstantial predicatives *ḥāl* agree with the reference noun in number and gender but NOT definiteness, as in: *wiṣl-at alwāldih al-mustašfa tašbān-ih* ‘my mother arrived to the hospital tired’.

The *nisbah*-ending is extremely productive in WR Arabic and may function to compensate for the lack of word-compounding strategy.⁷⁷ The most common way of deriving relational nouns is through suffixation of *-i-*, as in: *brīṭāni* ‘British m.s.’. The f.s. form is *-iyyih*, as in *brīṭān-iyyih*. *Nisbah*-adjectives take the sound plural, *-iyyīn* for masculine, and *-iyyāt* for feminine, as in: *brīṭān-iyyīn* and *brīṭān-iyyāt*.

The relative adjective may be derived from quadrilateral nouns, as in: *ṣaskari* ‘military’, *burdgāni* ‘orange’, *farṣayni* ‘pharaonic’, *dīmugrāṭi* ‘democratic’, *dublumāsi* ‘diplomatic’.

In the case of nouns ending in *-ah* or *-ih*, suffixation of *-iyy* results in deletion of the feminine suffix; thus, *madīnah* ‘city’ > *madani* ‘urban’. In the case of nouns of the form CāCiC, syncope of the stem vowel /i/ follows suffixation of *-iyy*, as in: *hāšim* ‘Hashem’ > *hāšmi* ‘Hashemite’ (§4.4.2); sometimes part of the noun is deleted in the case of rare compound nouns, as in: *ṣabdali* (from *ṣabdallah*).

WR Arabic also uses the suffix *-āwi* to produce relational nouns referring to a place, as in: *balgāwi* ‘from Balqāʿ’, *zargāwi* ‘from Zarqa’, *ḡazzāwi* ‘from Ghaza’, *ṣaḥra* ‘desert’ > *ṣaḥrāwi*. The suffix *-āwi* can also be used to derive adjectives from nouns that do not demonstrate place, as in: *šadfāwi* ‘left-handed’, *yumnāwi* ‘right-handed’, *fēṣalāwi* ‘supporting Faiṣaly football team’. Where C₃ is /w, y, ʔ/, WR Arabic may use the suffix *-wi* to produce the relational noun, as in: *nabi* ‘prophet’ > *nabawi*, *štaʔ* ‘rain’ > *šatwi*, *sanah* ‘year’ > *sanawi*. This also happens in the case of adjectives derived from a biliteral root, as in: *dam* ‘blood’ > *damawi*, *yad* ‘hand’ > *yadawiy*, *ṣax* ‘bother’ > *ṣaxawi*.

Less frequent suffixes *-āni* and *-ji* are also used to derive relational adjectives, as in: *fōgāni* ‘uppermost’, *taḥtāni* ‘undermost’, *ruḥmāni* ‘calm’, *šīṭāni* ‘naughty’, *ṣanāni* ‘selfish’, *waḥdāni* ‘alone’, *madfaṣji* ‘good defender’, *maškalji* ‘naughty’, *mašrafji* ‘prodigal; extravagant’.

Nouns may be produced from the relational adjective by suffixation of the feminine ending *-ah* or *-ih*, as in: *hjayniyyih* ‘folk song’, *dihḥiyyih* ‘Bedouin dance’, *ḥawiyyih* ‘piece of cloth put on the camel hump’, *baṭṭaniyyih* ‘blanket’.

⁷⁷ Compounding is almost unknown in Semitic languages (Gensler, 2011: 287).

6.3 Nominal inflection

The inflectional morphology is predominantly concatenative. It is non-concatenative in three cases: firstly, in the morphological category of gender when it comes to adjectives denoting colours or defects (§ 6.3.2.2); secondly, the morphological category of number for the so-called broken plural (§ 6.3.1.2); and thirdly, in the adjectival system to derive the elatives (§ 6.3.6)

6.3.1 Number

The system of the grammatical category of number is trifold: singular (unmarked), dual (suffix -*ēn* for masculine or -*tēn* for feminine),⁷⁸ and plural. WR Arabic distinguishes between three modes of pluralisation; the sound plural (external), the broken plural (internal), and suppletion (which involves unrelated forms/with different root word, as in: *marah* ‘wife’, *niswān* ~ *nisāwīn* ‘married women’).

6.3.1.1 Sound plural

The first type primarily involves suffixation of the masculine -*īn* or feminine -*āt* suffix to the nominal stem. The sound masculine plural suffix -*īn* is used only when the referent is human male. The sound plural is systematically found in derived nominals especially participles, nouns of profession, and relational nouns and adjectives:

Masculine nouns	Gloss	Sound m.p.	Sound f.p.
<i>sālim</i>	‘being safe’	<i>sālm-īn</i>	<i>sālm-āt</i>
<i>mašgūl</i>	‘busy’	<i>mašgūl-īn</i>	<i>mašgūl-āt</i>
<i>mdaxxin</i>	‘smoker’	<i>mdaxxn-īn</i>	<i>mdaxxn-āt</i>
<i>grayyib</i>	‘close’	<i>grayyb-īn</i>	<i>grayyb-āt</i>
<i>ʔurduni</i>	‘Jordanian’	<i>ʔurduniyyīn</i>	<i>ʔurduniyyāt</i>
<i>muḥtaram</i>	‘highly respected’	<i>muḥtaram-īn</i>	<i>muḥtaram-āt</i>
<i>maxaddih</i>	‘pillow’		<i>maxadd-āt</i>
<i>lambah</i>	‘light bulb’		<i>lambāt</i>

Table 66: Sound plural in WR Arabic

⁷⁸ The pseudo-dual is usually replaced with the plural forms, e.g., *rijlēn* ‘legs’ > *rjūl*, *jaddēn* ‘grandparents’ > *jdūd*, *ʕaynēn* ‘eyes’ > *ʕyūn*. However, vestiges are maintained as in: *ʔidēn* ‘hands’, *wāldēn* ‘parents’ in which the final -*n* is optionally deleted when dependent pronouns are suffixed, as in: *ʔidēham* ~ *ʔidēnham* ‘their m. hands’ and *wāldēham* ~ *wāldēnham* ‘their m. parents’. The pseudo-dual behaves like true dual; when an adjective serves as an attribute or predicate to a pseudo-dual substantive, the plural form is used (see also data 14 below).

The sound feminine plural is less restricted in use than the sound masculine plural. It can be used when the feminine is a deverbal derivative; when the singular noun ends with a feminine ending *-ih, -i*; with loanwords, or with certain non-human nouns. Non-human plural nouns usually carry the grammatical gender of feminine plural, regardless of the grammatical gender of the corresponding singular form.

6.3.1.2 Broken plural

The broken plural, as the name suggests, involves internal vocalic melody change of the nominal stem resulting in new patterns. The terms ‘sound’ and ‘broken’ may be misleading as they suggest that the sound plural is the original one and broken plural is the exception. For the lexicon as a whole, according to McCarthy and Prince (1990b: 213), the broken plural is the unmarked means of forming the plural.⁷⁹

The broken plural⁸⁰ is productive in WR Arabic; there are a rich set of patterns that are exclusively used as plural patterns. Table 67 gives the most common patterns in this regard.

A clear derivational structured process linking particular singular and plural forms together is difficult to determine. Radcliffe (2008: 445) claims that given the single function which this process of plural forming carries out, the multiplicity of plural forms is somewhat paradoxical. However, as seen from table 67, the plurals of derived nouns are often predictable; for example, nominals of the pattern $C_1aC_2iC_3$ is pluralized through the pattern $C_1uC_2aC_3a$ or $C_1aC_2āyiC_3$, for example, *ḥakīm* ‘wises’, *ḥukama*; *girīb* ‘relative’ *garāyib* ‘relatives’; *nisīb* ‘kinsman’ *nisāyib* ~ *nsiba* ‘kinsmen’. Nouns of place and nouns of instrument that have the singular shape $ma/iC_1C_2aC_3$ or $miC_1C_2aC_3ah$ have the broken plural pattern $maC_1āC_2iC_3$, for example, *masjid* ‘mosque’ > *masājid* ‘mosques’, *miḡsalah* ‘car wash’ > *maḡāsil*, *maḥjar* ‘stone-pit’ > *maḥājir* ‘stone-pits’.

⁷⁹ Holes (2004: 162-3) claims that the broken plural is more common than the sound plural; the latter is limited to certain categories. Wright (1974: 199-224) lists twenty-nine patterns of broken plural in common use in CA.

⁸⁰ The broken plural of the primitive nouns is not always predictable, e.g., *bāb* ‘door’ > *bwāb* or *bībān*.

Pattern	Noun	Broken plural	Gloss
C ₁ C ₂ ūC ₃	<i>raṣad</i>	<i>rṣūd</i>	‘thunder’
C ₁ C ₂ āC ₃	<i>ḥajar</i>	<i>ḥjār</i>	‘stone’
C ₁ C ₂ aC ₃ C ₃	<i>buṣalah</i>	<i>bṣall</i>	‘onion’
C ₁ aC ₂ āyiC ₃	<i>ṣaṣīlih</i>	<i>ṣaṣāyil</i>	‘pure-bred’
C ₁ uC ₂ aC ₃ a	<i>ṣamīr</i>	<i>ṣumara</i>	‘prince’
C ₁ uwāC ₂ iC ₃	<i>tābiṣ</i>	<i>tuwābiṣ</i>	‘stamp’
tiC ₁ āC ₂ īC ₃	<i>timtāl</i>	<i>timātīl</i>	‘statue’
ṣaC ₁ C ₂ iC ₃ ah	<i>jawāb</i>	<i>ṣajwibah</i>	‘answer’
C ₁ vC ₂ C ₃ ān	<i>riḡīf; xarūf</i>	<i>ruḡfān; xirfān</i>	‘loaf’; ‘lamb’
C ₁ (u)C ₂ aC ₃	<i>nuktiḥ; lugmah</i>	<i>nukat; lgam</i>	‘joke’; ‘mouthful/bite’
C ₁ uC ₂ āC ₃ i	<i>bādyih</i>	<i>buwādi</i>	‘Bedouin life’
ṣaC ₁ āC ₂ iC ₃	<i>ṣajnabi</i>	<i>ṣajānib</i>	‘foreigner’
C ₁ uC ₂ C ₂ āC ₃	<i>ḥāris</i>	<i>ḥurrās</i>	‘guard’
(ṣa)C ₁ C ₂ āC ₃	<i>farah</i>	<i>ṣafrāḥ</i>	‘wedding party’
C ₁ aC ₂ aC ₃ ah	<i>ḥāfiḍ</i>	<i>ḥafaḍah ~ ḥuffāḍ</i>	‘memoriser’
C ₁ awāC ₂ iC ₃	<i>xātim</i>	<i>xawātim</i>	‘ring’
maC ₁ āC ₂ iC ₃	<i>mibxarah</i>	<i>mabāxir</i>	‘censer’
maC ₁ aC ₂ īC ₃	<i>sijīn</i>	<i>misajīn</i>	‘jailed’
C ₁ aC ₂ aC ₃ īC ₄	<i>janzīr</i>	<i>janazīr</i>	‘track/tread’
C ₁ aC ₂ īC ₃	<i>ḥmār</i>	<i>ḥamīr</i>	‘donkey’

Table 67: Broken plural patterns in WR Arabic

A given noun may have an alternative sound plural and/or a broken plural, or several (usually two) broken plurals, sometimes with a different meaning, as in: *nāḡah* ‘camel f.’ has *nūḡ* and *nyāḡ* ‘camels f.’; *bēt* ‘tent house’ has *byūt* ‘tent houses’ or *byāt* ‘poetry lines’; *ṣāhid* ‘eye-witness’ has *ṣhūd*, *ṣāḥdīn*, *ṣuhhād*, *ṣahadiḥ* ‘eye-witnesses’; *jāhil* ‘ignorant’ has *juhhāl*, *jahalah*, and *juhhal* ‘ignorant p.’. Whether a nominal takes a broken or sound plural depends on whether the word functions as a substantive or an adjective: thus, the broken plural is attested when the derived word is a substantive. As an adjective, the sound plural is more likely to be selected. For example, *ḡirīb* ‘close, near’ may take the sound plural *ḡirībīn* ‘near in location’ when used as an adjective, or the broken plural pattern *ḡarāyib* ‘relatives’ when used as a substantive.

6.3.1.3 Substantives

Substantives inflect for number: singular (the unmarked number), plural, and dual (the most marked number category). The sound masculine plural is used when the referent is an animate (human) male. The sound feminine plural is used with substantives that have female referents, derivatives, loanwords, and plurals of plurals, as in:

(12)	<i>jaddah</i>	‘grandmother’	<i>jaddāt</i>	‘grandmothers’
	<i>bāṣ</i>	‘bus’	<i>bāṣāt</i>	‘buses’
	<i>muxayyam</i>	‘camp’	<i>muxayyamāt</i>	‘camps’
	<i>ṛayyām</i>	‘days’	<i>ṛayyāmāt</i>	‘days’

Some substantives have more than one plural such as: *najmih* ‘star’ > *njūm* ~ *najmāt*; *wardih* ‘flower’ > *wrūd* ~ *wardāt*; *nāgah* ‘camel’ > *nūg* ~ *nyāg*.

Substantives inflect for dual by adding *-ēn* to the masculine and *-tēn* to the feminine, as in: *šahar* ‘month’, *šahrēn* ‘two months’; *naṣajah* ‘lamb’, *naṣajatēn* ‘two lambs’. The plural is commonly used instead of the dual with the addition of the numeral *ṭnēn/ṭintēn* after the noun, as in:

- (13) *gāb mṣallmīn ṭnēn* ‘two m. teachers were absent’
gābin mṣallmāt ṭintēn ‘two f. teachers were absent’
g(a)ḍabaw muttahaṃmīn ṭnēn ‘they m. arrested two m. accused people’
g(a)ḍabaw muttahaṃmāt ṭintēn ‘they m. arrested two f. accused people’.

Count nouns occur in singular, dual and plural forms and can be modified by a numeral. They can occur as a second term in an annexion phrase following one of the quantificational determiners *šway* ‘some’, *baṣ(a)ḍ* ‘some’, *ṣiddit* ‘several’, *gaṭṭat* ‘many’, *ṛakammin* ‘some’, as in: *baṣ(a)ḍ/ṣiddit/gaṭṭat ṛayyām* ‘some/several/many days’; non-count nouns do not inflect for number and may occur as a second term in an annexion phrase following the quantifier *gṭaymit* ‘a little’, as in: *gṭaymit xubiz* ‘a little bread’ (§ 6.4.1).

6.3.1.4 Adjectives

Whereas substantives have three-way number distinction, adjectives have two-way number contrast: singular (the unmarked number), and plural. When an adjective serves an attribute or predicate to a dual substantive, the plural form is used, as in:

- (14) *bintēn ḥašmāt* ‘two pretty girls’
kabšēn/naṣajatēn simīnāt ‘two fat rams/ewes’

The majority of adjectives (especially deverbal derivatives) take the sound plural for both masculine and feminine; some other adjectives (especially ones relating to primitive attributes, as in: *giṣīr* > *gṣār* ‘short’) take broken plural patterns.

6.3.2 Gender

WR Arabic nouns are either masculine, feminine, or of common gender. Assuming masculine as the unmarked gender, feminine nouns are morphologically marked by the suffixes *-at*, *-ih*, or *-a(?)*.

6.3.2.1 Substantives

Substantives distinguish masculine-feminine gender as part of their lexical entry, with masculine as the default gender, but they rarely exhibit this distinction through inflection, as in: *biṣīr* ‘camel m.’ vs. *nāgah* ‘camel f.’; *walad* ‘son/boy’ vs. *bint* ‘daughter/girl’. However, many female proper names lack an explicit feminine marker, as in: *nuwāl*, *nōf*, *nūr*, *šōg*, *ṣanūd*, *hind*, *zēn* [female names]. Like some female names which do not have a feminine marker, some names indicate male individuals though they have a typical feminine ending, as in: *ṣawdih*, *ṣaṭiyyih*, *talḥah*, *ṣarafah* [male names].

Substantives with a biological male referent are grammatically masculine, as in: *šēx* ‘Sheikh’, *ḡayf* ‘guest’, *giṣīr* ‘guest’, *kabiš* ‘ram’, *dīk* ‘rooster’, *ḡīx* ‘hound’, *ḥanīš* ‘snake m.’. Substantives with inanimate biological female referent are grammatically feminine, as in: *ṣītih* ‘Sitih [female name]’, *xālah* ‘maternal aunt’, *xalfih* ‘camel which has given birth’, *dābbih* ‘heifer’. Where they have masculine counterparts, most feminine proper and common nouns are marked by one of the common feminine suffixes: *-ih*, or *-ah*, as in:

(15)	masculine	feminine
	<i>fāyiz</i> ‘Fayiz [male name]’	<i>fāyziḥ</i> ‘Fayziḥ [female name]’
	<i>ṭabīb</i> ‘doctor’	<i>ṭabībiḥ</i> ‘doctor f.’
	<i>ṣaxal</i> ‘goat kid’	<i>ṣaxalah</i> ‘goat kid f.’

Some nouns which are grammatically feminine do not have masculine counterparts, as in: *girbiḥ* ‘leather water sack’, *xalfih* ‘camel that has just given birth’, *ṣawrah* ‘female’, *dallih* ‘coffee jug’; where nouns with a biological feminine referent do have masculine counterparts, they have different root consonants (suppletion), as in: *naṣajah* ‘lamb f.’ vs. *kabiš* ‘ram m.’, *nāgah* ‘camel f.’ vs. *biṣīr* ‘camel m.’.

Certain concepts of nature related to wind, fire or earth are feminine, as in: *šams* ‘sun’, *daḥal* ‘quicksand’, *nār* ‘fire’; objects which occur in pairs, as in: *ʔiḍin* ‘ear’, *ʕayn* ‘eye’, *rijil* ‘foot’, *sāg* ‘leg’, or collective animal names, as in: *xayl* ‘horses’, *ḡanam* ‘cattle’. Several substantives relating to religion are usually feminine, as in: *ḥayāh* ‘life’, *niʕmah* ‘boon’, *mišībih* ‘misfortune’, *ʔāxrih* ‘after-life’, *jannah* ‘paradise’, *ḥasanah* ‘good deed’.

A restricted number of Arabic nouns can take either gender, as in: *balad* ‘village, city, country’, *ʔirīq* ‘road’, *darib* ‘road’.

6.3.2.2 Adjectives

In contrast to substantives, adjectives do not have gender as part of their lexical entry, and their unmarked gender is masculine. WR Arabic shows context-dependent contrast of gender by means of inflection. Adjectives comprise two morphological inflectional distinctions: the first pattern agrees with the head noun and takes the regular feminine ending *-ah/ih* (or *-āt*, in the plural), for agreement with a feminine noun; examples are attested from all derived patterns, for example: verbal adjectives, as in: masc. *jidīd* ‘new m.’, fem. *jidīdih*; active participles, as in: masc. *ḥāmīḍ* ‘acidulous’, fem. *ḥāmḍah*; passive participles, as in: masc. *mgaṭṭam* ‘gorgeous’, fem. *mgaṭṭamah*; intensive adjectives, as in: masc. *xabbāṣ* ‘talebearer’, fem. *xabbāṣah*; and adjectives of relationships, as in: masc. *raḥmāni* ‘kind’, fem. *raḥmāniyyih*.

The second pattern exhibits supplementary feminine forms, as in: *ʔaṣfar* ‘yellow’ > *ṣafra*, *ʔrmaḥ* ‘widower’ > *ramla* ‘widow’, *ʔawwal* ‘first’ > *ʔūla*, *ʔaṭram* ‘deaf’ > fem. *ṭarma*.

In terms of agreement, masculine singular adjectives modify masculine singular nouns; masculine plural adjectives modify masculine dual or plural nouns only if the nouns refer to human beings; feminine plural adjectives modify feminine dual or plural nouns when the nouns refer to human beings. However, the feminine singular adjective modifies not only feminine singular nouns but also non-human masculine and feminine plural nouns,⁸¹ as in:

- (16) *sēf gidīm* ‘old sword’ vs. *syūf gidīmih* ‘old swords’
barūdih jidīdih ‘new gun’ vs. *buwārīd jidīdih* ‘new guns’
bintēn/banāt ʔintēn dārsāt ‘two educated girls’ vs. *banāt dārsāt* ‘educated girls’
sāyḥēn/suwwāḥ ʔnēn ʔajānib ‘two foreign tourists’ vs. *suwwāḥ ʔajānib* ‘foreign tourists’.

⁸¹ Interestingly, the feminine plural adjective modifies non-human masculine and feminine dual, as in: data (14)

A few uninflected adjectives denote feminine objects, where they refer to biological females only, such as: *ṣāgir* ‘sterile’, *ḥāmil* ‘pregnant’, *ṣānis* ‘spinster’, *gāṣir* ‘girl under 18 years old’, *nāgil* ‘pregnant camel’, *jimūḥ* ‘headstrong horse’, *mitli* ‘camel that gave birth’ (§ camel terminology, chapter seven), *ṣajūz* ‘old woman’, *nāšiz* ‘disobedient wife’.

6.3.3 Person

Substantives and adjectives do not display a morphological contrast for person either as part of their lexical entry nor in inflection. Rather, they can be considered to have the unmarked third person.

6.3.4 Definiteness

Definiteness, which is essentially a nominal category, demonstrates the act of specifying or restricting the meaning or determining the reference to a noun. Indefiniteness is the unmarked value of definiteness.

6.3.4.1 Substantives

The terms functioning substantively which are internally defined are personal pronouns, demonstrative pronouns, and proper nouns. Proper names are inherently defined, as in: *ṣawdih* ‘Audih [male name]’, *ṣamm ṣiṣrīn* ‘ʔAm ṣiṣrīn mountain’. In some proper nouns, the definite article *al-* is part of their lexical entry, as in: *aṭ-ṭwēsih* ‘Al-Ṭwēsih village’, *al-jumṣah* ‘Friday’.

All common nouns are inherently indefinite and need external elements to define them. They can be defined through different processes, namely: prefixation of the definite article *al-*, as in: *biṣīr* ‘camel m.’ > *al-biṣīr* ‘the camel m.’, suffixation of a possessive pronoun, as in: *bētna* ‘our tent’, the annexion structure *al-ṣiḍāfah*, as in: *bēt ṣaṣarna* ‘our hair house’, *bēt aš-ṣaṣar* ‘the hair house’, *bēt ṣawdih* ‘Awdih tent’.⁸²

6.3.4.2 Adjectives

Adjectives are inherently indefinite but can be defined by means of the definite article *al-* to agree with a definite attributed noun:

⁸² The first noun *al-muḍāf* does not take the definite article; it is rendered definite because of its annexion to a definite noun. The second noun *al-muḍāf ṣilayh* is defined either because it is a proper noun (which is inherently definite), attached with the definite article *al-*, or suffixed to a pronominal pronoun.

- | | | |
|------|--------------------------------------|--|
| (17) | indefinite | definite |
| | <i>nāgah waḍḥa</i> ‘a white camel’ | <i>an-nāgah al-waḍḥa</i> ‘the white camel’ |
| | <i>šēx kirīm</i> ‘a generous Sheikh’ | <i>aš-šēx al-kirīm</i> ‘the generous Sheikh’ |

6.3.5 Nunation

Nunation, a typical Bedouin feature (Rosenhouse, 2006), refers to the suffix *-Vn* (*-in*, *-un*, or *-an*) to a noun, an adjective or an adverb indicating absolute state. Nunation is used very frequently in WR poetry, and its vestiges remain in the everyday language as well, as in:

- (18) *min mikān-in ʔilā mikān* ‘from a place to another one’
wajh-in il-wajih ‘face to face’
rākb-in fōg ma yhayyif ‘is riding a fast camel’
lāḥg-in as-sibbag ‘is following the knights’

6.3.6 Elatives

Many adjectives inflect for degree (comparative or superlative). They can be derived from other adjectives using the pattern ʔaC₁C₂aC₃ to function as (1) the invariable comparative, as in: (19a), (19b), and (19c); (2) the comparative where the object of comparison is mentioned, followed by a prepositional phrase (*min*+ noun), as in: (19d), (19e), (19f) and (19g); and (3) the superlative when defined, as in: (19h), (19i) and (19j). They are referred to in Arabic grammar as *ism at-tafḍīl* ‘elative forms’. They are undeclinable and derived from positive adjectives; they also do not inflect for number or gender.

- (19) a) *hēda ʔaḡla* ‘this m. is more expensive’
b) *haḍallāk ʔaḡtar* ‘those are more in number’
c) *hi ʔazḡar* ‘she is younger’
d) *sālim ʔuwīl* ‘šalim is tall’ vs. *sālim ʔaṭwal min-ni* ‘Salim is taller than me’
e) *mājid ʔaṭyab min šalāḥ* ‘Majid m. is better than Salah m.’
f) *rīm ʔaṭyab min rahaf* ‘Reem f. is better than Rahaf f.’
g) *mājid wa-halah ʔaṭyab min šalāḥ wa-halah* ‘Majid and his family is better than Salah and his family’
h) *sālim al-aṭwal* ‘Salim is the tallest one’ [superlative]
i) *ʔalya al-aṭwal* ‘Alia is the tallest one’
j) *Sālim iw-ʔalya al-aṭwal* ‘Salim and Alia are the tallest’

A number of basic adjectives referring to colours and defects share with the elative the form $\text{ʔaC}_1\text{C}_2\text{C}_3$, such as: *ʔahbal* ‘foolish’, *ʔaswad* ‘black’, *ʔaḥamar* ‘red’, and *ʔabrag* ‘affected by vitiligo’. In such cases, two ways of comparison are attested: either the speaker uses this adjective in the same way as other elatives mentioned in (19) (as in (20a) below) or sometimes one resorts to use a word indicating comparison or degree followed by the verbal noun of the adjective, as in: *ʔaḥ(a)mar* ‘red’ > *ʔakṭar/ʔašadd/ʔagall/ʔaxaff ḥamār* ‘redder/less red’; see also (20b) and (20c):

- 20) a) *galbi ʔabyaḍ mna-t-ṭalj* ‘lit. My heart is whiter than snow (I am tolerant)’
 b) *ʔahbal* ‘foolish’ > *ʔakṭar ḥabal* ‘more foolish’
 c) *nāgti ʔagall biyāḍ min nāgtak* ‘my camel f. is less white than your m.s. camel f.’

Sometimes WR Arabic uses the words *ʔakṭar/ʔagall* followed by the verbal noun of word stems even though the basic adjective is eligible to produce a comparative form, as in:

- 21) *ʕawdih ʔakṭar ḍika mni-xwānah* ‘Audeh is cleverer than his brothers’

A few adjectives show irregular degrees of distinction by using different stems (suppletion form) or the use of the adjective followed by *ʔakṭar*, as in:

- 22) *milṭh/kwayyis* ‘good’ > *ʔaḥsan* > *al-aḥsan* (**ʔamlah/ʔakwas*)
ṭibīʕi ‘natural’ > *ṭibīʕi ʔakṭar* (**ʔaṭbaʕ*)
ʕādi ‘normal’ > *ʕadi ʔakṭar* (**ʔaʕwad*)

The flexibility in formation of comparative expressions is expanded to cover other nominal categories; for example, it is possible to apply this pattern to the diminutive noun *šway* ‘little’ to produce *ʔašwa* ‘more little’, as in: *al-jaww taḥassan, šār ʔašwa* ‘the weather got improved, it became better’. An elative may be formed from the noun, as in: *zalamah/rajul* ‘man’ > *ʔazlam/ʔarjal* ‘more manly’, *walad* ‘boy; son’ > *ʔawlad* ‘more childish’.

With regard to the superlative degree, the definite article may be deleted and the superlative degree is produced by placing the adjective at the head of an annexion structure followed by *wāḥid* ‘one m.’, *waḥdih* ‘one f.’, *šay* ‘thing’, as in:

- 23) *sālim ʔaṭwal wāḥid* ‘Salim is the tallest one’
ʔāmnih ʔaštar waḥdih ‘Amnih is the best one’
ʔaxtart ʔaḥsan šay ‘you m.s. chose the best thing’
biʕt ʔasraʕ iḥsān ‘I sold the fastest horse’

In some cases, an adjective may function as the relative in the superlative degree if defined; it then has supplementary forms for masculine plural and feminine singular and plural; the context is enough to understand this, as in:

- 24) *wēn ʔaxūku l-kibīr* ‘Where is your eldest brother?’
tijawwazt binthum al-kibīrih ‘I got married to their eldest daughter’
ḥamd hu ad-diki fi ʃaffah ‘Hamd is the cleverest student in his class’

6.4 Quantifiers

Quantifiers express quantificational relations between several sets of entities (Hallman, 2009). They can be subclassified into three classes, namely non-numerical, numerical and phrasal quantifiers. I survey the first two types in the following section.

6.4.1 Non-numerical

Certain nouns and adjectives function as specifiers or restrictors for other nouns; sometimes they are used in apposition with a head noun, as in *kiṭīr* (25a), and sometimes they function as the first member in the annexion structure, as in *gaṭṭat* (25b).

- 25) a) *lifōna nās kiṭīr* ‘a lot of people came’
 b) *ʃarēt gaṭṭat ʃyāh* ‘I bought some sheep’

The quantifier *kull* means ‘each’ or ‘every’ when it is followed by a singular non-finite noun, as in (26a); whereas, it means ‘whole’ when it is followed by a definite singular/plural noun or a pronoun, as in (26b), (26c), and (26d):

- 26) a) *kull wāḥid yarkab farasah* ‘everybody rides his horse’.
 b) *hu sibab kull al-miṣāyib* ‘he causes all the problems’.
 c) *ʔana mašgūl kull al-nahār* ‘I am busy the whole/all the day’.
 d) *ʔana mašgūl an-nahār kullah* ‘I am busy all the day’.

Example (26d) shows that the second member of the annexion structure may be replaced by a pronominal suffix, as in (26c).

Sometimes, the speakers use *kullin* ‘everyone’, as in: *ʔatirku kullin ʃala rāḥtah* ‘leave everyone choose whatever he wants!’. This quantifier in this form, *kullin*, only refers to animate entities.

The word *jimīf* is less preferred in everyday use; it means ‘every’, and can be used as the first entity of an annexion structure or (more often) may be used alone, as in:

- 27) a) *jimīf al-ḥaḍrīn yahala bīku* ‘All the attendance, you are welcome’.
b) *ya hala bīku jimīf* ‘you are all welcome’.

Some quantifiers indicates partiality such as *gaṭṭat* and *ṣiddat* ‘many/several’, *baṣ(a)ḍ* ‘some’, *šwayy(-it)* ‘little’. *gaṭṭat/ṣiddat* may only be used as the first member of the annexion structure, as in: *ma šiftak gaṭṭat/ṣiddat ayyām* ‘I have not seen you for many days’.

baṣ(a)ḍ may function as the initial element of an annexion structure followed by a definite (28a) or an indefinite noun (28b):

- 28) a) *baṣaḍ al-xayl gālyih* ‘some horses are expensive’
b) *baṣaḍ nās mā-lha ḥtirām* ‘some people do not deserve respect’

baṣaḍ may be used alone but, in this case, it denotes reciprocity, as in: *xallna nagra maṣ baṣaḍ* ‘let’s study together/with each other’ (§ 6.5.3).

The terms *kiṭīr min* ‘a lot of’ and *gilīl min* ‘little’ are used to denote an indefinite number, as in:

- 29) *kiṭīr mna-l-badu yaniḍm aš-šifr* ‘a lot of Bedouin compose poetry’
gilīl mna-n-nās ysāfir barra ‘few people travel abroad’

The relative *ḥakṭar* may mean the ‘majority/most of’ (30a); or ‘more’ (30b).

- 30) a) *ḥakṭar/muṣḍam aḍ-ḍyūf jaw mna-t-ṭwaysih* ‘the majority of guests are from Twaysih village’
b) *waddīli sayyārāt ḥakṭar* ‘send me more cars’.

6.4.2 Numerical quantifiers

This section provides a basic description of the nominal system of WR Arabic. Cardinals, ordinals, and fractions are considered in this section.

6.4.2.1 Cardinals

Cardinals from one to ten can be used in isolation or in series of numbers. They are used for counting nouns (in answer to the question ‘how much?’) or naming the numbers (*wāḥad/wēḥid* ‘one m.’, *waḥdih* ‘one f.’; *ṭnēn(ih)/jōz* ‘two m.’, *ṭintēn(ih)* ‘two f.’; *ṭalāt(ih)* ‘three’, *ḥarbaṣ(ah)*

‘four’; *xams(ih)* ‘five’; *sitt(ih)* ‘six’; *sabʕ(ah)* ‘seven’; *ṭamāny(ih)* ‘eight’; *tisʕ(ah)* ‘nine’; *ʕašar(ah)* ‘ten’.

The cardinal one inflects for gender and number (31a); the noun that associates with the cardinal two agrees with it in gender and optionally in dual number (31b). Although gender is the morphological category that cardinal numerals one through to ten exhibit, the use of cardinals three through to ten does not depend on masculine-feminine gender, as in (31c) and (31d): Here the suffixed number is used where the cardinal follows the noun, while the unsuffixed form is used where the cardinal precedes the noun:

- 31) a) *jimal wāḥid* ‘one camel m.’ vs. *nāgah waḥdih* ‘one camel f.’
 b) *biʕīrēn* ~ *baʕarīn ṭnēn* ‘two camels m.’ vs. *nāgtēn* ~ *nūg ṭintēn* ‘two camels f.’
 c) *haḍall sitt nūg* ‘these are six f. camels’ **or** *haḍall nūg sittih* ‘these are six f. camels’
 d) *haḍall sitt baʕarīn* ‘these are six m. camels’ **or** *haḍall baʕarīn sittih* ‘these are six m. camels’

Interestingly, when numerals three through to ten are followed by a glottal stop-initial word, then [t] is inserted, as in:

- 32) *ʔarbaʕ ʔiyyām* > *ʔarbaʕ (t)iyyām* ‘four days’
ʕašar ʔirṭāl > *ʕašar (t)irṭāl* ‘ten pounds’

Cardinals eleven through to nineteen are formed from the cardinals one to nine suffixed with -(t)aʕš. These cardinals undergo phonetic and phonological changes; in annexion structures, speakers optionally add -ar word-finally, but in isolation they do not, as in:

- 33) *ṭalaṭṭaʕš(ar) nāgah* ‘thirteen camels’
 A: *kam šarēt nāgah* ‘How many camels f. do you buy?’ B: *xamiṭaʕš* ‘fifteen’.

Note that the feminine ending -t of numbers thirteen through to nineteen becomes emphatic /t/. This emphasis sometimes affects the neighbouring sounds as in /siṭṭaʕš/ which is most often produced as [siṭṭaʕš]. /ʕ/ may also be deleted in *ʔarbaʕ(ʕ)taʕš*, *sabiʕ(ʕ)taʕš*, *tisiʕ(ʕ)taʕš*. In addition, the long low mid vowel /ā/ in *ṭalāt* undergoes reduction to the short mid vowel /a/, and the final interdental fricative /t/ assimilates to the dento-alveolar emphatic plosive /t/ when produced in the numeral thirteen, as in: *ṭalātṭaʕš* > *ṭalṭṭaʕš*.

As in other dialects, the cardinals twenty through to ninety-nine are formed with the cardinals one to nine conjoined by *wa-* to the following tens, as in: *wēḥīd iw-ḥiṣrīn* ‘twenty-one’, *tisḥah w-sittīn* ‘sixty-nine’. The numerals for hundred, thousand and million are *ḥimyah* ~ *miyyah* ~ *mīt*, *ḥalf*, and *malyōn*, respectively. Generally, hundreds are formed using the cardinals one to nine numerals followed by the word *ḥimyat*, *miyyat*, or *mīt*, as in: *xams ḥimyat xarūf* ‘five hundred lambs’.

The word *miyyat* and its variants are not used in the plural form. Conversely, thousands are pluralised when preceded by numerals between 3 and 10, as in: *ṭalaṭ ḥālāf sāyih*; as for other nouns, when it is preceded by numerals above ten, it is not inflected, as in: *ṭamaṭaḥṣ ḥalf ktāb* ‘eighteen thousand books’. This is because numbers three through to ten take a following plural noun, and numbers eleven through to ninety nine take a following singular noun. They also inflect for dual when they denote two thousands, as in: *ḥalfēn sāyih* ‘thousand tourists’ but not **ṭnēn ḥalf sāyih* or **ḥalfēn ṭnēn sāyih*.

Millions optionally inflect for number when they are preceded by 2-10, as in: *malyōnēn sāyih* ~ *ṭnēn malyōn sāyih* ‘two million tourists’; *ṭalāṭih malyōn sāyih* ~ *ṭalaṭ malāyīn sāyih* ‘three million tourists’. When millions are preceded by any numeral above ten, it is not inflected for number; instead, the stem *malyōn* is used, as in: *xamsīn malyōn sāyih* ‘fifty million tourists’.

Note that only the inflected forms of the numeral *wāḥid* ~ *wēḥid* ‘one m.’ and *waḥdih* ‘one f.’ have diminutive forms *waḥyīd* and *waḥyīdih*, respectively. Though it could be derived from a sound diminutive pattern, the cardinals two through to ten, as in: *ṭlāyīṭ*, *rbayyīḥ*, *sbayyīḥ*, *ḥṣayyīr*, are rarely used.

Except for the number million, all numbers take the feminine broken plural, as in: *wēḥid* ~ *wāḥid* ‘one’ > *wāḥadāt*, *ṭnēn* ‘two’ > *ṭnēnāt*, *ḥaṣarah* ‘ten’ > *ḥaṣarāt*, *ṭamaṭaḥṣ* ‘eighteen’ > *ṭamaṭaḥṣāt*, *xamsīn* ‘fifty’ > *xamsīnāt*, *ḥimyah* ‘hundred’ > *miyyāt*, *ḥalf* ‘thousand’ > *ḥalūfāt* ~ *ḥulūfāt* ~ *ḥālāf*, *malyōn* ‘million’ > *malayīn*, *milyār* ‘billion’ > *milyārāt*.

Complex numbers including units, tens, hundreds, thousands, or millions are constructed by putting the conjunctive particle (v)*w* ‘and’ between each elements, as in: *ḥalfēn-iw sabiḥmiyyih iw-ḥiṣrīn* ‘two thousand seven hundred and twenty’.

A final point is that definiteness in numerical phrases is expressed either by prefixing the definite article *al-* to the cardinal (most often) or to the counted noun, but not to both elements

except when the numeral follows the noun; in such case, both elements agree in number and definiteness, as in:

- 34) *jibtlak al-xamsīn xarūf* ‘I brought you the fifty lambs’
wēn xamsīn al-xarūf alli li ‘Where are my fifty lambs?’
 **jibt-lak al-xamsīn al-xarūf* ‘I brought you the fifty lambs’
jibt-lak al-xirfān al-xamsīn ‘I brought you the fifty lambs’
 **jibt-lak al-xarūf al-xamsīn* ‘I brought you the fifty lambs’

6.4.2.2 Ordinals

Ordinals express numerical ranking and denote relative function; they may stand as an independent noun phrase when they have a substantive meaning, for example: *tijawwaz al-awwal* ‘the first [son] got married’ *jat rābʿah* ‘Raba’h came’, *ṣaffi tāsiʿ* ‘I am in class nine’, *jābit al-(ʔ)ūla* ‘she was the top’. Except for the first ordinal *ʔawwal* ‘first’, the other ordinals take the active participle form C₁āC₂iC₃.

Ordinals may stand independently followed by a proposition to specify the group according to which it is ordered, as in:

- 35) *jāb al-awwal ʕa- ṣaffah* ‘he was the top of the class’
as-siyyārah hēdi hi al-(ʔ)ūla min nōʕha ‘this car is the first of its kind’

Ordinals may stand as the first member of an annexion structure, as in: *tāni funjāl* ‘the second cup’, *ʔawwal ʕazu* ‘the first raid’.

The more frequent use occurs when they function as adjectives following the nouns they modify; in such case, ordinal numbers inflect for number, gender and definiteness to agree with the attributed noun they modify, as in:

- 36) *al-bāb aṭ-tālīt* ‘the third door’ vs. *bāb tālīt* ‘third door’
aṭ-tullāb al-awāyil ‘the top students’ vs. *ṭllāb ʔawāyil* ‘top students’
al-garyih aṭ-tanyih ‘the second/other village’ vs. *garyih tānyih* ‘second/other village’

WR Arabic does not use ordinals for numbers above ten; instead, they are understood from the context of speech, as in: *jāb al-markiz xamiṣtaʕš* ‘he achieved the fifteenth position’.

6.4.2.3 Fractions

Based on the numeral root, WR Arabic has the patterns $C_1iC_2C_3$ or $C_1uC_2(u)C_3$ to refer to fractions. Fractions share the root of the cardinal and ordinal numbers, as in: *tilt* ‘one-third’, *rubʕ* ‘one fourth’, *xums* ‘one fifth’ *ʕuṣ(u)r* ‘one tenth’. An exception is the fraction ‘half’ which is realised as *nuṣṣ*. Fractions form the first member of annexion structure functioning as nominal quantifiers, i.e., to describe the quantity or part of the annexed noun, as in: *nuṣṣ aš-šwāl* ‘half of the sack’. They inflect for dual and plural number and for definiteness; the plural fractions are masculine, as in: *nuṣṣ* ‘half’, *an-nuṣṣ* ‘the half’, *nuṣṣayn* ‘two halves’, *nṣāṣ* ‘halves’; *rubʕ* ‘one fourth’ *ar-rubʕ* ‘the one fourth’, *rubʕayn* ‘two fourths’, *rbāʕ* ‘fourths’.

6.5 Pronouns

In this section, we discuss the form and function of pronouns in WR Arabic. Pronouns have the morphological categories of gender, person and number. They can be subcategorized into: personal pronouns, demonstrative pronouns, indefinite pronouns, reflexive and reciprocal pronouns, interrogative pronouns, and relative pronouns.

6.5.1 Personal pronouns

The system of personal pronouns is investigated in terms of structure and form. Personal pronouns, which are inherently definite (because they have specific referents), are associated with a particular person: first person, second person or third person. They are lexically marked for person, gender (except in the first person), and number. Personal pronouns are subclassified into independent pronouns (free forms), known in Arabic as *damā ʔir munfaṣilah*, and dependent pronouns (bound forms), known in Arabic as *damā ʔir muttaṣilah*. A formal distinction is made, particularly in the first and second persons, between independent pronouns, typically used in subject function, and dependent or clitic pronouns used in a range of oblique functions, such as verbal (direct or indirect) object and possessive.

6.5.1.1 Independent pronouns

Independent pronouns may stand as the subject of the verbal sentence or the nominal sentence. Accordingly, they are free morphemes that serve as separate words, as in: *ʔint ɗayfi* ‘you m.s. are my guest’, *ʔana ʔašrab al-gahawah* ‘I am drinking coffee’. The table shows a set of independent personal pronouns attested in WR Arabic:

Person	Singular	Dual/Plural
1.	<i>ʔana</i>	<i>ḥinna/ʔiḥna</i>
2m.	<i>ʔint(ih)</i>	<i>ʔintu(w)</i>
2f.	<i>ʔinti(y)</i>	<i>ʔintin</i>
3m.	<i>hū</i>	<i>hum/humma</i>
3f.	<i>hi</i>	<i>hin/hinni</i>

Table 68: Independent personal pronouns in WR Arabic

6.5.1.2 Dependant pronouns

Dependent pronouns are pronominal clitics that are suffixed to nouns, verbs, prepositions or particles; they function as the direct/indirect object, or they act as the possessor of the entity to which they are suffixed. They are subdivided into two sets: object pronouns and possessive pronouns. Object pronouns serve as an object of transitive verbs or a preposition. Possessive pronouns indicate a possession relation; they can be suffixed to a noun, or a preposition or a particle, as in: *sēf-ah* ‘his sword’, *l-hum* ‘theirs m.’, *ʕindi-na* ‘with us’, *baʕad-ku* ‘after you m.p.’. The table below shows the object/possessive pronouns suffixed to verbal and nominal bases in WR Arabic:

Person	Singular	Dual/Plural
1.	<i>-ni</i> (object) <i>-i/īh</i> (possessive)	<i>-na</i>
2m.	<i>-(a)k</i>	<i>-ku(w)</i>
2f.	<i>-ki(y)</i>	<i>-kin</i>
3m.	<i>-(a)h</i>	<i>-hum</i>
3f.	<i>-ha</i>	<i>-hin</i>

Table 69: Object/possessive pronouns in WR Arabic

Object pronouns and possessive pronouns are identical in form except for 1s. pronoun, where the object pronoun form is *-ni* and the possessive pronoun form is *-i/īh*.

Simply, object pronouns are directly attached to any verb form. Where the verb has more than one suffix, object pronouns are attached to the right as a final suffix, as in: *ʕiribnā-ha* ‘we drank it’.

Possessive pronouns are only attached to nouns showing a possession relationship which together act as annexion structure and therefore render the annexed noun definite. The use of a possessive pronoun blocks the definite article prefix, as in: *sēf-i* ‘my sword’ vs. **as-sēf-i* ‘the my sword’. WR Arabic also has an analytic genitive exponent which may be used in the place of the synthetic annexion structure, as in: *nāgt-i* (synthetic) ‘my camel f.’ vs. *an-nāgah tabiʿti* (analytic) ‘my camel f., lit. the camel that belongs to me’. The analytic genitive exponent agrees with the possessor in gender, as in: *al-jimal tabʿi* ‘my camel m’.

6.5.2 Reflexive pronouns

WR Arabic has a limited number of reflexive pronouns that are typically preceded by an antecedent – a noun, an adjective, or a personal pronoun, to which the reflexive pronouns refer. Therefore, the reflexive pronoun is an anaphor that is determined by its antecedent. The reflexive pronouns include: *nafs* + pronoun, *ʕayn* + pronoun, *dāt* + pronoun, *kull* + pronoun, *hāl* + pronoun, (reflexive adverbs: *b-nafs* + pronoun, *b-ʕayn* + pronoun, *b-hāl* + pronoun, *b-šaham*, *b-laḥam*), as in:

- 37) *kallamt aḍ-ḍābiṭ dātah* ‘I spoke to the officer himself’
jāni ṭallāl iw-ḥamd b-nafishum ‘Talal and Hamd themselves have come to me’
ḍarabt ḥāli ‘I hit myself’
ʕagalt al-biʕīr b-nafsi ‘I myself tied up the camel’

The actual sense of reflexivity is encoded in the reflexive words that denote the head noun and are concatenated with the possessive clitics which refer back to the head noun. The possessive pronoun agrees with the head noun in person, gender, and number. The expressions typically function as intensifiers.

6.5.3 Reciprocal pronouns

WR Arabic has a reciprocal pronoun *baʕaḍ* ‘each other, or ‘together’. It may be doubled where the first *baʕaḍ* has a possessive pronominal suffix, as in:

- 38) *nalʕab maʕ baʕaḍna* ‘we play together’
yalʕaban maʕ baʕaḍhin ‘they f. play together’
nsāʕid baʕaḍna al-baʕaḍ ‘we help each other’

It can be seen that the reciprocal pronoun is expandable by attaching the clitic possessive pronoun that agrees with the subject of the sentence in person, number, and gender. *baṣaḍ* may also be used as a specifier/quantifier meaning ‘some’ (cf. § 6.4.1). The reciprocal pronoun may alternate with *suwa* ‘together’, as in: *nalṣab suwa* ‘we play together’.

6.5.4 Demonstrative pronouns

Demonstrative pronouns exhibit distance, number and gender. The following table summarizes demonstrative pronouns in WR Arabic:

Distance	proximal	distal	proximal	distal
Gender/Number	singular		Plural	
Masculine	<i>hēḍa/hāḍa</i>	<i>ḍāk/haḍāk</i>	<i>haḍaḷḷ</i>	<i>haḍaḷḷāk</i>
Feminine	<i>hēḍi/hāḍi</i>	<i>ḍīk/heḍīk ~ haḍīk</i>	<i>haḍaḷḷ</i>	<i>haḍaḷḷāk</i>

Table 70: Demonstrative pronouns in WR Arabic

WR Arabic distinguishes gender only in the singular demonstrative pronouns, in which singular feminine is expressed by the dorsal short and long vowels /i, ī/. Thus, WR Arabic has *hēḍa* or *hāḍa* ‘this m.’ beside *hāḍi* ‘this f.’, and *(ha)ḍāk* ‘that m.’ beside *(ha)ḍīk* ‘that f.’. With regard to distance, demonstrative pronouns have a two-way distinction: proximal versus distal. The table also shows that the prefix *ha-* (which is optionally omitted in some contexts) is a proximal marker assigning the relative nearness to the entity the speaker is referring to, whereas the suffixes *-k* and *-āk*, are distal markers. The deictic core of the demonstrative is marked for gender and number; *-ḍā-* is marked for m.s., *-ḍī-* is marked for f.s. and *-ḍaḷḷ-* is marked for plural. In the plural, *haḍaḷḷ* ‘these’ and *haḍaḷḷ-āk* ‘those’ refer to both masculine and feminine.

The demonstrative pronouns have two main functions; firstly, they may stand independently as the subject of the clause. Here they may be followed by either indefinite predicate, for example, *ḍāk ḥṣān* ‘that m. is a horse m.’, or a definite predicate, as in *ḍak ḥṣānak* ‘that m. is your m.s. horse m.’, *ḍāk sālim* ‘that is Salim’. Demonstrative pronouns may also function as the head of the demonstrative phrase, for example, *ḍāk al-ḥṣān* ‘that m. horse m.’.

When the demonstrative pronoun refers to a plural inanimate entity, the f.s. *hāḍi/hēḍi* for proximal referents and *ḍīk/haḍīk* for distal referents are used, as in:

- 39) *hēdi/haḏīk al-xayl* ‘these/those horses’
hēdi/dīk al-byūt ‘these/those hair houses’

There is a tendency to reduce the demonstrative pronoun to *ha-* in noun phrases. This allomorphy replaces all the proximal forms of the demonstrative pronoun, in which case marked gender distinction is lost, as in: *ha-l-jibal* ‘this mountain’, *ha-l-masjid* ‘this mosque’, *ha-l-banāt* ‘these girls’, *ha-l-yōmēn* ‘these days’.

hay(y) and *ʔarʕ* ‘this/these’ are less commonly used demonstrative pronouns. These do not show distinction in number and gender and typically function as presentative pronouns. Further, when they follow the noun, they need an object pronoun suffix to specify such morphological categories. This can be seen from the following table:

Person	Singular ‘this’	Dual/Plural ‘these’
1.	<i>hayni</i> <i>ʔariʕni</i>	<i>hayna</i> <i>ʔariʕna</i>
2m.	<i>hayyak</i> <i>ʔarʕak</i>	<i>hayku(w)</i> <i>ʔariʕku(w)</i>
2f.	<i>hay(y)ki(y)</i> <i>ʔariʕki(y)</i>	<i>haykin</i> <i>ʔariʕkum</i>
3m.	<i>hayyah</i> <i>ʔarʕah</i>	<i>hayhum</i> <i>ʔariʕhum</i>
3f.	<i>hay(y)ha</i> <i>ʔariʕha</i>	<i>hayhin</i> <i>ʔariʕhin</i>

Table 71: Presentative pronouns *ʔarʕ* and *hay(y)* in WR Arabic

As the main function of the presentative particle is to draw the hearer’s attention to a referent, there is gender and number agreement between the object pronoun suffix of the presentative pronoun and the referent, as in:

- 40) *aḏ-ḏyūf hayhum hniyya* ‘here are the guests’
aš-šēx arʕah ysōlif ‘here is the Sheikh, speaking’
ad-dibaš ʔariʕha hājʕah ‘ here is the sheep, sitting down’

The presentative pronoun may precede the described noun where they have an object pronoun suffix which specify the morphological categories of the referent, as in:

- 41) *ʔarʕiha ʔammak lifat* ‘here/there your mother came’
hayhum al-ʕwayyil yalʕabaw ‘here/there the children are playing’

De Jong (2000: 235) demonstrates a similar situation for northern Sinai Bedouin dialects, as in: *arʕah jaʔ walád ʕammha* ‘there her cousin came’.

6.5.5 Relative pronouns

Relative pronouns, or the clausal definite article as described by Watson (2011b: 905), introduce a relative clause. The main relative pronoun that WR Arabic uses is *alli* ‘who, which, when, where, or whose’, which has no gender or number distinction. The reduced form *al-* is usually produced in connected speech, as in:

- 42) a) *widd ašūf aḍ-ḍayf alli jaʔ al-bāriḥ* ‘I want to see the guest who came yesterday’.
 b) *al-banāt alli (al) wirdin ʕal-ʕayn ma- jan* ‘the girls (women) who went to the spring have not come yet’
 c) *ma- šuft al-ḥṣān alli (al) biʕtah* ‘have you seen the horse which I sold?’
 d) *nimna fa-l-mikān alli (al) xayyamna fih* ‘we slept (in the place) where we camped’
 e) *jaw al-wagt alli gawṭarin fih* ‘they m. came when they f. left’
 f) *sallamt ʕala ʕalāḥ alli (al) muxayyamah fa-l-xarj* ‘I said hello to Salah whose camp is in al-Xarj mountain’
 g) *ʔalēnak šēxin [[alli]] gilīlīn ʔamtālak* ‘you are that Sheikh whose silmilar are few’
 h) *marrēt ʕala ʕyāl [[alli]] yalʕabu ṭāb* ‘I passed by boys (who are) playing football’

The relative pronoun may be followed by verbs, as in: (42a), (42b), (42c), (42d), (42e) or may occur with nominals, as in: (42f) and (42g). In examples (42g) and (42h), the hidden pronoun *alli* modifies indefinite heads. This suggests that *alli* only occurs when the relative clause modifies a definite head.

The relative pronoun *alli* may also mark the function of a causal conjunction predominantly meaning ‘that; because’, in contexts where the head of the sentence expresses gratitude or praise (43a), or the head of the sentence contains a noun or a verb expresses an emotional evaluation (sorrow, happiness, anger, reproach, wonder, etc.) of the contents of the *alli* clause, as in: (43b), (43c), and (43d) (cf. Diem, 2007; Woidich, 1980b, 1989).⁸³

⁸³ For example, Woidich (1989) demonstrates three different kinds of *illi* in modern Cairene Arabic: *illi* ‘that’, *illi* ‘because’, and *zayy illi* ‘as if’.

- 43) a) *taḥammad aḷlah alli ṭābat ʔīdak* ‘Be gratitude to Allah [that, because] your m.s. hand is healed’.
- b) *al-ḥagg ʕalayy alli ʔanṣaḥak* ‘It is my mistake [that, because] I advise you m.s.’.
- c) *ʔana mabṣūṭ alli taḡaddētu ʕindana al-yōm* ‘I am happy [that, because] you m.p. had your lunch here today’.
- d) *ʔabūy ʕatbān ʕalēk alli ma zurtah f-al-mustašfa* ‘my father is reproaching you m.s. [that, because] you did not visit him in the hospital’

6.5.6 Interrogative pronouns

WR Arabic has a set of interrogative pronouns that are isomorphic with relative pronouns or conditional particles. The table below shows the interrogative pronouns to be found in WR Arabic: (* indicates that the interrogative pronoun is isomorphic with relative pronouns, conditional particles, or adverbs)

Interrogative Pronoun	Gloss
<i>wiṣ ~ wēš ~ šu ~ ʔayš ~ (w)šidd + pron.</i>	what
<i>ʕalēš ~ ʕalayš</i>	on what* adverb
<i>ʕalām</i>	what
<i>wēn</i>	where* adverb/conditional particle
<i>mnēn</i>	from where* prep. phrase/conditional particle
<i>mita ~ ʔamēt ~ wagtēš</i>	when* adverb/conditional particle
<i>gaddēš ~ kam</i>	how many, much, old, often, long* conditional particle
<i>bēš</i>	how much* prep. Phrase/conditional particle
<i>šlōn</i>	how often * conditional particle
<i>lēš ~ luwēš ~ ʔilwēh ~ lēh</i>	why* adverb
<i>mīn ~ min</i>	who* conditional particle
<i>šlōn ~ kēf</i>	how* adverb/conditional particle
<i>ʔayy ~ ʔayāt</i>	which* conditional particle
<i>ʔilmin ~ lamīn</i>	whose

Table 72: Interrogative pronouns in WR Arabic

WR Arabic usually does not use a particle to produce yes/no questions. Yes/no questions are generally understood using falling intonation. However, the negative particle *ma* and the particle *ʔay* may occasionally introduce a yes/no question, such as:

- 44) *ʔay hu gāl* ‘Did he say?’
ma trāfigni la-š-šayd ‘Won’t you m.s. accompany me for hunting?’
ma šuft-li nāgtin šagħa ‘Did not you m.s. found me/see a gray camel?’

To ask about something in the past tense, a speaker uses a perfect verb form after the negative particle; whereas a speaker uses imperfect verb form after the negative particle to ask about the present or future tense.

6.5.7 Indefinite pronouns

Indefinite pronouns refer to unspecified individuals to indicate non-specific or indefinite referents; they are inherently indefinite. They may denote a person or a group, animate or inanimate; and their default gender/number distinction is masculine singular. A number of words are attested in WR Arabic that serve as indefinite pronouns, such as: *maxlūg*, *biniyādam*, *ħada/ʔaħad*, ‘someone; anyone’ *waħdih*, ‘someone f.; anything’ *nifas*, ‘whisper of someone’, *šay* ‘something’, *ʔayy* ‘any’, *alli* ‘whatever’. These words are only used in interrogative, imperative, and negative structures, as in:

- 45) *šindak šay tgūlah* ‘do you have anything to say?’
ma ligēt ħada/ʔaħad ‘I have not found anybody’
jīb alli tijībah ‘give me whatever you m.s. want’

Some interrogative pronouns, as in: *min* ‘who, whoever’, *ma* ‘whatever, wherever, or whenever’, *wiš* ‘what’, *ʔayy* ‘whichever’) serve as indefinite pronouns in different structural positions, as in:

- 46) *ʔawwal min yāšal xalḷah yijīni* ‘whoever arrives first, let him come to me’
wiš ma sawwēt tarāni mašāk ‘whatever I do, I follow you m.s.’
makān ma widdak ‘wherever you m.s. want’
mita ma jītu xabbrūni ‘whenever you m.p. come, let me know’
šatni ʔayy ʔiḷbāt ‘give me any prove (whatever it is)!’

6.6 Adverbs, prepositions and particles

In this section, I provide a brief overview of the main categories of adverbs in WR Arabic, namely locative, temporal, and manner. I also present tables of the most frequent prepositions and expressive particles. I present them here as a final section because such forms do not fall under the description of nominal morphology or verbal morphology.

6.6.1 Adverbs

Non-interrogative adverbs (temporal, locative, and manner) are derived from nouns or adjectives through grammaticalisation, such as: *albāriḥ* ‘yesterday’, *bākir* ‘tomorrow’, *al-ʔābliḥ* ‘last night’, *al-gābliḥ* ‘tomorrow night’, *aḍḍaḥa* ‘morning’, *sāʕah* ‘hour’, and *wagt* ‘time’. Time adverbial forms may result from the grammaticalisation of noun phrases involving time words, including *sāʕah* ‘hour’, *wagt* ‘time’, *taw* ‘now’, and *ḥīn* ‘time’, as in: *al-ḥīn* ~ *ha-s-sa(ʕ)*⁸⁴ ~ *ha-l-wagt* ‘now’, *al-yōm* ‘today’, *al-ʔābliḥ* ‘yesterday’, *al-gābliḥ* ‘tomorrow’, *al-ʕām* ‘last year’, *ʔawal al-ʕām* ~ *ʕām al-awwal* ‘two years ago’, *tōbni* ~ *tawni* ‘right now’, *ʔams* ‘yesterday’.

Non-interrogative adverbs also include quantifiers of compound words, such as: *baʕdi šwayy* ‘soon’, *kamān šwayy* ‘soon’, *gabli šwayy* ‘shortly before’, *kulḥīn* ‘always’. Some of these deictic words have resulted from grammaticalisation, as in: *hassa(ʕ)* ‘now’ from *hāḍihi-s-sāʕah* ‘this hour’), and some undergo phonological changes, as in: the CA *hunā* ‘here’ is realised as *hān* ‘here’ and its diminutive form *hniy(yah)*; the CA *hunā(li)k* ‘there’ is realised as *hanāk* ~ *hnō* ~ *hnuh*; the CA deictic manner adverbial *hākaḍā* ‘like this’ is realised as *hēk*; *hāḍa l-gadr* and *hāḍa l-kuṭr* ‘this amount’ are realised as *halgadd* and *halkuṭur*, respectively. Other non-interrogative adverbs include: *ḡād* ‘there’, *baʕdēn* ‘then’, *kēf* ‘however’, *mita* ‘whenever’, *wēn* ‘wherever’, *ʔabad* ‘never’, *dāyman* ‘alway’, *ʕugub* ‘afterwards’, *gbēbān* ‘a little while ago’, *ʕūdān* ‘in a little while’, *wājid* ~ *kiṭīr* ~ *balḥayl* ~ ‘much, alot’, *marrah* ‘once ~ never’, *bass* ‘only’, *badri* ‘early’, and *balki* ‘perhaps’.

WR Arabic has a set of interrogative adverbs, which may function as relative pronouns or conditional particles but in different structures (§ 6.5.6). The most common interrogative adverbs include: *wēn* ‘when’, *mita* ~ *ʔamēt* ~ *wagtēs* ‘where’, *lēš* ~ *luwēš* ~ *ʔilwēh* ~ *lēh* ‘why’, *šlōn* ~ *kēf* ‘how’.

⁸⁴ Abduh (2002: 86) reports that this is a Syriac word, which is the only adverb in this language that means ‘now’, and not as claimed above that it is reformed by a matter of grammaticalisation from *hāḍih iss-sāʕa* (cf. Holes, 2004).

6.6.2 Prepositions

Prepositions indicate relations of place and time. The most noticeable feature with regard to prepositions in WR Arabic is the use of the preposition *fī-* to the exclusion of *bi-*, where *bi-* is used in many surrounding dialects. The following table provides the set of prepositions in WR Arabic with contextual examples:

Prep.	Gloss	Example sentence	Gloss of example sentence
<i>fī/f/ḥī</i>	in	<i>ʔana sākin fa-d-dīsih</i>	I live in Ad-Dīsih.
	at	<i>wiṣilna ramm fa-l-lēl</i>	We arrived Ramm at night.
	with	<i>rubatt al-ḥṣān fī-l-ḥabil</i>	I tied the horse with a rope.
	from	<i>rubatt aḍ-ḍīx fī-dēh</i>	I tied the dog by its front legs.
	there is/are	<i>fī suyyāḥ ʕind al-xazʕali</i>	There are tourists in Al-Khazʕali.
<i>ʕa/ʕala</i>	on	<i>rikibt ʕa-l-jimal</i>	I rode the camel.
	to/toward	<i>sayyarna ʕa-bēt aš-šēx</i>	We went to the šheikh tent.
	for	<i>ʔana dāxil ʕalēk</i>	I am a petitioner for your protection.
<i>ʕind</i>	at/near	<i>naltigi ʕind ʕayn al-ōrns</i>	We will meet at/near the Lawrence spring .
<i>ʕan</i>	about	<i>madri ʕannah</i>	I do not know about him.
	for/on behalf of	<i>kul min yaxtār ʕan ḥālah</i>	Everybody chooses for himself.
	from/out of	<i>šilt al-ḥrām ʕannah</i>	I took the blanket from/out of him.
<i>min</i>	from	<i>ʕawdiḥ min ʕašīrt al-ḥwēṭāt</i>	Awdih is from the Ḥweṭat tribe.
	among	<i>ʔaxtārlak waḥdiḥ min banāt ramm</i>	Choose one of the Ramm girls!
	than	<i>ʔana ʔaṭwal minnak</i>	I am taller than you.
<i>l-</i>	to	<i>ʔarsalt lak ʕliy</i>	I sent Ali to you.
	for	<i>ḥēḍi an-nagah lku(w)</i>	This camel is for you (yours).
	of	<i>ḥēḍa šidīg la-būk</i>	This is a friend of your m.s.

			father
<i>lēn</i>	until	<i>ḡallēna namši lēn ḡābat aš-šams</i>	We continued walking until the sun set.
<i>maʕ</i>	with	<i>jīb ar-rubbābah maʕāk</i>	Bring the Rababa with you!
<i>bēn</i>	between	<i>nṭarrš al-bil bēn ad-dīsih w-ramm</i>	We graze the camels between ad-Dīsih and Ramm.
	among	<i>ʔaxtār waḡdih bēn han-nūḡ</i>	Choose one of these camels!
<i>fōḡ</i>	on/above	<i>ḡaṭṭayt ramil fōḡ al-ḡarbūd</i>	I put sand on/above the bread.
<i>taḡt/taḡat</i>	under	<i>ḡaṭṭēt jamir taḡt aš-šāj</i>	I put burning coal under the bread pan.
<i>dūn</i>	under	<i>ḡūmri dūm aṭ-talāṭīn</i>	I am under thirty years old.
<i>ḡaḡ(i)!</i>	before	<i>wiṣilna ad-dīrih ḡaḡ! al-ḡrūb</i>	We arrived in the area before the sunset.
<i>baʕd/baʕad</i>	after	<i>jaw baʕadna</i>	They came after us.
<i>ḡugb</i>	after	<i>tigahwēna ḡugb al-ḡada</i>	We drank coffee after the lunch.
<i>ḡiddām</i>	in front of	<i>la-tamšay ḡiddāmi</i>	Do not walk in front of me!
<i>wara/ḡufa</i>	behind	<i>ʔaxfēt al-fanšah warāy</i>	I hid the [English] gun behind me.
<i>miṭl</i>	as/like	<i>tamši miṭl al-ḡizlān</i>	She walks like a gazelle.
<i>blayya/bdūn</i>	without	<i>hi tabki blayya/bdūn sibab</i>	She cries without any reason.
<i>min bēn</i>	among/of	<i>ḡāt wāhid min bēn ṭullābak</i>	Give me one of your m.s. students!
<i>min fōḡ</i>	above/on	<i>rikabt min fōḡ hayyāf</i>	I rode the fast horse.
<i>min ḡaḡ(i)!</i>	before	<i>ʔinkis ḡalēhūm min ḡaḡi! ṭlūf aḡ-ḡaw</i>	Come back before sunrise!
<i>min baʕd</i>	after	<i>tiḡasant min baʕad ad-dwáʔ</i>	I got better after taking the medicine.
<i>min ḡind</i>	from	<i>šarēt xarūf min ḡind ḡliy</i>	I bought a lamb from Ali.

Table 73: Prepositions of WR Arabic

6.6.3 Particles

WR Arabic has a number of particles that function as coordinators, negators and subordinators. The table provides a list of the most common particles in the dialect:

Particle	Gloss	Function
<i>ma-</i> , <i>mā</i> , <i>muš</i>	no, not	negators
<i>la</i> , <i>lā</i>		
<i>law</i> , <i>ʔiḏa</i>	if	subordinators
<i>mita</i>	whenever	
<i>lamma</i>	when	
<i>ʔilla</i>	except for	
<i>ḥatta</i> , <i>ṣašān</i>	in order to	
<i>min</i>	because	
<i>bass</i> , <i>lākin</i>	but	
<i>w-</i>	and	
<i>kamān</i>	in addition	
<i>ʔaw</i> , <i>willa</i>	or	
<i>hay</i> ~ <i>ʔarʕ</i>	see	presentative particles
<i>ya</i> ~ <i>hnō</i>	oh!	vocative

Table 74: Particles in WR Arabic

6.7 Concluding remarks

This chapter has examined the major aspects of the nominal morphology of WR Arabic. The chapter has investigated the major categories of nominals, namely: substantives, derivatives, adjectives, pronouns, and quantifiers. The discussion has examined the noun, its deverbal nominal derivative patterns, and the properties of its inflection (including gender, number, person, definiteness, agreement). I have investigated adjectives in terms of their patterns, and their inflectional properties, including the elative. I have provided a detailed account of nominal modifiers and pronouns in WR Arabic. Briefly, I have presented the most common adverbs, prepositions and particles in WR Arabic.

Chapter seven

Basic lexicon

7.1 Introduction

Any speech community has considerable latitude for shaping its lexicon. Our everyday life and our habitual patterns form the great majority of a language or dialect lexicon. According to Aronoff and Fudeman (2005: 56), the most accurate conception of the lexicon is the ‘mental list of forms that you know’. So, the list of words for a language accepted by a speaker, though not a complete list, is referred to as its lexicon.

WR Arabic is distinguished from the wider range of JA varieties in terms of lexical entries. It has been noticed that the dialect has several traditional lexemes that are no longer extant in similar dialects, including: *digrān* ‘winnowing fork’, *yagri* ‘to host/to make food for guests’ *ḏīx* ‘watchdog’, *ḥafāyiḏ* ‘three stones for fire’, *xašim*, ‘nose’, *zamil* ‘ten camels m.’, *ḏōd* ‘ten camels f.’, *daḥal* ‘desert sand’, *rjūd* ‘graveyard’, *gišīr*, ‘guest’, *rḥaʔ* ‘grinding stone’, *ṭarraš* ‘to send somebody’, *gēḏ* ‘hot weather’. Therefore, in this lexicon, priority has been given to draw up the lexical entries which can be said to distinguish the dialect from many other neighbouring dialects.

7.2 Aramaic/Syriac loanwords

The region was historically inhabited by the Nabataeans which entails that the spoken Arabic dialects in the region originally share some lexical features with the Aramaic – the literary language of the Nabataeans (§ 1.5; 1.6; 2.2). Several lexical entries of such dialects are not documented in the well-known Arabic dictionaries. Referring to *al-Muʿjam al-Waṣīf* (2004), one of the most comprehensive dictionaries of Arabic, the following words are missing; where the root is found, WR Arabic word has a different meaning from the classical sense:

ḡabībih ‘food made of bread and milk’, *šājih* ‘toy’, *rjūd* ‘graveyard’, *ḥafāyiḏ* ‘three stones of fire’, *ḏīx* ‘watchdog’, *šbāg* ‘tying sheep together for milking’⁸⁵, *maḡar* ‘to stir’, *niṭa* ‘to sew’, *gišalah* ‘bride price’, *šiṭar* ‘tiredness’, *ḏarr* ‘to rise, to appear’, *tana* ‘to wait for’, *šambaz* ‘to

⁸⁵ The word *šbāg* may be connected to Modern Eastern Aramaic *šabuqta*, which is a rod securing a baby in a cradle (Geoffrey Khan, p.c.).

anger', *dibaš* 'sheep', *rabšah* 'piece of land', *garbah* 'water sack made of leather', *tibalhad* 'to be confused', *tartaḥ* 'to catch', *taḥarkaš* 'to make noise for others', *šaglab* 'to tumble', *šandal* 'to tumble', *šarbaš* 'to climb', *timarmaṭ* 'to suffer', *xmayšah* 'meal made of bread and milk', *šaršar* 'to be stray', *bijad* 'to slit', *baḥ* 'nothing', *baḥlag* 'to gaze', *baxan* 'to know', *bigam* 'to say', *balaš* 'to district', *balas* 'to report secretly', *jallih* 'camel droppings', *ḥagaṭ* 'to strap; to bind', *ḥamraṭ* 'to be shy', *daḥaš* ~ *daxaš* 'to tuck', *diḥiyyih* 'folkloric dance', *dēd* 'animal breast', *zibaṭ* 'to improve; to be amended', *zigaṭ* 'to catch', *šaxaṭ* 'to scratch', *šarr* 'to flow', *širš* 'root', *šaffa* 'to separate bone from meat', *šilaš* 'to uproot', *šilīf* 'huge sack of grains', *rujum* 'man-made stack of stones', *šabaṭ* 'to hug', *garambaš* 'trivial stuff', *garwaš* 'to annoy', *guffah* 'scuttle', *kaḥtūt* 'stingy', *kazz* 'to keep oneself away from other people', *karkab* 'to make mess for others', *lās* 'to make a problem between people', *lāš* 'despicable', *liṭaš* 'to take sth. quickly', *mašš* 'to wipe', *nitaš* 'to hold', *nāyiṭ* 'clumsy', *gēḏ* 'hot summer', *daḥalih* 'desert sand', *dilbih* 'blanket', (among others).

However, it is not an easy task to recognise items borrowed from Aramaic. We should be aware of three main issues in this respect: first, the typological similarity between Aramaic and the spoken forms of Arabic (Fischer, 1982: 83); second, the sound shift that words undergo through time; and third, the two phases of Aramaic loanwords: the early borrowings into the *šarabiyyah* and recent borrowing into the dialects (cf. Retsö, 2006: 181). Consulting works related to Aramaic/Syriac, the following words in WR Arabic seem to be Aramaic/Syriac loanwords: *šōb* 'summer heat', *šilaḥ* 'to pull off', *niṭar* 'to guard', *faram* 'to cut' (Arnold, 2002), *tiḡandar* 'to walk arrogantly', *bakkīr* 'early morning', *gašš* 'hay; dried grass', *dālyih* 'grapevine', *daggar* 'to lock the door', *ṭāsih* 'cooker', *nikaš* 'scratch up', *gurmiyyih* 'tree trunk; origin', *digin* 'beard', *zrišah* 'ornamental trees', *liṭaʔ* 'waylay; ambush', *šaggaf* 'cut into pieces', *rīg* 'saliva', *dakkih* 'thread holding the trousers from the middle', *šigal* 'to hold', *darb* 'road', *kabb* 'to spill', *ʔabbahāt* 'fathers', *kadd* 'to go to', *šabb* 'to ignite; to mate the mare', *ribg* 'tying the sheep', *maḡārah* 'cave', (Abduh, 2002), *yabga* 'to want', *mšalam* 'standing steadily' (Dyēb, 2000).

The aforementioned lexical entries and many others would help to answer the question of how the dialect has been influenced by the social history of the region. However, there should be further research to investigate the origin of lexical items in the dialects of the region which are not documented in CA dictionaries.

7.3 Basic lexicon

The basic premise is squarely on providing this work with the core vocabulary conveniently grouped together in a number of thematic categories which WR Arabic users are likely to encounter. Based on Behnstedt and Woidich's *Word Atlas of Arabic Dialects* (2011), the lexicon has been classified according to the semantic category that the lexemes belong to namely: activities, agriculture, body parts, camel terminology, clothes, communication, constructions, directions, fauna, flora, foods and drinks, human qualities and defects, nature, persons, proper nouns, professions, relationships and kinship terms, residence, tools, traditions, adverbials (temporal, spatial, and manner). Following Asiri (2009), some verbs that do not fit these categories will be further listed as a separate category 'verb' avoiding the semantic categories applied to the other parts of speech.

Because of the deep relationship between the Bedouin and his camel in WR desert, there are still a good number of old expressions used to this day. Therefore, I add a special category 'camel terminology' that devotes attention to camel names, colours, descriptions, phases of life, and such. The lexicon is expected to be comprehensive according to the large number of recordings which cover a wider representation of the lexical entries with a variety of topics. The size of each category depends on the scope of the semantic field in correlation to the culture of WR region; this entails that the category of camel contains significantly more lexical items than the category of agriculture because terms related to Bedouin life style are more important than those of agriculture.

It is not enough to draw up a list of the lexical items. Rather, it is important to set as a goal the explanation of the relationships among the words. Therefore, together with the root and the gloss, every lexeme has been characterised in terms of part of speech: noun (countable and non-countable/singular and plural), verb (transitive or intransitive), adjective, adverb, preposition, and particle.

A legitimate question here is how to use this lexicon? The lexicon material is ordered according to the thematic (semantic) category to which a lexeme belongs to. Column one lists words according to the root of each item; column two contains the basic lexical entries without inflectional categories (nouns appear in pausal forms; verbs are listed in the third person masculine singular form). Column three lists the plural of nouns and adjectives and the imperfect 3.m.s. form of the verb. The plural forms of a noun are given where they involve the so-called

broken plural. Column four provides the English equivalent (gloss). Column five gives information about word class (part of speech), i.e., whether the listed word is a noun, an adjective, a preposition, or an adverb, etc. Relevant grammatical information is also provided indicating verb transitivity.

The spelling system adopted in this lexicon for roots and lexemes is a transcription using the same symbols used in the previous chapters (for ease of reading, tables 1 and 2 at the beginning of the thesis include a list of phonetic symbols together with examples).

Where an item has two related or different meanings (polysemy or homonymy), the meanings are separated using a semicolon (;). Where appropriate, collocations are given together with their translation.

The following abbreviations are used in the lexicon:

Adj: adjective, Adv: adverb (M: manner, S: spatial, T: temporal), Coll: collocation, Du: dual, f: feminine, IV: intransitive verb, CN: count noun, UN: uncountable noun, Prep: preposition, TV: transitive verb, Imp. V: imperative verb, Dim: diminutive, PN: proper noun.

Basic lexicon of Wadi Ramm Arabic

Activities

Root	Lexeme	Inflection	English Gloss	Gram. Categ.
b-ṭ-ḥ	mbāṭaḥah	-āt	wrestling	CN
f-r-d	fārdih	fawārid	wedding procession	CN
g-n-ṣ	ganaṣ	yagnuṣ	to hunt	TV
g-r-y	ʔagara	yagriy	to make food for guests; to host	IV
g-ṣ-ṣ	gaṣṣ	yguṣṣ	to shear sheep; to follow trace	TV
ġ-z-l	ġazal	yġazil ~ yaġazl	to spin	TV
ḥ-l-b	ḥalab	yḥalib ~ yaḥalb	to milk	TV
ḥ-ṭ-b	ḥaṭṭab	yḥaṭṭib	to bring firewood	IV
k-s-r	mkāsarah	-āt	arm wrestling	CN
n-ṭ-y	niṭa	yanṭa	to weave	TV
r-b-ṣ	rabbaṣ	yrabbiṣ	to spend the spring time in	IV
r-ḥ-l	riḥīl	-	travelling; nomadism	UN
s-b-g	sbāg	-āt	horse race	CN
s-y-j	sījih	-	Bedouin game played with pebbles	CN
ṭ-w-b	ṭāb	-	registering the property; game	UN
ṣ-l-l	taṣlīlih	taṣalīl	night party	CN
ṣ-y-š	ṣīših	-āt	life style	CN

Agriculture

Root	Lexeme	Inflection	English Gloss	Gram. Categ.
b-d-r	bēdar	biyādir	threshing floor	CN
b-ḍ-r	bḍār	-	sowing	UN
b-ḥ-š	baḥaš	yabḥaš	to dig	TV
b-r-k	barkih	brak	artificial pond	CN
b-w-r	būr	-	fallow land; uncultivated land	Adj.
b-ṣ-l	baṣ(a)l	-	not irrigated land	Adj.
d-w-y	dawwa	-āt	barren ground	Adj.
g-l-m	taglīm	-	tree pruning	UN
ḥ-ṣ-d	ḥaṣad	yḥaṣid	to reap; to harvest	TV
ḥ-ṣ-ṣ	ḥuṣṣah	ḥṣaṣ	piece of land	CN
j-f-t	jift	-	remaining of olives after grinding used for stoking fire	UN
j-m-r	jamrah	jam(i)r	red coal	CN
j-r-n	jurun	jrūn	stone trough	CN
k-r-m	karm	krūm	farm of olive trees	CN

k-f-r	kifir ~ kafrah	kfarr	hole inside sand to store wheat or weapon (cf. <i>maşann</i>)	CN
l-g-ṭ	laggaṭ	ylaggiṭ	to pick up; collect	TV
r-j-m	rujum	rjūm	man-made stack of stones	CN
s-b-l	sibalih	sibal	spike	CN
š-d-d	šadd	yšidd	to plant; to sow	TV
s-g-y	sgāyih	-	irrigation	UN
s-g-y	ʔasga	yasgi	to irrigate	TV
š-j-r	šijarah	šjarr	tree	CN
š-l-f	šilīf	šilfān	huge sack of grains	CN
š-l-ṣ	šilaṣ	yašlaṣ	to uproot	TV
ṣ-n-n	maşann	-āt	hole inside house used for wheat storage (cf. <i>kifir</i>)	CN
t-b-n	tibin	-	hay	UN
w-ṭ-ʔ	wiṭāh	-	land for planting grains	UN
z-r-ṣ	muzraṣah	mizāriṣ	farm	CN

Body parts

Root	Lexeme	Inflection	English Gloss	Gram. Categ.
b-r-ṭ-m	burṭum	barāṭim	lip	CN
d-g-g	dagg	dgūg	tattoo	UN
d-g-n	digin	dgūn	beard	CN
f-m-	ʔafam	ʔafami	mouth	CN
ġ-r-r	ġurrah	ġrar	fringe	CN
ḥ-d-n	ḥuḍun	ḥḍūn	lap; bosom	CN
ḥ-f-n	ḥafnih	-āt	handful	CN
j-d-l	jidīlih ~ jaddūlih	jidāyil	braid	CN
k-f-f	kaff	kfūf	palm	CN
k-r-š	karš	krūš	paunch	CN
n-h-d	nhēd	-āt ~ nhūd	breast	CN [dim]
n-ḥ-n-ḥ	tinaḥnaḥ	yitinaḥnaḥ	to clear his throat	IV
r-b-ṣ	tirabbaṣ	yitirabbaṣ	to sit cross-legged	IV
ṣ-b-ḥ	ṣubāḥ	-āt	face	CN
s-f-ḥ	ṣafḥah	-āt	face (negative use)	CN
s-ḥ-n	siḥnih	-āt	face (negative use)	CN
š-l-l	šilīl	-	lap	UN
š-r-b	šārib	šuwārib	moustache	CN
š-y-m	šāmih	-āt	mole; birthmark (cf. <i>ḥabbat xāl</i>)	CN
š-ṣ-r	šaṣar	-	hair	UN
w-j-h	wajh	wjūh	face; important person	CN
w-š-m	wašim	wšūm	tattoo	CN
x-l-l	ḥabbat xāl	-āt	mole; birthmark (cf. <i>šāmih</i>)	CN

z-g-m	zagim	zgūm	mouth (negative use)	CN
z-w-l	zōl	zwāl	appearance; body shape	CN
Camel terminology				
Root	Lexeme	Inflection	English Gloss	Gram. Categ.
b-k-r	bakrah	-āt	1-year calf f. ready for riding and mating	CN
b-r-k	mibrak	mibārik	place where camels sleep (cf. <i>mrāḥ</i>)	CN
b-r-k	barak	yabruk	to kneel down	IV
b-r-n-s	barnūs	baranīs	decoration of camel saddle	CN
b-r-ṭ-m	burtum	barāṭim	camel lip	CN
b-w-š	bōš	-	group of camels	UN
b-w-w	baww	-	piece of leather taken from the died calf to let its mother produce milk	CN
b-y-ḍ	bayyūḍah	-āt	camel name refers to white f. camel	CN
b-ṣ-r	biṣīr	baṣarīn	camel m.	CN
b-ṣ-r	baṣarah	baṣar	camel droppings	CN
d-f-l-j	daflaj	ydaflij	to jog	IV
ḍ-l-l	ḍilūl	-	pure-breed camel	CN
ḍ-r-w	ḍirwih	ḍaraʔ	highest part of hump	CN
ḍ-w-d	ḍōd	-	ten camels f.	UN
ḍ-y-r	mḍīriḥ mṭīriḥ	~ -āt	camel which feeds the calf of another camel	Adj.
ḍ-m-r	ḍāmir	-āt	camel which does not drink for a long period	Adj.
ḍ-ṣ-n	ḍaṣn	ḍṣūn	traveling with camels and sheep	CN
f-t-r	fātīr	-āt	camel m. after mating period	Adj.
f-ḥ-l	faḥal	fḥūl	stud camel	CN
f-j-ḥ	ʔafjah	fijḥ	camel whose back legs are far from each other	Adj.
f-r-d	mafrūd	mifārīd	1-year old calf (older than <i>ḥāṣi</i> and younger than <i>marbūt</i>)	
f-r-š	farāš	-āt	camel hip bone	CN
f-ṭ-r	fāṭīr	fiṭṭar	old camel f.	Adj.
g-f-l	gāfliḥ	-āt	fit camel f. which does not eat too much	Adj.
g-l-š	giliṣah	galāyiš	camel f. used for training other camels	Adj.
g-ḥ-m	giḥūm	-āt	camel f. which stands up quickly	Adj.
ḡ-r-b	ḡarīb	ḡawārib	camel withers	CN
ḡ-r-b	ḡarbah	-āt	big leather sack for camel milk (bigger than <i>siṣin</i>)	CN
g-ṛ-n	ḡarṇ	grūn	camel tail	CN
g-š-š	gašš	-	all parts of saddle (<i>xurj</i> , <i>sifīfih</i> , <i>mērasah</i> , and <i>jāṣid</i>)	UN
ḡ-t-r	maḡatīr	-	camels of light colour	Adj.
g-n-n	ginn	gnūn	wooden carrier on a camel (cf. <i>hawḍaj</i>)	
g-w-d	gawḍān	-	camel m. name	UN
g-w-d	gōdaʔ	gūd	camel f. heading the other camels	Adj.
g-y-d	gayyad	ygayyid	to tie the front legs of camel; to hobble	TV

ġ-b-b	mġibbih	-āt	camel f. which drinks every two days	Adj.
ġ-y-r	ġārah	-āt	camel race	CN
g-ġ-d	giġūd	giġdān	calf (older than <i>ħwār</i> and younger than <i>ħāši</i>), which can be ridden	CN
h-d-j	hawdij	hawādij	wooden carrier on a camel for females especially brides (cf. <i>gin</i>)	CN
h-j-n	hijin	-	5-year old camel or more; camel racing	UN
h-j-n	hajjān	hajjānih	camel racer	
h-m-l	hāmīl	hamāl	camel with unknown owner	Adj.
ħ-n-n	ħinīn	-	camel sound	UN
h-r-b	hārib	-āt	camel which walks far from camels	Adj.
ħ-r-ġ-n	ħardūn	ħaraġīn	camel ridden bareback (cf. <i>malaṭ</i>)	Adj.
h-r-š	hirš	hrūš	old camel m.	Adj.
ħ-š-w	ħāši	ħawāši	calf (older than <i>giġūd</i> and younger than <i>mafrūd</i>)	CN
ħ-w-r	ħwār	ħawāri	new-born calf till being weaned	CN
ħ-w-y	ħawiyyih	-āt	blanket put on the back of camels in races (without saddle)	CN
h-y-j	hāyij	hēj	camel m. ready for mating (cf. <i>ʔaklih</i>)	Adj.
ħ-y-l	ħāyil	ħīl	camel f. which has not been mated for more than a year	CN
j-ġ-ġ	jiġaġ	jiġġān	calf (older than <i>marbūt</i> and younger than <i>tini</i>)	Adj.
j-ġ-r	jiġūr	-	camel f. which produces voices while milking (cf. <i>~ raġġāyih</i>)	Adj.
j-f-l	jifūl ~ jāflih	-āt ~ jāflih	startled camel f.	Adj.
j-f-s	jifūs	-	startled camel f. by people	UN
j-h-m	mijāhīm	-	dark camels	Adj.
j-l-l	jallih	-	camel droppings	UN
k-w-r	kōr	kwār	high back	CN
l-g-ħ	lgahaħ	lgāħ	camel in 4 th month of pregnancy	Adj.
l-ħ-y	lħaʔ	-	lower lip	UN
m-l-ħ	malħa	milħ	black camel	CN
m-l-ṭ	malaṭ	-	riding camels without saddle	Adj.
m-r-ħ	mrāħ	-	pasture	UN
m-s-ħ	misūħ	misūħ	camel which produces milk after rubbing her skin	Adj.
m-t-l	mitli	matāli	camel in the last trimester of pregnancy or has given birth	CN
m-ġ-ṭ	maġṭaʔ	miġṭ	camel f. with long neck and little hair and flesh	Adj.
n-ħ-r	naħar	nħūr	camel chest	CN
n-ħ-s	niħūs	niħūs	camel which does not allow anybody to milk her	Adj.
n-w-g	nāgah	nyāg ~ nūg	camel f.	CN
n-w-x	nawwax	ynawwix	to let a camel kneel down	TV
n-w-x	nāx	y(i)nūx	to kneel down	IV
r-b-ṭ	mirbaṭ	marābiṭ	place for tying horses/camels	CN
r-b-ṭ	marbūt	mrabbat ~ marbiṭ	18-month-old calf (older than <i>mafrūd</i> and younger than <i>jiġaġ</i>)	Adj.

r-b-x-	rābix	-āt ~ rubbax	fat camel; camel which has not walked for a long period (cf. <i>xāmīr</i>)	Adj.
r-b-ṣ	rubāṣ	-	4-year camel m. (older than <i>ṭīnī</i> and younger than <i>xumās</i>)	
r-b-ṣ	rubāṣ	yarbaṣ	to walk quickly	IV
r-d-f	mirdaf	marādīf	back part of camel hump	CN
r-ġ-y	(i)rġaʔ	-	camel sound	UN
r-k-b	rkāb	-	group of camels tamed for riding	UN
r-k-b	rikūbah	rikāyib	camel used for riding	CN
r-k-y	mērakah	-āt	bands or piece of leather put on the front part of camel hump to protect the rider's legs	CN
r-m-ḥ	rumaḥ	yarmaḥ	to escape; to be startled	TV
r-m-ḥ	rimūḥ	rummaḥ	stubborn camel; camel which does not allow people to ride her	Adj.
s-b-b	sibībih	sibāyib	pure-bred camel f.	CN
š-d-d	šdād	-	wooden saddle put on camel	UN
š-d-d	šadd	yšidd	to put <i>šdād</i> on camel	TV
s-f-f	sifīfih	sifāyif	bands or tassels made of wool put on the sides of saddle for decoration	CN
ṣ-f-r	ṣafra	ṣufīr	black camel ⁸⁶	Adj.
ṣ-f-y	ṣāfyih	-āt	pure-bred camel which produce little milk and run fast	Adj.
ṣ-r-x	ṣirīx	-	disease which causes camel miscarriage	Adj.
š-g-ḥ	šagḥa	šigh	white and red camel f.	Adj.
s-ḥ-m	ʔaṣḥam siḥūm	~ siḥim ~ siḥūmāt	grey camel	Adj.
s-m-ḥ	samḥān		camel m. name	UN
s-m-r	samāri		camel whose sandal is strong	Adj.
s-n-d	snād	-	camel whose front and back legs are of equal length	Adj.
š-r-d	širūd		camel which escapes easily	Adj.
s-y-d	sīdah	-	camels racecourse; flat ground for race	UN
š-ṣ-f	šaṣfit assanām	-	fur covering camel hump	UN
š-ṣ-l	šaṣla	šuṣl ~ šṣala	brown and milky camel f.	Adj.
ṭ-f-ḥ	ṭifūḥ	ṭufḥ	camel walking in front of camels	Adj.
ṭ-f-n	ṭifīn	ṭifāyin	camel flank	CN
ṭ-n-y	ṭīnī	ṭīnyān	2-year calf (older than <i>jīdaṣ</i> and younger than <i>rubāṣ</i>)	Adj.
ṭ-r-š	ṭarš		more than 10 male and female camels 'herd'	UN
ṭ-w-y	ṭāwiy	-āt	weak camel	Adj.
w-b-r	wībar	-	camel fur	UN
w-d-ḥ	wadḥa	widḥ	white f. camel	Adj.

⁸⁶WR people refer to black camel as *ṣafra* as a matter of respect.

w-j-n	wajnaʔ		fast camel domesticated for riding	Adj.
w-s-m	wasim	wsūm	branding	CN
w-ṭ-r	wiṭir	-	wooden box placed on camel to hold luggage	UN
x-b-b	xabab	-	trotting	Adj.
x-f-f	xuff biṣīr		the rain is not heavy	Coll.
x-f-t	xafūt	mixafīt	camel after forgetting her dead calf (cf. <i>xalūj</i>)	Adj.
x-l-f	xalfih	-āt	camel which has given birth (until her calf is 6 months old)	Adj.
x-l-j	xalja ~ xulūj	xulūj	camel which has not forgotten her dead calf (cf. <i>xafūt</i>)	Adj.
x-m-r	xāmīr	-āt	camel which does not walk for a long period (cf. <i>rābix</i>)	Adj.
x-m-s	xumās	-	5-year old camel m. (older than <i>rubāf</i>)	Adj.
x-r-j	xuruj	xrūj	two connected and decorated panniers made from wool or straw put on the back of camel	CN
x-w-r	xawwārah	-āt	camel which produces a lot of milk	Adj.
y-s-r	mīsir	-āt	camel f. ready for mating	Adj.
w-h-y	wāhyih fāhyih	~ -āt	camel outperforming other camels in everything	Adj.
z-m-l	zaml	-	ten m. camels	UN
ʔ-b-l	bill	-	camels	UC
ʔ-k-l	ʔuklih wuklih	~ wukkal	camel m. ready for mating (cf. <i>hāyij</i>)	Adj.
ʕ-f-r	ʕafra		white camel f.	Adj.
ʕ-g-l	ʕagal	yaʕgil/yʕagil	to tie camel	TV
ʕ-l-y	ʕalyān		camel m. name	UN
ʕ-l-y	ʕalyaʔ		camel which is better than other camels in everything	Adj.
ʕ-r-ḍ	ʕāriḍ		sick camel	Adj.
ʕ-s-f	ʕasīf	-	camel at the stage of training for riding	Adj.
ʕ-r-g-b	ʕargūb	ʕaragīb	camel hock	CN
ʕ-š-r	ʕšaraʔ mʕaššir	~ maʕašīr	newly pregnant camel	Adj.
ʕ-w-š	ʕawša ʕašyih	~ ʕōš ~ -āt	strong camel	Adj.
ʕ-w-y	ʕawwa	-āt	pure-bred camel	CN

Clothes

Root	Lexeme	Inflection	English Gloss	Gram. Categ.
d-k-k	dakkih	-āt	thick rope used to hold trousers over the waist	CN
d-r-g	mudirgah	midārig	embroidered gown for special occasions (for old woman)	CN
d-š-š	dišdāš	dašadīš	slip-like garment	CN
f-r-w	farwah	friy	sheepskin coat	CN
ḥ-ḍ-w	ḥiḍa	-	shoes	UN

ḥ-f-y	ḥāfi(y)	ḥuffa(?)	barefoot	Adj.
h-n-d-m	tihandam	yitihandam	to spruce/dress up	IV
ḥ-ṭ-ṭ	ḥaṭṭah	-āt	head cover for men	CN
j-b-b	jibbih	jbab	short winter coat worn by men	CN
k-b-t	kabbūt	kibabīt	coat	CN
k-f-y	kūfiyyih	-āt	head cover for men	CN
k-m-m	kumm	kmām	sleeve of male dress	CN
l-f-ṣ	malfaṣ	malāfiṣ	black head cover for women that dangles down the front of the woman's chest	CN
r-d-n	ridin	rdūn ~ rdān	sleeve of woman dress	CN
s-f-ḥ	misfaḥ	misāfiḥ	headscarf for women	CN
š-m-ġ	šmāġ	šumuġ	headscarf for men	CN
s-r-w-l	sirwāl	sarawīl	trousers	CN
š-ṭ-f	šaṭfah	-āt	headscarf for young woman	CN
š-y-l	šāl	-āt	headscarf	CN
ṭ-w-b	tōb	ṭwāb	long dress	CN
ṭ-w-g	ṭāgiyyih	ṭuwāgi	white hat for men	CN
ṣ-b-y	ṣabāh	ṣbiyy	special covering dress for old men; black lace robe worn by women - sometimes with head covering	CN
ṣ-g-l	ṣgāl	ṣugul	black headband for men	CN
ṣ-š-b	ṣšabah	ṣšabb ~ ṣašayib	headscarf for old women	CN

Communication

Root	Lexeme	Inflection	English Gloss	Gram. Categ.
b-r-k	bārak	ybārik	to congratulate	TV
b-r-ṭ-m	barṭam	ybarṭim	to mutter; to frown	IV
d-h-n	dāhan	ydāhin	to cajole	TV
f-ṣ-f-ṭ	faṣfaṭ	yfaṣfiṭ	to hassle	IV
g-n-ṣ	agnaṣ	yagniṣ	to persuade	TV
ġ-š-w	ġaša	yāgaši	to come to; to stop by	TV
ġ-z-l	tiġazzal	yitiġazzal	to flirt	IV
h-r-j	haraj	yaharj	to speak	IV
h-w-š	tihāwaš	yitihāwaš	to scuffle	IV
ḥ-y-y	ḥayya	yḥayyi	to welcome	TV
j-b-r	jābar	yjābir	to condole	IV
l-g-y	altiga	yaltigi	to meet	TV
l-s-n	talāsan	yitilāsan	to argue with	TV
n-š-d	nišad	yanšid	to ask for	TV
n-w-y	nawwa	ynawwi	to head for	TV
r-j-w	rija	yarja	to plead	TV
š-b-ḥ	tišabbah	yitišabbāh	to see sb. early in the morning	IV

ṣ-f-r	ṣawfir	yṣawfir	to whistle	IV
s-l-f	sōlaf	ysōlif	to speak	IV
s-l-f	sālfih	suwālif	speech	CN
s-m-y	sam	-	say!	Imp. V
s-y-r	sayyar	ysayyir	to pay a visit	IV
ṭ-r-š	ṭarraš	yṭarriš	to send somebody in search for something	TV
w-j-b	wajjab	ywajjib	to respect	TV
ḥ-d-d	ḥadd	yḥidd	to explain his case	TV
ḥ-g-d	ḥaggad	(ʔi)yḥaggid	to come with	IV
ḥ-l-m	ḥallam	yḥallim	to tell; to teach	TV
ʔ-w-y	ʔāwa	yʔāwi	to not bother	IV
ḥ-z-m	ḥazam	yaḥazim	to invite	TV
ḥ-z-y	ḥazza	yḥazzi	to condole (cf. <i>jābar</i>)	IV

Constructions

Root	Lexeme	Inflection	English Gloss	Gram. Categ.
b-y-r	bīr	byār	well	CN
d-r-s	madrasih	madāris	school	CN
g-b-r	gabir	gbūr	grave	CN
l-ḥ-d	laḥad	lḥūd	tomb	CN
j-n-n	mijannah	-āt	cemetery (cf. <i>rjūd</i>)	CN
r-j-d	rjūd	-	cemetery (cf. <i>mijannah</i>)	UN
r-y-ḥ	astirāḥah	-āt	restaurant	CN
x-y-m	muxayyam	-āt	camp	CN

Directions

Root	Lexeme	Inflection	English Gloss	Gram. Categ.
g-b-l	giblih	-	Qibla (direction of Mekka)	UC
ġ-r-b	mġarrib	-	heading to the west	Adv.
j-n-b	janūb		south	UN
j-y-l	jāl	-	direction	UN
š-m-l	šimāl	-	north	UN
w-j-h	atijah	yattijih	to head for	IV
y-m-n	yimīn		right	UN
y-s-r	yisār		left	UN

Fauna

Root	Lexeme	Inflection	English Gloss	Gram. Categ.
b-ġ-l	baġal	bġāl	mule	CN
b-h-m	baham	-	sheep and cattle	UN
b-n-d-g	bandūg	banadīg	sheep of mixed bred (from Levant and local)	UN
b-ḥ-r	baḥarah	baḥar	sheep droppings	CN

d-b-š	dibaš	-	sheep	UN
d-ğ-l	duğli	dağāli	(7-10) months old kid	CN
d-ḥ-w	dḥēwiyiyih	-āt	domestic sheep	CN
d-j-n	dijin	-	domesticated	Adj.
ḍ-l-f	ḍilf	ḍlāf	sheep hoof	CN
f-ṭ-m	fiṭim	fuṭmān	weaned kid	CN
d-y-d	dēd	dyūd	animal breast	CN
ḍ-y-x	ḍīx	ḍyāx(ah)	watchdog	CN
g-ḥ-m	gaḥam	-āt	(4-7) years old lamb	CN
ḡ-n-m	ḡanam	-	sheep	CN
g-l-l	maglūlah	migālīl	lamb kid that has not been mated (cf. <i>šfēriyyih</i>)	CN
g-r-g-r	gargūrah	-āt ~ garagīr	weaned lamb	CN
g-š-š	gšāš	-	sheep shearing	UN
ḥ-f-r	ḥāfir	huwāfir	horse/donkey hoof	CN
ḥ-l-b	ḥalab ḥallābih	~ -āt	lambs which produce milk	UN
ḥ-l-l	ḥalāl	-	sheep	UC
h-r-f	hirfi	harāfi	(4-6) months old kid	CN
h-r-m	harm(ih)	-āt	above 8 years old lamb	CN
ḥ-š-n	ḥšān	xēl	horse	UN
j-l-d	jalad	-	lambs estranged from her new-born kids	UN
k-ḥ-l	khēlah khēlān m.	f. -	horse of pure-bred	CN
k-l-b	kalb	klab	domestic dog	CN
l-b-l-b	tliblib	-	voice of ram through mating	UN
n-b-ḥ	nibaḥ	yambaḥ	to bark	IV
n-j-d	najdāwi	-āt	<i>Najdawi</i> , type of sheep	CN
n-ṭ-ḥ	naṭaḥ	yanṭaḥ	to horn/butt (cf. <i>ridas</i>)	TV
n-t-y	nitiyyih	nitāya	carcass	CN
n-ŕ-j	naŕajah	-āt ~ nŕāj	ewe (cf. <i>šāh</i>)	CN
r-b-ṭ	mirbaṭ	marābiṭ	place where horses sleep	CN
r-b-ŕ	rubāŕ	-	two-years old lamb	CN
r-d-s	ridas	yardis	to horn/butt (cf. <i>naṭaḥ</i>)	TV
r-f-r-f	rafrāf	yrafrif	to flap the wings	IV
r-g-ṭ	ragṭa(?)	rigṭ	speckled	Adj.
r-ğ-ṭ	rağṭ	-	lambs with their kids	UN
r-m-s	rimsiy	-āt	(2-3) months old kid	CN
r-m-y	rammat	trammiy	to miscarry	TV
r-s-n	arsan	yarsin	to leash/harness a horse	TV
r-y-ŕ	miryāŕ	marayīŕ	ram heading the sheep	CN
š-b-b	šabb	yišibb	to impregnate a mare	TV.
š-b-g	šbāg	-	tying sheep together for milking	UN
š-g-l	šaglāwi/šaglā wiyyih	-āt	pure-bred horse	CN
š-h-b	šašhab	šhib	grey horse	CN

s-l-g	slūgi salagah	~ -āt	hound	CN
š-l-y	šaliyyih	šalāya	herd of sheep	CN
s-r-ḥ	ʔabu-sarḥān	-	wolf	UN
š-ḥ-r	šḥēriyyih	šaḥāriy	young goat which has not been mated (cf. <i>maglūlah</i>)	
s-r-j	siraj	yasrij	to put a saddle on horse	TV
š-w-h	šāh	šyāh	ewe (cf. <i>naḥajah</i>)	CN
ṣ-w-n	ṣōn	-	donkey droppings	UN
ṭ-l-y	ṭiliy	-ān	new-born kid m.	CN
ṭ-n-y	ṭiniy	ṭanāya	one-year old lamb	CN
x-r-j	xuruj	xrūj	mat with two sacks put on donkey/horse back	CN
x-š-š	xišših	xšāš	place where sheep sleep	CN
x-w-y	xawwa	-āt	eagle/vulture	CN
z-b-l	zibil	-	sheep droppings; dung	UN
ḥ-b-r	ḥabūr	ḥubur	ewe kid f.	CN
ḥ-b-y	ḥbayyih	-āt	horse with long and high tail	CN
ḥ-g-r	ḥgūr	ḥugur	undomesticated dog	Adj.
ḥ-n-g	miḥnagiyyih	-āt	horse of pure-bred	CN
ḥ-n-z	ḥanz	maḥaz	goat	CN
ḥ-r-g-b	ḥargūbiyyih	-āt	horse of pure-bred (having long neck)	CN
ḥ-š-š	ḥaššaš	yšāššiš	to nest	IV

Flora

Root	Lexeme	Inflection	English Gloss	Gram. Categ.
b-n-j	bābūnij	-	chamomile	UN
b-ḥ-ṭ-r	bḥayṭarān		medical herb useful for cold	UN
ḡ-d-y	ḡada	-	euphorbia; <i>ḡada</i>	UN
g-m-ḥ	gamḥ	-āt	wheat	UN
g-r-f	girfiḥ	-	cinnamon	UN
g-ṣ-m	gēṣūm		southernwood (wild medical herb useful for colic)	UN
ḥ-b-b	ḥabbih-samra		black cumin	Comp N
ḥ-m-ṭ	ḥamāt	-	wild fig tree	UN
h-n-d	hnayydih		endive; wild medical plant	UN
ḥ-w-j	ḥawāyij	-	mixed medical herbs	UN
j-ḥ-d	jaḥadiḥ	-	medical herb useful for colic	UN
r-m-ṭ	rimṭ	-	desert shrub that animals eat	UN
r-t-m	ritam	-	<i>retem</i> (wild plant); shrub: 'white broom' a preferred wood for making Arabic coffee	UN
s-b-l	sibalah	sibal	ear; spike	CN
ṣ-r-r	ṣirriḥ	-	desert shrub that animals eat	UN
š-r-š	širš	šrūš	tree root	CN
š-y-ḥ	ših		wormwood: herb used with tea by Bedouin and	UN

			useful for colic	
ṭ-r-ṭ-ṭ	ṭarṭūt	-	Cynomorium coccineum; wild plant	UN
t-y-n	tīnih	tīn	fig	CN
z-ṣ-t-r	zaṣatar		thyme	UN
ṣ-d-b	ṣādīb	-	medical herb useful for colic	UN
ṣ-j-r-m	ṣajram	-	buckthorn; indigenous chenopod plant used as a soap	UN
?-r-ṭ	?arṭa?		plant with white blossoms that camel feed on	UN
Foods and drinks				
Root	Lexeme	Inflection	English Gloss	Gram. Categ.
b-l-ḥ	balahāh	balah	unripe dates	CN
d-b-s	dibis	-	molasses	UN
d-h-n	dihin	-	fat	UN
f-ḥ-f-ḥ	faḥfaḥ	yfaḥfiḥ	to produce a nice smell	IV
f-t-t	fattih		Bedouin dish made from bread, yoghurt and fat	UN
ḡ-b-b	ḡabībih		fresh milk mixed with old yoghurt	UN
g-h-w	gahawah		Arabic coffee mixed with cardamom	UN
g-l-ṭ	gallaṭ	ygalliṭ	to bring food	TV
ḡ-m-s	ḡamas ḡammas	~ yaḡams ~ yḡammis	to dip	TV
ḡ-m-s	ḡmās	-	any food that can be picked up and eaten with bread	UN
g-r-g-ṭ	gargaṭ	ygargiṭ	to eat everything	TV
g-ṭ-m	ḡṭēmih	-āt	piece	CN [dim]
g-ṭ-n	ḡuṭṭēnih	ḡuṭṭēn	dried figs	CN
ḡ-ṭ-ṭ	ḡaṭṭ	yḡuṭṭ	to dip	TV
g-w-t	ḡāt	yḡīt	to feed	TV
h-b-r	habir	-	lean meat	UN
h-b-r	habbar	yhabbir	to separate meat from bone (cf. <i>šaffa</i>)	TV
ḥ-m-s	ḥamas	yaḥams	to fry coffee beans	TV
h-y-l	hayl	-	cardamom	UN
j-b-n	jibnih	-	cheese	UN
j-b-n	jibnih-bēḍa		sheep cheese	UN
j-l-l	mjallalih	-	typical Bedouin meal made of bread, milk and wheat	UN
j-m-d	jimīd	-	solid dehydrated form of yoghurt that lasts upwards of one year, used to cook mansaf (cf. <i>mirīs</i> and <i>tālūl</i>)	UN
j-r-j-b	jirjib	-	thick yoghurt	UN
l-b-b	libbih	-	bread in fire	UN
l-b-n	liban		yoghurt or milk	UN
l-b-?	(i)lba?	-	cooked colostrum (first milk)	UN

l-g-m	lugmah	lgamm	bite; morsel	CN
l-h-d	lahad	yalhad	to eat quickly	TV
l-z-g	lizzāggiyyih	-āt	local sweet made from barley and melted sugar	CN
l-ḡ-ṭ	laḡaṭ	yalḡaṭ	to lick	TV
m-ḡ-r	maḡar	yamḡar	to mix	TV
m-r-g	maragah	-	gravy	UC
m-r-s	mirīs	-	solid yoghurt melted for cooking	UV
m-w-n	mūnih	-	provisions	UN
m-y-ʔ	mayyih		water	UN
n-f-l	nifal	-	small pieces of solid yoghurt left out after melting	UN
n-s-f	mansaf	manāsif	meal made of rice, meat, and yoghurt	CN
n-x-l	nxālah	-	bran	UN
r-š-f	rašūf	-	meal made of yoghurt, wheat, and lentils similar to soup	UN
r-ṭ-b	ruṭab	-	fresh dates	UN
ṣ-b-ḡ	ṣibūḡ	-	breakfast	UN
š-d-y	šidāh	šidāya	chicken leg	CN
s-f-n	safīnih	sifāyin	chicken breast	CN
š-f-y	šaffa	yšaffī	to separate meat from bone (cf. <i>habbar</i>)	TV
š-g-f	šaggaf	yšaggif	to cut into pieces	TV
s-l-g	silīḡih	-	sweet treat made from wheat, yoghurt and dates	UN
ṣ-l-ḡ	ṣallah	yṣalliḡ	to prepare coffee	TV
ṣ-l-y	maṣliyyih	-	bread made of liquid dough	UN
ṣ-m-ḡ	ṣamḡah	-	colostrum (first milk) (cf. <i>lbaʔ</i>)	UN
s-m-n	samin		margarine	UN
š-r-k	šrākih	-āt ~ šrāk	thin bread baked on shield (<i>šāj</i>)	CN
š-y-y	šāy	-	tea	UN
ṭ-b-n	ṭābūn	-	bread baked in mud oven	UN
ṭ-ḡ-n	ṭiḡīn		flour	UN
ṭ-l-l	ṭālūl ~ ṭilūl	ṭuwalīl	round block of solid yoghurt	CN
t-m-t	tamrah	tamir	dried dates	CN
ṭ-r-g-ḡ	ṭargaḡ	yṭargiḡ	to drink	TV
ṭ-ḡ-m	ṭaḡām	-	food (cf. <i>zād</i>)	UN
x-b-z	xubiz ~ xbēz [dim]		bread	UN
x-m-ḡ	xmayḡah	-	meal made of bread and milk	UN
z-b-b	zibīb	-	raisins	UN
z-b-d	zibdiḡ	-	butter	UN
z-h-b	zahāb	-	shepherd's food	UN
z-r-b	zarb		cooking by putting meat and vegetables under sand, over the fire in a metal container and covered with sand	UN
z-w-d	zuwwādiḡ	-	passenger food	UN
z-w-d	zād	-	food	UN

ʕ-j-w	ʕajawah	-	ripe dates (type of <i>balah</i>)	UN
ʕ-r-b-d	ʕarbūd	ʕarabīd	bread baked in hot ashes	CN
Human qualities and defects				
Root	Lexeme	Inflection	English Gloss	Gram. Categ.
b-k-m	ʔabkam	bukum ~ bukman	dumb	CN
b-l-m	ʔablam	bilim	dumb	CN
b-r-g	ʔabrag	burg	having vitiligo	Adj.
b-r-ʕ	ʔabraʕ	burʕ	leper	Adj.
b-x-t	baxat	bxūt	luck	CN
b-y-d	bēdaʔ	bīd	beautiful women	Adj.
b-y-ṭ-r	tibayṭar	yit(i)bayṭar	to pretend being expert	IV
d-f-ʔ	dafyān	dafyānīn	feeling warm	Adj.
d-g-r	digir	-īn	distemper; stubborn	Adj.
d-ḥ-l	daḥalih	-	red	Adj.
ḍ-l-l	ḍilīl	-īn	servile	Adj.
ḍ-m-y	ḍuma	-	thirst	UN
f-j-r	mfajūr	-īn	assaulting/being arrogant	Adj.
f-k-k	fakkāk	-īn	problem solver	Adj.
f-r-ʕ	mfarriʕ	-īn	with a naked head	Adv.
f-r-ʕ	fāriʕ	-īn	tall; high	Adj.
f-r-ʕ-n	tifarʕan	ytifarʕan	to not obey	IV
f-w-l	mfāwli	mfāwliyyih	one who predicts bad news	Adj.
ġ-b-r	ġabrān	-īn	unlucky	Adj.
g-d-s	gādūs	guwadīs	guide	Adj.
ġ-d-w	ġada	y(a)ġadi	to die	IV
ġ-d-w	ġādi	-āt	lost	Adj.
ġ-r-b	ġarīb	-īn	foreigner	Adj.
g-r-m-z	garmaz	ygarmiz	to squat	IV
g-r-ṭ	ʔagraṭ	gurṭ	lisp; to have speaking deficiency	Adj.
ġ-š-m	ġašīm	-īn	ignorant	Adj.
g-ṭ-m	tigaṭṭam	yitigaṭṭam	to be tired; knocked down	IV
g-ṭ-ʕ	gaṭṭaʕ ḥdūd	-īn	traveller	Adj. coll.
g-w-d	gawdān	-īn	tired	Adj.
g-w-y	gawyān	-īn	hungry	Adj.
h-d-d	mhadūd	-īn	tired	Adj.
ḥ-m-r	ḥamraṭ	yḥamriṭ	to shy; to turn red	
ḥ-n-n	ḥnayyin	-īn	kind	Adj. [dim]
ḥ-ʕ-b	ḥaʕbah	-āt	measles	CN
ḥ-w-š	tiḥawwaš	yitiḥawwaš	to get together	TV
j-d-r	jadari	-	small pox	UN

j-ḥ-d	jaḥad	yajḥad	to deny	TV
j-ṣ-ṣ	jaṣaṣ	yajṣaṣ	to flaunt	IV
k-b-r	kābar	ykābir	to convince himself; to insist stubbornly	IV
k-ḥ-t	kaḥtūt kiḥtiḥ	~ kaḥatīt	mean; stingy	Adj.
k-r-s-ṣ	mkarsaṣ mkarsaḥ	~ -īn	handicapped; paralyzed	Adj.
k-ṭ-ḥ	kaḥḥa	-āt	wailing woman	Adj.
k-y-f	kēf	-	mood	UN
l-y-š	lāš	-	rascal	Adj.
l-ṣ-ṭ-m	tilaṣṭam	yitilaṣṭam	to stutter	IV
m-r-j-l	timarjal	yitimarjal	to pretend to be strong	IV
n-b-ḥ	ʔambaḥḥ	yanbaḥḥ	to lose the voice; to become hoarse	IV
n-f-l	nifilih	nifāyil	great achievement	CN
n-g-d	mangūdih	-āt	criticized	Adj.
n-g-l	nāgil	-āt	pregnant	Adj.
n-m-r-d	namrūd	namarīd	disobeying	Adj.
n-y-f	mnīfiḥ	-āt	overlooking	Adj.
n-y-f	nāyfiḥ	-āt	overlooking	Adj.
n-y-ṭ	nāyiṭ	-īn	clumsy	Adj.
n-z-l	nazzalit	tnazzil	to abort	IV
r-b-ṣ	marbūṣ	-īn	of medium height and fat person	Adj.
r-k-z	rākiz	-īn	sane; rationale	Adj.
r-x-y	ʔartixa	yartixiy	to slacken	IV
r-ṣ-f	raṣṣaf	yraṣṣif	to have a nosebleed	IV
š-d-f	šadfāwi	šidfāwiyyih	left-handed	Adj.
s-d-ḥ	masdūḥ	-īn	flat; lying down	Adj.
s-d-y	sādyih	-āt	identical; counterpart	Adj.
s-h-f	shayyif	-āt	pretty; handsome	Adj. [dim]
š-l-b	šalabi	-īn	energetic	Adj.
s-m-ḥ	simūḥ	-īn	tolerant	Adj.
ṣ-n-ṣ	tiṣannaṣ	yitiṣannaṣ	to pretend	TV
s-r-h-d	mṣarihdiḥ	-āt	cold	Adj.
s-t-r	mastūr	-īn	hidden; shelter; in good status	Adj.
ṣ-ṭ-r	ṣiṭar	-	tiredness	UN
š-w-f	šāf	yišūf	to see	TV
s-x-f	sxayyif	-īn, -āt	soft; weak	Adj. [dim]
š-x-r	šaxar	yašxur	to snore	IV
ṭ-n-y	ṭana	taṭniy	to give birth	IV
ṭ-r-b-l	ṭarbal	yṭarbil	to be impotent	IV
ṭ-r-d	ṭarrād	-īn	pursuer	Adj.
t-r-f	tirf	-āt	beautiful woman	CN
ṭ-r-m	ʔaṭram	ṭurum	bucktoothed; with chipped front teeth	Adj.

ṭ-r-š	ṭarrāš	-īn	sheikh's messenger	Adj.
t-x-m	mintixim	-īn	full up	Adj.
w-ġ-w-š	mitġōġiš	-īn	worried	Adj.
w-ḥ-š	tiḥōḥaš	yitiḥōḥaš	to be afraid of	IV
x-r-b-ṭ	xarbaṭ	yxarbiṭ	to err; to be confused	IV
x-r-ṭ	xriṭiy	xriṭiyiyih	liar	Adj.
z-b-r	zābir	āt	popping out	Adj.
z-n-g-l	zangal (from Turkish 'zengin')	yzangil	to become rich	IV
z-y-n	mazyūnih	-āt	beautiful	Adj.
ṣ-g-l	ṣāgil	-īn	rational	Adj.
ṣ-g-m	ṣagīm	-īn	sterile	Adj.
ṣ-l-l	ṣillih	ṣlal	illness	
ṣ-m-š	ṣaṣamaš ~ ṣaṣamaš ~ ṣaḡaš	ṣumš	blear-eyed	Adj.
ṣ-r-ṭ	ṣarūṭ	-īn	exaggerating being proud of himself	Adj.
ṣ-r-ṣ-r	mṣarṣir	-īn	errant; stray	Adj.
ṣ-š-w	ṣaṣša	yaṣ(a)ši	to have night-blindness	TV
ṣ-ṭ-š	ṣaṭšān	-īn	thirsty	Adj.
ṣ-w-d	ṣūdān	-īn	being back soon	Adv.
ṣ-w-r	mitṣawwrih	-āt	to miscarry	CN.
ṣ-y-b	ṣayb	-	disgrace	UN

Nature

Root	Lexeme	Inflection	English Gloss	Gram. Categ.
b-ṭ-n	biṭīn	biṭnān	mountain	CN
d-ḥ-l	daḥal(ih)	-	quicksand; desert sand	UN
d-m-s	dims	dmūsih ~ dmūsawah	smooth stone	CN
d-r-b	darb	drūb	road	CN
g-m-r	gamrah	gamrāt	clear night (full moon)	CN
g-y-d	gēd	-	hot weather	UN
h-d-b	haḍ(a)bah	hḍab	hill	CN
ḥ-d-d	ḥadd	ḥdūd	borders	CN
h-l-l	hlāl	-	crescent	CN
ḥ-m-d	ḥamād	-	arid desert	UN
ḥ-š-d	ḥašād	-	desert	UN
j-b-l	jibal	jbāl	mountain	CN
k-ṭ-b	kitīb mamṭūr	kiṭbān mamṭūrah	wet dune	CN coll.
k-ṭ-b	kiṭīb ~ kitīb	kiṭbān	dune	CN

m-ḥ-l	maḥal	-	drought	UN
m-ṭ-r	muṭar	mṭār	rain	UN
r-x-x	raxx	-	raining 'shower'	UN
š-m-s	šams	šmūs	sun	CN
š-r-g	šrūg	-	sunrise	UN
ṣ-g-ḥ	ṣagḥah	-	cold weather	UN
š-ḥ-b	šiḥṭb	-	valley	UN
ṭ-w-s	ṭaws	-	cloud of dust; quick sands	UN
ṭ-y-n	ṭīn	-	mud	UN
ṭ-ḥ-s	ṭiḥs	-	quick sands	UN
w-d-y	wādi	widyān	valley	CN
w-g-b	wagbih	wgab	hole	CN
w-ḥ-r	waḥar		rugged areas	UN
ḥ-j-j	ḥajjah ~ ḥajāj	-	dust	UN
ḥ-w-d	ḥid	ḥdūd	heavy spring	UN
ḥ-y-n	ḥayn	ḥyūn	brook	CN

Persons

Root	Lexeme	Inflection	English Gloss	Gram. Categ.
b-d-w	baduw	-	Bedouin	CN
b-w-g	bāyig ~ bawwāg	-īn	thief	Adj
d-x-l	dixīl	-īn daxala?	one seeking asylum or sheikh's guard	CN
g-ṣ-r	giṣīr	g(a)ṣara?	sheikh's guest	Adj.
m-n-ḥ	minīḥ	-īn	jailed	CN
m-r-g	marrāg	-īn	passenger; passer by	Adj.
š-b-b	šabb	šibāb	youth	CN
ṭ-r-g	ṭirgiy	ṭirgiyyih	passenger	CN
ṭ-w-ḥ	mṭawwiḥ	-īn	religious man with beard	CN
ḥ-d-w	ḥidu	-	enemy	UN
ḥ-g-d	ḥigīd	-īn	leader	CN
ḥ-z-b	mḥazzib	maḥazīb	host	CN

Proper Nouns

Root	Lexeme	Inflection	English Gloss	Gram. Categ.
b-r-j	burj barada		mountain in Ramm	PN
b-r-r	al-barrāh		mountain in Ramm	PN
ṭ-l-j	ṭlājih		mountain in Ramm	PN
d-m-y	ʔam ad-dāmi		mountain in Wadi Ramm	PN
d-w-s	ad-dīsih		village in Wadi Ramm Protected Area (Southern Jordan)	PN
f-r-ṭ	ʔam frūṭ		mountain in Wadi Ramm	PN

g-r-r	al-gwērih		village in the South of Jordan near to Wadi Ramm	PN
j-d-d	ʔabu jdīdih		mountain in Ad-Disih	PN
j-l-l	jallāl		male name in Wadi Ramm (In other regions it is <i>jalāl</i>)	PN
ḥ-s-w	al-ḥiswih		mountain in Wadi Ramm	PN
ḥ-f-r	ḥifir		mountain in Ramm	PN
n-f-s	am an-nfūs		mountain in Ad-Disih	PN
n-g-š	ngūš		mountain in Wadi Ramm	PN
r-b-ġ	rābiġ		mountain in Wadi Ramm	PN
r-ḥ-b	ar-riḥbiy		mountain in Ad-Disih	PN
r-m-m	ramm		mountain in Ramm	PN
r-m-m	ramm		village in Wadi Ramm Protected Area (Southern Jordan)	PN
s-l-b	am salab		mountain in Ad-Disih	PN
s-l-d-ḥ	salādiḥ		mountain in Wadi Ramm	PN
s-l-g	as-salagah		mountain in Ad-Disih	PN
s-ṣ-f	as-sṣēfānāt		mountain in Ad-Disih	PN
s-ḥ-m	ʔam saḥam		mountain in Wadi Ramm	PN
ṭ-w-g	am aṭ-ṭuwāgi		mountain in Wadi Ramm	PN
ṭ-w-s	aṭ-ṭwēsih		village in Wadi Ramm Protected Area	PN
x-š-m	xašm al-ḥašāniy		mountain in Wadi Ramm	PN
x-ṭ-ṭ	xaṭṭah	-	area that has been rained in October	PN
x-z-ṣ-l	al-xazṣaliy		mountain in Ramm	PN
z-l-b	az-zalabah		subtribe lives in Ramm	PN
z-w-d	az-zawāydih		subtribe lives in ad-Dīsih	PN
ṣ-l-w	ṣli	-	Ali	PN
ṣ-m-d	ṣimūd		mountain in Wadi Ramm	PN
ṣ-š-r	ʔam ṣišrīn	-	mountain in Ramm	PN
ṣ-ṭ-r	ṣaṭraʔ	-	mountain in Ad-Disih	PN
ṣ-ṭ-y	bani ṣaṭiyyih		southern Bedouin tribe	PN
ṣ-w-d	ṣawdih	-	Awdih, famous male name in Ramm	PN
ṣ-y-n	ʔabu- ṣyēnih	-	mountain in Ramm	PN
ġ-d-y	ġdayy		mountain in Ramm	PN

Professions

Root	Lexeme	Inflection	English Gloss	Gram. Categ.
ḍ-b-ṭ	ḍabiṭ	ḍubbāt	officer	CN
d-w-j	dawwāj	-īn	retailer	CN
f-d-w	fdāwi	fdāwiyyih	servant	CN
g-d-y	gāḍiy ṣašāyri	gḍāh	local judge	CN
g-h-w	gahawji	gahawjiyyih	coffee maker; waiter in sheikh's tent	CN
g-n-š	gannāš	gānnāšīn	hunter	CN
g-š-š	gaššāš ʔaṭar	-īn	tracker	CN

ḥ-d-ʔ	ḥadda	-īn	person who breaks in camel	CN
ḥ-k-m	ḥakīm	ḥkama	Bedouin doctor	CN
ḥ-ṭ-b	miḥṭāb	-	place of collecting firewood	UN
ḥ-ṭ-b	taḥṭīb	-	firewood collecting	UN
j-b-n	jabbān		cheese-maker	CN
l-b-n	labbān		yoghurt-maker	CN
m-k-n-k	maknak	yimaknik	to fix	TV
n-j-d	mnajjid	-īn	upholsterer	CN
r-ʕ-y	rāʕi	riʕyān	shepherd	CN
š-ḥ-d	šahḥād	-īn	beggar	CN
s-m-k-r	mūsarji	-īn	plumber	CN
s-m-s-r	samsar	ysamsir	to be a broker or middleman	IV
s-r-ḥ	saraḥ	yasraḥ	to herd	IV
s-w-s	sāyis	-īn	groom	CN
s-w-s	sās	ysūs	to groom; to domesticate horses	TV
š-y-x	šēx	šyūx	head of Bedouin tribe	CN
š-ʕ-r	šāʕir	šuʕʕār	poet	CN
t-b-n	tabbān	-īn	haymaker	CN
t-m-r	tamarji	tamarjiyyih	nurse	CN
ṭ-h-r	mṭahhir	-īn	circumciser	CN
ṭ-r-š	ṭarš	ṭrūš	sheikh's messenger	CN
w-r-d	warrādih	-āt	woman who collects water from spring/well	CN
ʕ-lf	ʕallaf	yʕallif	to feed sheep	TV

Relationships and kinship terms

Root	Lexeme	Inflection	English Gloss	Gram. Categ.
b-d-l	bidīlih	bidāyil	marriage exchange	CN
b-k-r	bikir	bkūr	firstborn	CN
b-k-r	bikir	bukāra	virgin	CN
b-n-t	bint	banāt	girl; daughter	CN
ḍ-y-f	ḍayf	ḍyūf	guest	CN
g-b-l	gibīlih	gubāyil	tribe	CN
g-š-l	giṣalah	-āt	bride price	UN
g-w-m	gōm	-	people	UN
ḥ-m-w	ḥamāh	ḥamawāt	mother-in-law	CN
ḥ-r-m	ḥurmah	ḥarīm ~ ḥrayyim [dim]	wife	CN
ḥ-r-m	maḥaram	maḥārim	relative that women can not marry	CN
j-b-r	majbūr	-īn	dead's relative	Adj.
j-d-d	jidd	jdūd	grandfather	CN
j-w-z	jōz	jīzān	husband	CN

k-b-r	kibār	kbār	elderly	Adj.
k-n-n	kannah	-āt ~ kanāyin	daughter-in-law	CN
n-s-b	nisībih	-āt	mother/sister-in-law	CN
n-s-b	nisīb	nisāyib ~ nsiba	father-in-law; son-in-law (kinsman)	CN
n-w-r	nūri	nuwar	gypsy	CN
r-j-l	raj(i)l ~ rijjāl	rjāl	man	CN
š-b-b	šabb	šibāb	young	CN
š-b-b	šāyib	šībān/šiyyāb	old man	CN
š-b-w	šbay	šibyān	boy	CN [dim]
s-l-f	silf	slāf	brother-in-law (spouse's brother)	CN
s-l-f	silfiḥ	-āt	sisters-in-law (brothers' wives)	CN
w-l-d	walad	wlād	boy	CN
w-r-ṭ	wirīṭ	wiriṭa	heir	CN
x-t-y-r	xityār	xityāriyyih	old man	CN
ʔ-b-w	ʔbu	ʔabbahāt	father	CN
ʕ-d-l	ʕidīl	ʕadāyil	brother-in-law (sisters' husband)	CN
ʕ-r-s	ʕarūs	ʕarāyis	bride	CN
ʕ-š-r	ʕašīriḥ	ʕašāyir	clans	UN
ʕ-w-r	ʕawrah	-āt	wife	CN
ʔ-x-w	ʔaxu	(ʔi)xwān	brother	CN
ʕ-y-l	ʕayyil	ʕyāl ~ ʕwayyil [dim]	boy	CN
ʕ-y-l	ʕēliḥ	ʕawāyil	family	UC
ʕ-z-b	ʕazabih	-āt	spinster	CN
ʕ-z-b	ʕazab	ʕuzbān	single m.	CN
Residence				
Root	Lexeme	Inflection	English Gloss	Gram. Categ.
b-d-w	badāwih	-	Bedouinity	UN
b-y-t	bēt	byūt	house	CN
b-y-t	bēt-aš-šaʕar	byūt aš-šaʕar	hair house 'Bedouin tent'	CN
d-w-r	dār	dūr	house	CN
d-w-r	dwēriḥ	-āt	house 'diminutive'	CN [Dim]
d-y-r	dīriḥ	dyār	homeland	CN
f-r-š	faraš	yafruš	to prepare a matrix for sleep	TV
g-y-m	gām	y(i)gīm	to stay	IV
ḥ-w-š	ḥawš	ḥīšān	yard	UN
k-r-b	kōrabah	kuwārib	kerb; street turn	CN
m-ġ-r	maġārah	muġur	cave	CN
r-b-ʕ	rabʕah	-āt	square land	CN

r-b-ʕ	mrōbaʕ	-āt	four mid-poles tent	CN
x-b-y	mxabba	-āt	women part of the tent (cf. <i>maḥaram</i>)	CN
x-r-b	xarābah xirbih	~ xrabb	old building	CN
Tools				
Root	Lexeme	Inflection	English Gloss	Gram. Categ.
b-b-r	babbūr	buwabīr	tripod stove ‘primus’	CN
b-l-y	biliyyah	-	belonging	Adj.
b-n-d-g	bindigiyyih	-āt ~ banādīg	gun	CN
b-r-d	bārūd	-	gunpowder	UN
b-r-d	barūdih	buwarīd	gun	CN
b-r-g	brayīg	birgān	jug	CN. [Dim.]
b-r-m-l	barmīl	barāmīl	metal or plastic water container	CN
b-r-m-s	brīmus	-āt	tripod stove ‘primus’	CN
b-ʕ-ṭ	bṣāṭ	buṣuṭ	carpet	CN
d-b-l	dilbih	dlabb	blanket put on the back of donkey for riding	CN
ḏ-b-l	ḏabliḥ	ḏball	ring	CN
d-g-r	digrān	-	pitchfork; winnowing fork (cf. <i>miḏrāh</i>)	CN
d-r-s	darrās	-āt	combine	CN
ḏ-r-w	miḏrāh	miḏāri	winnowing fork (cf. <i>digrān</i>)	CN
ḏ-w-d	miḏwad	miḏāwid	feeding trough (cf. <i>maʕlaf</i>)	CN
d-z-d-n	dizdān	-īn	wallet	CN
f-r-š	frāš	-	mattress	UN
f-z-ʕ	fazzāʕah	-āt	scarecrow (cf. <i>ryāb</i>)	CN
g-b-n	gabbān	-āt	scale	CN
g-d-m	gaddūm	-āt	small axe	CN
g-d-r	gidir	gdūr(ah)	big pot used for cooking in feasts	CN
g-f-f	guffah	-āt	scuttle	CN
g-ḥ-š	mighāšah	migāḥīš	wooden board used to remove ash and manure from the baking oven	CN
ḡ-m-d	ḡimd	ḡmūd	sheath; scabbard	CN
g-r-b	girbih	grabb	water-skin	CN
ḡ-r-ḏ	ḡaraḏ	(ʔa)ḡrāḏ	equipment; goods	CN
g-r-n-b-ʕ	garanbaʕ	-	trivial stuff	Adj.
g-š-n	gūšāniyyih	-āt	deep plate made of glass	CN
g-ʕ-ʕ	gaṣṣah	gṣāṣ	metal pan to keep margarine	CN
ḡ-ṭ-y	ḡṭa(ʔ)	ḡṭyāt	coating like blankets	CN
ḥ-b-l	ḥabil	ḥbāl	rope	CN
h-b-š	mihbāš	mahabīš	wooden mortar for coffee beans (cf. <i>nijir</i>)	CN
ḥ-f-ḏ	ḥafīḏah	ḥafāyid	three stones of fire	CN
ḥ-f-n	ḥafnih	-āt	handful	CN

ḥ-l-l	ḥillah	ḥlall	cooking pot	CN
ḥ-m-s	miḥmāsih	-āt	long spoon special for frying coffee	CN
ḥ-r-b	ḥarbah	-āt	bayonet	CN
ḥ-r-m	maḥaram	-	women's part in the hair house (the right side)	UN
n-j-r	nijir	njūrah	wooden pot to grind coffee beans (cf. <i>mihbāš</i>)	CN
ḥ-z-m	maḥzam	-	belt worn by men to store bullets and money	UN
j-l-l	jlāl	-	mat put on donkey's back	UN
j-ṣ-d	jāṣid	juwāṣid	tanned sheep leather used as mattress	CN
k-f-f	kaff	-	belt holds 50 bullets worn across the shoulders	UN
k-f-r	kfārah	-āt	pot cover	CN
m-d-d	midd	mdād	half bushel	CN
m-l-l	mallih	-	hot ash used to grill bread	UN
m-r-n	mārīnih	marāyin	wooden plank	CN
m-r-t-b-n	martabān	-āt	jar made of glass	CN
m-ṣ-n	māṣūn	muwaṣīn	kitchen stuff	CN
m-ṣ-n-d	maṣanad	-	piece of clothes (like blanket) dividing men and women's parts of the tent (cf. <i>sāḥ</i>)	UN
n-m-l	namliyyih	-āt	kitchen cupboard	CN
n-š-n	nīšān	niyāšīn	mark; target	CN
n-w-l	nōl	nūl	weaving machine	CN
r-b-b	rabbābah	-āt	Bedouin musical instrument 'Rababa'	CN
r-b-g	ribg	rbūg	rope to tie sheep together to milk them	CN
r-ġ-w	raġawah	-āt	foam	CN
r-ḥ-w	rḥa(?)	-	grinding stone; millstone	UN
r-k-y	marka?	marākiy	arm-rest	CN
r-s-n	risan	rsān ~ rsūn	halter	CN
r-š-y	rša?	-	well rope	UN
r-w-g	rwāg	-	back of the tent	UN
r-y-b	ryāb	-	scarecrow (c.f. <i>fazzāṣah</i>)	UN
s-b-l	sibalah	-āt	file	CN
š-b-r	šibriyyih	šibāriy	bayonet	CN
s-d-s	msaddas	-āt	pistol	CN
š-g-g	šigg	šgāg	men's part of the tent (the left part)	CN
s-ḥ-l	saḥalah	-āt	deep dish made of metal used for drinking water	CN
s-ḥ-r	saḥḥārah	saḥḥār	plastic box for vegetables	CN
s-k-k	sikkiḥ	s(i)kak	plough	UN
s-k-n	sikkīn	sikakīn	knife	CN
š-k-š	šākūš	šuwakīš	hummer	CN
š-k-w	šakwah	-āt	bag made of skin	CN
s-l-ḥ	slāḥ	-	weapon(s)	UN
s-y-r	sēr	-	belt	UN
š-m-l	šamlih	-āt	piece of cloth put on goat's udder to stop her kid from suckling	CN

ṣ-m-l	ṣimīl	ṣumlān	large water-skin	CN
s-r-j	sarj	srūj(ih)	saddle	CN
s-r-j	srāj	-	oil lamp	CN
s-ṭ-r	miṣṭrīn	-āt	bricklaying trowel	CN
ṣ-w-j	ṣāj	-āt ~ ṣījān	sheet iron for baking	CN
s-w-k	miswāk	misāwīk	cleaning stick for teeth	CN
ṣ-w-ṭ	miṣwāt	miṣawīt	big spoon	CN
ṣ-w-ḥ	ṣāḥ	-āt	measure of weight equals 3.3 kg	CN
s-y-f	sēf	syūf	sword	CN
s-y-ḥ	sāḥ	-āt	piece of clothes (like blanket) dividing men and women's parts of the tent (cf. <i>maḥanad</i>)	CN
s-ḥ-n	siḥin	sḥūn	sack made of leather to keep sheep milk (cf. <i>ḡarbah</i>)	CN
ṭ-b-l	ṭablyyih	-āt	long wooden board to keep kitchen stuff	
ṭ-f-f	miṭaff	-āt	front part of the tent	CN
w-d-d	witad ~ widd	wtād	peg	CN
w-s-d	wsād(ih)	wisāyid	cushion	CN
w-ḥ-n	māḥūn	muwāḥīn	utensil; kitchen stuff	CN
x-d-d	maxaddih	-āt	cushion	CN
x-l-l	xlāl	Ḥaxillah	wooden nail used for fixing the tent to the ground	UN
x-r-ṭ	xarīṭah	xarāyiṭ	bag made of old clothes that keeps shepherd/passenger's food	CN
x-ṣ-g	xāṣūḡah	xawaṣīḡ	big spoon	CN
x-w-ṣ	xūṣah	-āt	knife	CN
z-n-d	ḡadh znād	-	cannot be cancelled	Coll.
z-n-d	znād	-	firing pin	UN
ḥ-g-l	ḥḡāl	ḥuḡil	tether	CN
ḥ-l-f	maḥalaf	maḥālif	feeding trough (cf. <i>midwad</i>)	
ḥ-l-g	ḥalīḡih	ḥalāyig	fodder bag	CN
ḥ-m-d	ḥamūd	ḥumdān	pole	CN
ḥ-m-l	maḥāmīl	-	equipment of preparing coffee	UN
ḥ-ṣ-y	ḥaṣāḥ	ḥṣiy	stick	CN
ḥ-y-j	ḥājih	-āt	dummy	CN
Traditions				
Root	Lexeme	Inflection	English Gloss	Gram. Categ.
b-ṣ-r	Ḥabṣir	yabṣir	to be done	IV
d-ḥ-y	diḥhiyyih	-	folkloric dance	UN
g-n-n	ḡānūn	ḡuwānīn	law	CN
g-ṣ-ṣ	ḡiṣṣah	ḡṣaṣ	story	CN
g-ṭ-ḥ	tagṭīḥ al-wijh	-	face cases; disobeying the tribal law by breaking the truce	UN
ḡ-y-r	ḡārah	-āt	raid	CN
ḡ-z-w	ḡazuw	-āt	raid	CN

ḥ-j-j	ḥijjih	ḥ(i)jaj	claim	CN
h-j-n	hayjan	yhayjin	to sing without music (folkloric)	IV
j-l-w	jalwah	-āt	forced evacuation of the killer family	CN
j-w-h	jāhah	-āt	group of people gathered to ask for something (e.g., to ask for the bride hand)	CN
k-t-ḥ	kiṭaḥ	yakṭaḥ	to put soil on his head (to wail)	IV
k-w-y	kayy ~ kawi	-	burning remedy or punishment	CN
m-h-r	mahar	mhūr	dowry	CN
n-k-d	ma-tinakkad	-	wishing not to annoy	Coll.
r-š-d	ar-rišd fālak	-	wishing to find what you look for	Coll.
ṣ-l-ḥ	ṣulḥah	-āt	reconciliation	CN
ṣ-m-d	ṣamdah	-āt	place where a bride sit	CN
s-m-r	sāmīr	summār	folkloric dance	UN
s-n-d	mistinid	-īn	to be invited to a meal	Adj.
š-r-f	šaraf	-	honour	UN
š-y-l	šēlah	-āt	Bedouin folkloric song without music	CN
ṭ-h-r	ṭuhūr	-āt	circumcision	CN
ṭ-w-r	ṭar	-āt	revenge killing	CN
z-w-j	zuwāj	-āt	marriage	CN
ʕ-r-s	ʕurs	ʕrās	wedding ceremony	CN
ʕ-t-w	ʕaṭwah	-āt	traditional deal made in the Sheikh's house to solve a problem	CN
ʕ-z-y	ʕaza	-	mourning	UN

Adverbial

Root	Lexeme	Inflection	English Gloss	Gram. Categ.
b-k-r	bākir	-	tomorrow morning	Adv.T
b-k-r	bukrah	-	tomorrow	Adv.T
b-r-ḥ	bāriḥ	-	yesterday	Adv.T
b-ʕ-d	baʕdēn	-	then	Adv.T
ḍ-ḥ-w	ḍaḥa	-	morn	Adv.T
d-m-s	dimās	-	sunset time	Adv.T
g-b-l	gbēlān	-	shortly, after a few minutes	Adv.T
g-b-l	gābliḥ	-āt	tomorrow	Adv.T
g-b-l	gabiḥ	-	before	Adv.T
ḡ-b-š	ḡabšah ~ ḡabāš	-	dawn	Adv.T
ḡ-d-	ḡād		there	Adv.S
ḡ-r-b	magrib	-	sunset; the time of sunset	Adv.T
ḡ-r-b	ḡrūb	-	sunset	Adv.T
h-n-	hniy(yah)	-	here	Adv.S
h-n-	hanāk ~ hnō ~ hnuh		there	Adv.S
ḥ-w-l	ḥawl	ḥwāl	year	Adv.T

ḥ-w-n	halḥīn		now	Adv.T
ḥ-y-l	ḥayl	-	lots of	Adv.M
ḥ-y-n	alḥīn		now	Adv.T
ḥ-y-y	al-ḥayy	-	next year	Adv.T
k-d-	kiḍi	-	like this	Adv.M
k-w-d	wikād	-	for sure	Adv.M
k-w-s	kwaysih		good	Adv.M
l-y-l	lēlih	liyāli	night	Adv.T
m-r-r	marrāh	-	too much	Adv.M
r-b-ṣ	ribīṣ	-āt	spring	Adv.T
r-b-ṣ	marbaṣāniyyi h	-at	cold winds (begin amid of Dec. until beginning of Feb.)	Adv.T
s-n-y	sanah	snīn	year	Adv.T
w-j-d	wājīd		lots of	Adv.M
x-ṣ-ṣ	xāṣṣatan	-	especially	Adv.M
y-w-m	yōm		day	Adv.T
z-l-ṭ	zlēṭa	-	sunset	Adv.T
z-y-y	zayy		like	Adv.M
ʔ-b-l	ʔābliḥ	-	yesterday	Adv.T
ṣ-g-b	ṣugub		afterwards	Adv.T
ṣ-w-d	ṣūdān	-īn	being back soon	Adv.T

Verb

Root	Lexeme	Inflection	English Gloss	Gram. Categ.
b-g-m	bigam	yabgim	to speak rudely	TV
b-ḥ-ḥ	baḥḥ	ybiḥḥ	to wash clothes	TV
b-ḥ-r	baḥḥar	ybaḥḥir	to look at	IV
b-ḥ-l-g	baḥlag	ybaḥlig	to gaze	IV
b-j-d	bijad	yabjid	to slit; to rip	TV
b-k-k	bakkak	ybakkik	to set a trap	TV
b-l-h-d	tibalhad	yitibalhad	to be confused	IV
b-l-s	bilas	yablis	to report; to reveal somebody's secret	IV
b-l-š	ʔablaš	yabliš	to discompose; to mystify	TV
b-l-š	bilāš	yablaš	to district	TV
b-ṭ-ṭ	baṭṭ	ybuṭṭ	to stab	TV
b-w-g	bāg	ybūg	to steal	TV
b-x-n	baxan	yabxan	to know somebody	TV
b-ṣ-j	baṣaj	yabṣaj	to stab	TV
ḍ-b-ḥ	ḍibaḥ	yadbaḥ	to slaughter; to kick	TV
d-g-g	dagg	yidigg	to ground	TV
d-ḥ-b-r	daḥbar	ydaḥbir	to make a ball	TV
d-ḥ-š	daḥaš	yadḥaš	to put something into/to tuck (cf. <i>daxaš</i>)	TV
ḍ-k-r	ḍikar	yadkur (ṣalayy)	to be remembered	IV

d-n-d-l	tidandal	yitidandal	to relax	IV
ḍ-r-r	ḍarr	yḍurr	to rise; to appear	IV
d-w-r	dawwar	ydawwir	to look for	IV
d-x-š	daxaš	yadxāš	to put something into; to tuck (cf. <i>daḥaš</i>)	TV
d-z-z	dazz	ydizz	to push	TV
g-d-d	gadd	ygidd	to rip apart	TV
g-d-ḥ	gidaḥ	yagdaḥ	to eat dates	TV
ġ-n-d-r	tiġandar	yitiġandar	to walk arrogantly	IV
g-r-š	garwaš	ygarwiš	to make noise; to urge	TV
g-š-m-r	tigašmar	yitigašmar	to uncover his hands	IV
g-ṭ-r	gōṭar gawṭar	~ ygawṭir	to move to	IV
ġ-ṭ-y	ġaṭṭa	yġaṭṭi	to cover	TV
g-y-m	gām	y(i)gīm	to remove	TV
ġ-z-z	ġazz	yġizz	to stab	TV
ḥ-g-ṭ	ḥagaṭ	yahaḡṭ	to collect	TV
h-g-w	haga	yahagi	to think	IV
h-l-l	hall	y(i)hill	to appear	IV
ḥ-r-k-š	tiḥarkaš	yitiḥarkaš	to harass	IV
h-y-f	hayyaf	yhayyif	to run quickly	TV
ḥ-w-l	ḥawwal	yḥawwil	to get down from the horse back	IV
h-y-t	hāt	*	give me; bring!	Imp. V
h-z-ʔ	timahza	yitimahza	to mock	IV
j-ġ-m	jaġam	yajġam	to eat or drink quickly	TV
j-y-ʔ	jaʔ	yji	to come	IV
j-ḥ-r	jaḥar	yajḥar	to shout; to produce noise	
k-d-d	kadd	ykidd	to come in	
k-f-f	kaff	y(i)kuff	to cancel; to change his mind	IV
k-n-n	kann	ykinn	to retreat; to be cautious	IV
k-r-k-b	karkab	ykarkib	to make mess for others	TV
k-w-n	tikāwan	yitikāwan	to quarrel with	IV
k-w-ḥ	kawwaḥ	ykawwiḥ	to lean on; to take a nap	IV
k-z-z	kazz	ykizz	to keep oneself away from other people; to hold one's tongue	IV
l-b-d	libad	yalbid	to hide himself; to stay	IV
l-ṭ-m	laṭṭam	ylaṭṭim	to hit	TV
l-ṭ-š	liṭaš	yalṭiš	to take sth quickly	TV
l-w-s	lās	ylūs	to make a problem between people	TV
m-r-m-ṭ	timarmat	yitimarmat	to be tormented	IV
m-š-š	mašš	ymišš	to wipe	TV
n-f-ṭ	nifaṭ	yanfiṭ	to pop out	IV
n-k-d	nakkad	ynakkid	to annoy people	IV
n-t-ḥ	nitaḥ	yantaḥ	to drag; to hold heavy thing	TV
n-w-y	nuwa	yanwi	to intend	TV

r-ġ-r-ġ	tiraġraġ	yitiraġraġ	to drop tears	IV
r-ħ-l	raħal	yarħal	to leave	IV
r-j-l	tirajjal	yitirajjal	to come down (of the horse/camel back)	IV
r-k-ʔ	timarka	yitimarka	to recline	IV
r-w-b	rawwab	yrawwib	to curdle	TV
r-w-ħ	rawwaħ	yrawwiħ	to go home	IV
r-w-ħ	ʔarwaħ	yarwiħ	to stink	IV
r-x-š	rixaš	yarxaš	to allow	TV
r-y-ħ	rayyaħ	yrayyiħ	to relax	IV
r-y-ṭ	tarayyaṭ	yitirayyaṭ	to linger	IV
r-ʕ-y	raʕa	yarʕa	to graze	IV
š-b-b	šabb	yšibb	to kindle; to mate a horse	TV
š-d-d	šadd	yšudd	to come back	IV
s-d-ħ	ʔansidaħ	yansidiħ	to lie down	IV
š-f-g	šaffag	yšaffig	to shine	IV
š-g-l	šigal	yašgil	to hold	TV
š-g-l-b	tišaglab	yitišaglab	to tumble	IV
š-ħ-b-r	šahbar	yšahbir	to become black; to have a crack voice	IV
š-l-m	ʔamšalam	yimšilim	to stand without motion or speech	IV
š-l-x	šalax	yašlax	to remove skin	TV
š-m-r	šammar	yšammir	to uncover hands or legs	IV
š-n-g-l	tišangal	yitišangal	to tumble	IV
š-r-r	šarr	yšurr	to flow	IV
š-r-š-ħ	šaršaħ	yšaršaħ	to insult	TV
š-ṭ-b	ʔašṭiba	yastṭibi	to look for; to appear	IV
š-w-ṭ	šāṭ	y(i)šūṭ	to stir	TV
š-x-ṭ	šaxaṭ	yašxaṭ	to scratch	TV
š-y-l	šāl	y(i)šīl	to hold; left	TV
ṭ-b-b	ṭabb	y(i)ṭubb	to infect; to come	IV
ṭ-l-g	ʔanṭalag	yanṭilig	to escape; to be untied	IV
t-n-y	ʔastanna tana	~ yistanna ~ yatna	to wait	TR
t-r-t-ħ	titartaħ	yititartaħ	to keep holding	IV
w-d-r	waddar	ywaddir	to hide; to store	TV
w-d-r	tuwaddar	yitiwaddar	to hide	IV
w-g-f	wigaf	yāgaf	to stand up	IV
w-š-ʕ	tuwaššaʕ	yitwaššaʕ	to attack; curse	TV
x-b-ʔ	txabba	yitxabba	to hide	IV
x-m-m	xamm	yxumm	to catch	TV
x-ḍ-ḍ	xadd	yxuḍḍ	to shake milk	TV
x-š-g	xašag	yxašig	to enter	TV
z-b-ṭ	zabbaṭ	yzabbiṭ	to amend	TV
z-g-ṭ	zigat	yazguṭ	to catch	TV
z-r-g	zirag	yazrug	to enter a hole	IV

z-t-t	zatt	yzitt	to throw	TV
z-y-ʕ	zāʕ	yzīʕ	to search for	IV
ʕ-b-ṭ	ʕabaṭ	yaʕabṭ	to hug	TV
ʕ-d-d	ʕadd	yʕidd	to count	IV
ʕ-g-l	ʕagal	yaʕagl ~ yʕagil	to find (sth)	IV
ʕ-r-b-š	taʕarbaš	yitirbaiʕ	to climb; to catch	TV
ʕ-ṭ-w	ṭaʕa	yaṭʕiy ~ yaʕṭiy	to give	TV
ʕ-w-d	ʕāwad/ʕaww ad	yʕāwid/ yʕawwid	to come back	IV
ʕ-w-d	ʕawwad	yʕawwid	to come back	IV
ʔ-x-r	tuwaxxar	yitiwaxxar	to be late	IV
ʔ-x-r	waxxar	ywaxxir	to postpone	TV
ʕ-y-y	ʕayya	yʕayyi	to refuse	IV

Miscellaneous words and particles

Root	Lexeme	Inflection	English Gloss	Gram. Categ.
	ḅaḅḅ		there is nothing	
	ba-l-ʕawn		I am sure	
	ḡadīḥ		has he?	
	haguwti		I think	
	hala		welcome	
	kūd		suppose	
	wikād		for sure	
	ʔabšir		done	
	ʔarʕ		here is	
	sam		say!	
	tam		done!	
	ʔlēn		I am sure	

Chapter eight

Conclusion and recommendations

This chapter summarizes the major salient linguistic aspects of WR Arabic that have been discussed throughout this work. Then, some ideas have been suggested for future investigations that shall be helpful in the field of linguistic theory.

The present study examines WR Arabic, as represented chiefly by the speech of the nomadic dwellers of Wadi Ramm in the south of Jordan. The study is limited to members of the Zalabiah and the Zawaidih subtribes who have spent all their life in the city and who have no speech impediment. Due to the conservative nature of WR community, no women have been included in the study. Further, the study is limited to the major melodic and prosodic phonological features, acoustic analysis of consonants and vowels, major morphological features and grammatical categories, relationship with North West Arabian Bedouin group, and basic thematic lexicon.

8.1 Sociolinguistic situation

This thesis has been dedicated to investigate the phonology and morphology of WR Arabic. Until the late 1980s, the region was isolated from the surrounding areas of Jordanian villages and the northwest parts of Peninsula due to its environmental and geographical conditions. After that, the native speakers of this dialect were subject to direct exposure to new lifestyle, education, and the other dialects as well as MSA promoted via media, education, and the tourism trade. Nowadays, all these factors influence the region to a great extent, and this can be seen in the speech of the younger generations who have the tendency to adopt new linguistic forms.

8.2. Major linguistic features

WR Arabic can be typologised according to a number of phonological, morphological, and lexical features. Some of these features are shared with surrounding dialects as a result of historical or long-term contact, some, though; result from parallel development (cf. Watson, 2011a: 872). In this respect, the following dialectal features, for the greater part in recapitulation, may be considered most significant (this list is not exhaustive):

Feature	Status
*ṭ and ḍ	realized as interdental
the reflexes of *j	realized as /j/
the reflexes of *q	realized as voiced /g/
affrication 'palatalization' of velar plosives /k/ and /g/	not affricated
*ḍ and *ḏ	merged into /ḍ/
*a, *i, *u, *ā, *ī, and *ū	present
*ay and *aw	present and monophthongized (become [ē] and [ō]) under certain conditions (§ 3.2.1)
phonological emphasis	<ul style="list-style-type: none"> - primary /t̤/, /ḍ̤/, /ṣ̤/ and secondary /l̤/ and /r̤/ where pharyngealization is attested contrastively - emphasis spreads bidirectionally within the phonological word
pausal phenomena	<ul style="list-style-type: none"> - pre-pausal glottalization (final long ā) - final long dorsal vowels in pause sometimes exhibit diphthongisation (*ī > [iy], *u > [uw]).
the sound shift of /a/ > [i] in an open syllable	present
syllable structure	conservative
syllabification patterns	<ul style="list-style-type: none"> - VC-dialect (the epenthetic vowel is inserted to the left of the second consonant) - consonant clusters are allowed word-finally where C₂ is less sonorous than C₁ - word-initial consonant clusters result from syncope where the first syllable is an unstressed open syllable
syllabification phenomena	<ul style="list-style-type: none"> - <i>gahawah</i> syndrome

	<ul style="list-style-type: none"> - [i]/ [u]/ [a] epenthesis - syncope - glottal stop /ʔ/ deletion
[i] epenthesis	obeying sonorant hierarchy unless C ₂ or C ₃ is a guttural
stress	CaCáC (iambic)
the historical loss of the glottal stop	only pre-consonantly
the reduction of short vowels in open syllables	present
the reduction of the opposition /i/-/u/ with syncope	present
internal passive	not present
gender distinction in plural demonstrative pronouns	not present
number and distance distinction in demonstrative pronouns	present
presentative pronouns	<i>ʔarʕ, hay(y)</i>
Form IV of trilateral verb	productive, as in: <i>ʔaʕlam</i> ‘to feed’, <i>ʔasga</i> ‘to irrigate’
Form IX of trilateral verb	not present
nunation	vestiges remain
<i>q̣</i> -based relative pronoun	not present
<i>b</i> -imperfect	not present
the prepositions <i>fī</i> and <i>bi</i>	the use of <i>fī</i> - to the exclusion of <i>bi</i>
the nominal feminine suffix	<i>-ih</i>
3m.s. possessive suffix	<i>-ah</i>
2f.s. object pronoun	<i>-ki</i>
the <i>-īn</i> ending suffix of 2f.s., as in: <i>tašrabīn</i>	not present
gender/number distinction in pronouns	present

<i>kaškašah</i> ⁸⁷	not present
the dual in the verbs and the pronouns	not present
the merger of III _w and III _y verbs	present
verbal modifiers	<ul style="list-style-type: none"> - <i>gāʕid</i>: imperfect (concomitance/durative) - <i>kān/xābr</i>: perfect - <i>raḥ/wid</i>: future
velarisation of /t/ in the cardinal numbers 13-19	reanalysis of *t as /t/ can be analysed phonologically as /t/ assimilating the pharyngeal element of the following /ʕ/.
polarity in the cardinal numbers 3-10	not present
polarity in the cardinal numbers 13-19	not present
the feminine elative C ₁ uC ₂ C ₃ āʔ	not present
the suffix for denominal adjectives (nisbah) -iyy > ī	present
the use of the indeclinable relative marker <i>illī</i>	present
-h in the pronominal suffix of the 3m.s. after consonants	present
gender distinction in the plural of pronouns and verbs	present
the use of an analytical possessive construction	present
biliteral nouns	the tendency to reanalyse biliterals as trilateral nouns: * <i>fam</i> ‘mouth’ > <i>ʔafam</i> , * <i>ʔab</i> ‘father’ > <i>ʔabuw</i> , * <i>ʔax</i> ‘brother’ > <i>ʔaxuw</i>
specific lexical entries	The use of typical lexical entries, such as: <i>ḍīx</i> ‘watchdog’, <i>yagri</i> ‘to host’, <i>digrān</i> ‘winnowing fork’, <i>sījih</i> ‘traditional game’, <i>dibāš</i> ‘sheep’, <i>niṭa</i> ‘to weave’, <i>gušalah</i> ‘bride price’, <i>rjūd</i>

⁸⁷ *Kaškašah* is a feature of some Arabian Peninsula dialects where *k of the 2.f.s. object pronoun *-ki* is realized as /š/ (Al-Azraqi, 2007: 555).

	‘graveyard’, <i>ḥafāyiḍ</i> ‘three stones of fire’, <i>dahāl</i> ‘desert sand’, <i>ʔafam</i> ‘mouth’.
lexical differences with MSA and CA	CA and MSA <i>raʔā</i> ‘to see’, <i>taḥaddat</i> ‘to talk’, <i>dahab</i> ‘to go’, <i>jaʕal</i> ‘to become’, <i>ṭahā</i> ‘to cook’, <i>jāʔa bi-</i> ‘to bring’, <i>ʔiqtarib</i> ‘come forward!’ are no longer used; they are substituted by <i>šāf</i> , <i>tikallam</i> (or <i>bigam</i>), <i>ʔagfa</i> ~ <i>rāḥ</i> , <i>šār</i> , <i>ṭabax</i> , <i>jāb</i> , <i>ʔugluṭ</i> , respectively.
Aramaic loanwords	retention of some Aramaic/Syriac lexical entries

Table 75: Summary of major linguistic features of WR Arabic

Table 75 shows that WR Arabic has been noted for its retention of conservative grammatical features some of which have disappeared from the other urban, rural and Bedouin Jordanian dialects (such as: ʕAmmāni, aš-Šalt, Maʕāni, ʕAjlōn, BḤA, BṢ, ʕAjārmah, ʕAbbādi, Ġawārih) as well as the Bedouin dialects of the north Arabian type (including ʕAnizi, Šammari, and Syro-Mesopotamian [Cantineau’s Groups A, B, and C]), such as: the regular occurrence of the glottal stop /ʔ/ after final stressed [a] in pause; demonstrating variable levels of vowel raising (especially *buṣalah* pattern); the *gahawah* syndrome; [guttural] opacity of monophthongization; iambic stress CaCáC; the use of the preposition *fi* to the exclusion of *bi*; 3m.s. pronominal suffix *-ah*; 3f.s. suffix allomorphs (*-ih/ah*); plural demonstratives (*ḥaḍaʕ!* ‘these’ *ḥaḍaʕlāk* ‘those’); the use of the 2f.s. object pronoun *-ki*; the absence of final *-n* in the imperfect, 2f.s., 2m.p., and 3m.p.

In addition, the morphological system of verb in WR Arabic as a whole seems to be simpler than that of CA in the sense that there are fewer separate categories. Some derived verbal forms have been lost such as IX; some morphosyntactic patterns and inflectional categories are lost, e.g., mood disappeared but incorporated into the consonant of the word stem; voice is not expressed by internal vowel change in WR Arabic, but involves a simplified affixational paradigm for the passive; voice is typically denoted through the derived verb Forms V, VI, VII and VIII for trilateral verbs and quadrilateral verb Form II for quadrilateral verbs. Specifically, the *an-* structure of Form VII is reserved for the true passive voice, whereas, the *t-* structure of Form V or VI tends to imply the reflexive or medio-passive of the corresponding Form II or III.

The course of reduction of morphological structure and derived forms entails a redundancy (duplicating the functions) in the morphological representation of the grammatical categories (such as: passivisation, causativity, reflexivity, etc). The patterns applied to weak roots (also nominal roots) are the same, but with some phonological modifications according to rules of handling weak consonants.

The basic lexicon of WR Arabic, which is the first documented lexicon for a JA variety, shows that WR Arabic uses typical Bedouin lexical entries that are no longer extant in similar dialects and CA (§ 7.1). The lexicon represents a contribution to Arabic dialectology and provides a good indication of how WR Arabic relates to the social history of the region throughout retention of some Aramaic/Syriac lexical entries (§ 7.2).

8.3 Relationship with the North West Arabian Bedouin group

The following table summarizes the key phonological, morphological, grammatical, and some lexical distinctions among WR Arabic, Negev Bedouin and the Ḥwēṭāt dialect:

Feature	WR Arabic	Negev Bedouin	the Ḥwēṭāt dialect
the voiced reflex of *q	/g/	/g/	/g/
/k/ and /g/ affrication	×	×	×
stress	CaCáC (iambic)	CaCáC (iambic)	CáCaC (trochaic)
final <i>-n</i> in the imperfect, 2f.s., 2m.p., 3m.p.	×	×	×
<i>b</i> -imperfect	×	√	×
The pronominal suffix - <i>ku</i> in 2m.p.	√	√	√
The pronominal suffix - <i>ki</i> in 2f.s.	√	√	√

The preposition <i>fi</i>	√	√	× ⁸⁸
<i>gahawah</i> syndrome	√ [gahawah]	√ [gahawah]	× [ghawah]
<i>buṣalah</i> pattern	√	√	× [bṣalah]
trisyllabic elision	×	×	√
[a] epenthesis	√	√	× ⁸⁹
internal <i>ʔimālah</i> : /ā/ > [ē]	√ [wēḥid] ‘one’ [hēḍa/hēḍi] ‘this m./f.’	√ [wēḥid] ‘one’ [hēḍa/hēḍi] ‘this m./f.’	× [wāḥid] ‘one’ [hāḍa/hāḍi] ‘this m./f.’
gender distinction in the 2p. and 3p.	√	√	√
word-initial /a/ in the Forms IIV, IIIV and X in the perfect	√	√	√
vowel harmony in the Form I in the imperfect	×	√	×
monophthongization	conditioned	conditioned	fully-established
f.s. marker allomorphs in nouns	-ah/-ih	-ah/-ih	-ah/-eh (less strong imalah)
pronominal suffix of 3m.s./3f.s.	-ah/-ha	ah ~ ih/ha ~ hiy	-ah/-ha
f.s. demonstrative	<i>hēḍi/hāḍi</i> <i>ḍīk/heḍīk ~ haḍīk</i>	<i>hēḍi(y)</i> <i>hēḍīk</i>	<i>hāḍi</i> <i>haḍīk</i>
plural demonstratives	<i>ḥaḍaḥ!</i>	<i>hōḍaḥ(ḥah),</i> <i>hōḍaḥ!lāk(ah)</i> ⁹⁰	<i>haḍōla</i>

⁸⁸ See also Sakarna (2002: 83).

⁸⁹ Also reported by Sakarna (2002: 70) and examples from Palva (1986: 305).

	<i>haḍallāk</i>		<i>hadōlāk</i>
Form IV verb	productive	productive	productive
imperative vowel	[u] <i>kul, xuḍ</i>	[u] <i>kul, xuḍ</i>	[i] <i>kil, xiḍ</i>
lexicon	<i>kiḍi</i> ‘like this, thus’ <i>wēḥid</i> ‘one’, <i>hēḍa</i> ‘this m.’, <i>digrān</i> ‘winnowing fork’	<i>kiḍi, wēḥid, hēḍi, digrān</i>	<i>hallōn, wāḥid, hāḍa, midrāh</i> ⁹¹

Table 76: Phonological, morphological, grammatical, and lexical features compared between WR Arabic, Negev Bedouin and the Ḥwēṭāt dialect

Table 76 illustrates that WR Arabic shows parallels with the Negev Bedouin and the Ḥwēṭāt dialect. This suggests that WR Arabic falls under the greater *non-homogenous* North West Arabian type of Bedouin dialects. The most common features this group of dialects shares are: (1) absence of affricated variants of /g/ and /k/, (2) absence of final *-n* in the imperfect, 2f.s., 2m.p, 3m.p., (3) the use of the pronominal suffix *-ku* in 2m.p. and *-ki* in 2f.s., (4) the voiced reflex /g/ of *q, (5) gender distinction in the 2p. and 3p., (6) productivity of Form IV verb.

Although WR Arabic distinguishes itself from the Negev type dialects (including Bdūl, Nṣēmāt, and Sinai) in the absence of the *b*-imperfect and the absence of vowel harmony in the Form I in the imperfect, the typological mapping of the Eastern-Western classification establishes that WR Arabic is closer to the Negev type (Western branch) than to the Ḥwēṭāt and Bani ṢAṭīye (Najdi-type dialects). The most common features that WR Arabic shares with the Negev-type dialects which are absent from the Ḥwēṭāt are: (1) conditioned monophthongization of /aw/ and /ay/, (2) stress pattern (iambic CaCáC), (3) the use of the preposition *fi* to the exclusion of *bi*, (4) obligatory *gahawah* syndrome and *buṣalah* pattern, (5) frequency of [a] epenthesis, (6) absence of trisyllabic elision, (7) f.s. marker allomorphs in nouns *-ah/ih*, (8) f.s. demonstrative *hēḍi* ‘this f.’ and *(hē)ḍīk* ‘that f.’, (9) a number of typical lexical entries, as in: *ḍīx* ‘watchdog’, *yagri* ‘to host’, *digrān* ‘winnowing fork’. According to direct communication with some local people from Jufr (the sample which Palva relies on to investigate the Ḥwēṭāt dialect), the Ḥwēṭāt has

⁹⁰ The same as Bdūl dialect (Yasin and Owens, 1984: 219).

⁹¹ See also Sakarna (2002: 83-4).

many lexical entries that are not attested in WR Arabic, as in: *yarmaf* ‘to kick’, *bilīti* ‘my stuff, my belonging’, *šāy kaṭḥ* ‘grinded tea’, *zēt tiglāh* ‘frying oil’, *hallōn* ‘like this’, (cf. Sakarna, 2002: 83-4).

In conclusion, a typological positioning of WR Arabic inside the region may convincingly consider it under the Negev-type dialects. Though I agree with Palva (1986, 1991, 2004) in grouping the dialects spoken in the Negev Bedouin and the Ḥwēṭāt dialect into a greater *non-homogenous* North West Arabian type of Bedouin dialects, I do not agree with him in the mapping of the typological Eastern-Western classification. The disagreement is not based on the features established, but rather because he regarded the WR region (mainly represented by Zalābīah and Zawāidih) as part of the Eastern subgroup; i.e., part of the Ḥwēṭāt group. Given the previous features, the results further seem to agree with Sakarna’s (2002) classification of dividing the Ḥwēṭāt tribes into Eastern and Western Ḥwēṭāt. I may follow de Jong (2000: 630) and Sakarna (2002: 84-5) in claiming that the Ḥwēṭāt would form a transitional area between Eastern (Najdi-type dialect Group) and Western (North West Arabian dialect Group/Negev type). That is to say, Eastern Ḥwēṭāt, as represented by Abu Tāyih, Bani Ṣaṭīyye, and Al-Dmania, are closer to the Najdi-type Group; whereas, Western Ḥwēṭāt, as represented by Zalābīah, Zawāidih, Ḥaḥwāt, Bdūl, and SṢēdiyyīn, are closer to the Negev-type Group.

8.4 Recommendations

The conclusion that WR Arabic may form a transitional area between Eastern and Western Bedouin dialect groups could lead to new comprehensive research projects investigating the Arabic of all the subtribes in the region which may lead to the remapping of the dialect groups. As this study is confined to the phonology and morphology of WR Arabic, further research is recommended to investigate the syntax of WR Arabic for a better understanding of the dialect. The lexicon provided could be the basic material for researchers of historical linguists; they are advised to establish the non-Arabic lexical entries and relate them to their Aramaic/Syriac source based on a linguistic sourcing of each item. New generations of WR region enjoy an at least partially diglossic relationship with the Standard language; therefore, quantitative sociolinguistic studies should investigate the extent of the linguistic variations in phonology, morphology, and syntax. Due to cultural taboos regarding woman in WR region, which have prevented me from studying the language of women, further studies are needed to focus on linguistic retentions exhibited by women.

Due to the clear shortage of linguistic works on instrumental phonetics and morphology of JA varieties, researchers are invited to investigate such topics on different varieties to fill in linguistic gaps in this respect. New research should critically revise BĤA considering the unrepresentative sample that Irshied (1984) relies on. The huge influx of Syrian refugees after the civil war of 2010 may contribute to a dramatic linguistic change in Jordan; therefore, researchers are also advised to investigate the spoken dialect of Jerash city and north borders of Jordan.

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Appendix

Part one: Consent form

Full project title: The phonology and morphology of Wadi Ramm Arabic

Principal researcher: Bassil Mohammad Al Mashaqba

You are invited to take part in this research project which aims to study the phonology and morphology of Wadi Ramm Arabic. We request permission to record oral speech in order to analyse data. Data will be recorded on a digital audio recorder (Handy Zoom H4n). All sound files will be saved on an SD (memory) card, and then transferred to my computer. The results may be used in academic conferences and papers, but all data will be kept confidential and anonymous. You will be given a copy of this form.

Participation in this research is voluntary. If you do not wish to take part, you do not have to. You are free to withdraw from the research at any time, without giving a reason. You are also free to withdraw any data you have already provided from the research at any time, without giving a reason. Your signature plus your check mark in box in each part indicate that you have read the information about the project, and you have agreed to take part in the study.

Please do ask questions about anything that you do not understand or want to know more about. Before deciding whether or not to take part, you might want to talk about it with a relative, friend, or your local worker.

Please read this form carefully, and then put a tick (✓) in the box so as to know you read and agree to participate in the project.

- I have read, or have had this document read to me in a language that I understand, and I understand the purposes, procedures and risks of this research project as described within it.
- I freely agree to participate in this research project, as described.
- I have been informed of the purpose of the research for which you have interviewed me with and my rights as a research informant have been explained to me.
- I am fully aware of the fact that the interviews are being recorded, and that I have the right to request the deletion of any portion of the recorded interview that I am uncomfortable with.
- I understand that all information provided will be kept strictly confidential, and that my identity will be known only by the present investigator. The recorded materials will be stored

safely as long as they are needed. Whenever the researcher thinks that they are no longer needed, they will be destroyed.

- It is understood that my participation is voluntary and that I have the right to withdraw from the project at any time without explanation.
- I give you permission to use the interview material for your current research, and for any resulting published or unpublished works.
- I further give you permission to use the interview material for any other purpose directly related to your PhD research.

Participant's name:

Age:

Occupation:

Signature:

Date:

نموذج موافقة

عنوان المشروع: علم الصوت (الفونولوجيا) والصراف للهجة وادي رم

اسم الباحث: باسل المشاقبة

أنت مدعو إلى المشاركة في هذا المشروع الذي يهدف إلى دراسة علم الصوت (الفونولوجيا) والصراف للهجة وادي رم. نطلب السماح بتسجيل كلام شفهي لتحليل المعلومات. المعلومات سوف تسجل باستخدام جهاز صوتي رقمي نوع (Handy Zoom H4n). جميع ملفات الأصوات ستخزن في البداية على بطاقة ذاكرة اس-دي ثم ستنقل الى حاسوبي الشخصي. النتائج يمكن أن تستخدم في المؤتمرات و الأوراق العلمية، لكن كل البيانات سوف تحفظ بسرية وخصوصية تامة. سوف تعطى نسخة من هذا النموذج.

المشاركة في هذا البحث تعتبر تطوعية. اذا لم ترغب المشاركة، أنت في حرية تامة لكي تتراجع عن المشاركة في المشروع في أي وقت، و بدون ذكر الأسباب. لك ايضا مطلق الحرية أن تسحب أي معلومات قد قمت بتزويدنا في أي وقت وبدون ذكر أسباب. توقيعك و اشارة (√) في الصندوق لكل بند تدل أنك قرأت المعلومات عن المشروع وأنت وافقت على المشاركة في الدراسة. من فضلك، اسأل عن أي شيء لم تفهمه أو تريد المزيد عنه. قبل أن تقرر المشاركة، بإمكانك الحديث عنه مع قريب، صديق أو عامل محلي.

من فضلك، إقرأ هذا النموذج بتمعن، ثم ضع إشارة (√) في الصندوق للتأكد من أنك قرأت و وافقت على المشاركة في المشروع.

قرأتُ| قرأُ هذا النموذج لي بلغة واضحة و فهمت الأهداف و الإجراءات المتبعة لهذا المشروع.

وافقت المشاركة في هذا المشروع بلوادتي كما وصف لدي.

أخبرت بهدف المشروع الذي قبولت من أجله و أخبرت بكل حقوقي كمشارك في هذا المشروع.

أنا على علم بأن المقابلات ستسجل وأن لدي الحق بطلب حذف أي جزء من المقابلة المسجلة التي لم أرتاح لها.

أفهم أن كل المعلومات المزودة سوف تحفظ بسرية وأن هويتي لن يعرفها إلا من خلال الباحث، وأن المادة المسجلة سوف تحفظ بشكل آمن و كما يجب. في أي وقت يعتقد الباحث لا حاجة للمعلومات سوف تتلف.

أعلم أن مشاركتي تطوعية وأن لدي الحق في الانسحاب من المشروع في أي وقت و بدون توضيح.

أسمح باستخدام المادة المسجلة لهذا البحث ولكل الأعمال الناتجة المنشورة وغير المنشورة.

أعطي السماح أيضا باستخدام المادة المسجلة لأي هدف علمي آخر ذات علاقة مباشرة بمشروع رسالة الدكتوراه

اسم المشارك:

العمر:

المهنة:

التاريخ:

التوقيع:

Part two A: Recording metadata

Filename (date, dialect, participant, topic)	Creator	Recorder	Location	Transcription using ELAN
Dec.2012_WRD_AA1_Hunting	Bassil	Handi Zoom H4n	Ramm	transcribed
Dec.2012_WRD_AB1_Poem about Friends and Money	Bassil	=	Ramm	
Dec.2012_WRD_AC1_Traditions	Bassil	=	Ad-Dīsih	transcribed
Jan.2013_WRD_AC2_Education	Bassil	=	Ad-Dīsih	
Dec.2012_WRD_AD1_Tent house	Bassil	=	Ad-Dīsih	
Dec.2012_WRD_AF1_Bedouin life and Camel Names	Bassil	=	Ad-Dīsih	
Dec.2012_WRD_AG1_Love Story	Bassil	=	Ad-Dīsih	transcribed
Dec.2012_WRD_AG1_	Bassil	=	Ad-Dīsih	
Dec.2012_WRD_AH_Song	Bassil	=	Ad-Dīsih	
Dec.2012_WRD_AH1_Lost Camels Story	Bassil	=	Ad-Dīsih	transcribed
Dec.2012_WRD_AH2_Tirbes law	Bassil	=	Ad-Dīsih	
Dec.2012_WRD_AH2_friendship	Bassil	=	Ad-Dīsih	
Dec.2012_WRD_AJ1_Tracing Camels	Bassil	=	Ramm	
Dec.2012_WRD_AK1_tourism	Bassil	=	Ramm	transcribed
Dec.2012_WRD_AK2_Food	Bassil	=	Ramm	
Dec.2012_WRD_AL1_A Story about Camel	Bassil	=	Ramm	
Jan.2013_WRD_AL2_variety of questions	Bassil	=	Ramm	
Jan.2013_WRD_AE1_Animals and Plants	Bassil	=	Ad-Dīsih	
Jan.2013_WRD_AE2_Names of places	Bassil	=	Ad-Dīsih	
Jan.2013_WRD_AE3_diminutives	Bassil	=	Ad-Dīsih	
Jan.2013_WRD_AI1_Arabs Revolution	Bassil	=	Ramm	transcribed
Jan.2013_WRD_AI3_Foods	Bassil	=	Ramm	

Jan.2013_WRD_AI4_Perfect and imperfect verbs	Bassil	=	Ramm	
Jan.2013_WRD_AI6_definite Article	Bassil	=	Ramm	
Jan.2013_WRD_AI5_Widdling preparations	Bassil	=	Ramm	transcribed
Feb.2013_WRD_BE1_Religion and Ethics	Bassil	=	Ad-Dīsih	
Feb.2013_WRD_BE2_Clothes	Bassil	=	Ad-Dīsih	
Feb.2013_WRD_BE3_Funny Story and Traditional Games	Bassil	=	Ad-Dīsih	
Feb.2013_WRD_BF1_Food	Bassil	=	Ad-Dīsih	
Feb.2013_WRD_BF2_Bedouin and Rural Life Styles	Bassil	=	Ad-Dīsih	
Feb.2013_WRD_BF3_Camel Life Stages	Bassil	=	Ad-Dīsih	
Feb.2013_WRD_BG, BH, and BI_Conversation	Bassil	=	Ad-Dīsih	
Feb.2013_WRD_BG, , BH, nd BI_Food	Bassil	=	Ad-Dīsih	
Feb.2013_WRD_BG, BH, and BI_Football Match Conversation	Bassil	=	Ad-Dīsih	
Feb.2013_WRD_BG1_Historical Background	Bassil	=	Ad-Dīsih	
Feb.2013_WRD_BG2_General Social Issues	Bassil	=	Ad-Dīsih	
Feb.2013_WRD_BG3_Jokes	Bassil	=	Ad-Dīsih	
Feb.2013_WRD_BG4_Youth Activities	Bassil	=	Ad-Dīsih	transcribed
Feb.2013_WRD_BI1_Joke	Bassil	=	Ad-Dīsih	
Jan.2013_WRD_BA1_Coffee Story	Bassil	=	Ad-Dīsih	transcribed
Jan.2013_WRD_BB1_Hashemite Regime	Bassil	=	Ad-Dīsih	
an.2013_WRD_BC1_Tour	Bassil	=	Ad-Dīsih	transcribed
Jan.2013_WRD_BD1_Education	Bassil	=	Ad-Dīsih	
Jan.2013_WRD_BD2_Joke	Bassil	=	Ad-Dīsih	

Table 77: Recording metadata

B: Speaker metadata

	Code name	Gender	Age	Education	Travel	Occupation	Dialect	Tribe
1	AA	male	30	secondary school	No	tour guide	WR Arabic	Zalabiah
2	AB	male	45	secondary school	No	tour guide	WR Arabic	Zalabiah
3	AC	male	65	primary school	No	retired soldier	WR Arabic	Zawaideh
4	AD	male	47	primary school	No	farmer	WR Arabic	Zawaideh
5	AE	male	53	primary school	No	farmer and shepherd	WR Arabic	Zawaideh
6	AF	male	72	primary school	No	retired soldier	WR Arabic	Zawaideh
7	AG	male	71	primary school	No	retired soldier and camel breeder	WR Arabic	Zawaideh
8	AH	male	67	primary school	No	retired, tour guide, and hunter	WR Arabic	Zalabiah
9	AI	male	31	graduate	No	sports teacher and tour guide	WR Arabic	Zawaideh
10	AJ	male	35	secondary school	No	tour guide and camel breeder	WR Arabic	Zalabiah
11	AK	male	60	primary school	No	tour guide	WR Arabic	Zalabiah
12	AL	male	33	secondary school	No	tour guide	WR Arabic	Zalabiah
13	BA	male	27	secondary school	No	soldier	WR Arabic	Zawaideh
14	BB	male	56	primary school	No	retired soldier	WR Arabic	Zawaideh
15	BC	male	33	primary school	No	civil servant	WR Arabic	Zawaideh
16	BD	male	26	graduate	No	teacher	WR Arabic	Zawaideh
17	BE	male	39	graduate	No	military culture school	WR Arabic	Zawaideh
18	BF	male	52	primary school	No	retired soldier	WR Arabic	Zawaideh
19	BG	male	33	graduate	No	teacher	WR Arabic	Zawaideh
20	BH	male	31	secondary school	No	tour guide	WR Arabic	Zawaideh
21	BI	male	41	secondary school	No	tour guide	WR Arabic	Zawaideh

Table 78: Speaker metadata

Part three: Transcription of (Dec.2012_WRD_AA1_hunting)

ʔihnā fī ramm hniyya fī ʕindana mignāš mxaššaš hāḍa la- al-arānib wa-s-sulgān w-baʕdēn fī ʕindana as-sulgān hniyya ʔanwāʕ firīdih w-xāšša- nḍall in-dajjin-hin ʕala-l-jarābīʕ dijin ʔawwal šī ʔawwal ma-yanwilid nḗbah w-inḥuṭṭah fī l-bēt wi-nḍallnā naṭīʕmah lamma yakbar šwayyih yiṭṭallagan al-ʕgadd; al-ʕgadd haḍallī ykūnin f-idēh mā yagdar yarkuḍ minhīn w-biʕdēn minhā nāxḍah ʕalā al-barr w- namsik-lah miṭil ḥaḡṭit jarābīʕ nalgāhā nbakkik lah jarbūʕ minhā w- nḍall nṭārid fi-ha-l-jarbūʕ lamma ysīr yistahadi ʔinnah yarkuḍ wara-ha-l-jarbūʕ w-baʕdēn- indajjinah ʕa-l-arānib al-aranib haḍallī kēf nguššhin zē naʕarf mišrābhā w-naʕarf mʕaššāhā w- naʕarf miḍwāhā yōm-inhā-tjī dha-tnām w-yōinhā talmis n- njī nwakkid-hā fī-maḥill namsik as-salag miʕnā- nḍalnā māskīnah w-baʕdēn niʕamdah ʔinaṭṭihā lamma tark- txašig ʕād mna- al-ḥaḡṭah tabʕithah walla mna-d- admūsawāh naṭilg as-salag warāhā nxallīha tarkuḍ w-hu yarkuḍ warāh lamma-yalguṭha wi-ḍā ligāṭha? ligāṭha? wiḍa ma-ligāṭha? maʕ -as-salāmah hāḍa ḥaḍḍah mū mzabbṭah -l-yōm indawwir ʕād ḡēraha? wi-ḍallna ʕa-hassālfih lamma rabbak iyyassirha? w-baʕdēn fih ʕindana-hnī kiman ʔakṭar min ṭurug la-š-šēd fī- šēd ʕalā miṭil aaa nšīd ḡizlān bdūn ʔay šī nalgāh ḍbiyy baʕdēn aḍ-ḍbiy hāḍi xašš mawjūdhī fī-manāṭig muš fī-wādi ramm barra bas ʔihna- nḥibb- innn nšīdhīn lēnhīn fihīn laḥāmm kwayyis wa- šḥāmm-hīn zēn ygūlu fih kimān damm al-ḡazāl kwayyis ʕin a amrāḍ baʕaḍ ʔiyyām w- wa-b-bdūn hāḍi nišṭād-hā yōm-ʔinna nkūn naṭlaʕ fa-l-jbāl w-maʕna kull wāḥid lah maʕāh la- bārūdhī gidīmih ḥitta mna- al-ʔangilīzi walla-l-fanša? w-nḍall-na naṭlaʕ lamma nalga-š-šēd w-n nandir ʕa-baʕaḍ-na miṭil hāḍa yugʕud ʕa-kuṭrah w-hāḍa yliḥ ʕalēh ḍābyah min ʔihniy hāḍa yliḥ ʕalēha? šiʕṭbha lammā rabbak iyassirhā ʔinšāll ʔiḍā ḡisām ḡisām ʔiḍā mā-ḡisām ʕala-l-lah ʕād tʕūdi

Translation

‘Here in Ramm; we have a special area for rabbits and hounds; we have rare types of hounds; we usually domesticate them by using gerbils. First, when the dog is born we bring it and put it in the house and feed it till it becomes elder and gets rid of ganglions; these ganglions are found in its hands; then, we take it to the wildlife and catch some gerbils, if we found any, we release a gerbil. We keep chasing the gerbil till the dog learns how to hound it; then we give the hound practice with rabbits; we know the places where rabbits walk feed, and sleep. When the rabbit appears, we make sure of the place; we keep catching the hound; then we intentionally make the rabbit jump, till it enters the net and then we let the hound chase it. We let rabbit run, and it (the hound) follows it; if the hound catches it, well done; otherwise, say goodbye for it! The hound

doesn't have a good luck. Then, we look for another one; we repeat this way many times till we catch a rabbit. We also have other ways of hunting; we hunt gazelle, wild goat, anything we find, and Arabic Oryx. Arabic Oryx sometimes is not found in Wadi Ramm; they live outdoors. We like to hunt them because of their meat and fat. It is said that gazelle blood is good for some diseases. We hunt the wild goats when we tour in the mountains. Everybody has his gun which is usually old; we call it 'English' gun or 'al-fansha'. In hunting, one stands on a dune, one turns around the prey, and one turns around the area till our God give us the chance to hunt one.'

Part four: Selected photos taken during the fieldwork trip



Figure 40: Inscriptions 1/Al-Xazfali canyon



Figure 41: Inscriptions 2/Al-Xazfali canyon



Figure 42: Inscriptions 3/Al-Xazfali canyon



Figure 43 Inscriptions 4/Al-Xazfali canyon

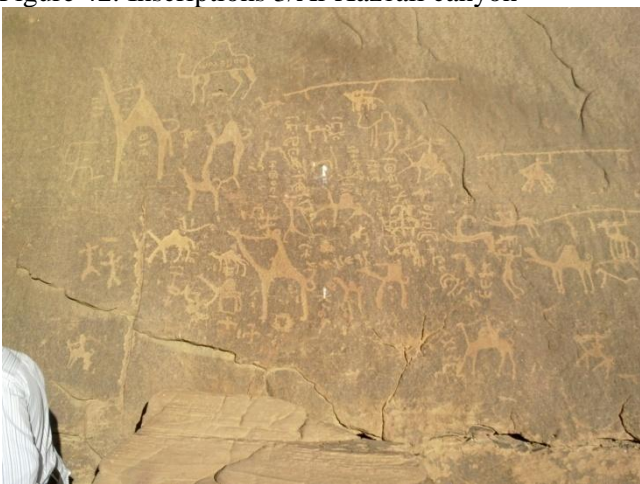


Figure 44: Inscriptions/Ngūš mountain



Figure 45: Al-Gşayr



Figure 46: Al-Xurj area



Figure 47: Part of XUrj ʔAmm aṭ-Ṭawāgi (the starting part of ʔAmm an-Nfūs)



Figure 48: Xawr ʔAmm ʕiṣrīn



Figure 49: Part of Ngūš



Figure 50: Camp beside Al-Xazʕali mountain

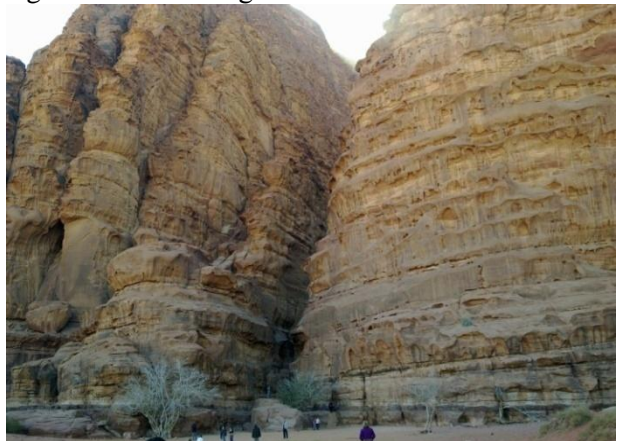


Figure 51: Al-Xazʕali canyon



Figure 52: Ar-Rgēbāt (between Ramm and Ad-Dīsih



Figure 53: Burj ʿAmm Al-Frūt



Figure 54: ʿAwdih Abu Tāyih – Sīg Lōrans

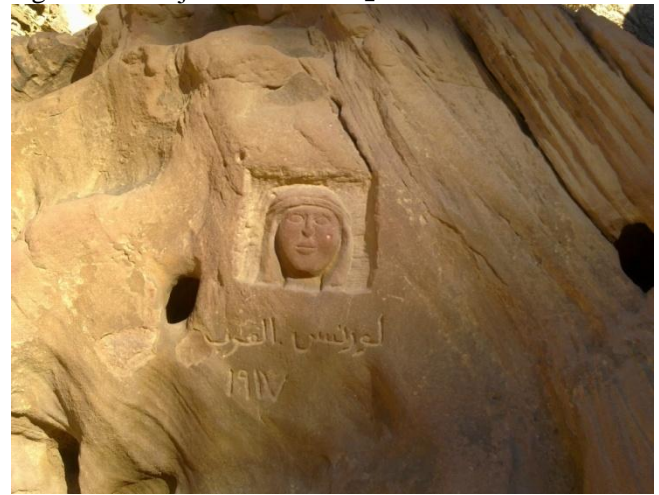


Figure 55: Lawrence of Arabia – Sīg Lōrans



Figure 56: Maṭallit Nsayyim Ar-Rīḥ



Figure 57: Ramm mountain



Figure 58: Salāh camp – Sṭg Lōrans (part of Al-Xurj Ḥamm aṭ-Ṭawāgi)



Figure 59: Ḥamm ḤIṣrīn mountain



Figure 60: Seven Pillars



Figure 61: Part of Ḥamm ḤIṣrīn